157295
pt. 2 of 3

SFUND RECORDS CTR
157295

Appendix A

Soil Gas Investigation Results

JMM James M. Montgomery

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 1
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample		Depth	1,1,1-Trichloroethane (TCA)		Trichloroethene (TCE)		Tetrachloroethene (PCE)		Total Hydrocarbons		Chloroform		Methylene Chloride	
Name	Date	(ft)	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CSSG-01	11/03/88	6	0.004	0.00005	ND	0.0001	0.002	0.00005	NA	NA	NA	NA	NA	NA
CSSG-02	11/03/88	6	0.01	0.00005	ND	0.0001	0.004	0.00005	NA	NA	NA	NA	NA	NA
CSSG-03	11/03/88	6	0.009	0.00005	ND	0.0001	0.004	0.00005	NA	NA	NA	NA	NA	NA
CSSG-04	11/29/88	6	0.7	0.00005	1	0.0001	0.6	0.00005	3	0.02	NA	NA	NA	NA
CSSG-06	11/29/88	6	0.04	0.00005	ND	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
CSSG-07	01/06/89	6	0.002	0.00005	ND	0.0001	0.002	0.00005	ND	0.03	NA	NA	NA	NA
CSSG-08	01/06/89	6	0.005	0.00005	ND	0.0001	0.003	0.00005	ND	0.03	NA	NA	NA	NA
CSSG-09	01/06/89	6	0.004	0.00005	ND	0.0001	0.002	0.00005	ND	0.03	NA	NA	NA	NA
CSSG-10	01/06/89	6	0.1	0.00005	ND	0.001	0.2	0.00005	0.04	0.02	NA	NA	NA	NA
CSSG-11	11/29/88	6	0.9	0.00005	6	0.0001	0.03	0.00005	ND	0.08	NA	NA	NA	NA
CSSG-11 A*	11/29/88		0.04	0.00005	ND	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
CSSG-12	11/29/88	6	0.3	0.00005	0.4	0.0001	0.2	0.00005	ND	0.08	0.1	0.0001	NA	NA
CSSG-13	11/03/88	4	0.03	0.00005	ND	0.0001	0.008	0.00005	NA	NA	NA	NA	NA	NA
CSSG-14	11/03/88	6	0.02	0.00005	5	0.0001	0.1	0.00005	NA	NA	NA	NA	NA	NA
CSSG-15	11/03/88	6	0.006	0.00005	ND	0.0001	0.01	0.00005	NA	NA	NA	NA	NA	NA
CSSG-16	11/03/88	5	8	0.00005	ND	0.0001	0.9	0.00005	NA	NA	NA	NA	NA	NA
CSSG-16 A*	11/03/88		0.001	0.00005	ND	0.0001	0.007	0.00005	NA	NA	NA	NA	NA	NA
CSSG-17	11/03/88	6	0.006	0.00005	ND	0.0001	0.1	0.00005	NA	NA	NA	NA	NA	NA
CSSG-18	11/03/88	6	0.008	0.00005	ND	0.0001	0.03	0.00005	NA	NA	NA	NA	NA	NA
CSSG-19	11/29/88	6	0.03	0.00005	ND	0.0001	0.04	0.00005	ND	0.08	NA	NA	NA	NA
CSSG-20	11/29/88	6	0.09	0.00005	ND	0.0001	0.02	0.00005	ND	0.08	NA	NA	NA	NA
CSSG-21	01/06/89	6	0.02	0.00005	ND	0.0001	0.004	0.00005	ND	0.03	NA	NA	NA	NA
CSSG-22	01/06/89	6	0.01	0.00005	0.007	0.0001	0.02	0.00005	0.07	0.02	NA	NA	NA	NA
CSSG-23	01/06/89	6	0.05	0.00005	0.0003	0.0001	0.08	0.00005	0.4	0.02	NA	NA	NA	NA
CSSG-24	11/03/88	6	0.02	0.00005	ND	0.0001	0.007	0.00005	NA	NA	NA	NA	NA	NA
CSSG-25	11/03/88	6	0.008	0.00005	ND	0.0001	0.006	0.00005	NA	NA	NA	NA	NA	NA
CSSG-26	11/03/88	6	0.07	0.00005	ND	0.0001	0.1	0.00005	NA	NA	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample		Depth	Freon-113 (F-113)		Carbon Tetrachloride		Benzene		Toluene		Total Xylenes		1,1-Dichloroethene (1,1-DCE)	
Name	Date	(ft)	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CSSG-01	11/03/88	6	0.0009	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-02	11/03/88	6	0.001	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-03	11/03/88	6	0.01	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-04	11/29/88	6	110	0.00005	NA	NA	ND	0.02	2	0.02	ND	0.1	NA	NA
CSSG-06	11/29/88	6	0.01	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
CSSG-07	01/06/89	6	0.0005	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
CSSG-08	01/06/89	6	0.0004	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
CSSG-09	01/06/89	6	0.0008	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
CSSG-10	01/06/89	6	0.02	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
CSSG-11	11/29/88	6	0.01	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
CSSG-11 A*	11/29/88		0.02	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
CSSG-12	11/29/88	6	ND	0.00005	0.3	0.00005	ND	0.02	ND	0.08	ND	0.1	10	0.005
CSSG-13	11/03/88	4	0.009	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-14	11/03/88	6	0.2	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-15	11/03/88	6	0.002	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-16	11/03/88	5	4	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-16 A*	11/03/88		0.0006	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-17	11/03/88	6	0.03	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-18	11/03/88	6	0.003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-19	11/29/88	6	0.02	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
CSSG-20	11/29/88	6	0.03	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
CSSG-21	01/06/89	6	0.008	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
CSSG-22	01/06/89	6	0.001	0.00005	NA	NA	ND	0.02	ND	0.02	0.08	0.02	NA	NA
CSSG-23	01/06/89	6	0.002	0.00005	NA	NA	ND	0.02	ND	0.02	0.08	0.02	NA	NA
CSSG-24	11/03/88	6	0.1	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-25	11/03/88	6	0.004	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-26	11/03/88	6	0.2	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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PHASE I SOIL GAS INVESTIGATION RESULTS - PART 1
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	1,1,1-Trichloroethane (TCA) Value	DL	Trichloroethene (TCE) Value	DL	Tetrachloroethene (PCE) Value	DL	Total Hydrocarbons Value	DL	Chloroform Value	DL	Methylene Chloride Value	DL
CSSG-27	11/03/88	6	0.03	0.00005	ND	0.0001	0.1	0.00005	NA	NA	NA	NA	NA	NA
CSSG-28	11/03/88	6	0.02	0.00005	ND	0.0001	0.01	0.00005	NA	NA	NA	NA	NA	NA
CSSG-29	11/03/88	2	0.006	0.00005	ND	0.0001	0.006	0.00005	NA	NA	NA	NA	NA	NA
CSSG-30	11/03/88	6	0.004	0.00005	ND	0.0001	0.02	0.00005	NA	NA	NA	NA	NA	NA
CSSG+30 A*	11/03/88		0.004	0.00005	ND	0.0001	0.004	0.00005	NA	NA	NA	NA	NA	NA
POSG-01	10/31/88	6	0.05	0.00005	0.2	0.0001	0.03	0.00005	NA	NA	NA	NA	NA	NA
POSG-01 A*	10/31/88		0.02	0.00005	ND	0.0002	0.01	0.00005	NA	NA	NA	NA	NA	NA
POSG-02	10/31/88	6	0.009	0.00005	0.003	0.0001	0.006	0.00005	NA	NA	NA	NA	NA	NA
POSG-03	11/02/88	6	0.01	0.00005	0.2	0.0001	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-03 A*	11/02/88		0.01	0.00005	ND	0.0002	0.005	0.00005	NA	NA	NA	NA	NA	NA
POSG-04	11/02/88	6	0.01	0.00005	0.06	0.0001	0.8	0.00005	NA	NA	NA	NA	NA	NA
POSG-05	01/06/89	6	0.2	0.00005	0.2	0.0001	0.1	0.00005	ND	0.03	NA	NA	NA	NA
POSG+05 A*	01/06/89		0.003	0.00005	ND	0.0001	0.01	0.00005	1	0.02	NA	NA	NA	NA
POSG-06	01/06/89	6	0.008	0.00005	ND	0.0001	0.02	0.00005	ND	0.03	NA	NA	NA	NA
POSG-07	11/16/88	6	0.05	0.00005	ND	0.0001	0.02	0.00005	ND	0.09	NA	NA	NA	NA
POSG-07 A*	11/16/88		0.08	0.00005	ND	0.0001	0.03	0.00005	ND	0.09	NA	NA	NA	NA
POSG-08	10/31/88	6	0.2	0.00005	ND	0.0005	0.08	0.00005	NA	NA	NA	NA	NA	NA
POSG-09	10/31/88	6	0.006	0.00005	ND	0.0002	0.004	0.00005	NA	NA	NA	NA	NA	NA
POSG-10	10/31/88	6	0.02	0.00005	ND	0.0002	0.04	0.00005	NA	NA	NA	NA	NA	NA
POSG-11	10/31/88	6	0.02	0.00005	ND	0.001	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-12	11/03/88	6	0.01	0.00005	ND	0.0001	0.005	0.00005	NA	NA	NA	NA	NA	NA
POSG-12 A*	11/03/88		0.02	0.00005	ND	0.0001	0.01	0.00005	NA	NA	NA	NA	NA	NA
POSG-13	10/31/88	6	0.006	0.00005	0.6	0.0001	0.04	0.00005	NA	NA	0.2	0.0001	NA	NA
POSG-14	10/31/88	4	0.004	0.00005	ND	0.0002	0.003	0.00005	NA	NA	0.002	0.0001	NA	NA
POSG-15	11/16/88	5	0.07	0.00005	0.003	0.0001	0.04	0.00005	ND	0.09	NA	NA	NA	NA
POSG-17	10/31/88	5	0.4	0.00005	2	0.0001	8	0.00005	NA	NA	0.003	0.0001	10	0.001
POSG-17A	11/02/88	6	0.2	0.00005	2	0.0001	2	0.00005	NA	NA	NA	NA	16	0.001
POSG-18	10/31/88	6	0.2	0.00005	ND	0.001	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-19	10/31/88	6	0.02	0.00005	ND	0.0002	0.06	0.00005	NA	NA	NA	NA	NA	NA
POSG-20	10/31/88	6	0.006	0.00005	0.03	0.0001	0.005	0.00005	NA	NA	NA	NA	NA	NA
POSG-20 A*	10/31/88		0.009	0.00005	ND	0.0002	0.01	0.00005	NA	NA	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	Freon-113 (F-113) Value	Freon-113 (F-113) DL	Carbon Tetrachloride Value	Carbon Tetrachloride DL	Benzene Value	Benzene DL	Toluene Value	Toluene DL	Total Xylenes Value	Total Xylenes DL	1,1-Dichloroethene (1,1-DCE) Value	1,1-Dichloroethene (1,1-DCE) DL
CSSG-27	11/03/88	6	0.001	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-28	11/03/88	6	0.009	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-29	11/03/88	2	0.001	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG-30	11/03/88	6	0.0003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CSSG+30 A*	11/03/88		ND	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-01	10/31/88	6	0.006	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-01 A*	10/31/88		0.02	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-02	10/31/88	6	0.01	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-03	11/02/88	6	0.006	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-03 A*	11/02/88		0.01	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-04	11/02/88	6	0.004	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-05	01/06/89	6	0.05	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
POSG+05 A*	01/06/89		0.002	0.00005	NA	NA	ND	0.02	0.04	0.02	ND	0.02	NA	NA
POSG-06	01/06/89	6	ND	0.001	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
POSG-07	11/16/88	6	0.02	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-07 A*	11/16/88		0.008	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-08	10/31/88	6	0.004	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-09	10/31/88	6	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-10	10/31/88	6	0.02	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-11	10/31/88	6	0.007	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-12	11/03/88	6	0.006	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-12 A*	11/03/88		0.02	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-13	10/31/88	6	0.004	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-14	10/31/88	4	0.002	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-15	11/16/88	5	0.02	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-17	10/31/88	5	ND	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-17A	11/02/88	6	ND	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-18	10/31/88	6	0.4	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-19	10/31/88	6	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-20	10/31/88	6	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-20 A*	10/31/88		ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	1,1,1-Trichloroethane (TCA) Value	DL	Trichloroethene (TCE) Value	DL	Tetrachloroethene (PCE) Value	DL	Total Hydrocarbons Value	DL	Chloroform Value	DL	Methylene Chloride Value	DL
POSG-21	10/31/88	6	0.003	0.00005	ND	0.0002	0.002	0.00005	NA	NA	NA	NA	NA	NA
POSG+21 A*	10/31/88		0.001	0.00005	ND	0.0002	ND	0.00006	NA	NA	NA	NA	NA	NA
POSG-22	11/01/88	6	0.01	0.00005	0.02	0.0001	0.03	0.00005	NA	NA	0.4	0.0001	NA	NA
POSG-22 A*	11/01/88		0.003	0.00005	ND	0.0002	0.0005	0.00005	NA	NA	NA	NA	NA	NA
POSG-22A	01/07/89	6	0.01	0.00005	0.04	0.0001	0.04	0.00005	0.3	0.02	NA	NA	NA	NA
POSG-23	11/01/88	6	0.003	0.00005	ND	0.0002	0.003	0.00005	NA	NA	NA	NA	NA	NA
POSG-24	11/01/88	6	0.01	0.00005	ND	0.0002	0.01	0.00005	NA	NA	NA	NA	NA	NA
POSG-25	11/16/88	6	0.02	0.00005	0.004	0.0001	0.03	0.00005	ND	0.09	NA	NA	NA	NA
POSG-26	11/01/88	6	0.03	0.00005	0.2	0.0001	0.006	0.00005	NA	NA	0.1	0.0001	NA	NA
POSG-27	11/01/88	6	0.1	0.00005	ND	0.0002	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-28	11/01/88	6	0.05	0.00005	ND	0.0002	0.08	0.00005	NA	NA	NA	NA	NA	NA
POSG-29	11/01/88	6	0.008	0.00005	ND	0.001	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-30	11/01/88	6	0.03	0.00005	0.02	0.0001	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-30 A*	11/01/88		0.009	0.00005	ND	0.0002	0.005	0.00005	NA	NA	NA	NA	NA	NA
POSG-31	11/01/88	6	0.01	0.00005	ND	0.0002	0.009	0.00005	NA	NA	NA	NA	NA	NA
POSG-32	11/01/88	5	0.005	0.00005	ND	0.0002	0.02	0.00005	NA	NA	NA	NA	NA	NA
POSG-33	11/01/88	6	0.01	0.00005	ND	0.0002	2	0.00005	NA	NA	NA	NA	NA	NA
POSG-33A	11/02/88	6	0.01	0.00005	ND	0.001	0.8	0.00005	NA	NA	NA	NA	NA	NA
POSG-34	11/01/88	6	0.008	0.00005	ND	0.0002	0.02	0.00005	NA	NA	NA	NA	NA	NA
POSG-35	11/02/88	6	0.01	0.00005	ND	0.0002	0.04	0.00005	NA	NA	NA	NA	NA	NA
POSG-36	11/01/88	5	0.1	0.00005	ND	0.001	0.2	0.00005	NA	NA	NA	NA	NA	NA
POSG-37	11/01/88	6	0.005	0.00005	ND	0.0002	0.009	0.00005	NA	NA	NA	NA	NA	NA
POSG+37 A*	11/01/88		0.004	0.00005	ND	0.0002	0.001	0.00005	NA	NA	NA	NA	NA	NA
POSG-37A	01/07/89	6	0.003	0.00005	ND	0.0001	0.006	0.00005	0.2	0.02	NA	NA	NA	NA
POSG-37A A*	01/07/89		0.001	0.00005	ND	0.0001	0.001	0.00005	0.5	0.02	NA	NA	NA	NA
POSG-38	11/02/88	6	0.006	0.00005	ND	0.001	0.02	0.00005	NA	NA	NA	NA	NA	NA
POSG-39	11/02/88	4	0.008	0.00005	ND	0.0002	0.006	0.00005	NA	NA	NA	NA	NA	NA
POSG-40	11/02/88	6	0.01	0.00005	ND	0.001	0.09	0.00005	NA	NA	NA	NA	NA	NA
POSG-41	11/02/88	5	0.1	0.00005	ND	0.001	0.03	0.00005	NA	NA	NA	NA	NA	NA
POSG-42	11/02/88	6	0.04	0.00005	ND	0.0002	0.006	0.00005	NA	NA	NA	NA	NA	NA
POSG-44	11/02/88	6	0.01	0.00005	ND	0.0002	0.01	0.00005	NA	NA	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	Freon-113 (F-113) Value	Freon-113 (F-113) DL	Carbon Tetrachloride Value	Carbon Tetrachloride DL	Benzene Value	Benzene DL	Toluene Value	Toluene DL	Total Xylenes Value	Total Xylenes DL	1,1-Dichloroethene (1,1-DCE) Value	1,1-Dichloroethene (1,1-DCE) DL
POSG-21	10/31/88	6	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG+21 A*	10/31/88		ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-22	11/01/88	6	0.008	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-22 A*	11/01/88		ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-22A	01/07/89	6	0.002	0.00005	NA	NA	ND	0.02	0.04	0.02	ND	0.02	NA	NA
POSG-23	11/01/88	6	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-24	11/01/88	6	0.05	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-25	11/16/88	6	0.01	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-26	11/01/88	6	0.006	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-27	11/01/88	6	0.02	0.00005	0.04	0.00005	NA	NA	NA	NA	NA	NA	NA	NA
POSG-28	11/01/88	6	ND	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-29	11/01/88	6	ND	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-30	11/01/88	6	0.002	0.00005	0.03	0.00005	NA	NA	NA	NA	NA	NA	NA	NA
POSG-30 A*	11/01/88		0.004	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-31	11/01/88	6	0.02	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-32	11/01/88	5	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-33	11/01/88	6	0.01	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-33A	11/02/88	6	0.4	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-34	11/01/88	6	0.02	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-35	11/02/88	6	0.003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-36	11/01/88	5	ND	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-37	11/01/88	6	0.0007	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG+37 A*	11/01/88		0.002	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-37A	01/07/89	6	0.0008	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
POSG-37A A*	01/07/89		ND	0.0001	NA	NA	ND	0.02	ND	0.02	0.1	0.02	NA	NA
POSG-38	11/02/88	6	0.003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-39	11/02/88	4	0.002	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-40	11/02/88	6	0.002	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-41	11/02/88	5	0.002	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-42	11/02/88	6	0.005	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-44	11/02/88	6	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 1
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	1,1,1-Trichloroethane (TCA) Value	DL	Trichloroethene (TCE) Value	DL	Tetrachloroethene (PCE) Value	DL	Total Hydrocarbons Value	DL	Chloroform Value	DL	Methylene Chloride Value	DL
POSG-45	11/02/88	4	0.004	0.00005	ND	0.0002	0.003	0.00005	NA	NA	NA	NA	NA	NA
POSG-46	11/02/88	6	0.005	0.00005	ND	0.0002	0.003	0.00005	NA	NA	NA	NA	NA	NA
POSG-46 A*	11/02/88		0.004	0.00005	ND	0.0002	0.003	0.00005	NA	NA	NA	NA	NA	NA
POSG-47	11/02/88	5	0.006	0.00005	ND	0.0002	0.002	0.00005	NA	NA	NA	NA	NA	NA
POSG-48	11/02/88	5	0.008	0.00005	ND	0.0002	0.04	0.00005	NA	NA	NA	NA	NA	NA
POSG+48 A*	11/02/88		0.03	0.00005	ND	0.0002	0.01	0.00005	NA	NA	NA	NA	NA	NA
POSG-49	11/16/88	6	0.3	0.00005	ND	0.001	0.06	0.00005	ND	0.09	NA	NA	NA	NA
POSG-50	11/16/88	6	0.03	0.00005	0.002	0.0001	0.09	0.00005	ND	0.09	NA	NA	NA	NA
POSG-52	11/16/88	6	0.2	0.00005	0.02	0.0001	0.3	0.00005	ND	0.09	NA	NA	NA	NA
POSG-53	11/16/88	4	0.03	0.00005	ND	0.0002	0.008	0.00005	ND	0.09	NA	NA	NA	NA
POSG-54	11/16/88	6	0.5	0.00005	ND	0.0005	0.3	0.00005	ND	0.09	NA	NA	NA	NA
POSG+54 A*	11/16/88		0.008	0.00005	ND	0.0002	0.002	0.00005	ND	0.09	NA	NA	NA	NA
VDSG-01	11/28/88	3	0.02	0.00005	ND	0.0001	0.09	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-01 A*	11/28/88		0.002	0.00005	ND	0.0001	0.0005	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-02	11/17/88	6	0.01	0.00005	0.0006	0.0001	0.2	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-02 A*	11/17/88		0.004	0.00005	ND	0.0002	0.002	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-03	11/17/88	6	0.009	0.00005	0.0006	0.0001	0.06	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-03 A*	11/17/88		0.004	0.00005	ND	0.0002	0.0003	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-04	11/29/88	6	0.01	0.00005	0.0003	0.0001	0.004	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-05	11/17/88	6	0.02	0.00005	0.001	0.0001	0.07	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-06	11/17/88	6	6	0.00005	ND	0.0008	0.2	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-08	11/17/88	6	0.008	0.00005	0.002	0.0001	0.05	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-09	11/17/88	6	0.006	0.00005	ND	0.0002	0.04	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-10	11/17/88	6	0.02	0.00005	0.002	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-11	11/28/88	5	0.002	0.00005	0.0004	0.0001	0.003	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-12	11/17/88	6	0.002	0.00005	0.0003	0.0001	0.01	0.00005	4000	0.02	NA	NA	NA	NA
VDSG-13	11/17/88	6	0.009	0.00005	ND	0.0002	0.04	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-14	11/17/88	6	0.5	0.00005	ND	0.0008	0.04	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-15	11/17/88	6	0.01	0.00005	0.04	0.0001	0.08	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-15A	01/06/89	6	0.003	0.00005	0.005	0.0001	0.02	0.00005	0.08	0.02	NA	NA	NA	NA
VDSG-16	11/17/88	6	0.007	0.00005	0.0003	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	Freon-113 (F-113) Value	Freon-113 (F-113) DL	Carbon Tetrachloride Value	Carbon Tetrachloride DL	Benzene Value	Benzene DL	Toluene Value	Toluene DL	Total Xylenes Value	Total Xylenes DL	1,1-Dichloroethene (1,1-DCE) Value	1,1-Dichloroethene (1,1-DCE) DL
POSG-45	11/02/88	4	ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-46	11/02/88	6	0.01	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-46 A*	11/02/88		ND	0.0003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-47	11/02/88	5	0.003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-48	11/02/88	5	0.0003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG+48 A*	11/02/88		0.003	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSG-49	11/16/88	6	4	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-50	11/16/88	6	0.03	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-52	11/16/88	6	0.02	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-53	11/16/88	4	0.003	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG-54	11/16/88	6	0.04	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
POSG+54 A*	11/16/88		ND	0.0003	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
VDSG-01	11/28/88	3	0.007	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-01 A*	11/28/88		ND	0.0002	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-02	11/17/88	6	0.007	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-02 A*	11/17/88		ND	0.0002	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-03	11/17/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-03 A*	11/17/88		ND	0.0002	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-04	11/29/88	6	0.005	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-05	11/17/88	6	0.001	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-06	11/17/88	6	0.01	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-08	11/17/88	6	ND	0.0002	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-09	11/17/88	6	ND	0.0002	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-10	11/17/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-11	11/28/88	5	ND	0.0002	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-12	11/17/88	6	0.007	0.00005	NA	NA	300	0.02	ND	0.8	ND	1	NA	NA
VDSG-13	11/17/88	6	0.006	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-14	11/17/88	6	ND	0.001	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-15	11/17/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-15A	01/06/89	6	0.0006	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-16	11/17/88	6	ND	0.0002	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 1
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	1,1,1-Trichloroethane (TCA) Value	DL	Trichloroethene (TCE) Value	DL	Tetrachloroethene (PCE) Value	DL	Total Hydrocarbons Value	DL	Chloroform Value	DL	Methylene Chloride Value	DL
VDSG-18	11/28/88	6	0.2	0.00005	ND	0.0004	0.06	0.00005	ND	0.08	0.002	0.0001	NA	NA
VDSG-19	01/06/89	6	0.008	0.00005	ND	0.0001	0.01	0.00005	ND	0.03	NA	NA	NA	NA
VDSG-20	11/28/88	6	0.006	0.00005	0.0005	0.0001	0.02	0.00005	ND	0.08	0.02	0.0001	NA	NA
VDSG-21	11/17/88	6	0.02	0.00005	0.0006	0.0001	0.02	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-23	01/06/89	5	0.002	0.00005	0.0002	0.0001	0.001	0.00005	ND	0.03	NA	NA	NA	NA
VDSG-23 A*	01/06/89		0.0004	0.00005	ND	0.0001	0.0001	0.00005	0.03	0.02	NA	NA	NA	NA
VDSG-24	11/28/88	6	0.005	0.00005	ND	0.0001	0.003	0.00005	ND	0.08	0.002	0.0001	NA	NA
VDSG-25	11/28/88	6	0.006	0.00005	0.001	0.0001	0.03	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-26	11/28/88	6	0.008	0.00005	0.002	0.0001	0.02	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-27	11/28/88	6	0.005	0.00005	ND	0.0001	0.004	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-28	11/28/88	6	0.01	0.00005	ND	0.0001	0.04	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-28 A*	11/28/88		0.002	0.00005	ND	0.0001	0.001	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-29	11/28/88	6	0.01	0.00005	ND	0.0001	0.03	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-30	01/07/89	5	0.01	0.00005	ND	0.0001	0.004	0.00005	0.08	0.02	NA	NA	NA	NA
VDSG+30 A*	01/07/89		0.0009	0.00005	0.0002	0.0001	0.0004	0.00005	ND	0.03	NA	NA	NA	NA
VDSG-31	01/07/89	6	0.01	0.00005	ND	0.002	1	0.00005	0.3	0.02	NA	NA	NA	NA
VDSG-32	01/07/89	6	0.01	0.00005	0.0005	0.0001	0.02	0.00005	ND	0.03	NA	NA	NA	NA
VDSG-33	01/07/89	6	0.002	0.00005	0.0004	0.0001	0.003	0.00005	ND	0.03	NA	NA	NA	NA
VDSG-34	11/28/88	6	0.007	0.00005	ND	0.0001	0.005	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-35	11/28/88	6	0.008	0.00005	ND	0.0001	0.007	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-36	11/28/88	6	0.007	0.00005	0.0003	0.0001	0.08	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-37	11/28/88	6	0.009	0.00005	ND	0.0001	0.004	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-38	01/07/89	6	0.004	0.00005	ND	0.0001	0.009	0.00005	0.2	0.02	NA	NA	NA	NA
VDSG-39	11/29/88	6	0.009	0.00005	ND	0.0001	0.05	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-40	11/29/88	3	0.02	0.00005	ND	0.0001	0.02	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-41	11/28/88	6	0.01	0.00005	ND	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-42	11/28/88	6	0.02	0.00005	ND	0.0001	0.009	0.00005	ND	0.08	NA	NA	NA	NA
VDSG+42 A*	11/28/88		0.02	0.00005	ND	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-43	11/29/88	5	0.07	0.00005	0.0005	0.0001	0.1	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-43 A*	11/29/88		0.006	0.00005	ND	0.0001	0.003	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-44	11/29/88	4	0.01	0.00005	0.0007	0.0001	0.05	0.00005	ND	0.08	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	Freon-113 (F-113) Value	Freon-113 (F-113) DL	Carbon Tetrachloride Value	Carbon Tetrachloride DL	Benzene Value	Benzene DL	Toluene Value	Toluene DL	Total Xylenes Value	Total Xylenes DL	1,1-Dichloroethene (1,1-DCE) Value	1,1-Dichloroethene (1,1-DCE) DL
VDSG-18	11/28/88	6	0.001	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-19	01/06/89	6	0.001	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-20	11/28/88	6	0.005	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-21	11/17/88	6	0.02	0.00005	NA	NA	ND	0.08	ND	0.08	ND	0.1	NA	NA
VDSG-23	01/06/89	5	0.0004	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-23 A*	01/06/89		ND	0.0001	NA	NA	ND	0.02	0.03	0.02	ND	0.02	NA	NA
VDSG-24	11/28/88	6	0.005	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-25	11/28/88	6	0.005	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-26	11/28/88	6	0.005	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-27	11/28/88	6	ND	0.0002	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-28	11/28/88	6	0.003	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-28 A*	11/28/88		0.0004	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-29	11/28/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-30	01/07/89	5	0.0008	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG+30 A*	01/07/89		ND	0.0001	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-31	01/07/89	6	ND	0.002	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-32	01/07/89	6	0.0002	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-33	01/07/89	6	ND	0.0001	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-34	11/28/88	6	0.003	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-35	11/28/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-36	11/28/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-37	11/28/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-38	01/07/89	6	0.0002	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-39	11/29/88	6	0.002	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-40	11/29/88	3	0.005	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-41	11/28/88	6	0.002	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-42	11/28/88	6	0.005	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG+42 A*	11/28/88		0.01	0.00005	NA	NA	ND	0.08	ND	0.07	ND	0.09	NA	NA
VDSG-43	11/29/88	5	0.003	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-43 A*	11/29/88		0.002	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-44	11/29/88	4	0.006	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 1
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	1,1,1-Trichloroethane (TCA) Value	DL	Trichloroethene (TCE) Value	DL	Tetrachloroethene (PCE) Value	DL	Total Hydrocarbons Value	DL	Chloroform Value	DL	Methylene Chloride Value	DL
VDSG-45	11/29/88	6	0.008	0.00005	ND	0.0001	0.03	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-46	11/29/88	6	0.4	0.00005	ND	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-47	11/30/88	5	0.01	0.00005	ND	0.0002	0.006	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-47 A*	11/30/88		0.01	0.00005	ND	0.0002	0.004	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-48	11/30/88	6	0.009	0.00005	ND	0.0002	0.01	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-49	11/30/88	6	0.01	0.00005	0.004	0.0001	0.01	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-50	01/07/89	5	0.004	0.00005	ND	0.0002	0.03	0.00005	0.6	0.02	NA	NA	NA	NA
VDSG-51	11/30/88	5	0.005	0.00005	0.0004	0.0001	0.008	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-52	11/30/88	6	0.006	0.00005	ND	0.0002	0.04	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-53	11/29/88	6	0.009	0.00005	ND	0.0001	0.006	0.00005	ND	0.08	NA	NA	NA	NA
VDSG+53 A*	11/29/88		0.03	0.00005	ND	0.0001	0.01	0.00005	ND	0.08	NA	NA	NA	NA
VDSG-55	11/30/88	6	0.02	0.00005	ND	0.0002	0.02	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-56	11/30/88	6	0.01	0.00005	ND	0.0009	0.4	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-57	11/30/88	6	0.01	0.00005	0.0005	0.0001	0.008	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-58	11/30/88	6	0.01	0.00005	ND	0.0002	0.02	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-59	01/07/89	6	0.02	0.00005	ND	0.0002	0.02	0.00005	0.3	0.02	NA	NA	NA	NA
VDSG-60	11/16/88	5	0.007	0.00005	ND	0.0002	0.03	0.00005	ND	0.09	NA	NA	NA	NA
VDSG-61	11/30/88	6	0.006	0.00005	ND	0.0002	0.07	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-62	11/30/88	6	0.02	0.00005	ND	0.0004	0.3	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-64	01/07/89	5	0.002	0.00005	0.001	0.0001	0.002	0.00005	0.2	0.02	NA	NA	NA	NA
VDSG-65	11/30/88	6	0.05	0.00005	ND	0.0002	0.03	0.00005	ND	0.07	NA	NA	NA	NA
VDSG+65 A*	11/30/88		0.02	0.00005	ND	0.0002	0.01	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-66	12/01/88	6	0.006	0.00005	ND	0.0002	0.04	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-66 A*	12/01/88		0.005	0.00005	ND	0.0002	0.003	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-67	11/16/88	6	0.2	0.00005	ND	0.0002	0.009	0.00005	ND	0.09	NA	NA	NA	NA
VDSG-69	12/01/88	6	0.005	0.00005	ND	0.0002	0.02	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-70	11/16/88	6	0.006	0.00005	ND	0.0002	0.005	0.00005	ND	0.09	NA	NA	NA	NA
VDSG-71	11/16/88	6	0.008	0.00005	ND	0.0002	0.005	0.00005	ND	0.09	NA	NA	NA	NA
VDSG-72	12/01/88	5	0.009	0.00005	0.0006	0.0001	0.002	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-73	12/01/88	4	0.004	0.00005	ND	0.0002	0.02	0.00005	0.6	0.02	NA	NA	NA	NA
VDSG-74	11/16/88	6	0.01	0.00005	ND	0.0002	0.01	0.00005	ND	0.09	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample Name	Date	Depth (ft)	Freon-113 (F-113) Value	Freon-113 (F-113) DL	Carbon Tetrachloride Value	Carbon Tetrachloride DL	Benzene Value	Benzene DL	Toluene Value	Toluene DL	Total Xylenes Value	Total Xylenes DL	1,1-Dichloroethene (1,1-DCE) Value	1,1-Dichloroethene (1,1-DCE) DL
VDSG-45	11/29/88	6	0.009	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-46	11/29/88	6	0.002	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-47	11/30/88	5	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-47 A*	11/30/88		0.002	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-48	11/30/88	6	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-49	11/30/88	6	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-50	01/07/89	5	ND	0.0002	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-51	11/30/88	5	ND	0.0003	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-52	11/30/88	6	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-53	11/29/88	6	0.007	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG+53 A*	11/29/88		0.0003	0.00005	NA	NA	ND	0.02	ND	0.08	ND	0.1	NA	NA
VDSG-55	11/30/88	6	0.002	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-56	11/30/88	6	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-57	11/30/88	6	0.01	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-58	11/30/88	6	0.005	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-59	01/07/89	6	0.0002	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-60	11/16/88	5	0.008	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
VDSG-61	11/30/88	6	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-62	11/30/88	6	0.002	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-64	01/07/89	5	0.0008	0.00005	NA	NA	0.07	0.02	0.05	0.02	ND	0.02	NA	NA
VDSG-65	11/30/88	6	0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG+65 A*	11/30/88		0.01	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-66	12/01/88	6	0.005	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.08	NA	NA
VDSG-66 A*	12/01/88		0.002	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.08	NA	NA
VDSG-67	11/16/88	6	ND	0.0003	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
VDSG-69	12/01/88	6	0.005	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.08	NA	NA
VDSG-70	11/16/88	6	0.02	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
VDSG-71	11/16/88	6	0.02	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
VDSG-72	12/01/88	5	0.004	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.08	NA	NA
VDSG-73	12/01/88	4	0.003	0.00005	0.04	0.00005	ND	0.07	ND	0.07	ND	0.08	NA	NA
VDSG-74	11/16/88	6	0.01	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 1
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

Sample		Depth	1,1,1-Trichloroethane (TCA)		Trichloroethene (TCE)		Tetrachloroethene (PCE)		Total Hydrocarbons		Chloroform		Methylene Chloride	
Name	Date	(ft)	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VDSG+74 A*	11/16/88		0.02	0.00005	ND	0.0002	0.01	0.00005	ND	0.09	NA	NA	NA	NA
VDSG-75	11/30/88	6	0.01	0.00005	ND	0.0002	0.009	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-75 A*	11/30/88		0.02	0.00005	ND	0.0002	0.01	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-76	11/30/88	4	0.04	0.00005	ND	0.0002	0.03	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-77	11/30/88	6	0.01	0.00005	ND	0.0009	0.4	0.00005	ND	0.07	NA	NA	NA	NA
VDSG-78	01/07/89	6	0.002	0.00005	ND	0.0001	0.004	0.00005	0.2	0.02	NA	NA	NA	NA
VDSG-79	01/07/89	6	0.02	0.00005	ND	0.0001	0.006	0.00005	0.07	0.02	NA	NA	NA	NA

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
PHASE I SOIL GAS INVESTIGATION RESULTS - PART 2
(Concentrations are reported as ug/l, 17A=Duplicate sample,
A*=Ambient air sample, ND=Not detected, NA=Not analyzed)

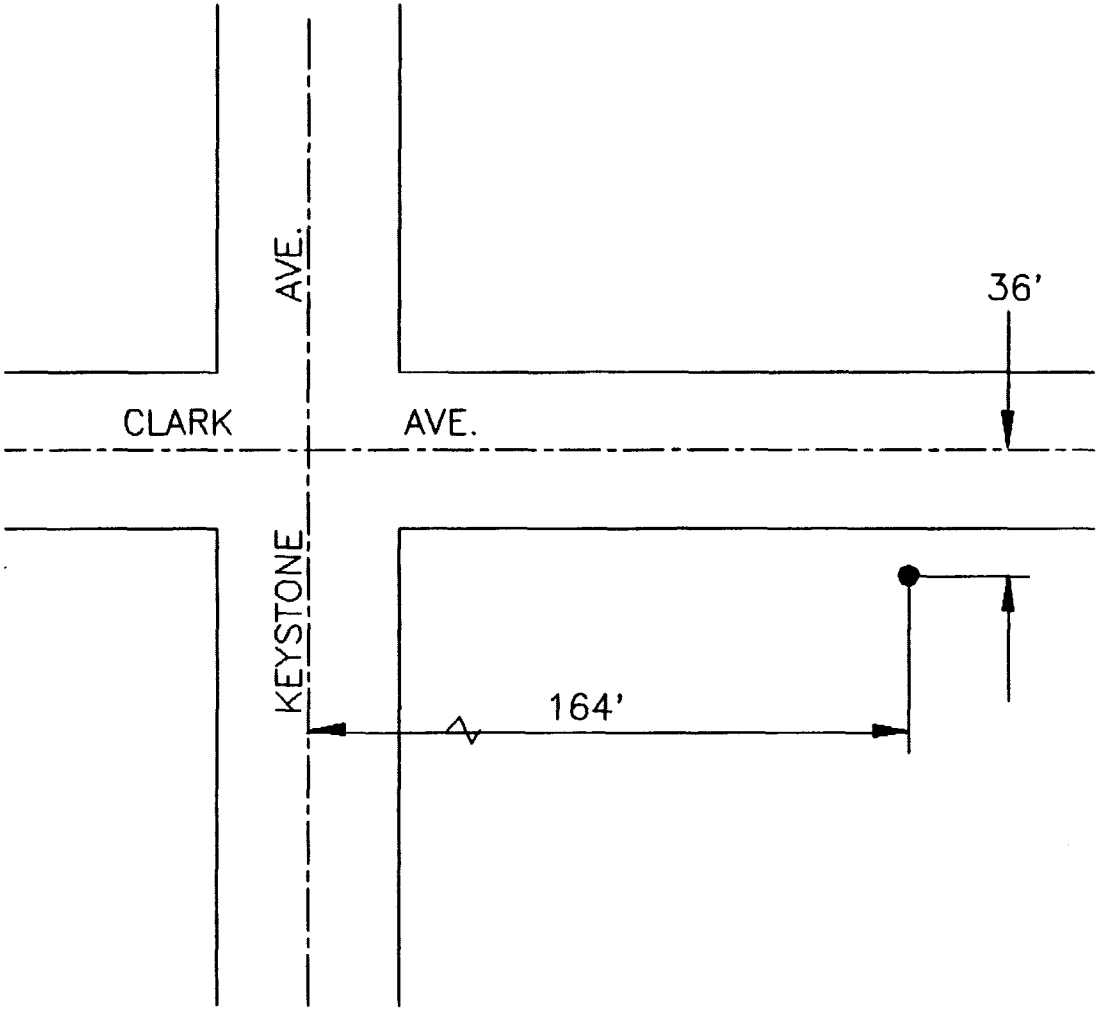
Sample		Depth	Freon-113 (F-113)		Carbon Tetrachloride		Benzene		Toluene		Total Xylenes		1,1-Dichloroethene (1,1-DCE)	
Name	Date	(ft)	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VDSG+74 A*	11/16/88		0.01	0.00005	NA	NA	ND	0.09	ND	0.08	ND	0.1	NA	NA
VDSG-75	11/30/88	6	0.004	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-75 A*	11/30/88		0.003	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-76	11/30/88	4	ND	0.0003	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-77	11/30/88	6	0.002	0.00005	NA	NA	ND	0.07	ND	0.07	ND	0.09	NA	NA
VDSG-78	01/07/89	6	0.0006	0.00005	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA
VDSG-79	01/07/89	6	ND	0.0004	NA	NA	ND	0.02	ND	0.02	ND	0.02	NA	NA

Appendix B

Location Drawings

Appendix B: Location Drawings

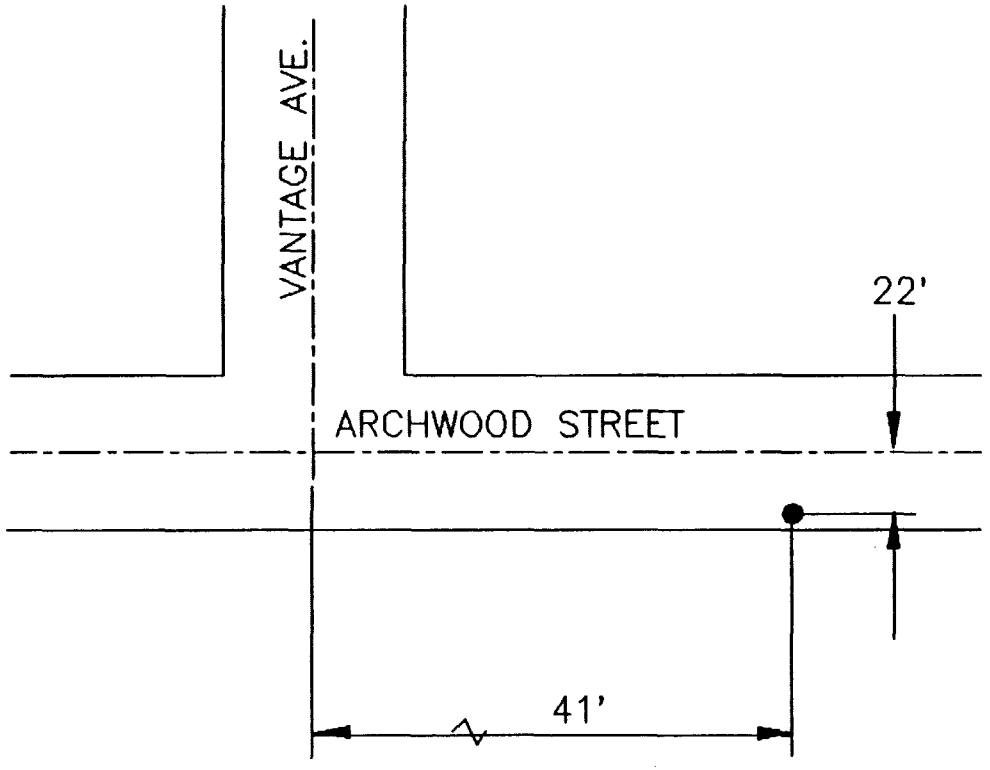
Appendix B.1 Vertical Profile Borings



THOMAS GUIDE LOCATION: PG 24 C1
CITY OF BURBANK

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: DWP *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-01



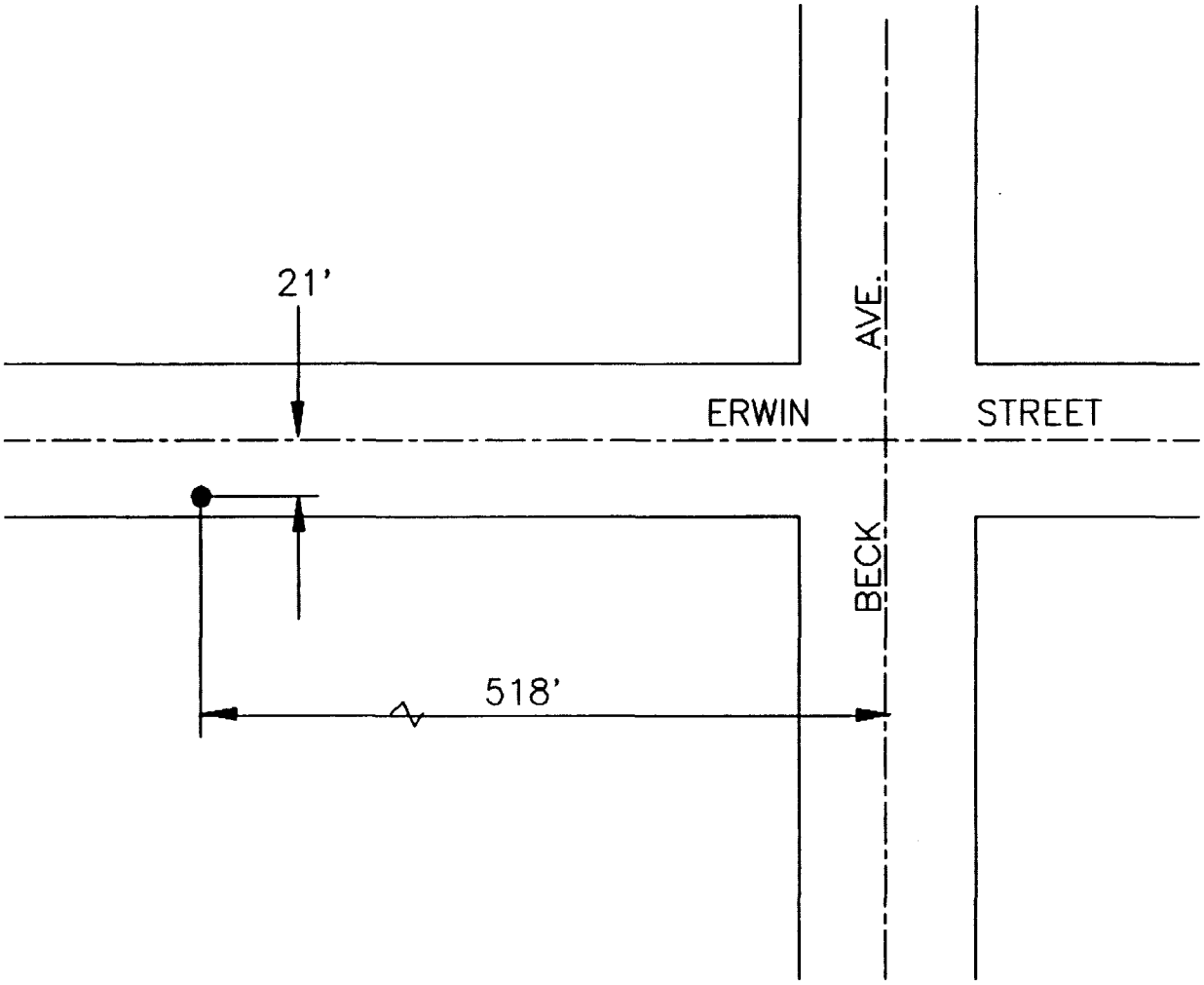
THOMAS GUIDE LOCATION: PG 16 C4
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
NORTH HOLLYWOOD NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

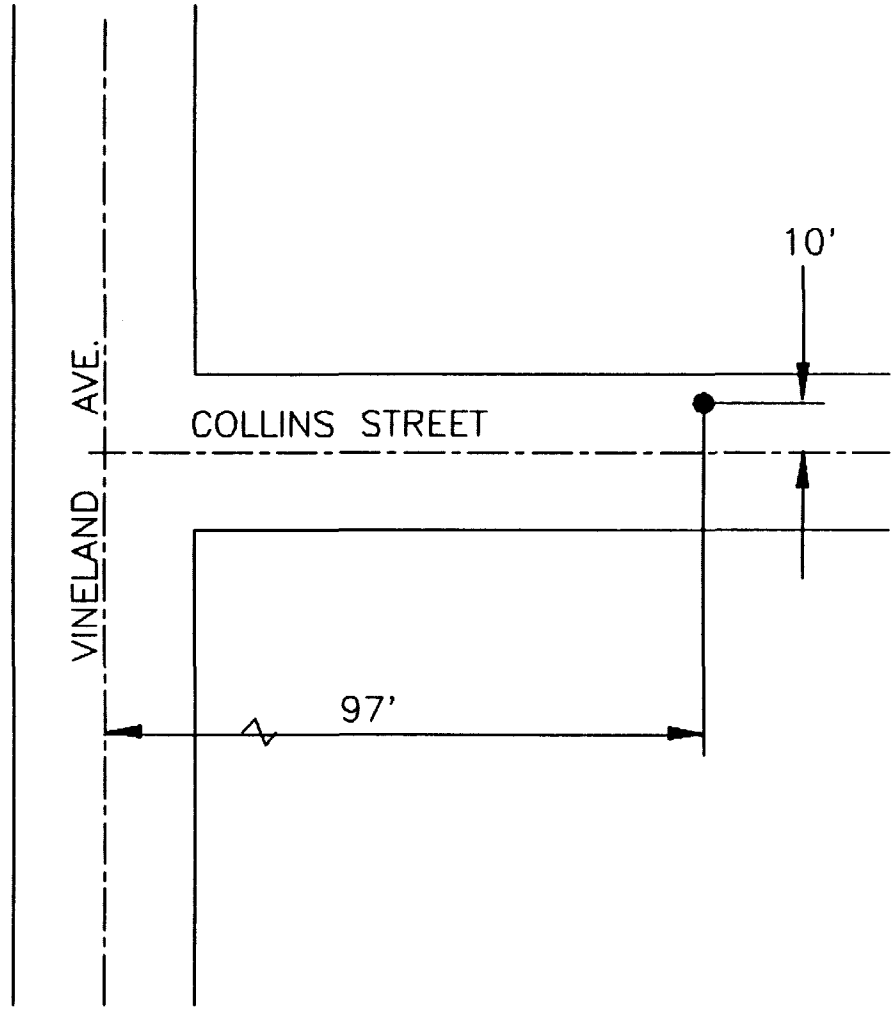
WELL NAME:
NH-VPB-02

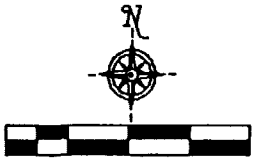


THOMAS GUIDE LOCATION: PG 16 D6
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-03

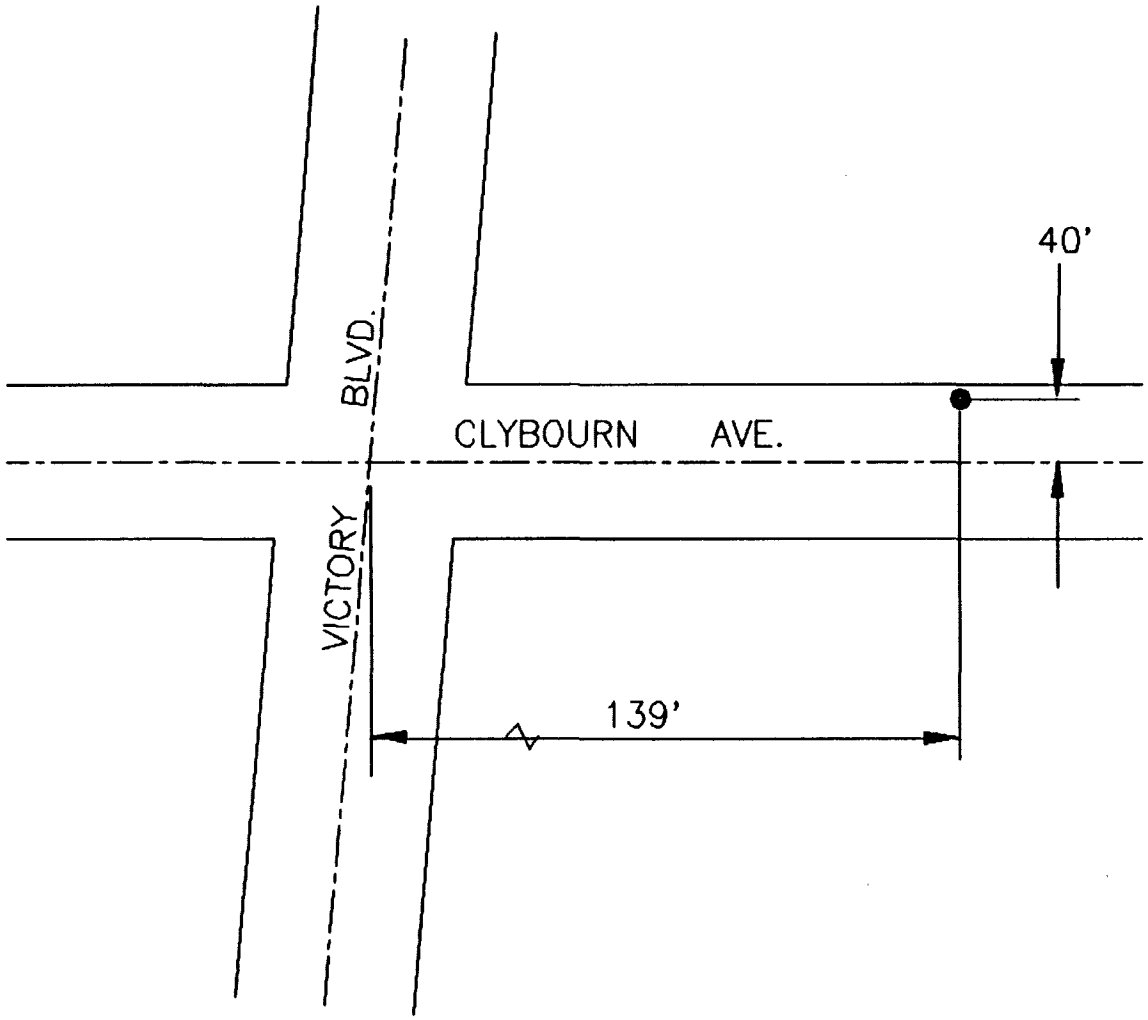




THOMAS GUIDE LOCATION: PG 16 E6
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

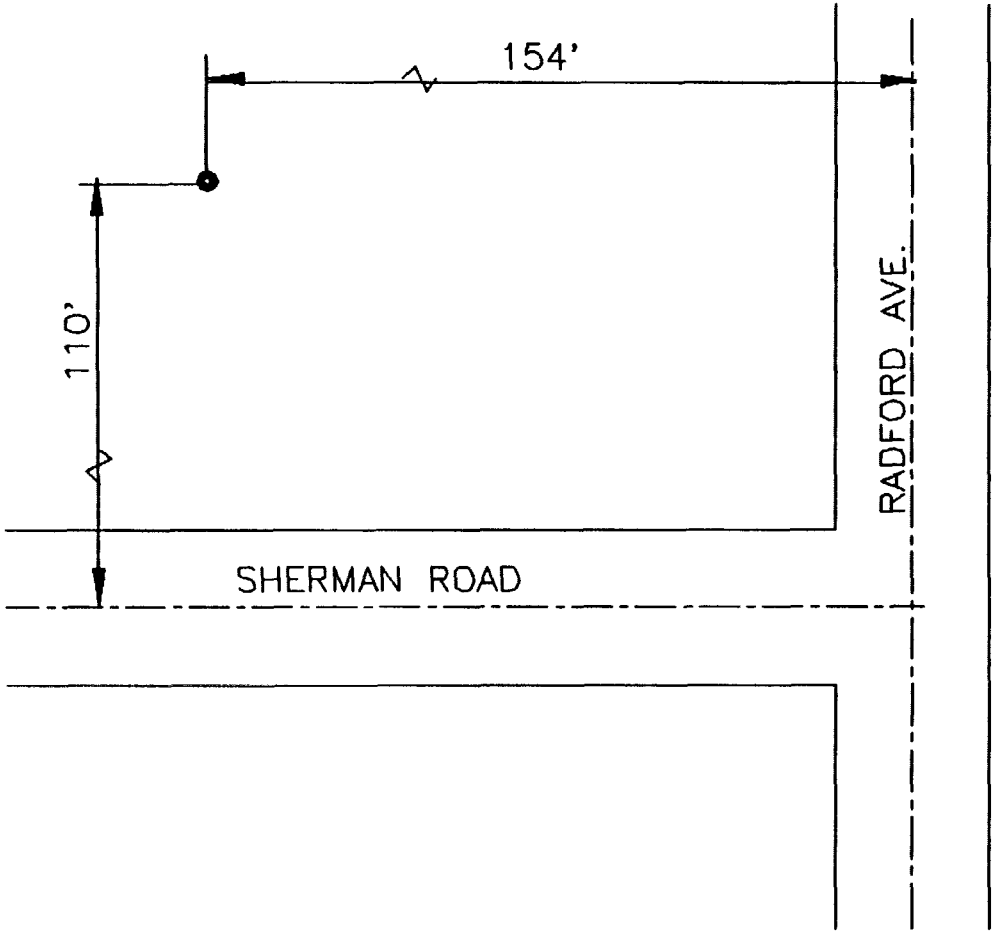
L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-04



THOMAS GUIDE LOCATION: PG 16 F5
CITY OF BURBANK

AS CONSTRUCTED 10/89

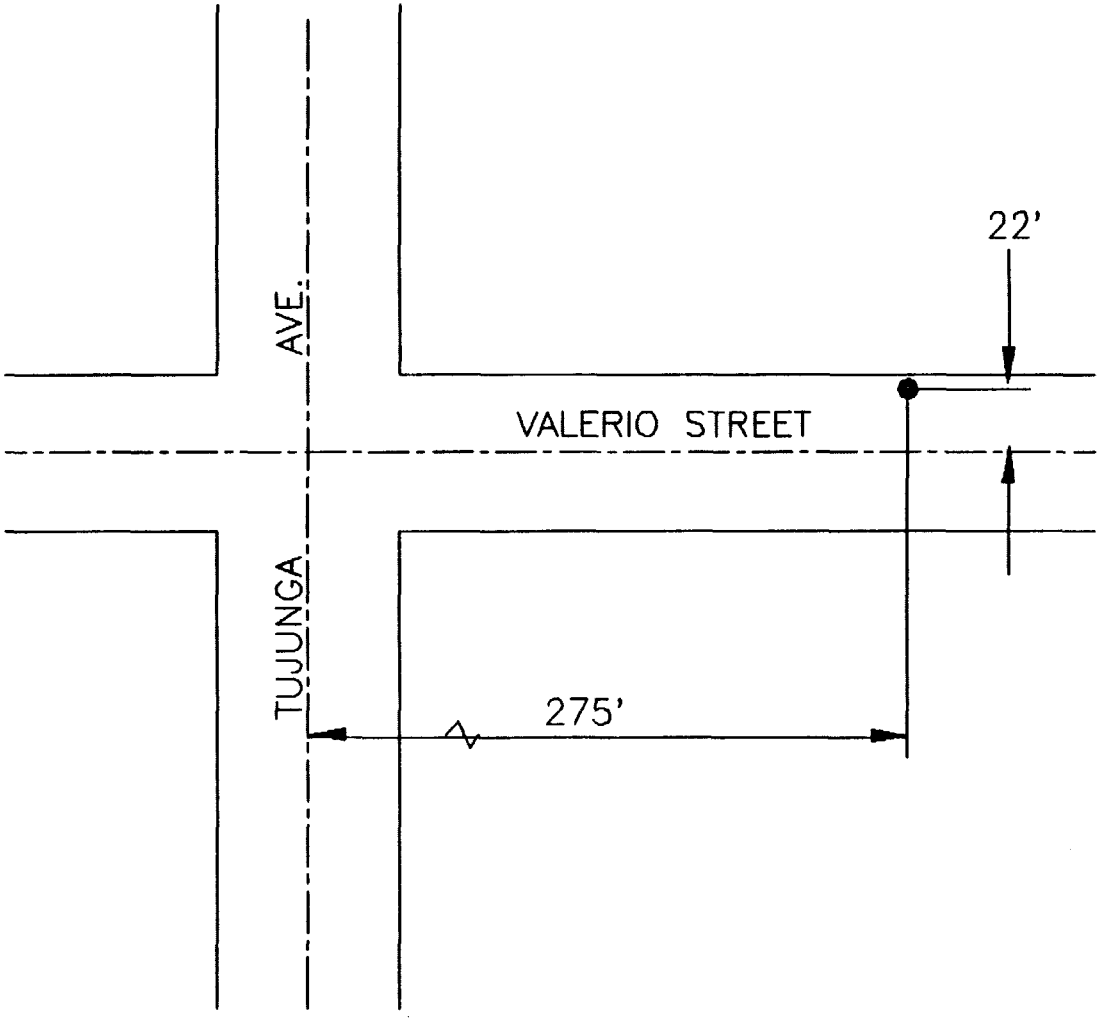
L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-05



THOMAS GUIDE LOCATION: PG 16 C3
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-06



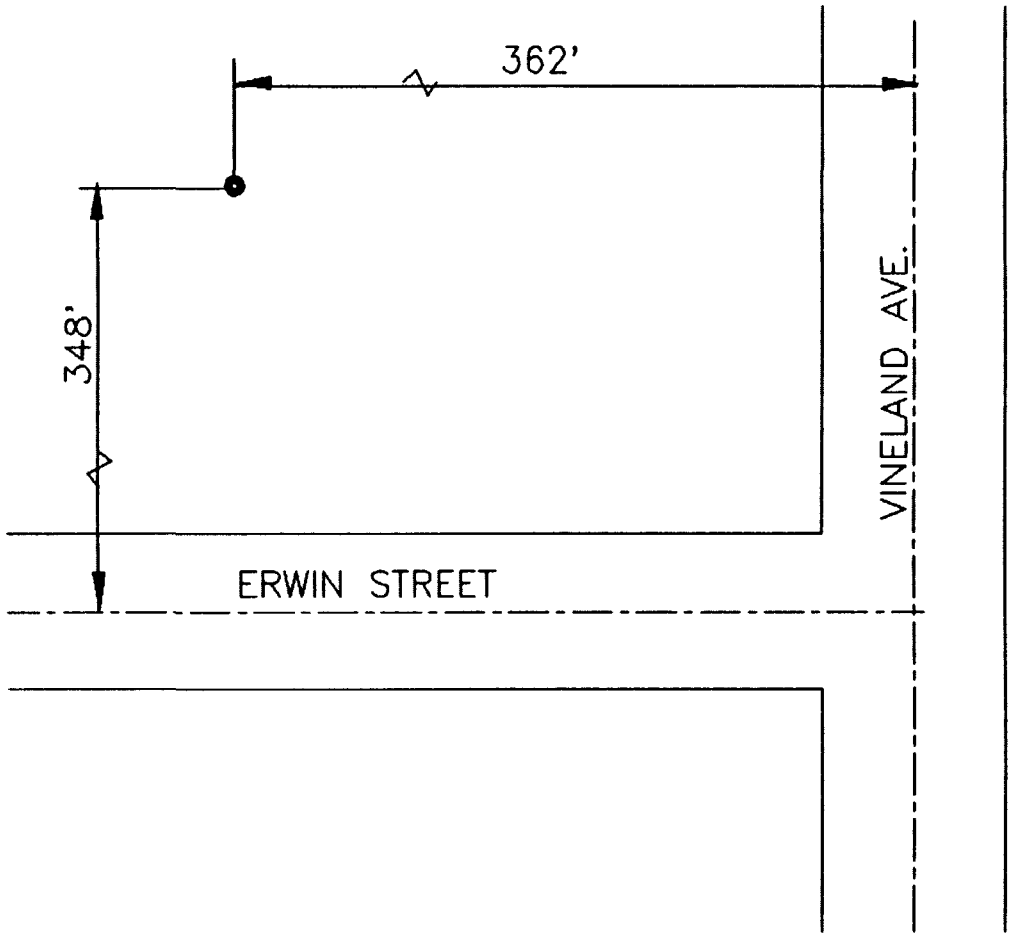
THOMAS GUIDE LOCATION: PG 16 D3
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
NORTH HOLLYWOOD NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:
NH-VPB-07



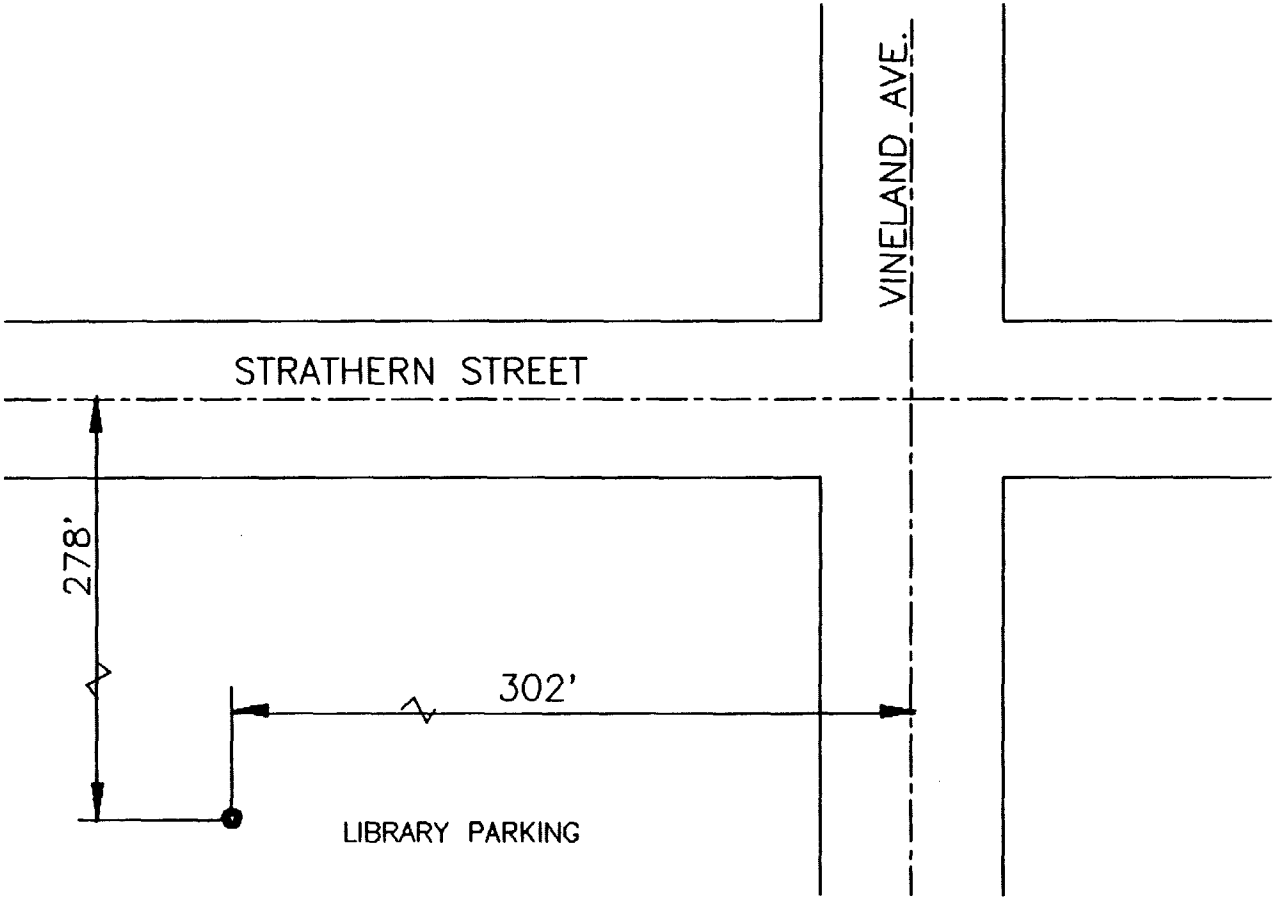
THOMAS GUIDE LOCATION: PG 16 E5
CITY OF LOS ANGELES

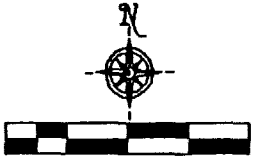
AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
NORTH HOLLYWOOD NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:
NH-VPB-08

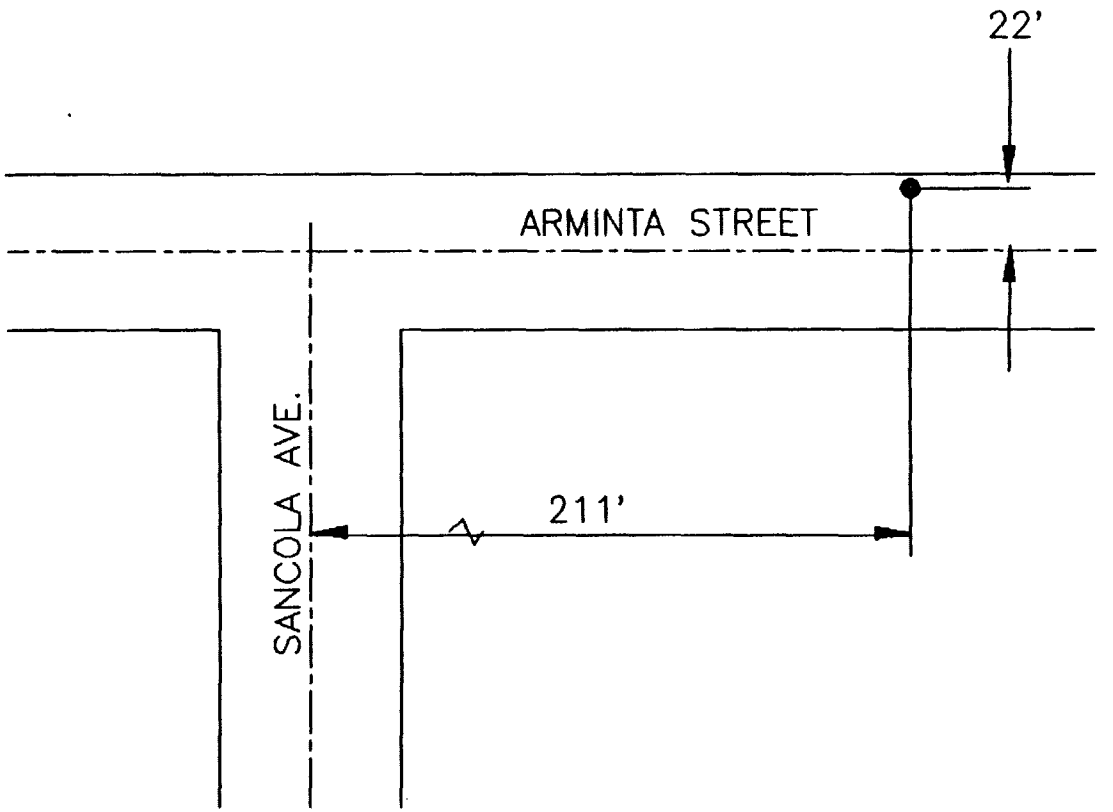




THOMAS GUIDE LOCATION: PG 16 E2
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-09



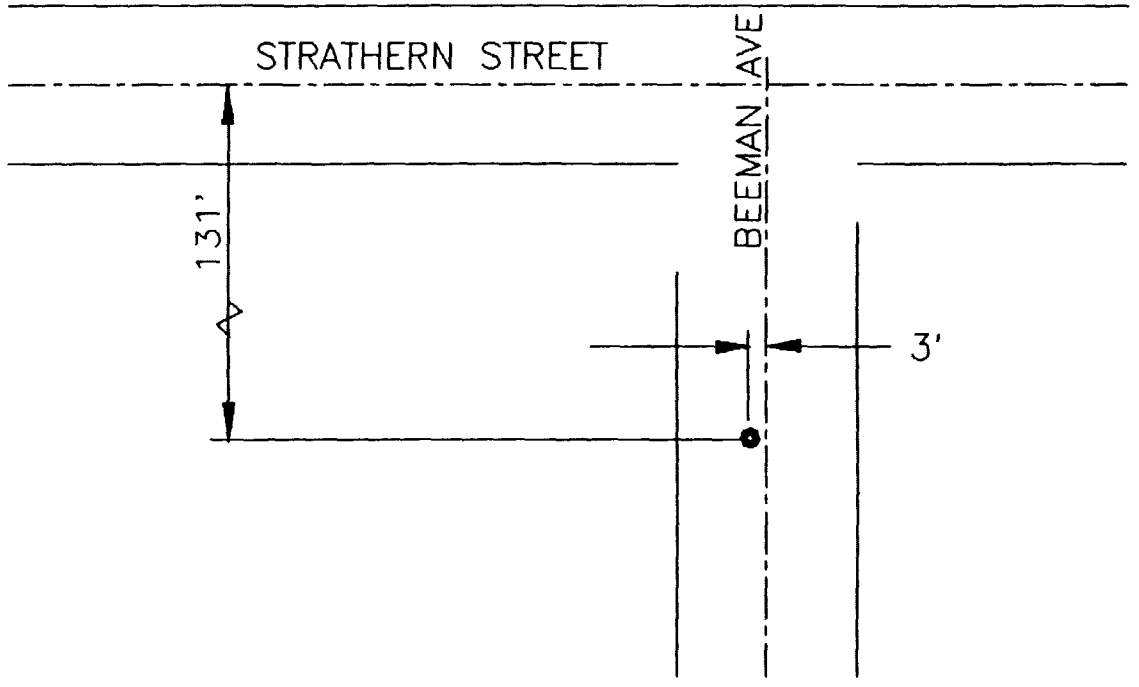
THOMAS GUIDE LOCATION: PG 16 F2
CITY OF LOS ANGELES

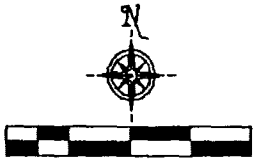
AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
NORTH HOLLYWOOD NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:
NH-VPB-10

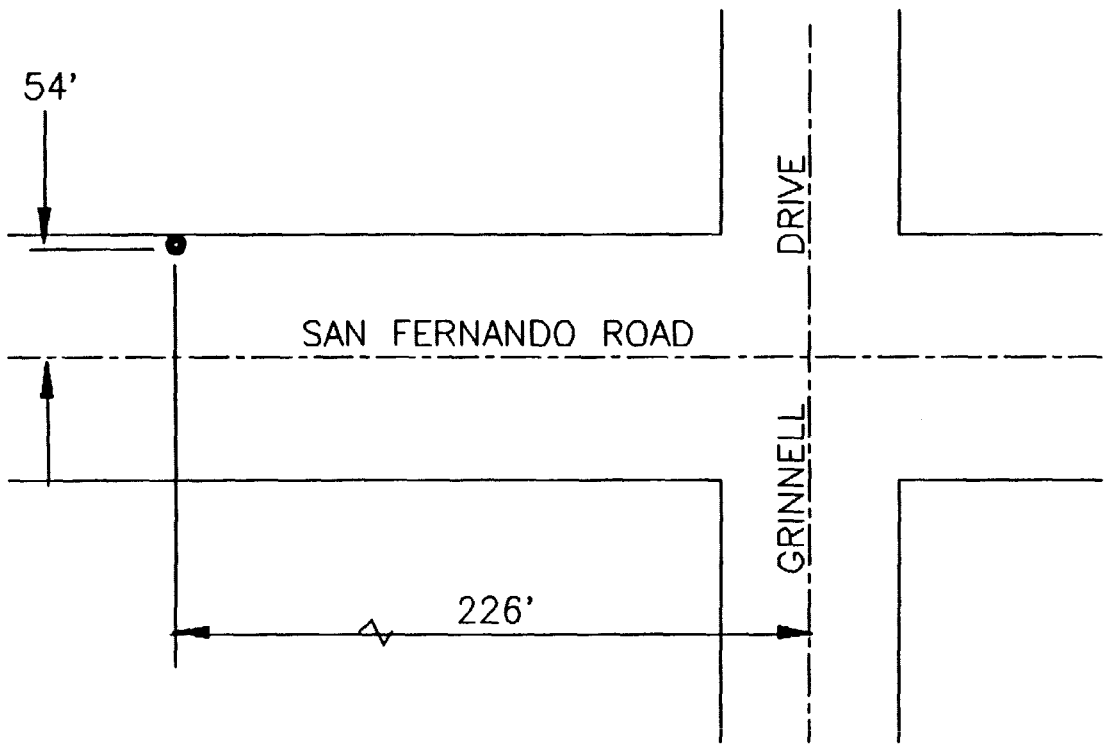




THOMAS GUIDE LOCATION: PG 16 B2
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

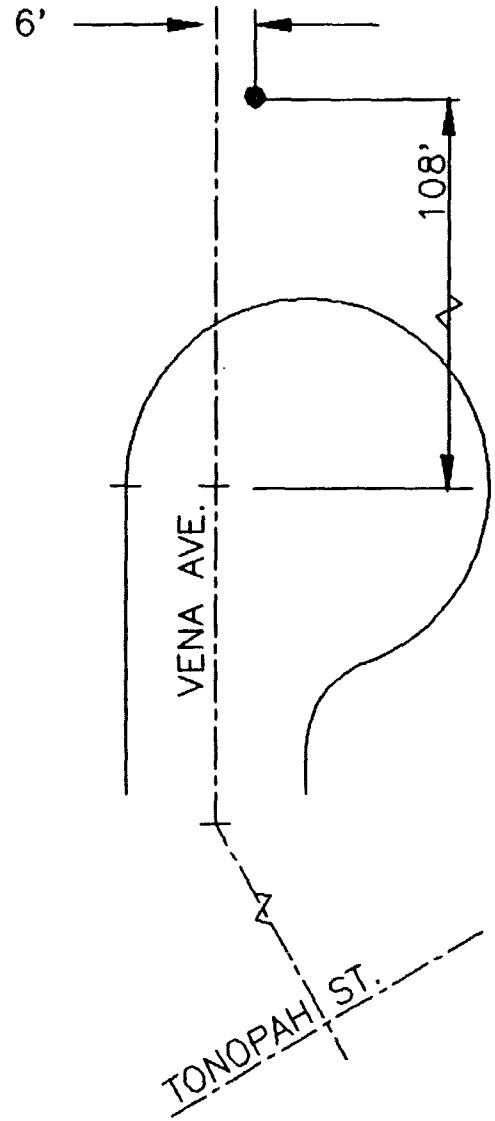
L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-11

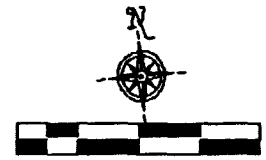


THOMAS GUIDE LOCATION: PG 17 D6
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-12

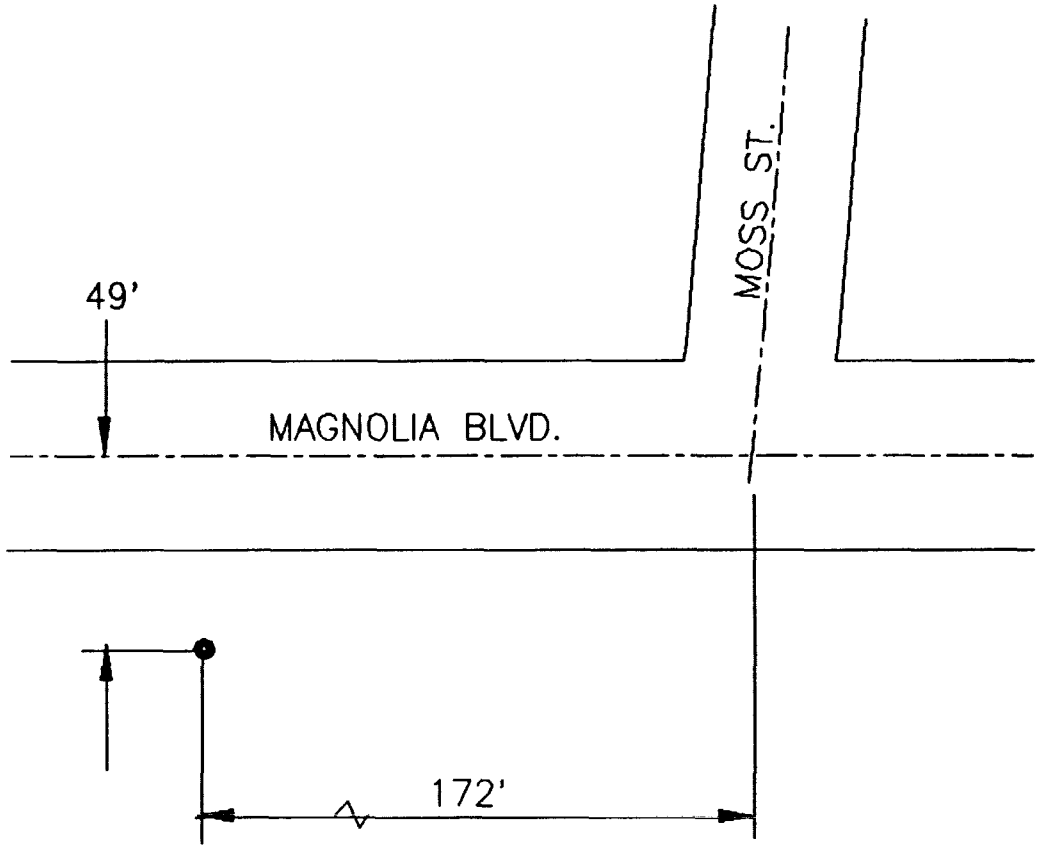




THOMAS GUIDE LOCATION: PG 09 B6
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

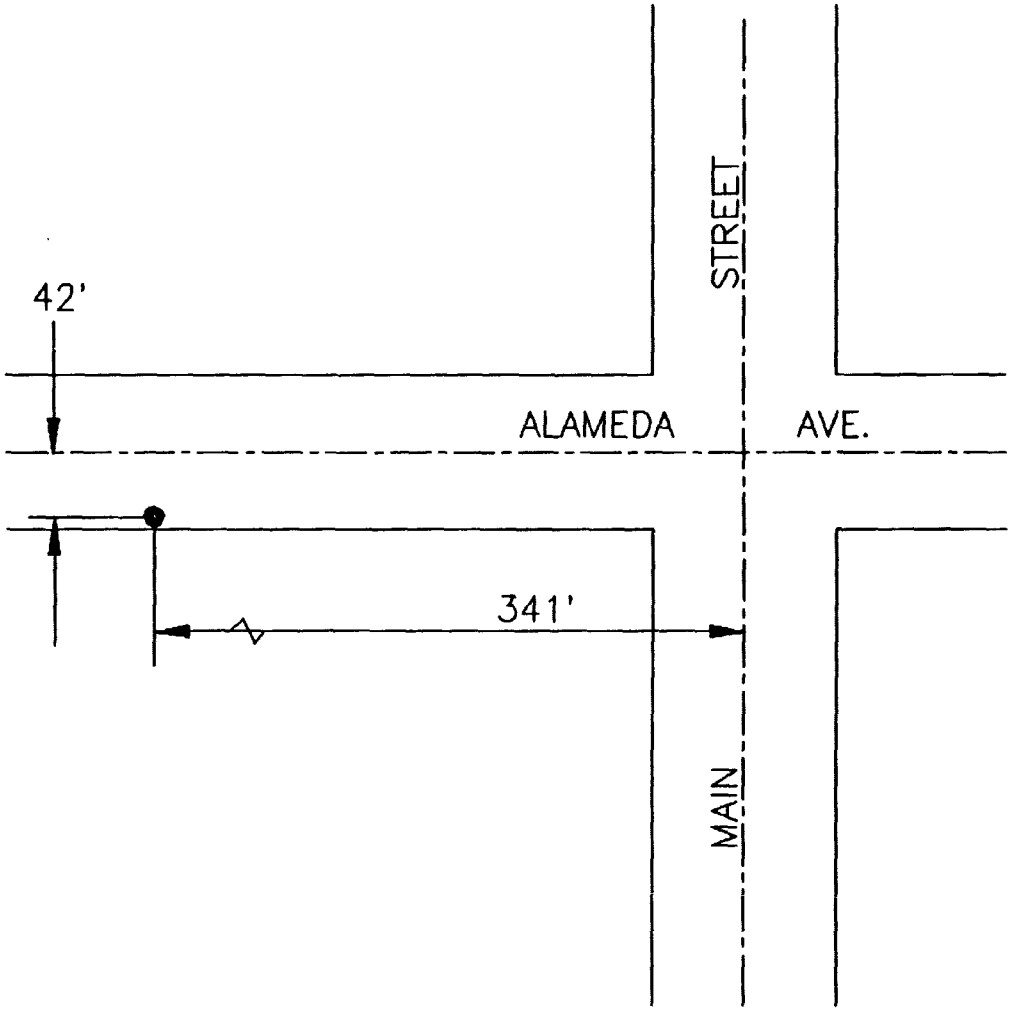
L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-13



THOMAS GUIDE LOCATION: PG 17 D6
CITY OF BURBANK

AS CONSTRUCTED 10/89

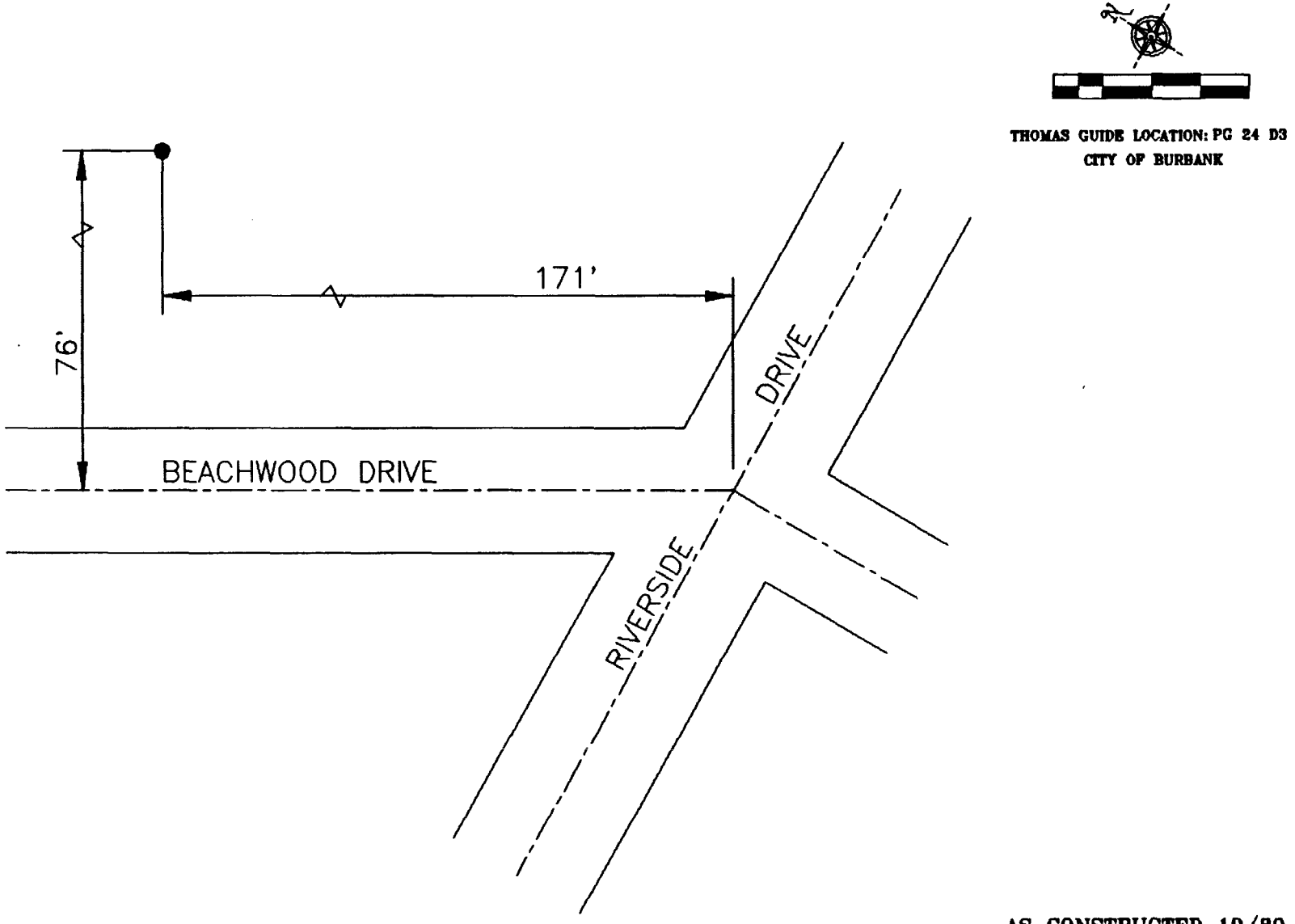
L. A. D. W. P. VERTICAL PROFILE BOREHOLES NORTH HOLLYWOOD NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: NH-VPB-14



THOMAS GUIDE LOCATION: PG 24 D2
CITY OF BURBANK

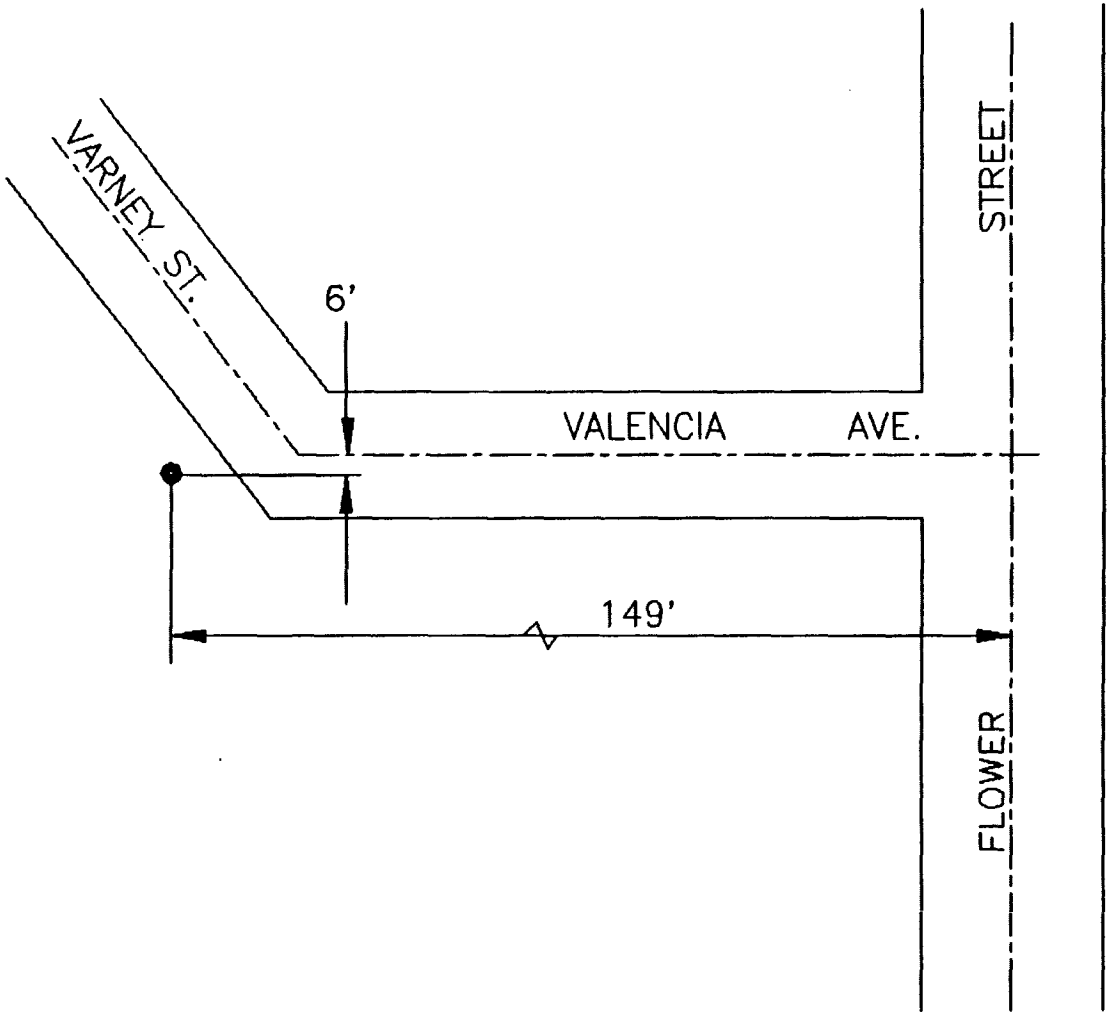
AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: DWP *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-01



AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-02



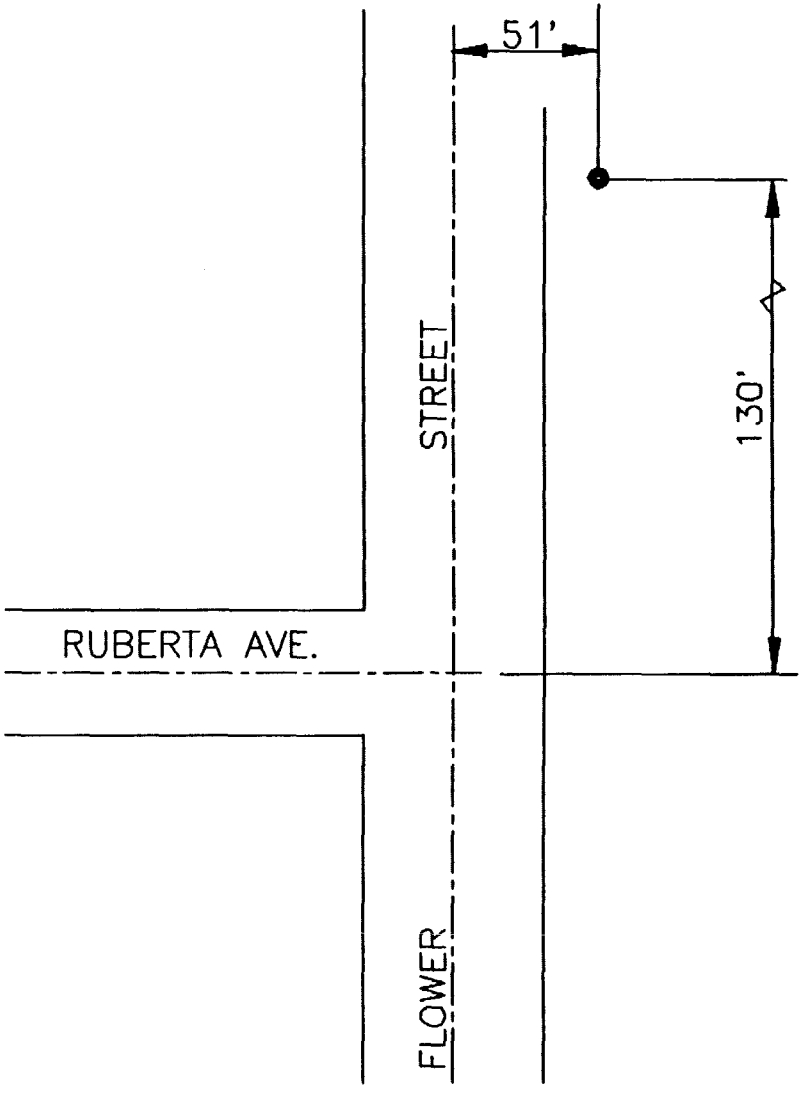
THOMAS GUIDE LOCATION: PG 24 E1
CITY OF BURBANK

AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
CRYSTAL SPRINGS NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:
CS-VPB-03



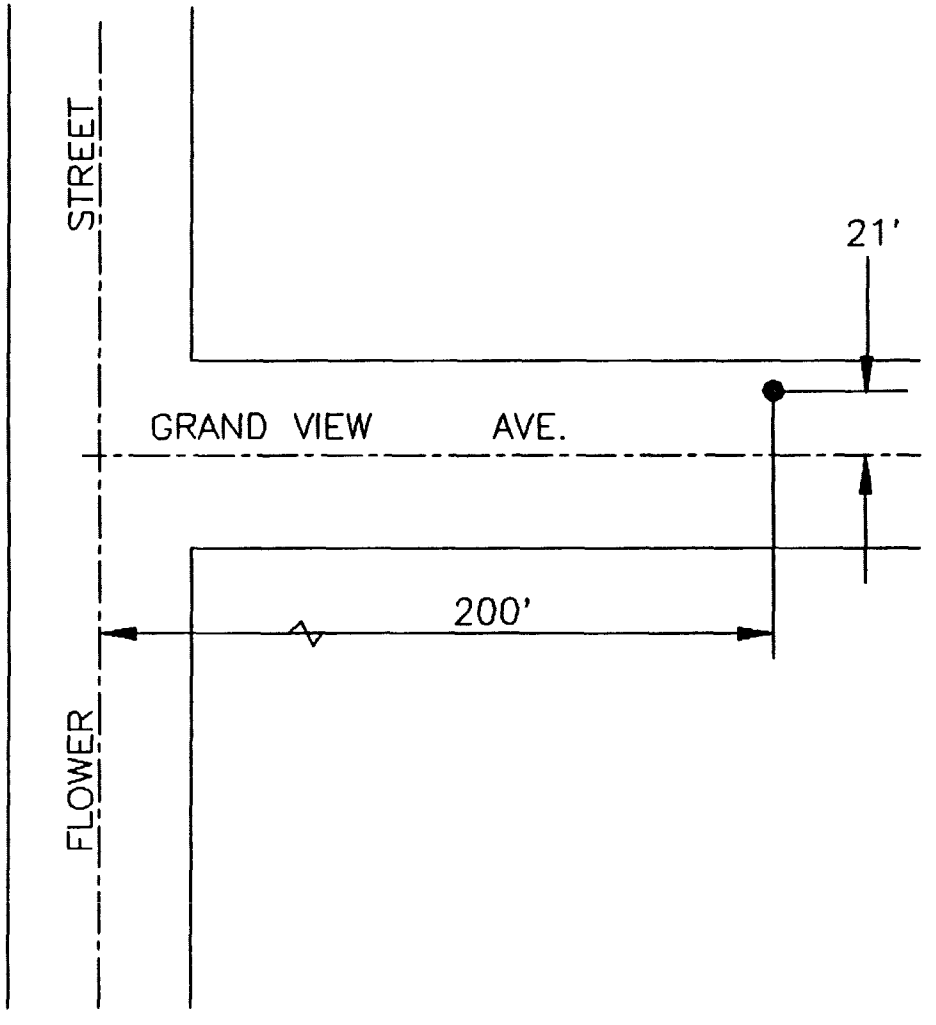
THOMAS GUIDE LOCATION: PG 24 F2
CITY OF GLENDALE

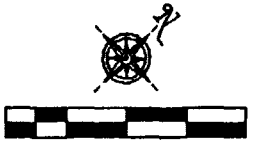
AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
CRYSTAL SPRINGS NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:
CS-VPB-04

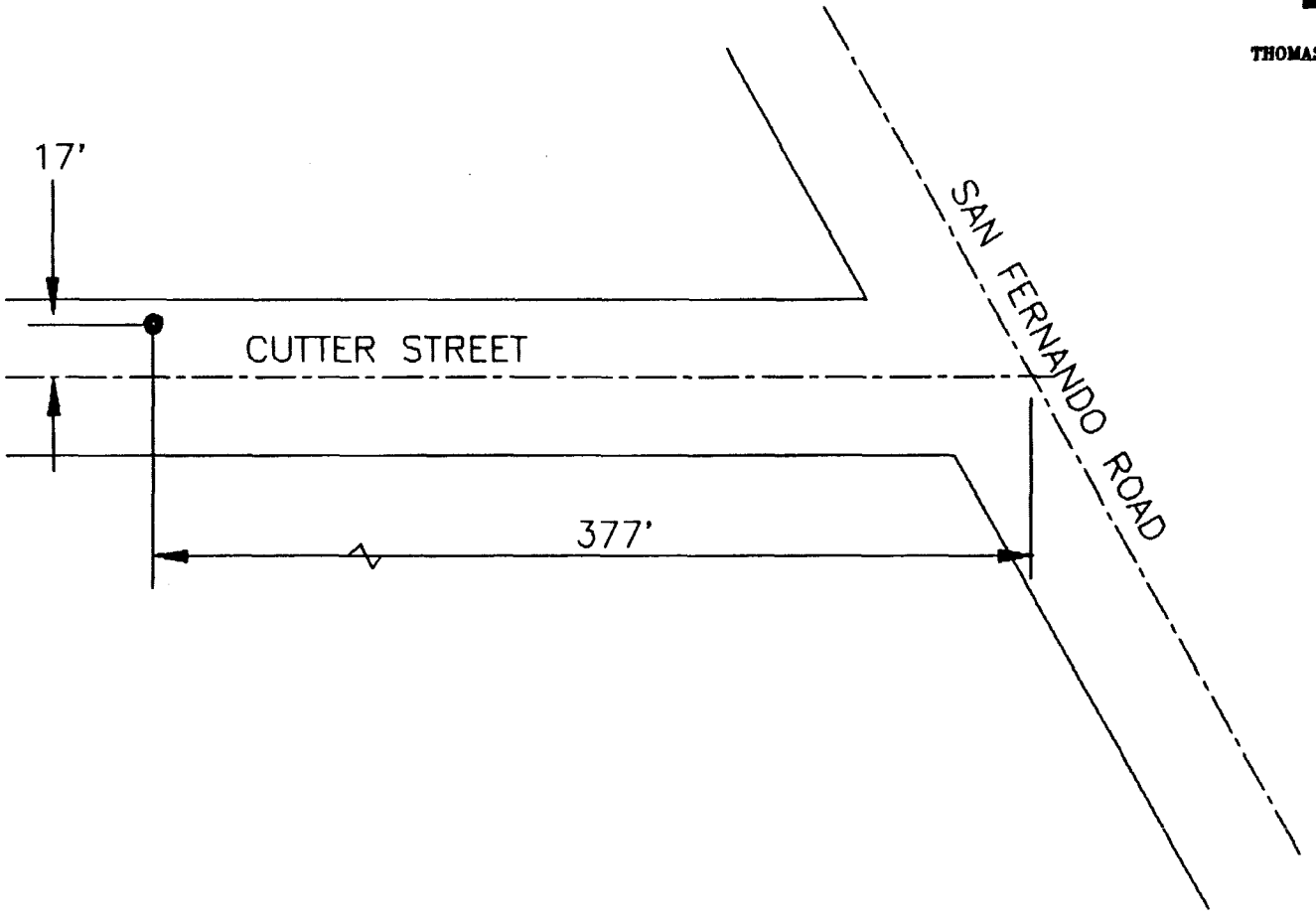


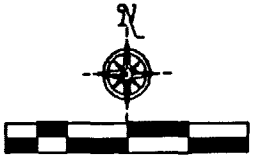


THOMAS GUIDE LOCATION: PG 25 A2
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-05

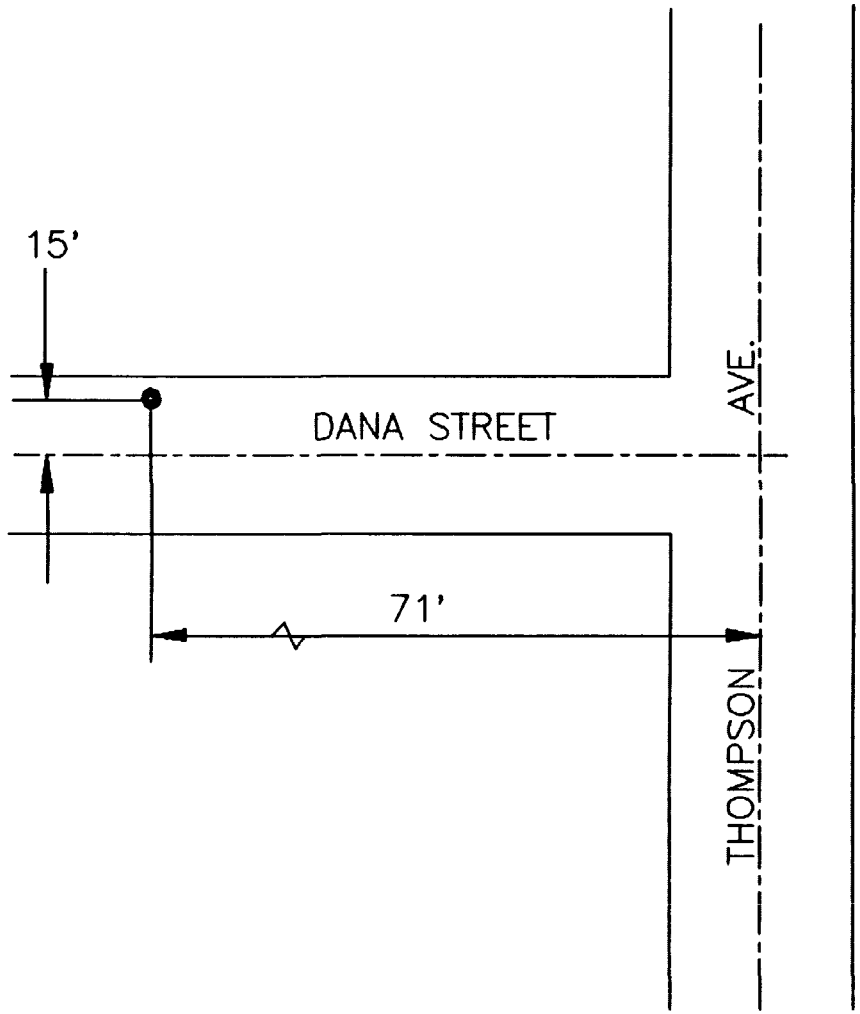




THOMAS GUIDE LOCATION: PG 25 B3
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-06



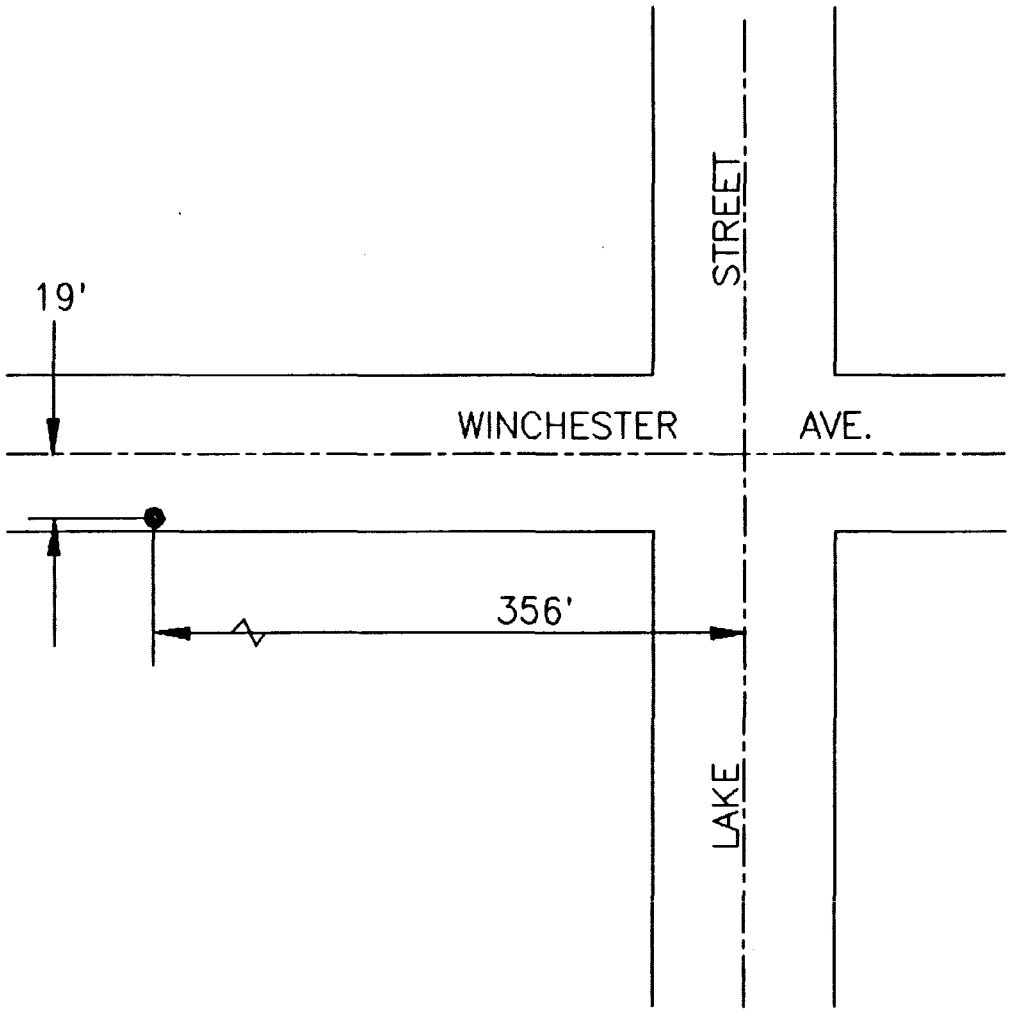
THOMAS GUIDE LOCATION: PG 24 F1
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
CRYSTAL SPRINGS NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

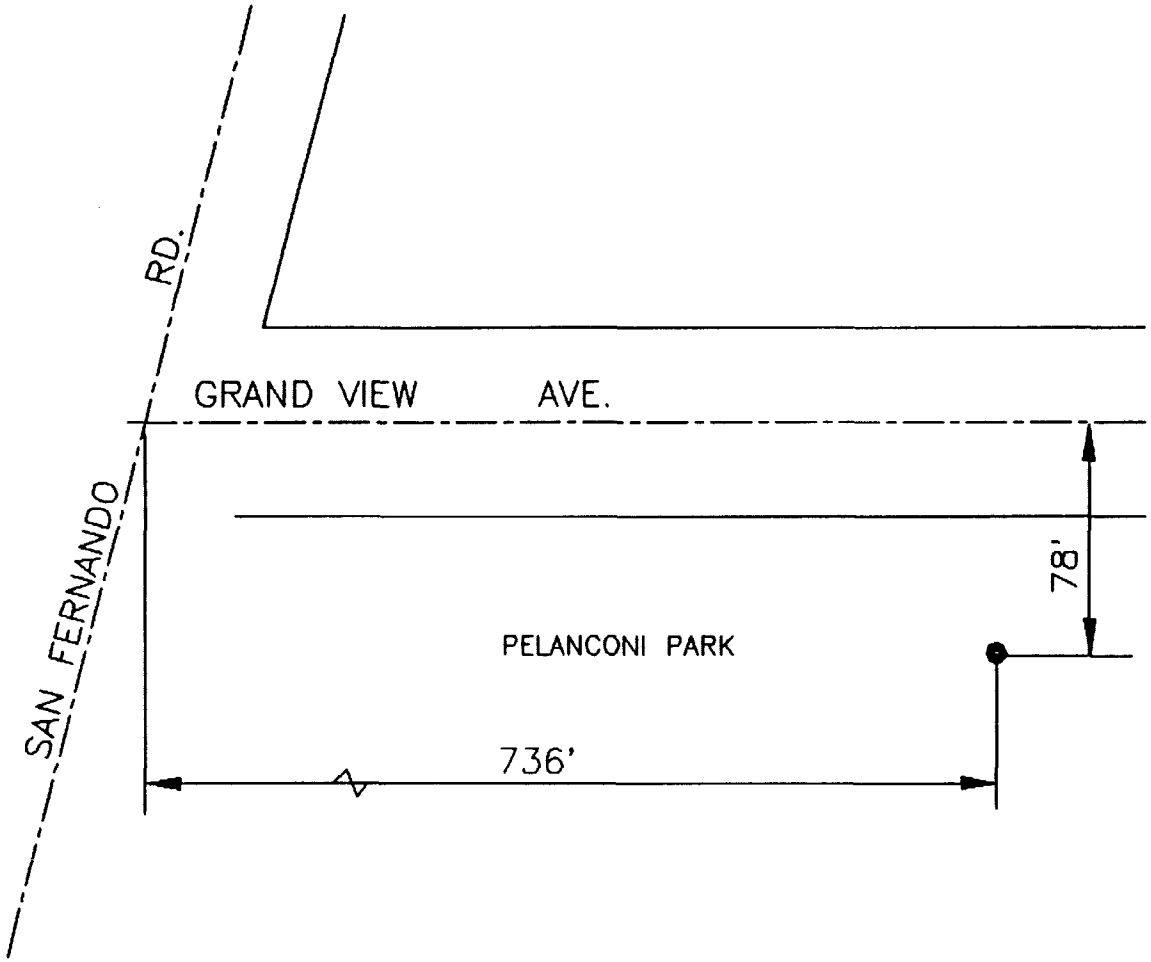
WELL NAME:
CS-VPB-07



THOMAS GUIDE LOCATION: PG 24 E2
CITY OF GLENDALE

AS CONSTRUCTED 10/89

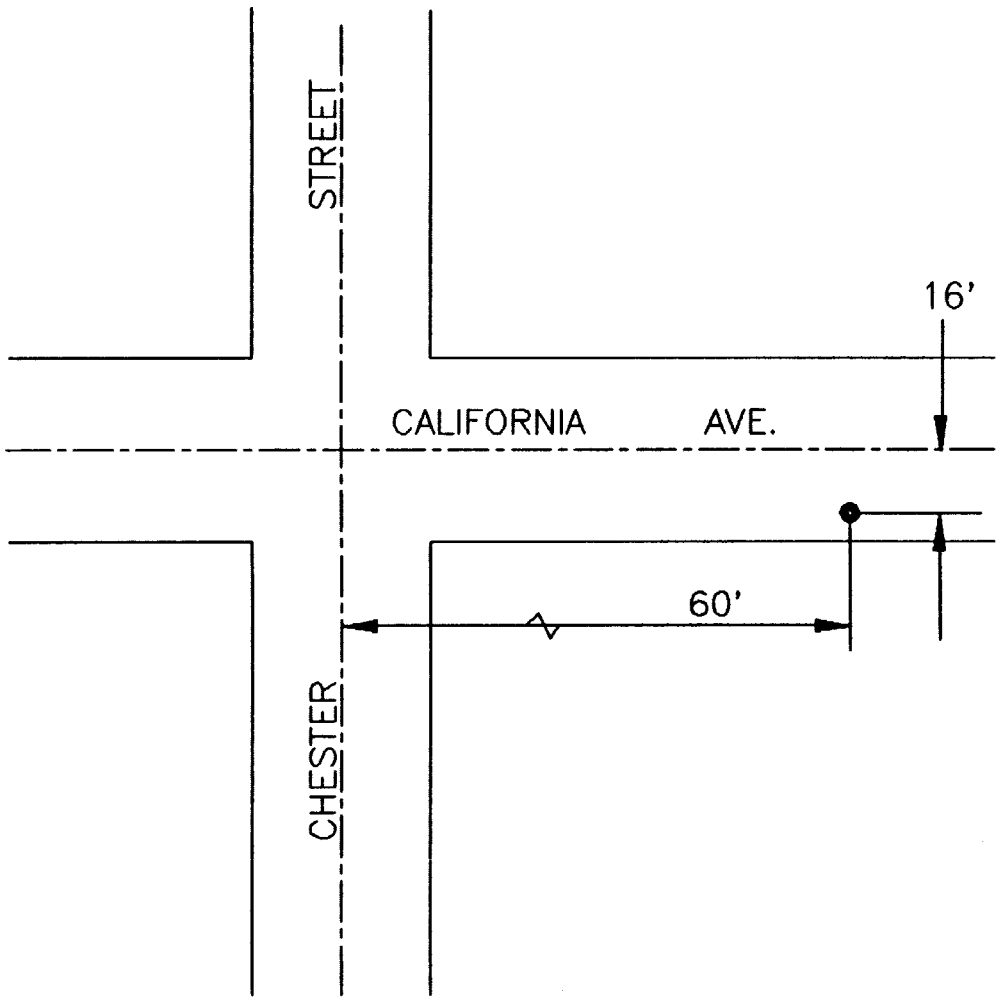
L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-08



THOMAS GUIDE LOCATION: PG 25 A2
CITY OF GLENDALE

AS CONSTRUCTED 10/89

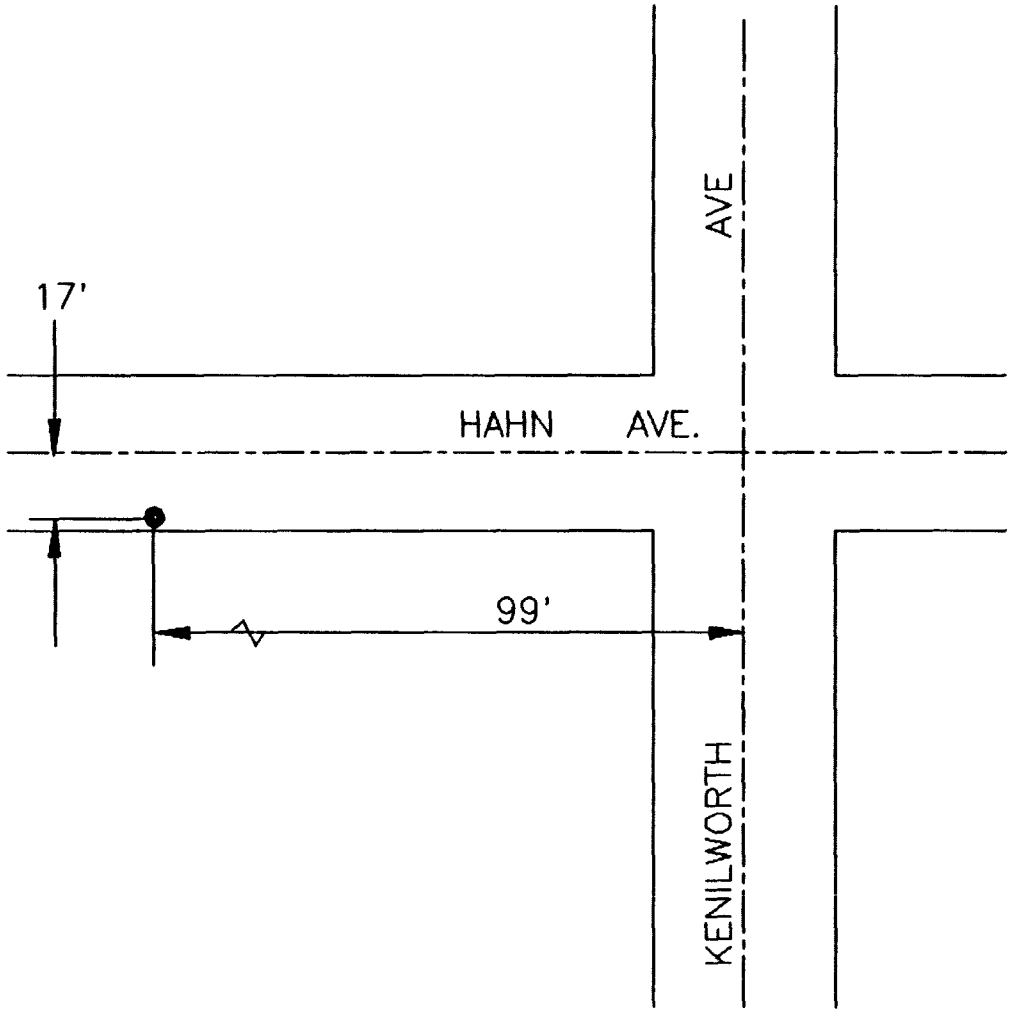
L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-09

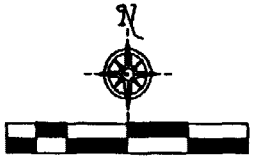


THOMAS GUIDE LOCATION: PG 25 B3
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES CRYSTAL SPRINGS NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: CS-VPB-10





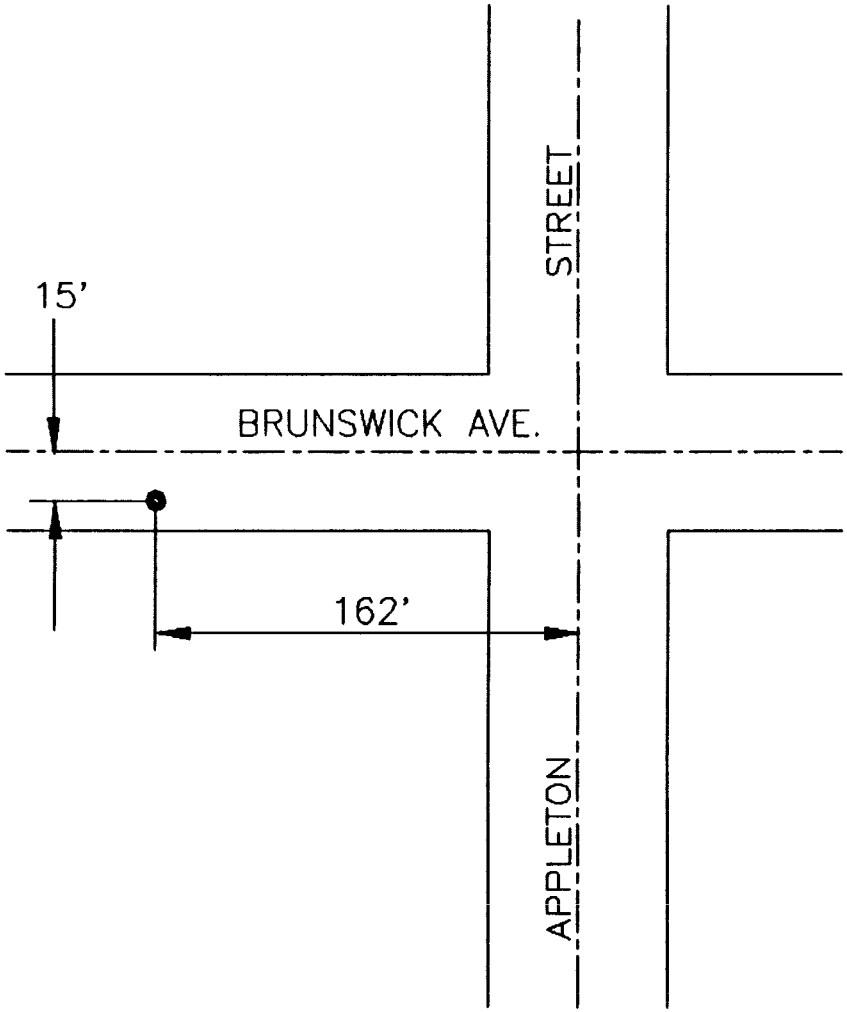
THOMAS GUIDE LOCATION: PG 25 B3
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
CRYSTAL SPRINGS NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

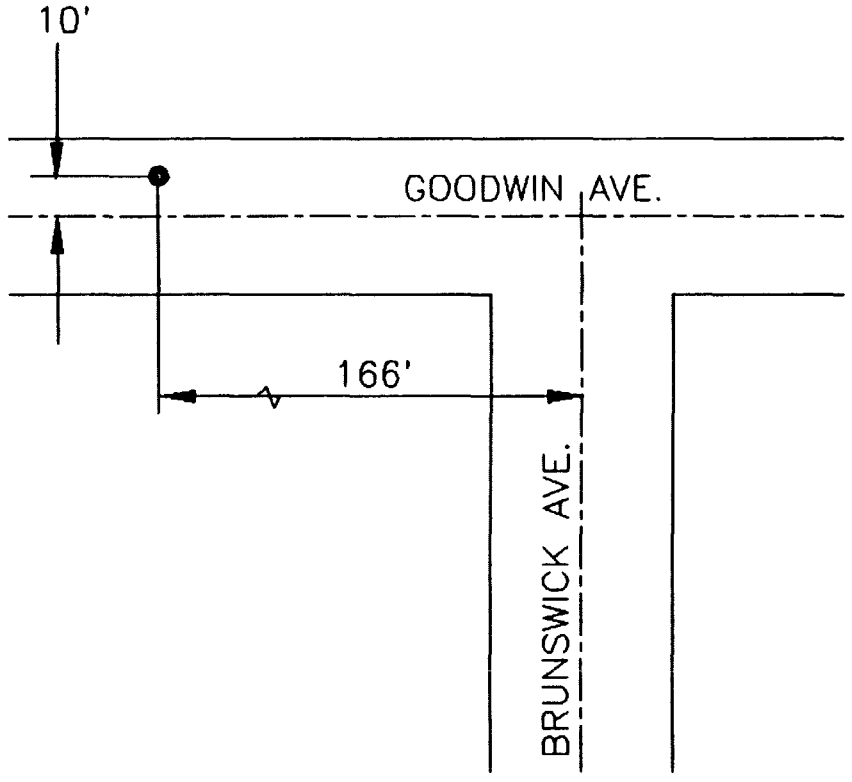
WELL NAME:
CS-VPB-11

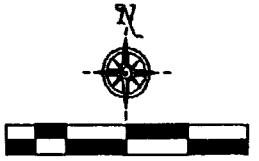


THOMAS GUIDE LOCATION: PG 25 C6
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-01

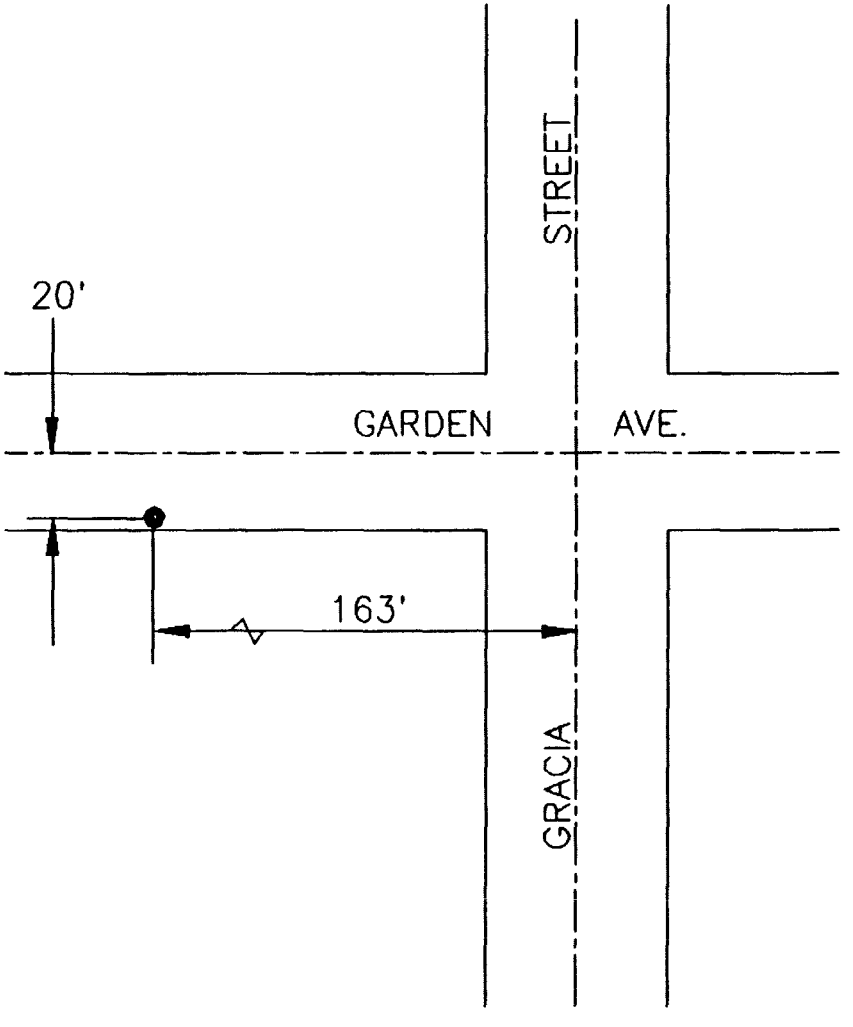




THOMAS GUIDE LOCATION: PG 25 B5
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-02

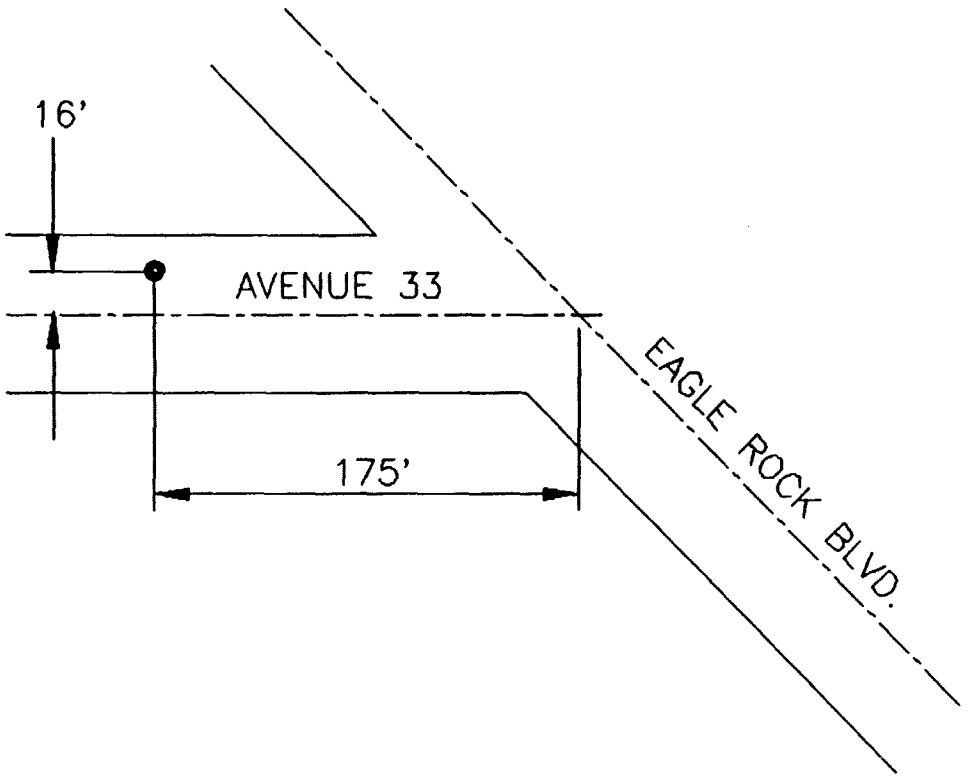


THOMAS GUIDE LOCATION: PG 35 C2
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

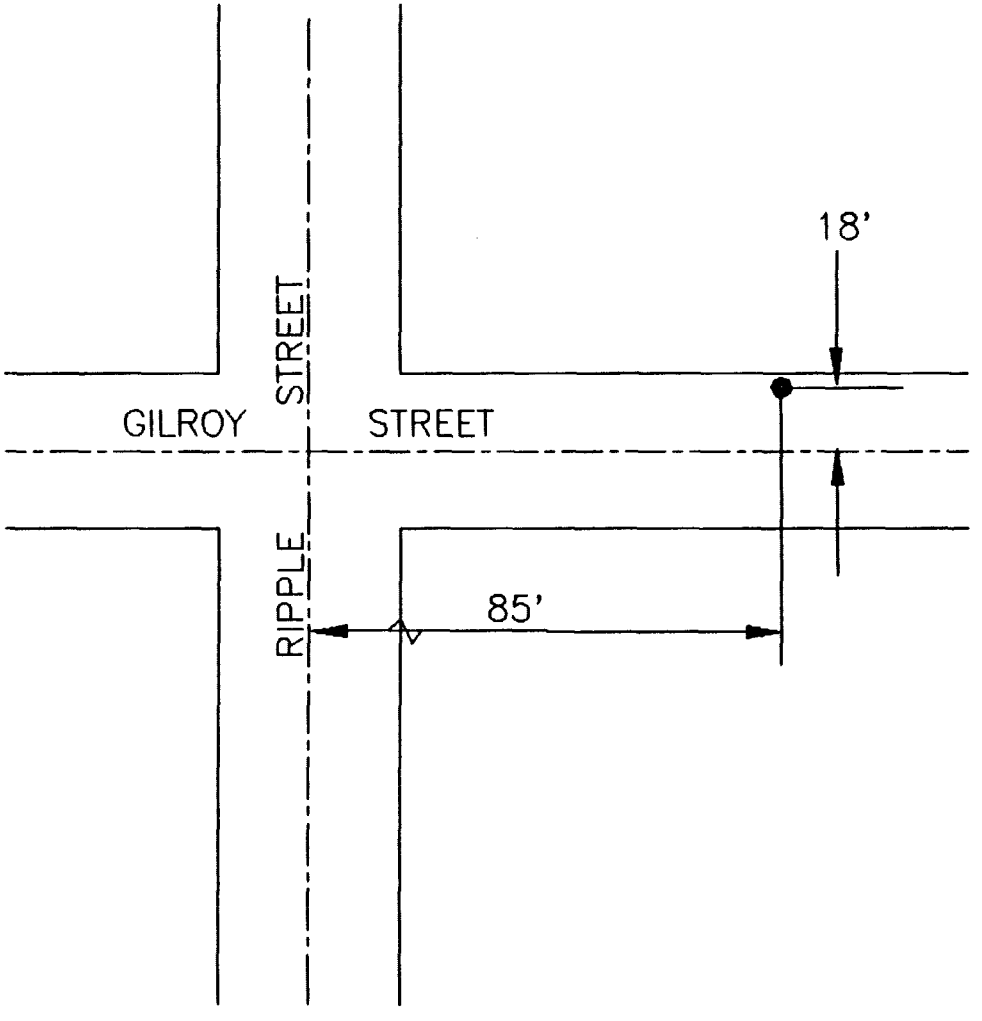
L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-03

THOMAS GUIDE LOCATION: PG 35 E2
CITY OF LOS ANGELES



AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-04



THOMAS GUIDE LOCATION: PG 35 D2
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P.

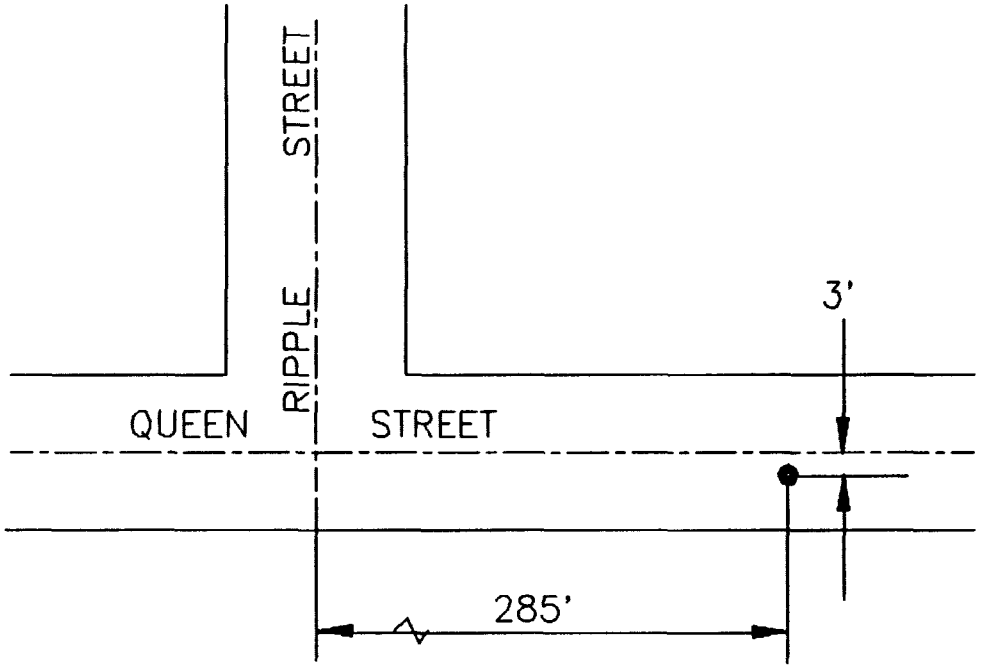
VERTICAL PROFILE BOREHOLES
POLLOCK NPL SITE

PREPARED BY:

SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:

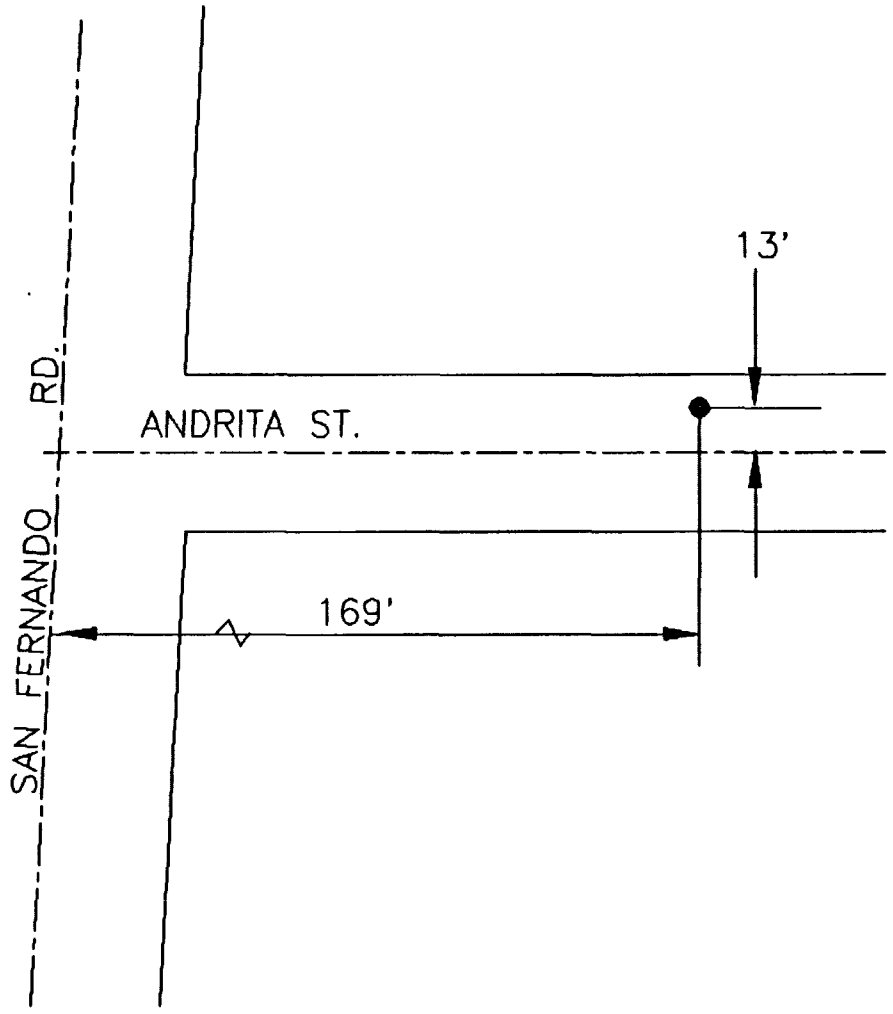
PO-VPB-05



THOMAS GUIDE LOCATION: PG 35 D3
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-06

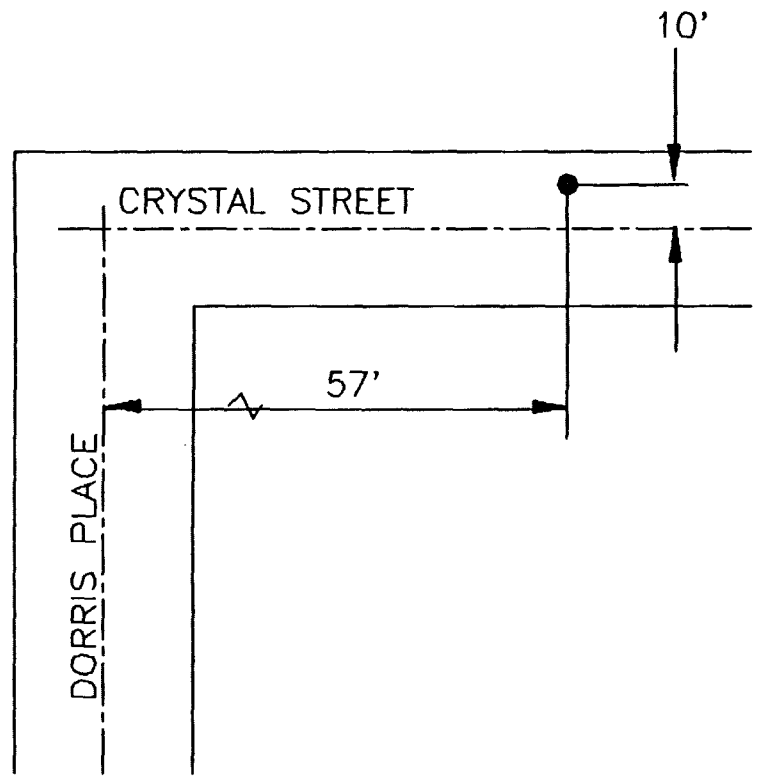


THOMAS GUIDE LOCATION: PG 35 D1
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

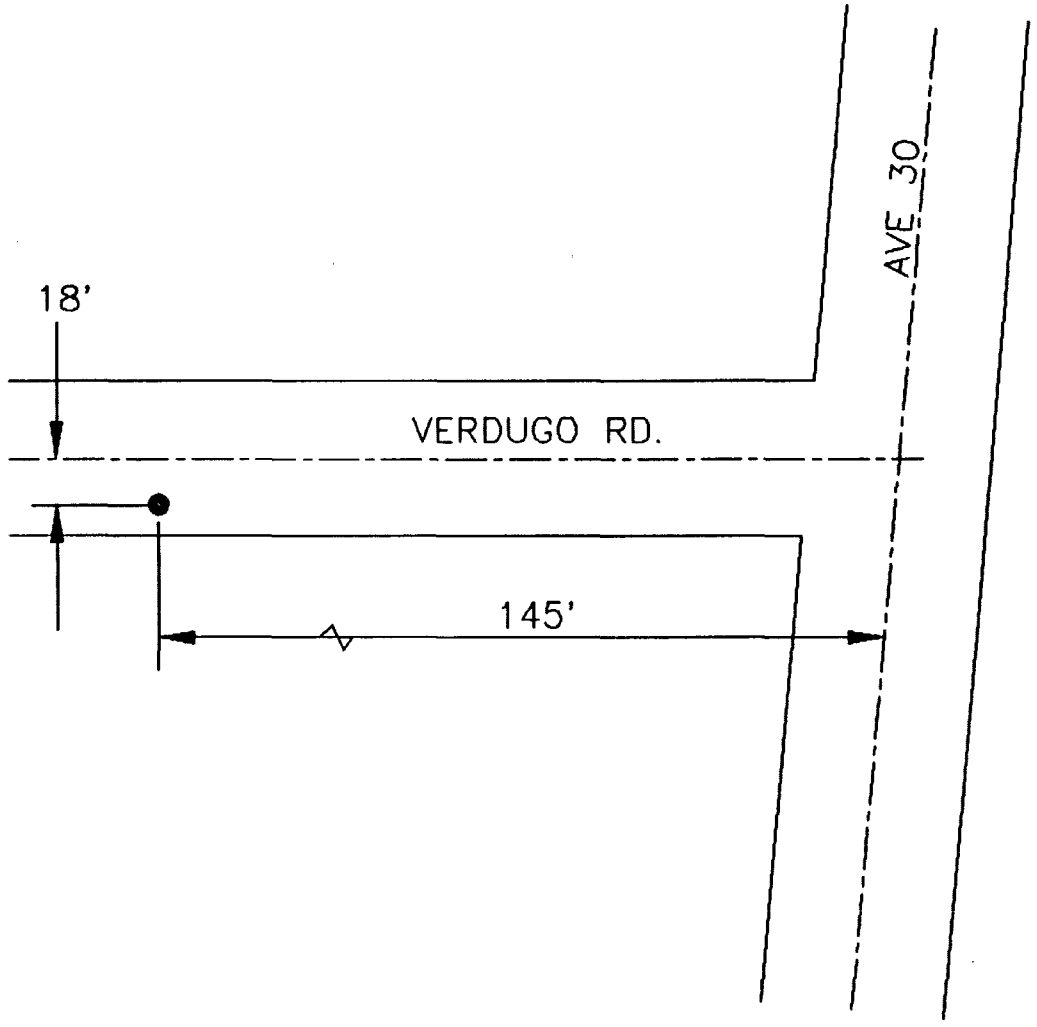
L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-07

THOMAS GUIDE LOCATION: PG 35 E4
CITY OF LOS ANGELES



AS CONSTRUCTED 10/89

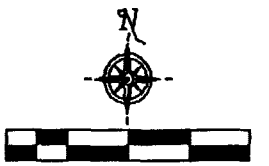
L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-08



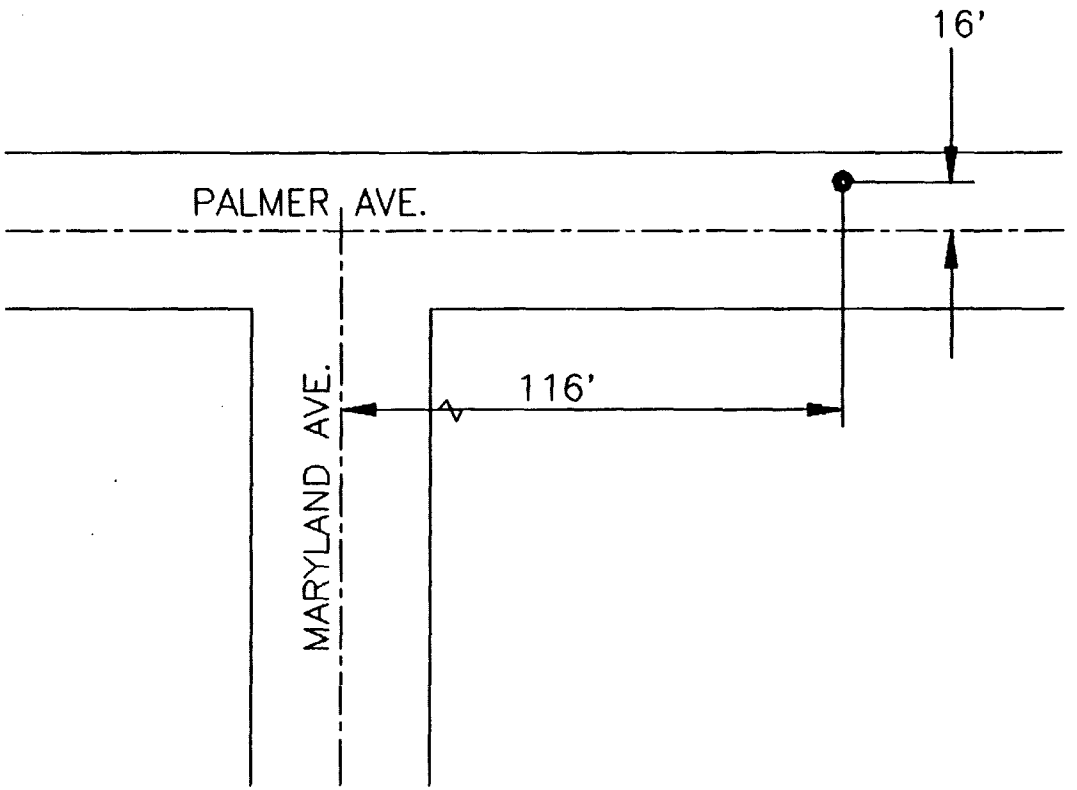
THOMAS GUIDE LOCATION: PG 35 E3
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-09

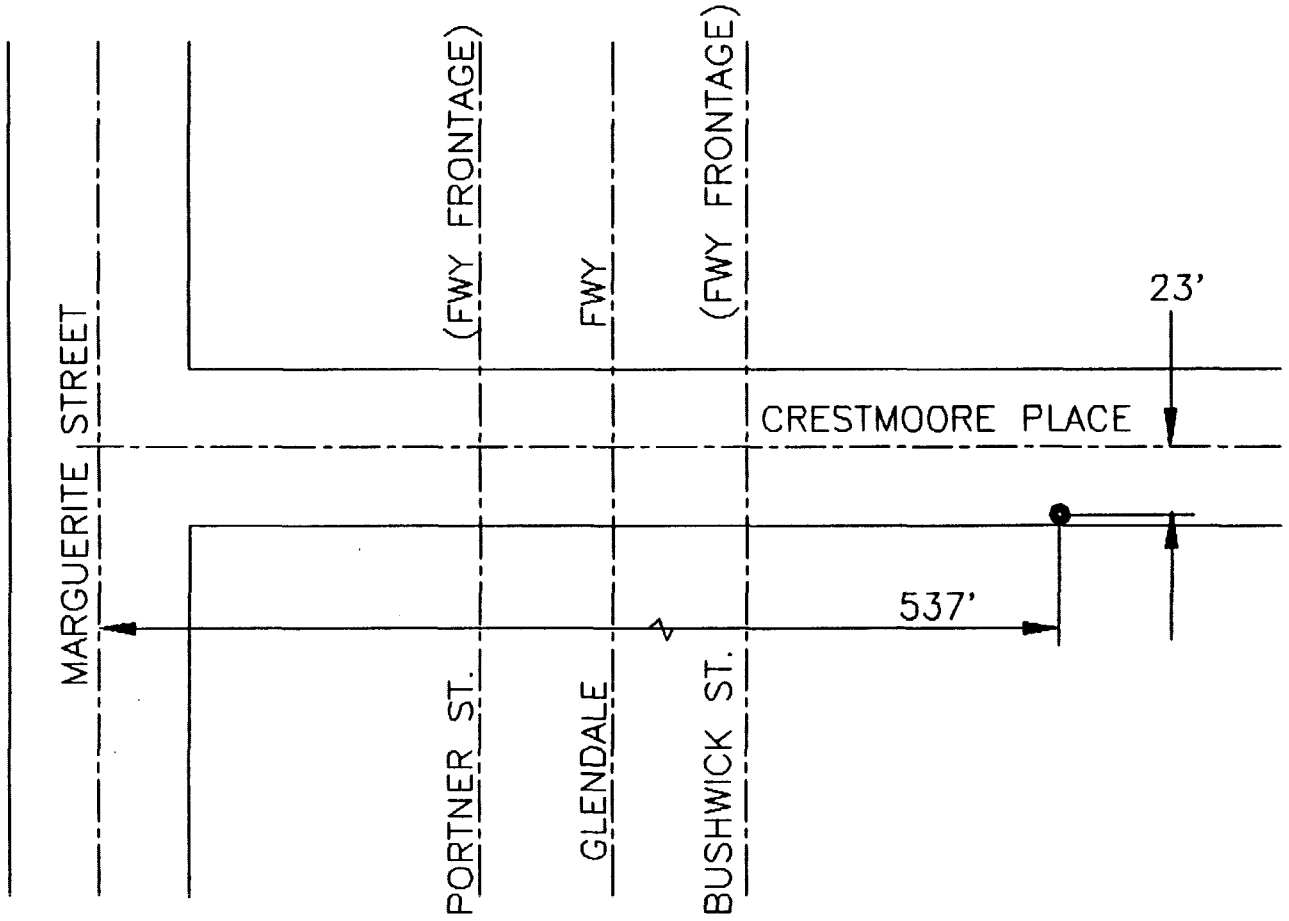


THOMAS GUIDE LOCATION: PG 25 C5
CITY OF LOS ANGELES



AS CONSTRUCTED 10/89

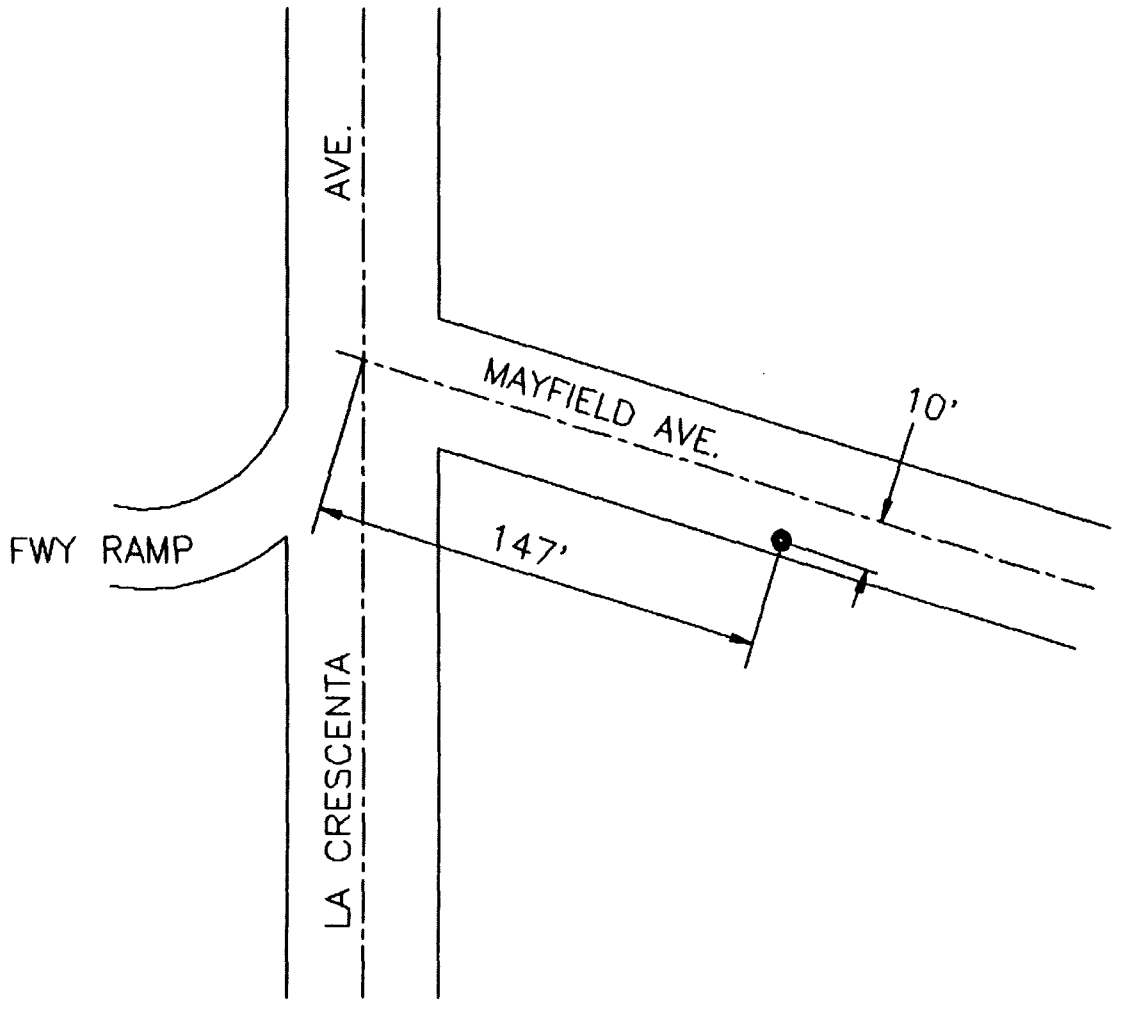
L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-10

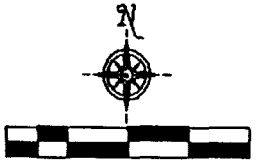


THOMAS GUIDE LOCATION: PG 35 E1
CITY OF LOS ANGELES

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES POLLOCK NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: PO-VPB-11

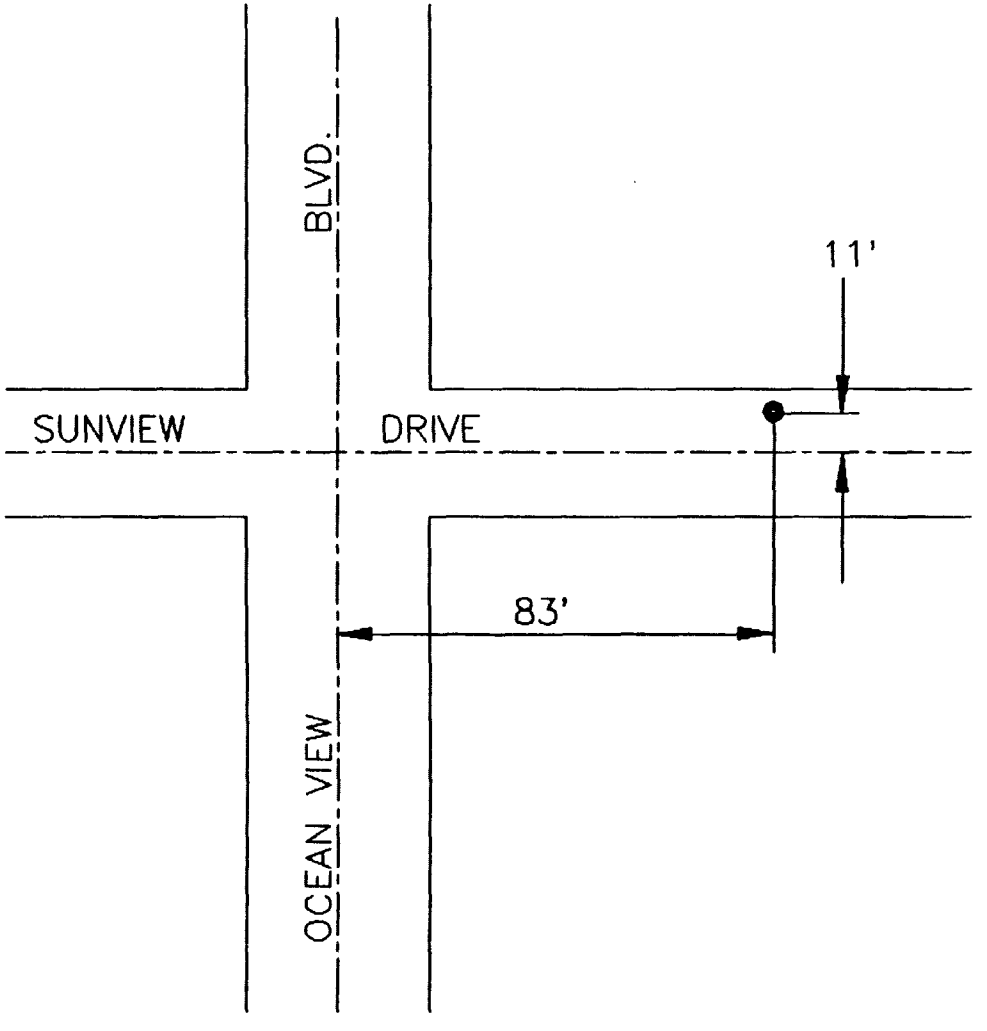


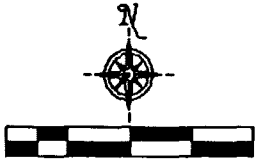


THOMAS GUIDE LOCATION: PG 18 E2
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES VERDUGO NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: VD-VPB-01

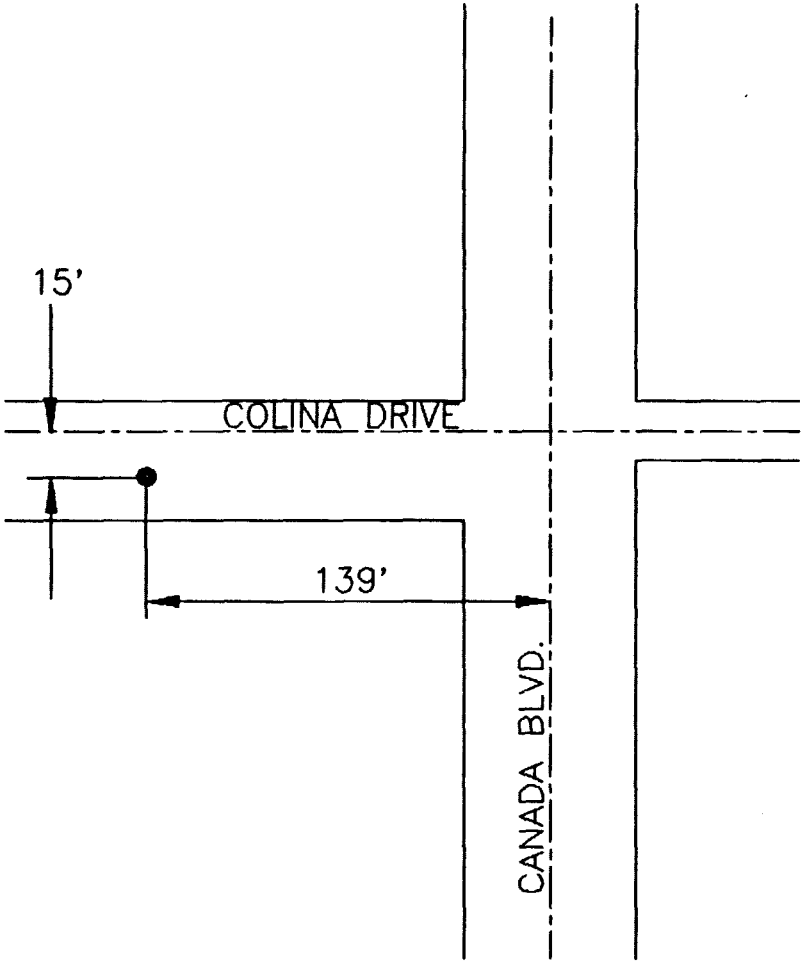


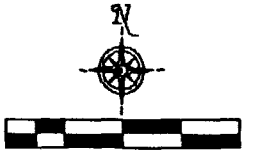


THOMAS GUIDE LOCATION: PG 16 F3
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES VERDUGO NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: VD-VPB-02

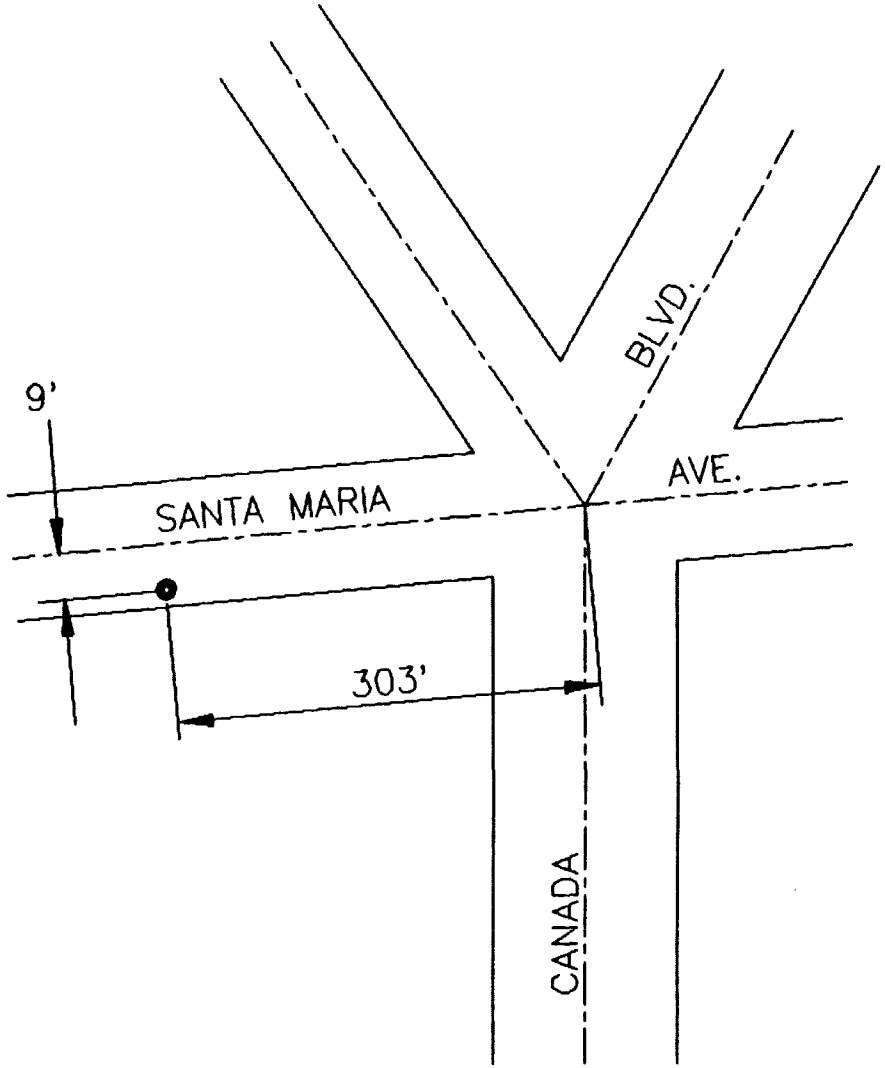




THOMAS GUIDE LOCATION: PG 16 E6
CITY OF GLENDALE

AS CONSTRUCTED 10/89

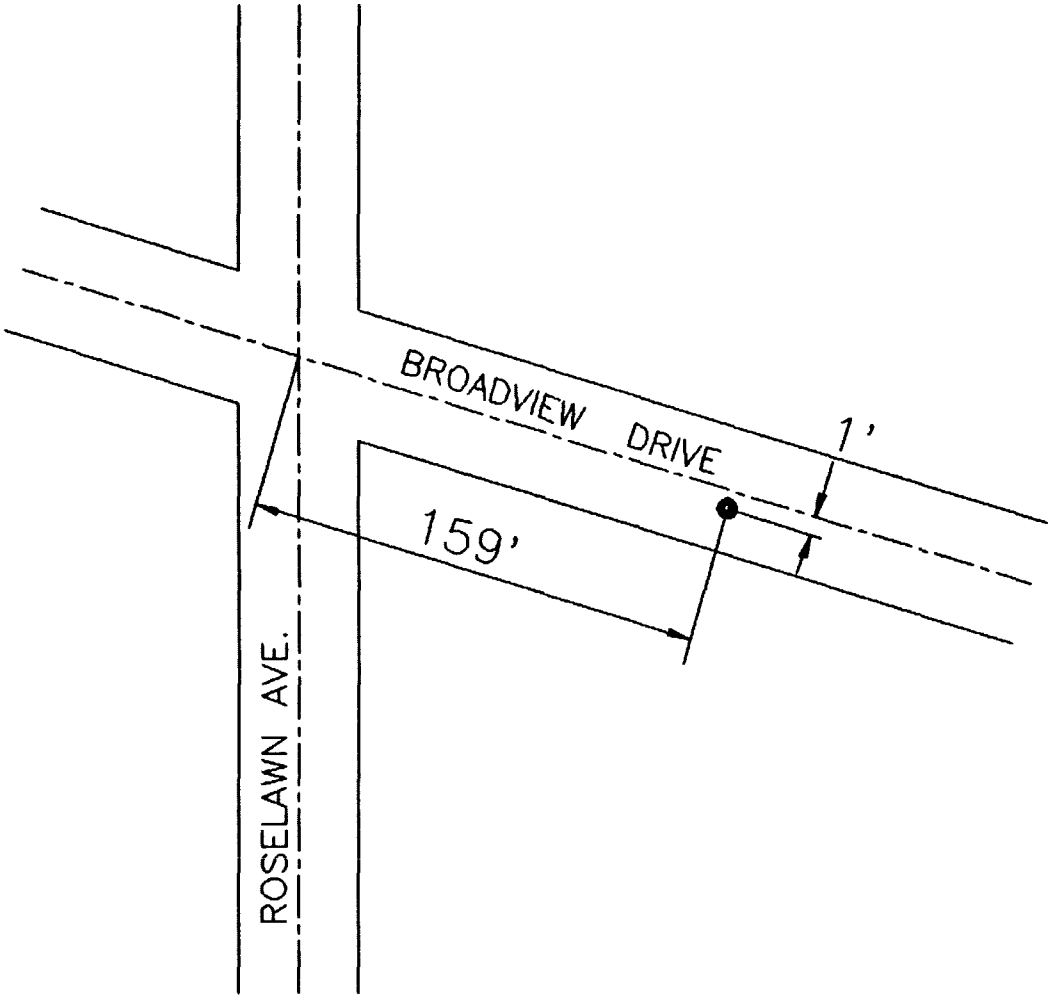
L. A. D. W. P. VERTICAL PROFILE BOREHOLES VERDUGO NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: VD-VPB-03



THOMAS GUIDE LOCATION: PG 18 E5
CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES VERDUGO NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: VD-VPB-04



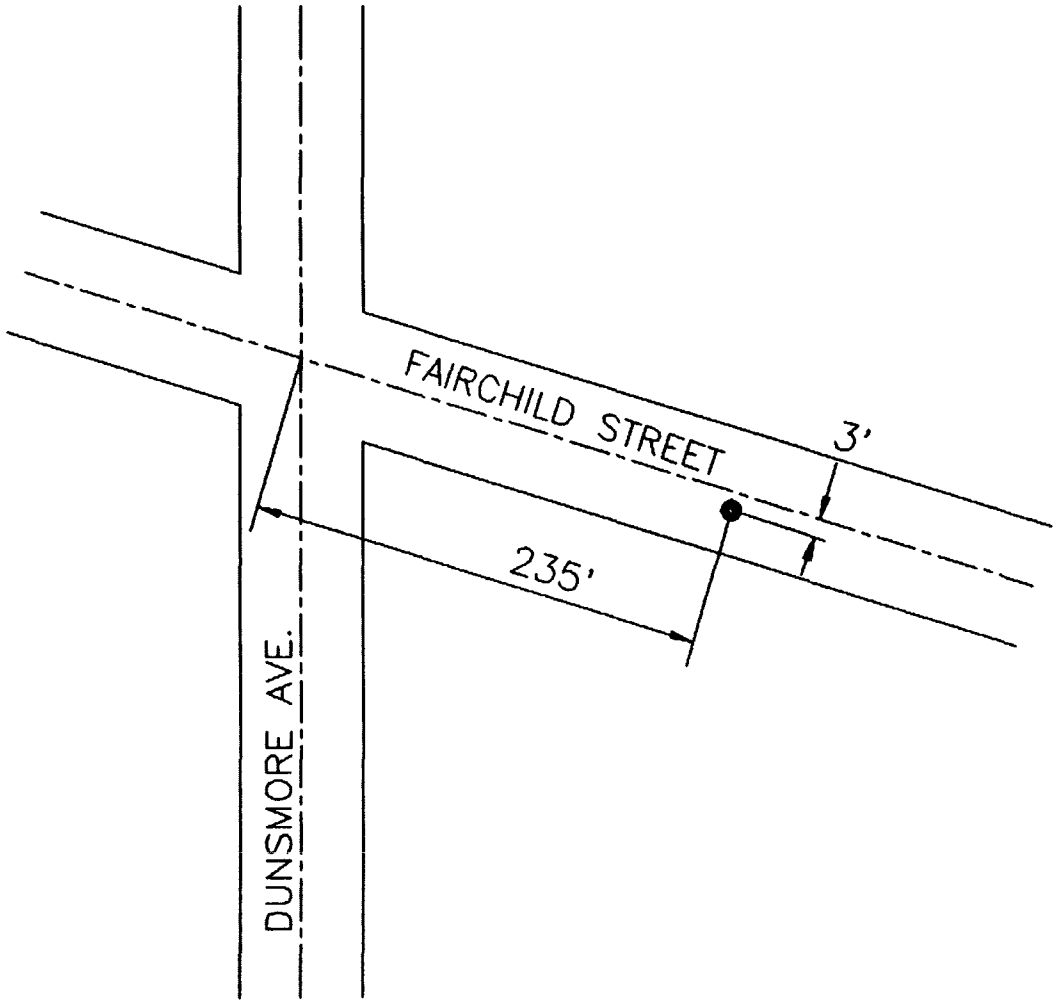
THOMAS GUIDE LOCATION: PG 18 E3
CITY OF GLENDALE

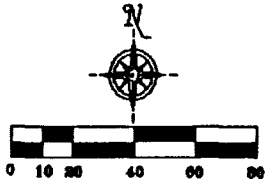
AS CONSTRUCTED 10/89

L. A. D. W. P.
VERTICAL PROFILE BOREHOLES
VERDUGO NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEPARTMENT OF WATER AND POWER

WELL NAME:
VD-VPB-05



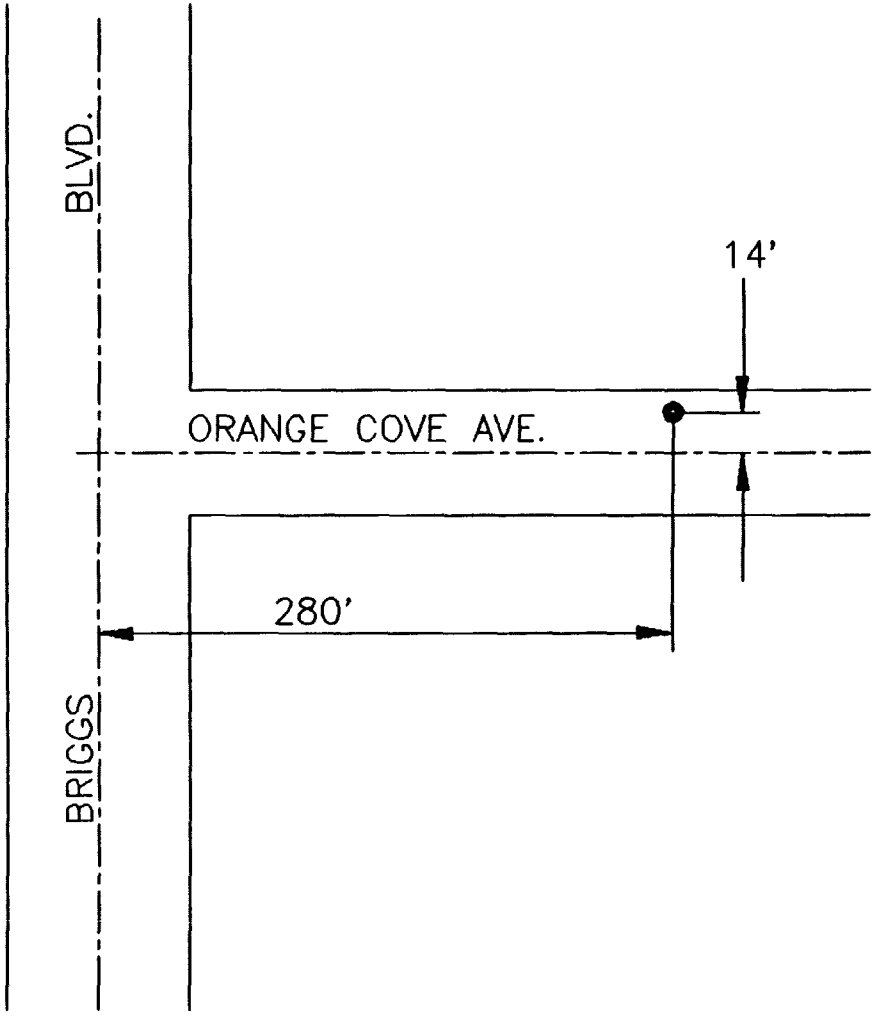


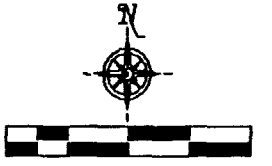
THOMAS GUIDE LOCATION: PG 11-C6

CITY OF GLENDALE

AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES VERDUGO NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: VD-VPB-06





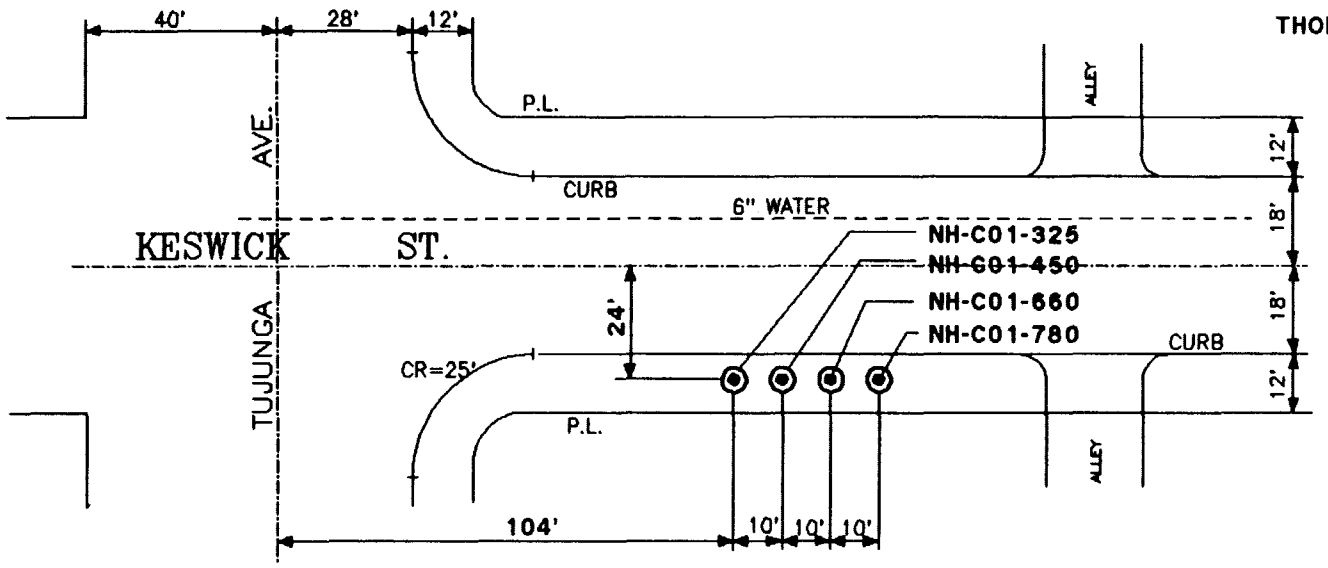
THOMAS GUIDE LOCATION: PG 11 B6
LOS ANGELES COUNTY

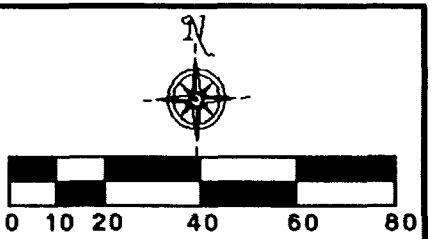
AS CONSTRUCTED 10/89

L. A. D. W. P. VERTICAL PROFILE BOREHOLES VERDUGO NPL SITE	PREPARED BY: *SUPERFUND GROUP* WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEPARTMENT OF WATER AND POWER	WELL NAME: VD-VPB-07

APPENDIX B: LOCATION DRAWINGS

APPENDIX B.2 CLUSTER WELLS



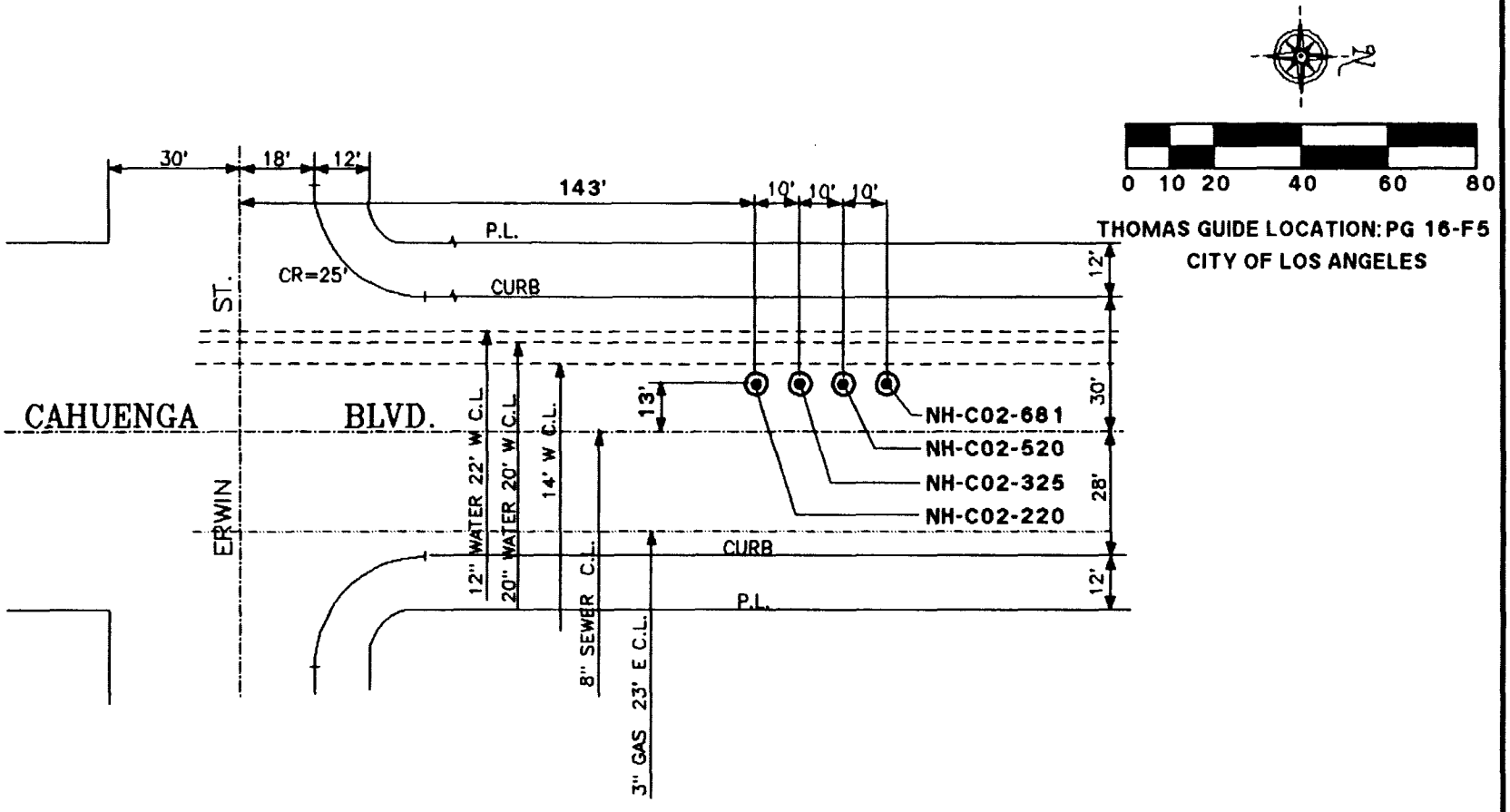


THOMAS GUIDE LOCATION: PG 16-D2
CITY OF LOS ANGELES

AS CONSTRUCTED 04/91

L. A. D. W. P. CLUSTER WELL LOCATION NORTH NOLLYWOOD NPL SITE	PREPARED BY: SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	WELL NAME: NH-C01

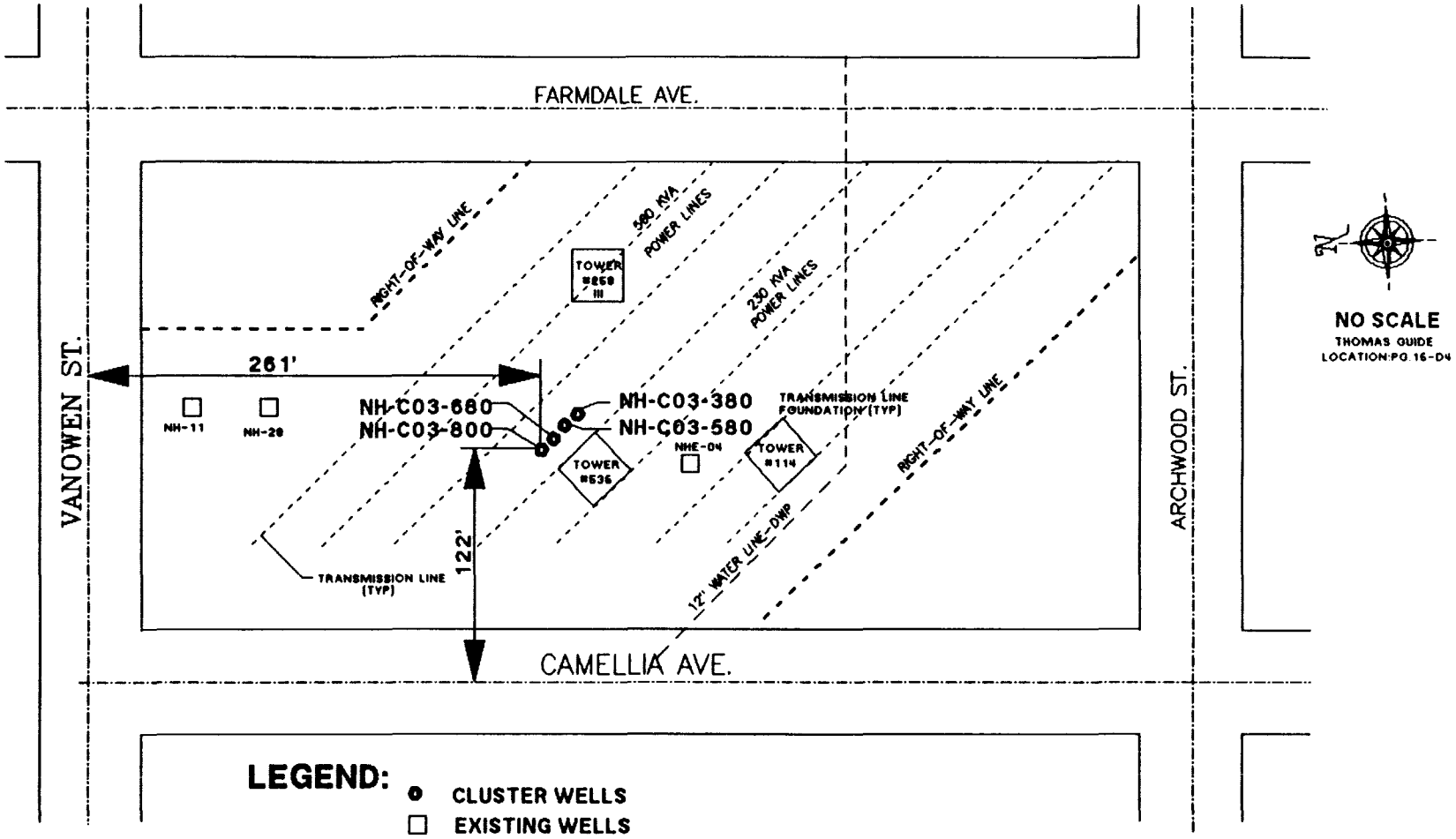
NHC01.DRW: 04/91



AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **NORTH NOLLYWOOD NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **NH-C02**

NHC02.DRW: 04/91



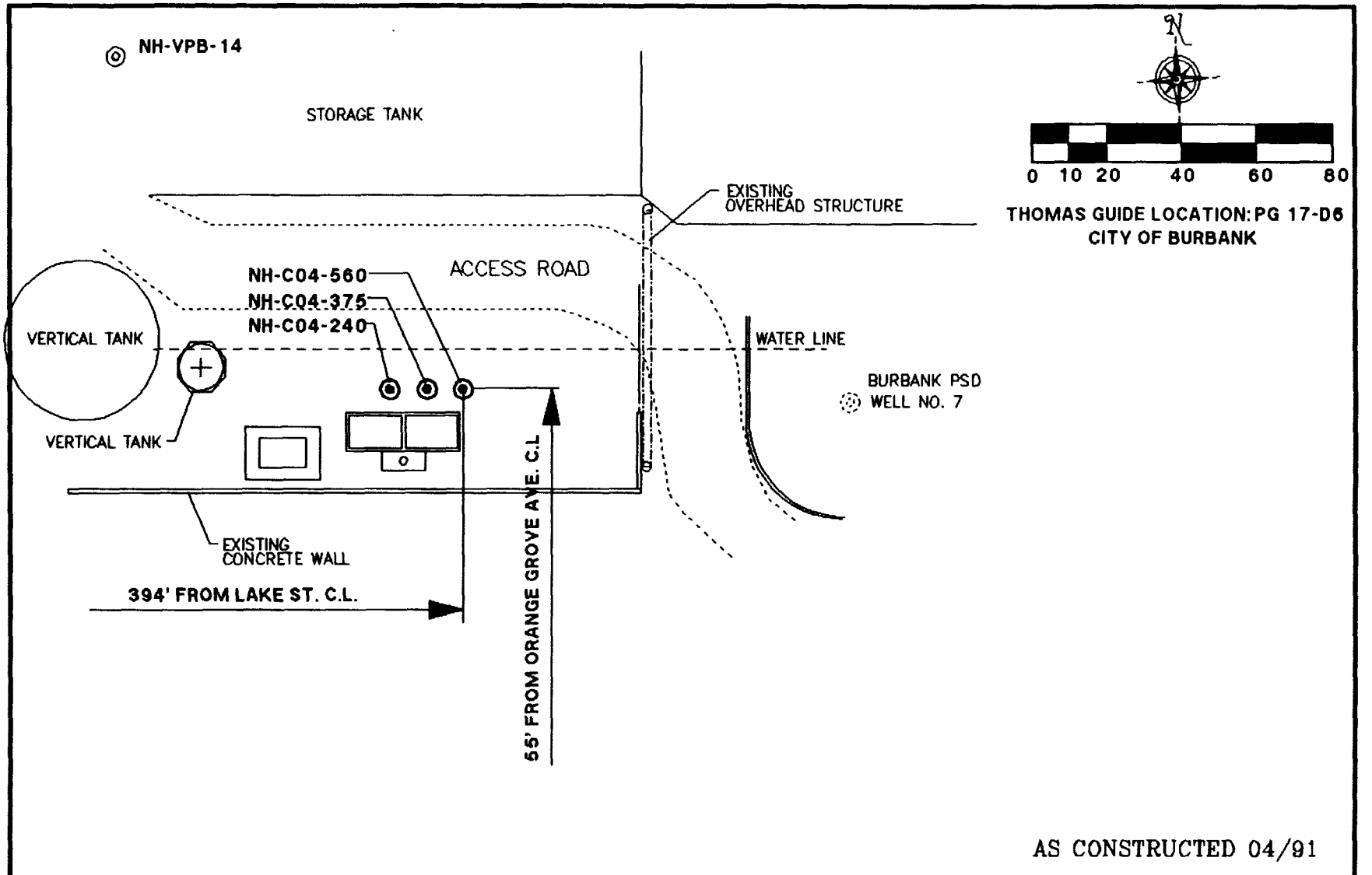
LEGEND:

- ● CLUSTER WELLS
- □ EXISTING WELLS

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **NORTH HOLLYWOOD NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **NH-C03**

NHC03.DRW: 04/91

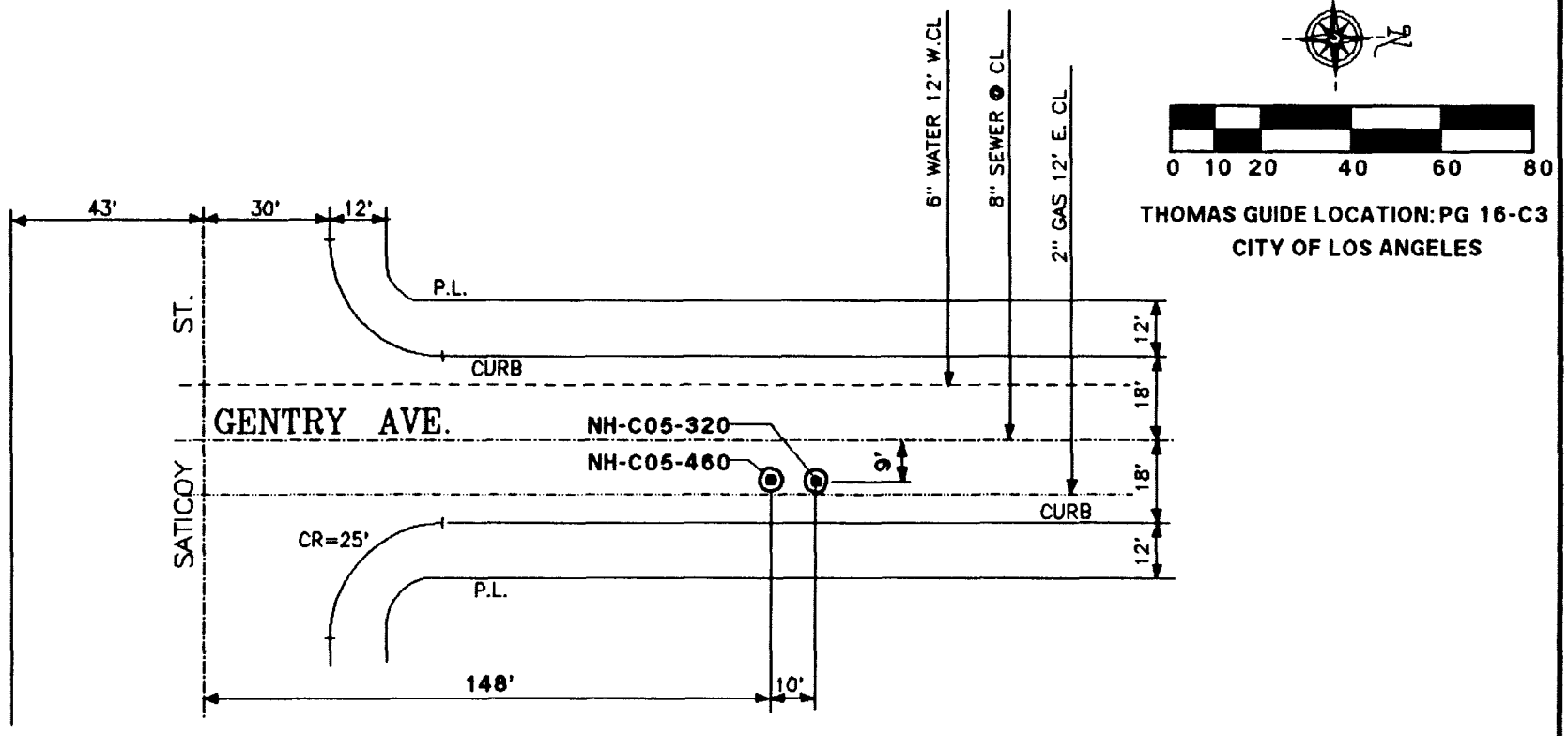


L. A. D. W. P.
CLUSTER WELL LOCATION
NORTH HOLLYWOOD NPL SITE

PREPARED BY:
SUPERFUND GROUP
WATER ENGINEERING DESIGN DIVISION
LOS ANGELES DEP'T OF WATER & POWER

WELL NAME:
NH-C04

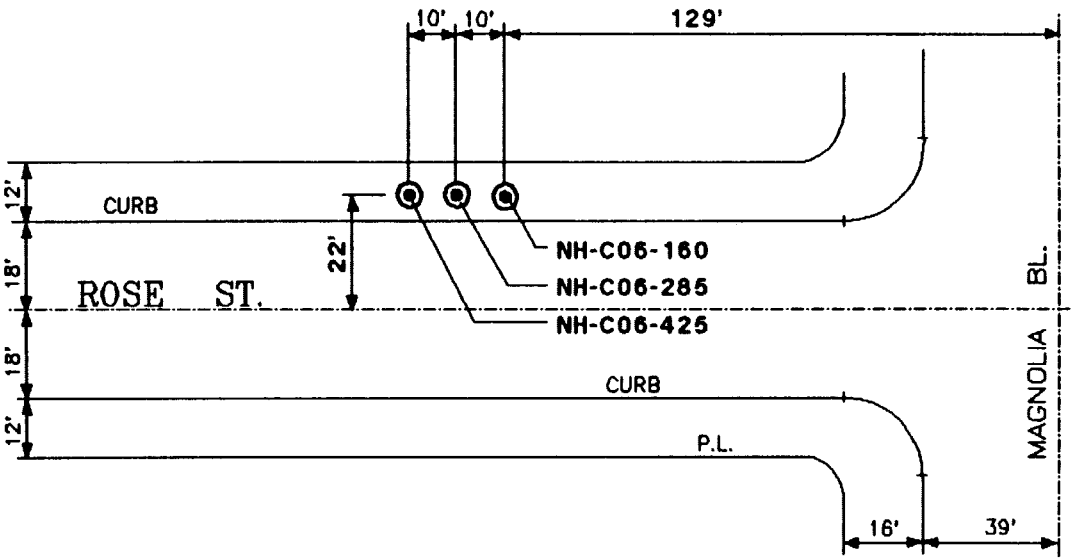
NHC04.DRW: 04/91

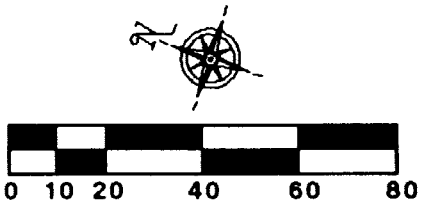


AS CONSTRUCTED 04/91

L. A. D. W. P. CLUSTER WELL LOCATION NORTH NOLLYWOOD NPL SITE	PREPARED BY: SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	WELL NAME: NH-C05

NHC05.DRW: 04/91





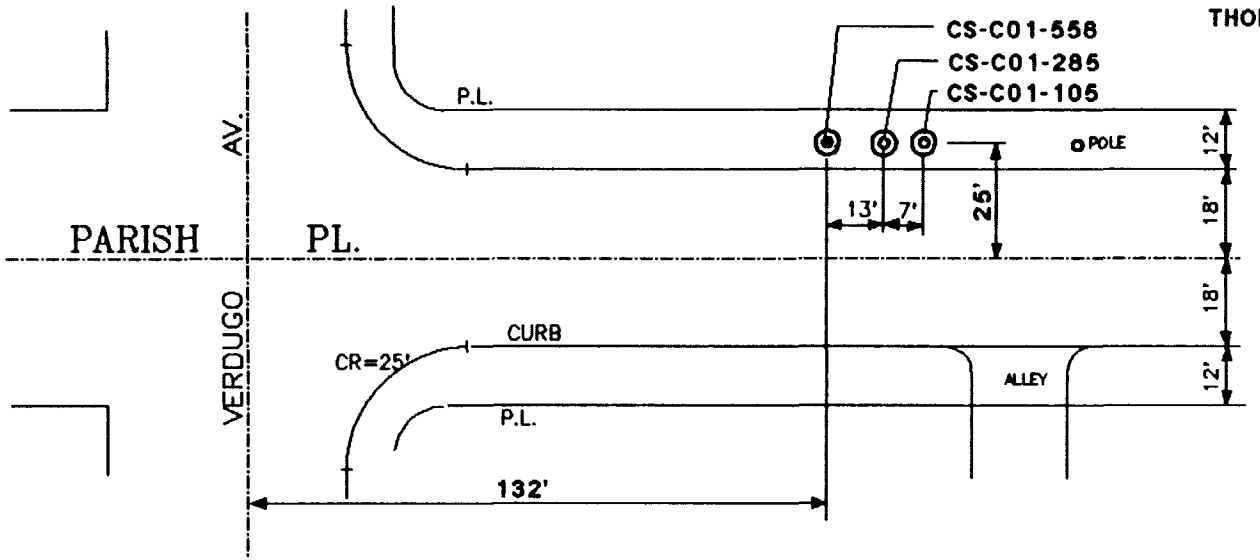
THOMAS GUIDE LOCATION: PG 24-A2

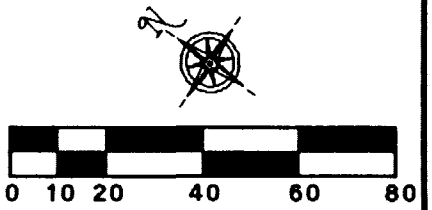
CITY OF BURBANK

AS CONSTRUCTED 04/91

L. A. D. W. P. CLUSTER WELL LOCATION NORTH NOLLYWOOD NPL SITE	PREPARED BY: SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	WELL NAME: NH-C06

NHC06.DRW AVA 04/91



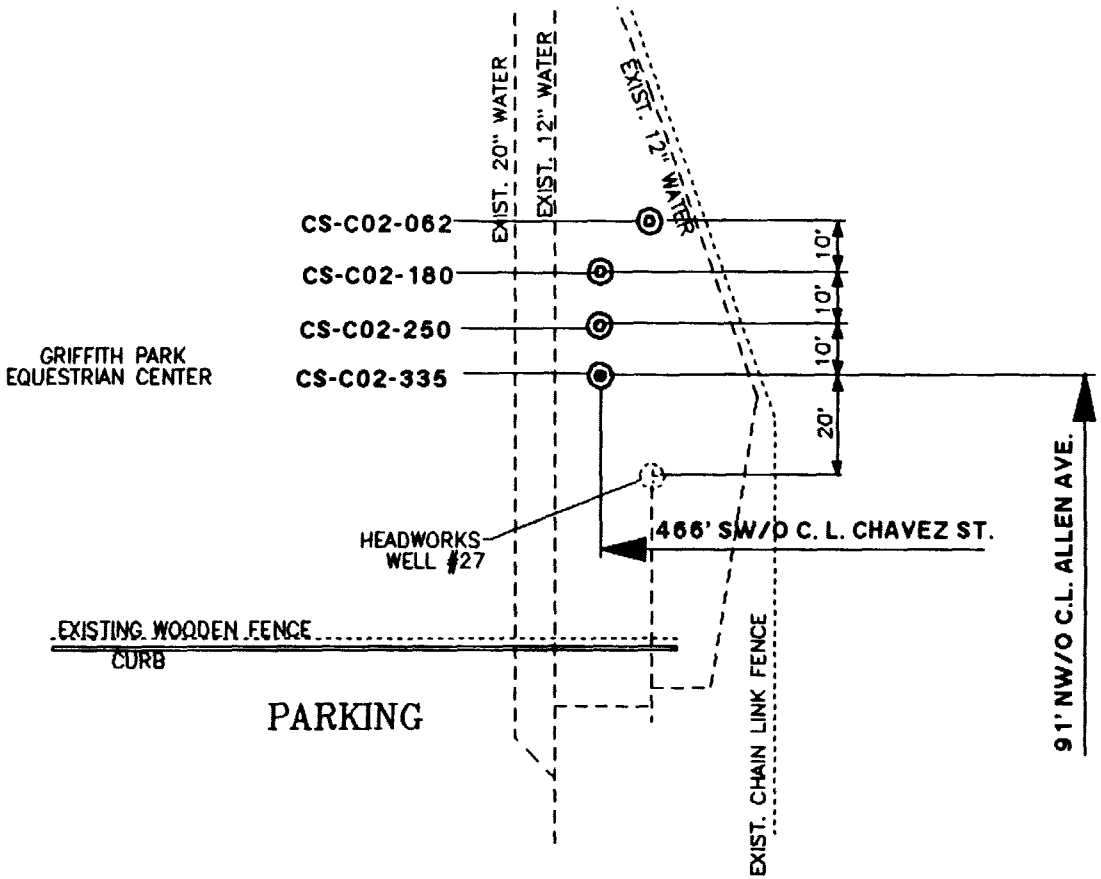


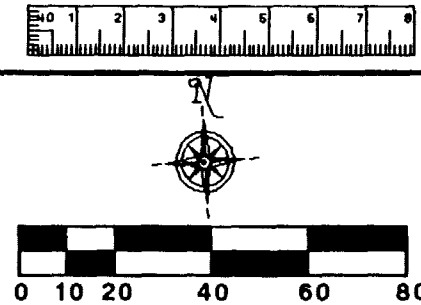
THOMAS GUIDE LOCATION: PG 24-C2
CITY OF BURBANK

AS CONSTRUCTED 04/91

L. A. D. W. P. CLUSTER WELL LOCATION CRYSTAL SPRINGS NPL SITE	PREPARED BY: SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	WELL NAME: CS-C01

CSC01.DRW: 04/91



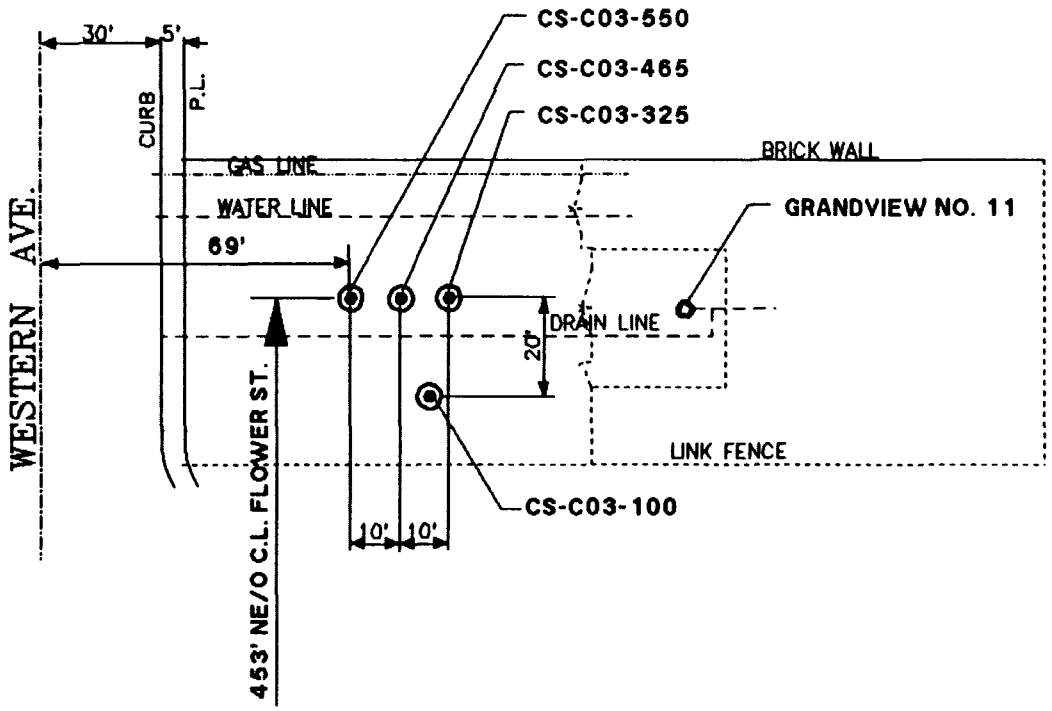


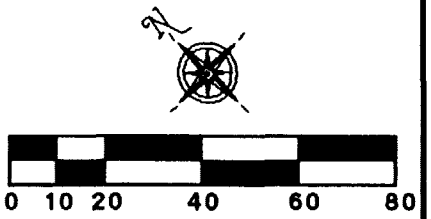
THOMAS GUIDE LOCATION: PG 24-E2
CITY OF LOS ANGELES

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **CRYSTAL SPRINGS NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **CS-C02**

CSC02 AVA 04/91



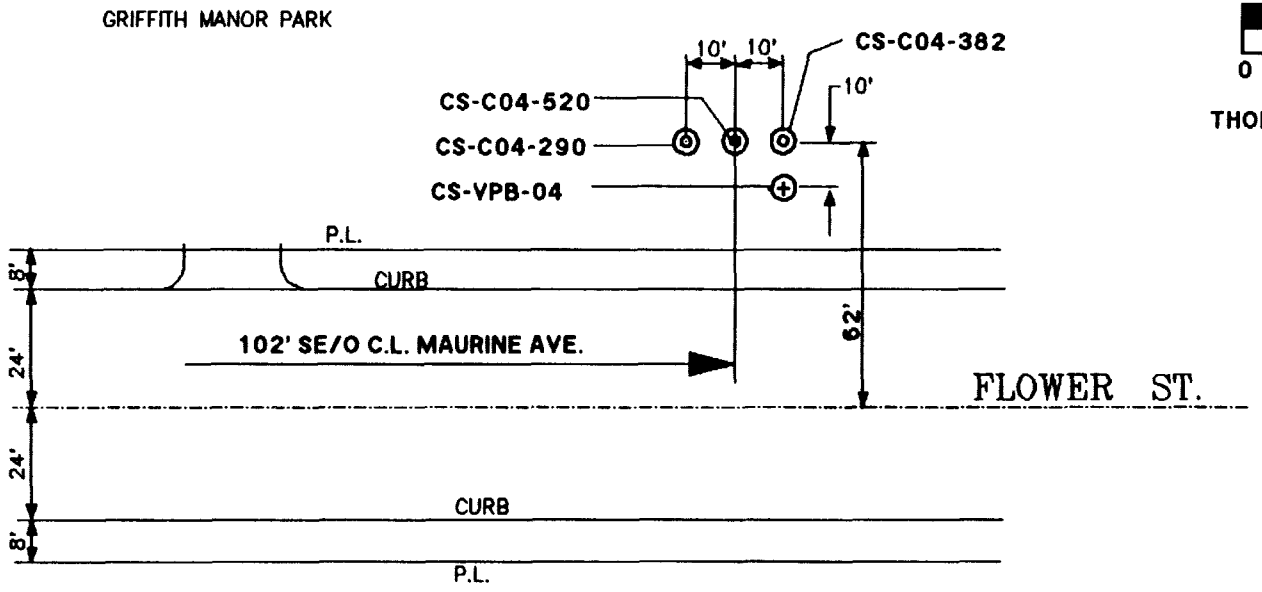


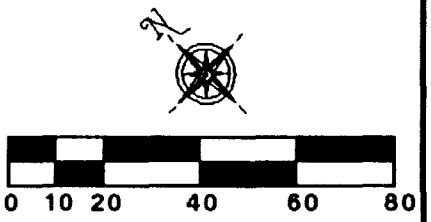
THOMAS GUIDE LOCATION: PG 24-F2
CITY OF GLENDALE

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **CRYSTAL SPRINGS NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **CS-C03**

CSC03.DRW: AVA 04/91



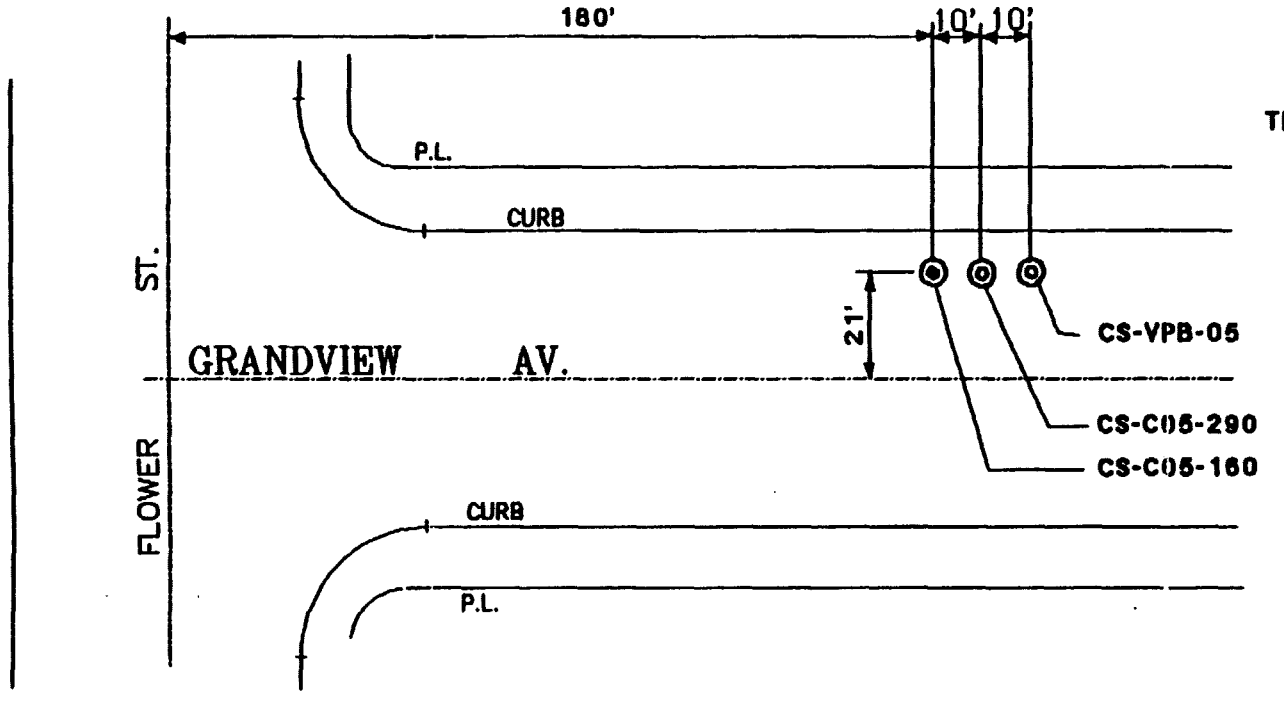


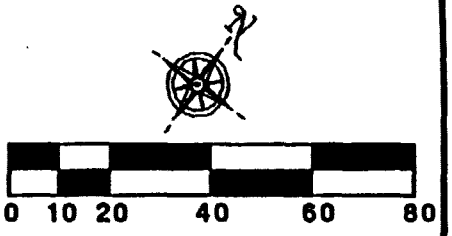
THOMAS GUIDE LOCATION: PG 24-F2
CITY OF GLENDALE

AS CONSTRUCTED 04/91

L. A. D. W. P. CLUSTER WELL LOCATION CRYSTAL SPRINGS NPL SITE	PREPARED BY: SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	WELL NAME: CS-C04

CSC04.DRW: 04/91



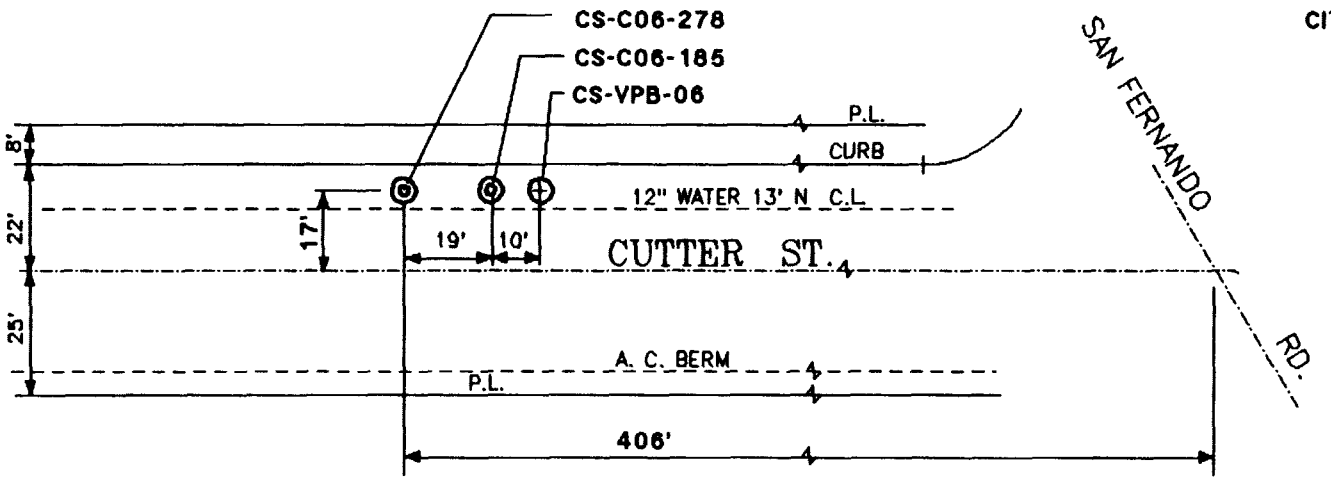


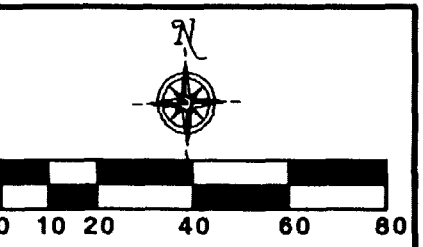
THOMAS GUIDE LOCATION: PG 25-A2
CITY OF GLENDALE

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **CRYSTAL SPRINGS NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **CS-C05**

CSC05.DRW AVA 04/91



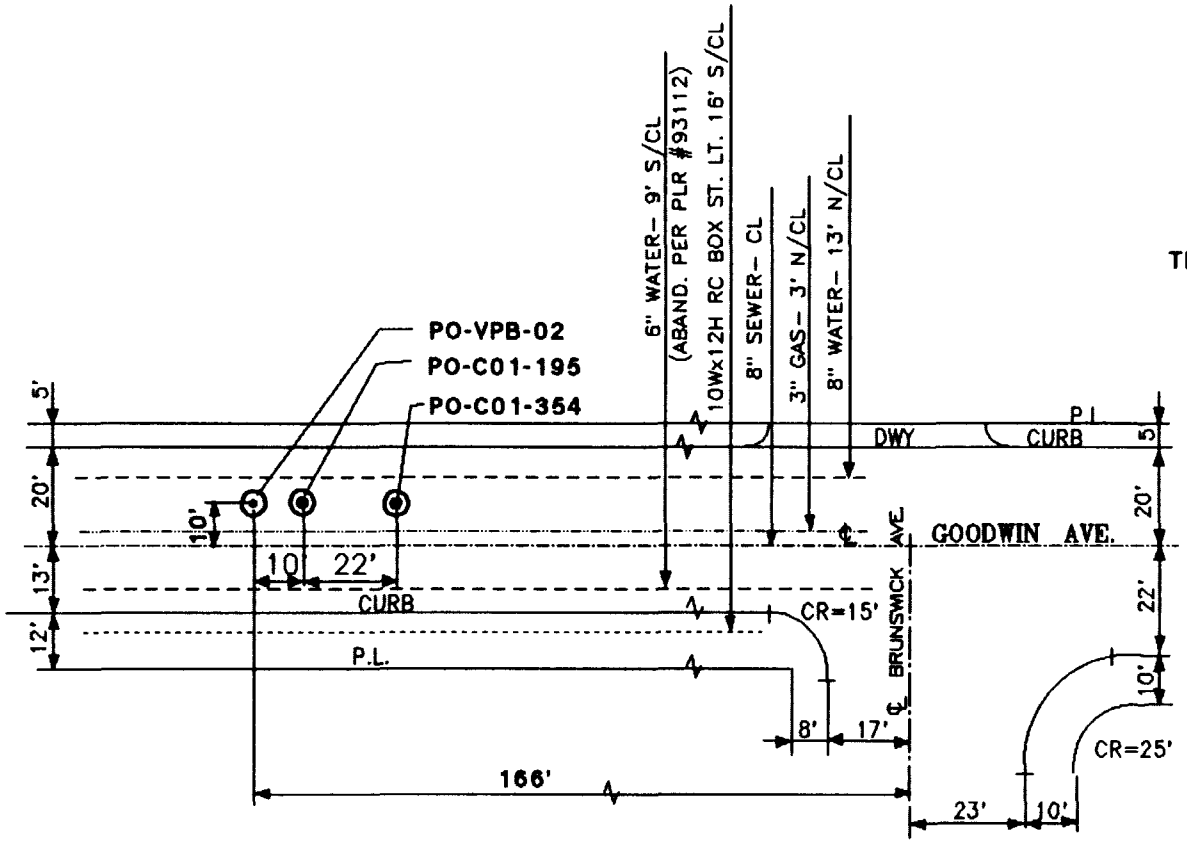


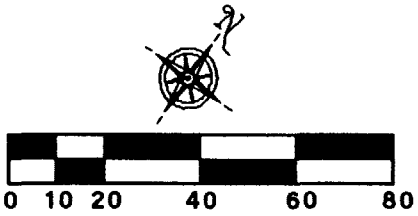
THOMAS GUIDE LOCATION: PG 25-B3
CITY OF LOS ANGELES

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **CRYSTAL SPRINGS NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **CS-C06**

CSC06.DRW AVA 04/91



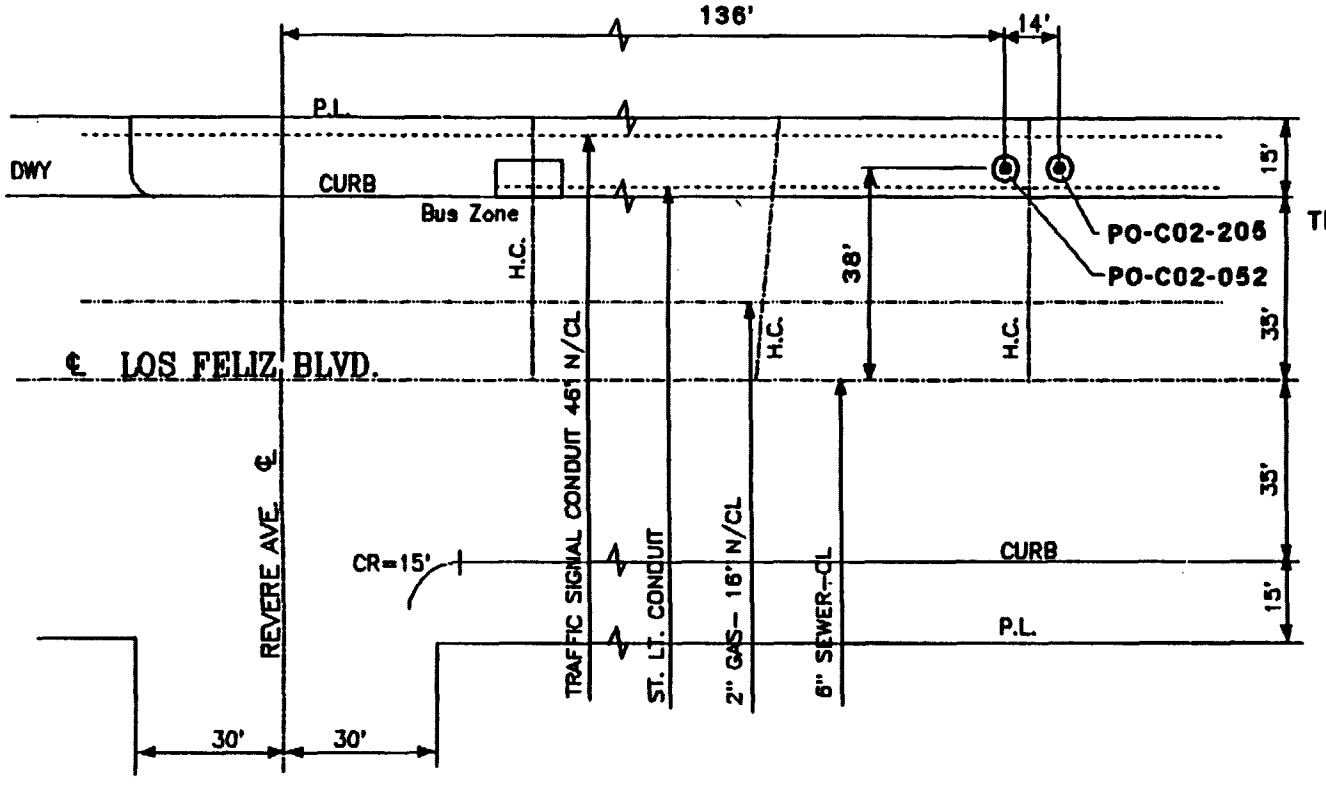


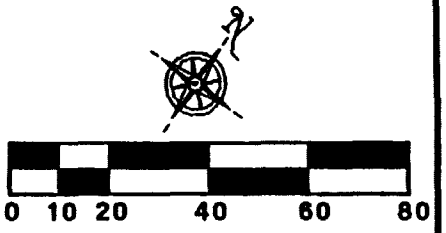
THOMAS GUIDE LOCATION: PG 25-B5
CITY OF LOS ANGELES

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **POLLOCK NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **PO-C01**

POC01.DRW: AVA 04/91



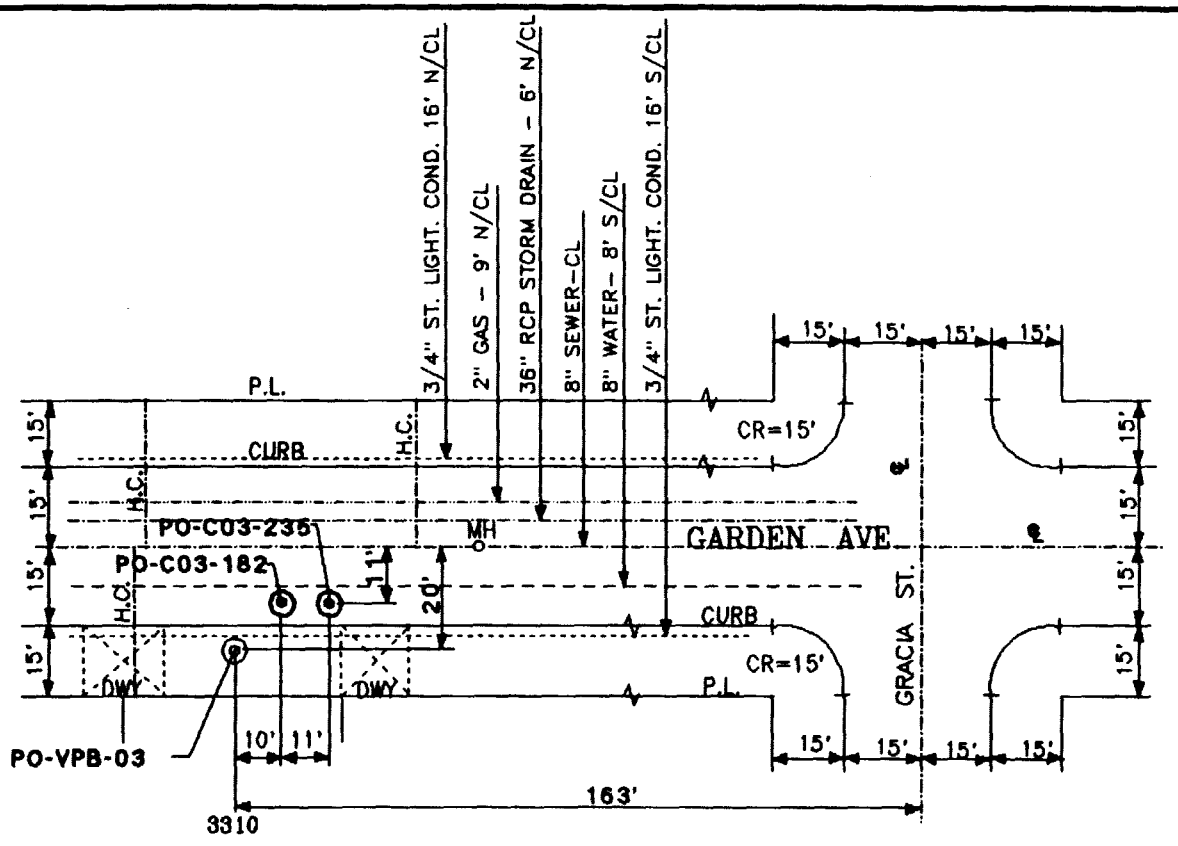


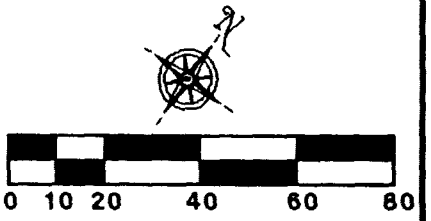
THOMAS GUIDE LOCATION: PG 25-C6
CITY OF LOS ANGELES

AS CONSTRUCTED 04/91

L. A. D. W. P. **CLUSTER WELL LOCATION** **POLLOCK NPL SITE**	**PREPARED BY:** SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	**WELL NAME:** **PO-C02**

POC02.DRW AVA 04/91





THOMAS GUIDE LOCATION: PG 25-C6
CITY OF LOS ANGELES

AS CONSTRUCTED 04/91

L. A. D. W. P. CLUSTER WELL LOCATION POLLOCK NPL SITE	PREPARED BY: SUPERFUND GROUP WATER ENGINEERING DESIGN DIVISION LOS ANGELES DEP'T OF WATER & POWER	WELL NAME: PO-C03

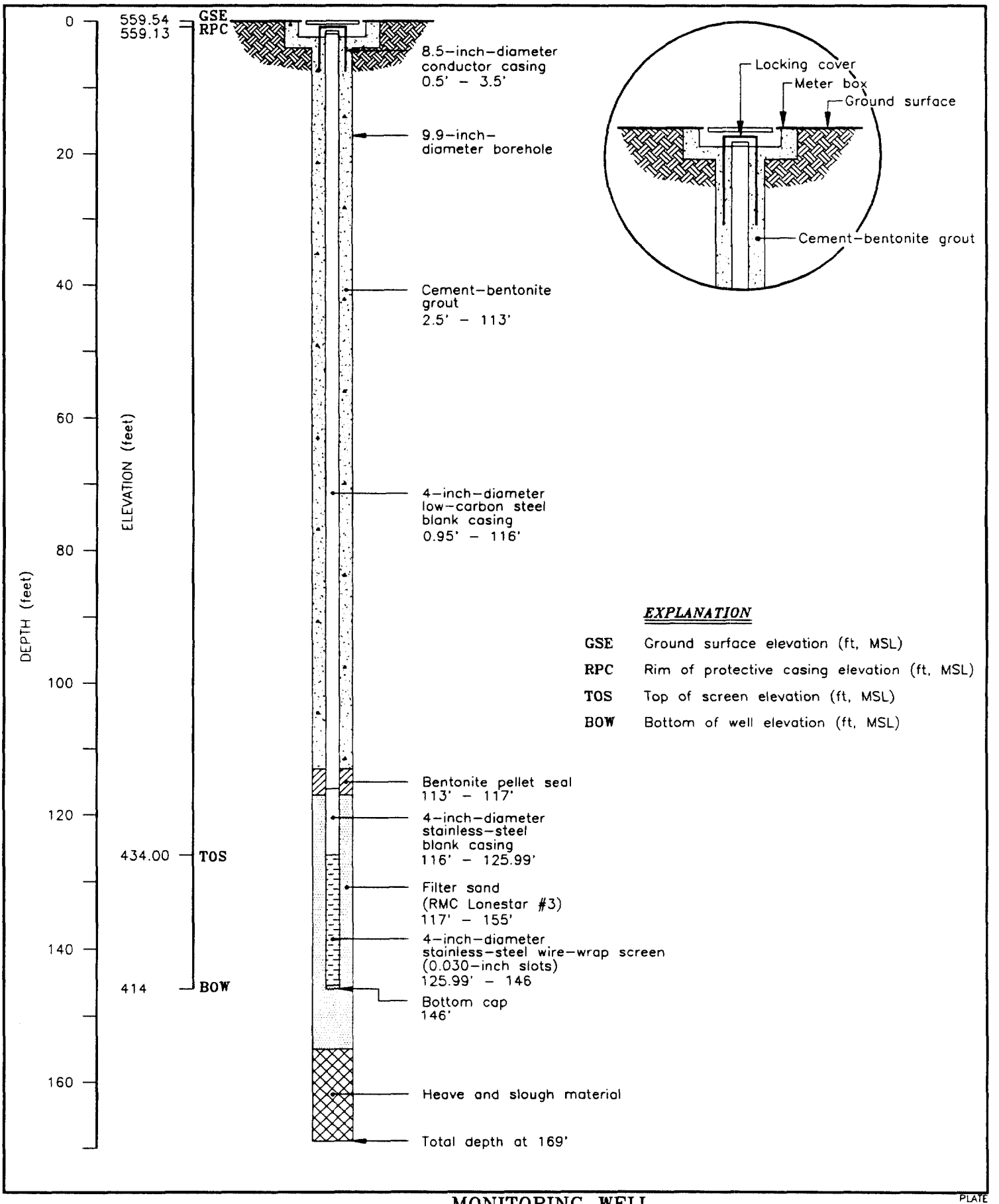
POC03.DRW: 04/91

Appendix C

Boring Logs

APPENDIX C: BORING LOGS

APPENDIX C.1 NORTH HOLLYWOOD VPBS



Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
NH-VPB-1

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		11/89	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	8:22				SM	SILTY SAND (SM) light brown, dry, well sorted, silt and very fine-grained micaceous sand, trace of well rounded very fine to fine gravel	Hand auger to 5 feet below grade.
5	8:22 8:28		0.0				
10	8:35 8:41		0.0		SM	color change to dark brown	
15	8:44		0.0			trace of clay and angular granitic gravel with thick silt coatings	
20	8:44 8:56		0.0		SP	SAND (SP) gray-brown, moist, moderately to poorly sorted, fine- to medium-grained micaceous sand, with some coarse-grained sand and silt, small percentage (1-5%) gravel up to 1-inch diameter	
25	8:57		0.0		SP		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-1 (sheet 1 of 7)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	8:58 9:19	1	0.0				
35	9:22		0.0		SW	SAND (SW) gray-brown, moist, poorly to moderately sorted, medium-grained micaceous sand, with lots of fine- and coarse-grained sand, trace of silt and very fine gravel, rounded	
40	9:22 9:27		0.0				
45	9:28		0.0			increasing gravel content to approximately 10% at 45 feet	
50	9:29 9:32		0.0		SM	SILTY SAND (SM) light brown, moist, moderately sorted, micaceous, fine to very fine-grained sand and silt, some medium-grained sand, trace of very fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-1 (sheet 2 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	9:34		0.0		SW	SLIGHTLY SILTY GRAVELLY SAND (SW) light brown, moist, poorly sorted, micaceous medium-grained sand with lots of silt and fine- and coarse-grained sand, 10% fine to very fine granitic and mafic gravel, mostly rounded, some angular, tabular to round shaped, silt coatings on larger particles	
60	9:36 10:16	2	0.0				
65	10:19		0.0			increased silt content, with 10% fine gravel	
70	10:21 10:29		0.0			increasing silty sand content, 5% gravel, some coarse-grained sand	
75	10:31		0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-1 (sheet 3 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	10:33 10:37		0.0			increased coarse-grained sand, poorly sorted, 5% gravels, up to 1.5-inch diameter	
85	10:39		0.0				
90	10:46 11:15	3	0.0				
95	11:18		0.0		GM	SILTY SANDY GRAVEL (GM) brown, moist, very poorly sorted gravel (50-65%), with fine- to coarse-grained sand and silt, pebbles have thick silt coatings	
100	11:19 11:26		0.0		SP	SAND (SP) tan, very moist, well to moderately sorted micaceous medium-grained sand, with some fine and coarse-grained sand, some silt, rounded pebbles	▽ Ground water encountered at approximately 100 feet.
105	11:27		0.0		ML	SANDY SILT (ML) dark gray-brown, moist, micaceous silt with well sorted very fine- to fine-grained sand, no gravel, some medium-grained sand	▽ Depth to Water After Development 101.65 ft. (09/06/89)

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-1 (sheet 4 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	12:52						
						SILTY SAND (SM) dark gray-brown, saturated, fine- to medium-grained sand with silt	
110	12:54 13:08				SM		
115	13:10						
						SANDY SILT (ML) mottled gray-brown, saturated, micaceous well sorted silt with very fine- to fine-grained sand, rare medium- and coarse-grained sand	
120	13:12 15:39		0.0		ML		
125	15:40		0.0				
						SILTY SANDY GRAVEL (GM) medium brown, saturated, poorly sorted, micaceous fine gravel with 40% sand and silt, gravels are well rounded, round and tabular shaped, fine- to coarse-grained sand, rounded to	
130	15:42 15:52		0.0		GM		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-1 (sheet 5 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	15:53 17:15		0.0		SW	angular GRAVELLY SAND (SW) / SANDY GRAVEL (GW) gray, saturated, poorly to moderately sorted, micaceous medium- to coarse-grained sand, with very fine gravel, all grains are mostly rounded, some silt	Hydropunch sample taken at 134 feet.
140	17:16 17:23		0.0			25% fine- to coarse-grained sand SILTY SAND (SM) medium brown, saturated, micaceous moderately to poorly sorted, fine- to medium-grained sand and silt, some coarse-grained sand, some silt balls, 10 to 15% fine gravel	
145	17:24		0.0		SM		
	17:26						
150	10:21		0.0			GRAVELLY SAND (SW) gray-brown, saturated, micaceous poorly sorted sand, with 20% fine gravel, grains are mostly well rounded, some silt	
155	10:22		0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-1 (sheet 6 of 7)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-1 CLIENT LADWP

DATE STARTED 7/20/89 COMPLETED 7/21/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						5 to 10% silt	
160	10:24		0.0				Boring terminated at 159 feet on 7/21/89. Boring converted to monitoring well NH-VPB-1 on 7/21/89. Ground water measured at 100.28 feet on 7/21/89.
165							
170							
175							
180							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 146 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 159 ft WELL MATERIAL 304-SS & Low Carbon

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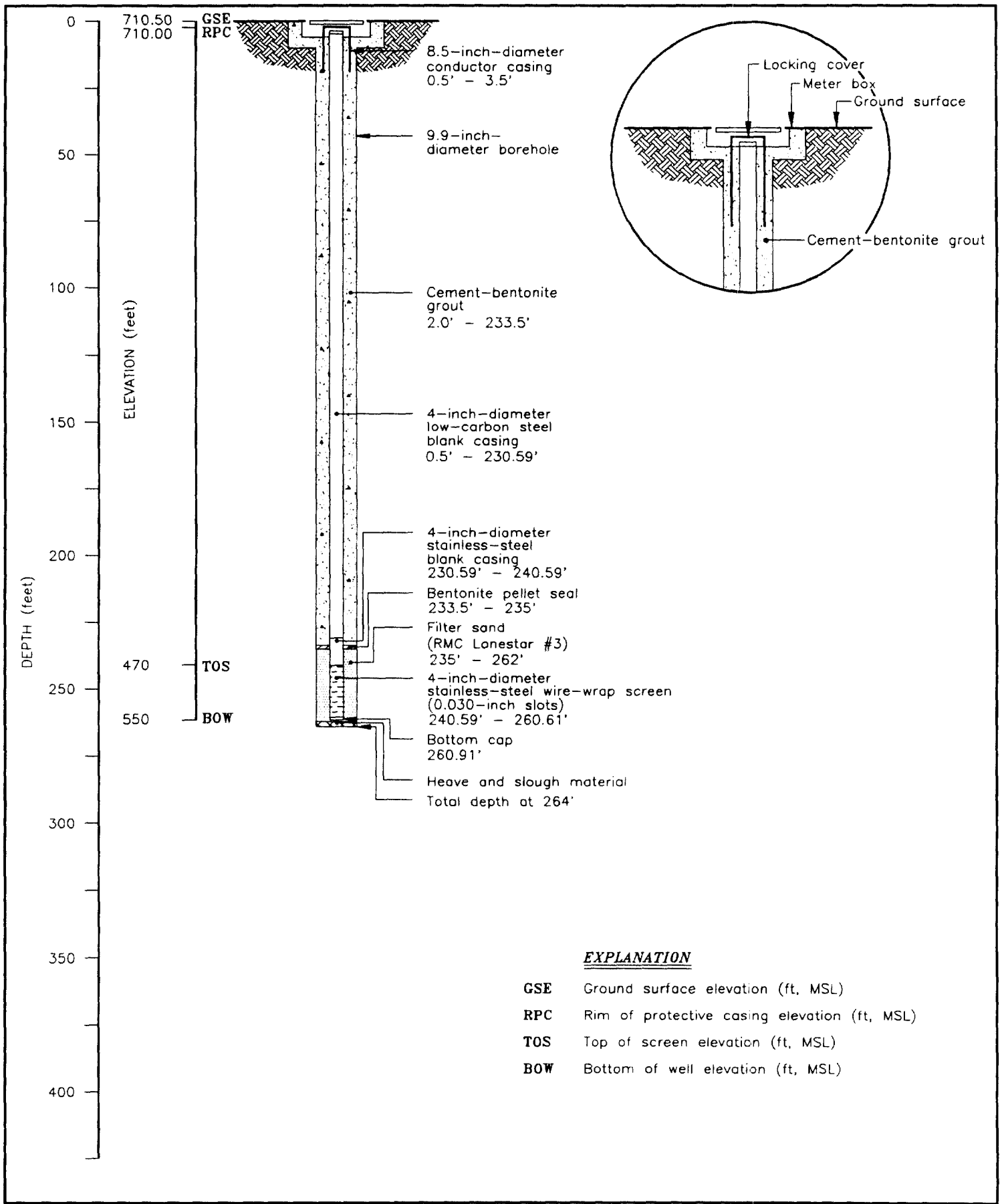
Log of Boring NHVPB-1 (sheet 7 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		



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MONITORING WELL NH-VPB-2

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		12/89	JMM	7/90

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	15:05				SM	SAND/SILTY SAND (SP-SM) dark brown, moist, well sorted, very micaceous fine-grained sand and silt, trace of medium and coarse-grained sand	Hand auger to 5 feet below grade.
						SILTY SAND (SM) 10% medium- to coarse-grained sand, trace of very fine gravel, well rounded	
5	15:07		0.0				
10	15:10 15:18		0.0				
						SAND (SP) brown, moist, well to moderately sorted, fine-grained sand dominant, with 20% medium-grained sand and 10% well rounded rounded pebbles, trace of silt	
15	15:19		0.0		SP		
20	15:22 15:27		0.0				
						SAND (SP) light brown-gray, dry, fine to medium grained, trace of coarse-grained sand, trace of gravel	
25	15:28		0.0		SP		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 1 of 11) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	15:29	1	0.0			SAND (SP) light brown-gray, dry, fine to medium grained, trace of coarse-grained sand, trace of gravel	
	15:53 16:00						
35	16:03		0.0				
40	16:05 16:09		0.0		GP	SANDY GRAVEL (GP) thin (3-4 feet) zone of medium- to coarse-grained sand, with abundant well rounded gravel SAND (SP) light brown-gray, dry, poorly sorted sand with gravel, little to no fines, gravel up to 3-inch diameter	
45	16:12		0.0		SP		
50	16:15 16:21		0.0 0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 2 of 11) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	16:25		0.0			SANDY GRAVEL (GW) gray-brown, dry, poorly sorted, very fine gravel dominant, angular to well rounded, trace of very fine micas	
60	16:35 8:28		0.0		GW		No sample recovery at 60 feet.
						GRAVELLY SAND (SW) dark brown, moist, poorly sorted, slightly micaceous sand with 20% fine to very fine granitic and gneissic gravel, subangular to well rounded	
65	8:29		0.0		SW		
						gravel up to 5-inch diameter at approximately 67 feet	
70	8:33 8:57	2	0.0				
75	8:59		0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 3 of 11) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	9:01 9:30	3	0.0				
85	9:32		0.0			SANDY GRAVEL TO GRAVELLY SAND (GW-SW) brown, moist, poorly sorted, very coarse-grained sand and very fine gravel, rounded, 40% medium and fine-grained sand, some silt, silt coatings on all grains, some mica	
90	9:34 9:38		0.0				
95	9:41		0.0			SAND (SW) brown, moist, poorly sorted, slightly micaceous fine- to coarse-grained sand, some silt and very fine gravel, rounded and round shaped	
100	9:45 9:49		0.0		SW		
						SANDY GRAVEL (GW) brown, moist, poorly sorted, fine gravel with 40% sand, gravel is rounded to well rounded with thick silt coatings, Fe stained; sand is poorly sorted, silty	
105	9:52		0.0		GW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 4 of 11) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105						and micaceous	
						SAND (SP) brown, moist, moderately to poorly sorted, micaceous fine- and medium-grained sand, some silt	
110	9:54 10:29	4	0.0		SP		
115	10:32		0.0				
120	10:35 11:00		0.0				
125	11:03		0.0		SM	SAND/SILTY SAND (SM) brown, moist, moderately to well sorted, very fine-grained sand with silt, 20% medium- to coarse-grained sand, trace of clay	
						SANDY SILT (ML) brown, dry, very micaceous silt with well sorted very fine-grained sand, trace of medium-grained sand	
130	11:06 11:17		0.0		ML		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 5 of 11) PLATE

San Fernando Valley RI
San Fernando, California

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HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	11:20		0.0				
140	11:27	5			SM ML	SILTY SAND TO SANDY SILT (SM-ML) brown, moist, well sorted micaceous fine-grained sand and silt, 25% medium- and coarse-grained sand, trace of gravel	
145	12:01		0.0				
	12:03		0.0				
150	12:08					SAND (SP) brown, moist, well to moderately sorted, micaceous fine- and medium-grained sand, with silt, trace of coarse-grained sand	
155	12:11		0.0		SP		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 6 of 11) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	12:14 12:18		0.0		SW	SAND (SW) brown, moist, poorly sorted, micaceous fine-grained sand, trace of silt, subrounded to well rounded, 10% black sand	
165	12:21		0.0				
						SILTY SAND (SM) brown, moist, poorly sorted, micaceous fine-grained sand, with silt	
170	12:30 14:13	6	0.0		SM		
175	14:17		0.0		SM		
						SAND (SP) brown, moist, well to moderately sorted, micaceous fine-grained sand, 10% medium-grained sand, trace of coarse-grained sand and silt	
180	14:22 14:27		0.0		SP		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 7 of 11)

PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	14:30		0.0				
						occasional rare gravel	
190	14:38 14:46		0.0				
195	14:50		0.0				
200	14:57 15:30	7	0.0		SP	light brown, dry, moderately to poorly sorted, very micaceous fine- to medium-grained sand with 20% coarse-grained sand, some silt	
205	15:33		0.0				
210	15:36		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 8 of 11) PLATE

San Fernando Valley RI
San Fernando, California

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-2 CLIENT LADWP
DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI
ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	15:44					GRAVELLY SAND TO SANDY GRAVEL (SW-GW) brown, moist, poorly sorted, micaceous very fine-grained sand and gravel, abundant medium- and coarse-grained sand, some silt, gravels are rounded	
215	15:46		0.0		SW		
220	15:54 15:59		0.0			GRAVELLY SAND (SW) brown, moist, poorly to moderately sorted, micaceous fine- to medium-grained sand, with 25% very fine gravel, sand is rounded, very slightly silty gravels are well rounded granitics, moderate silt coatings	
225	16:01		0.0		SW		
230	16:09 16:56	8	0.0			SAND (SW) light brown, moist, poorly to moderately sorted, fine-grained sand, with medium- and some coarse-grained sand, mostly rounded, trace of silt and very fine micas, traces of very coarse-grained sand, very fine gravel	▽ Ground water encountered at 234 feet.
235	16:59		0.0			SAND (SW) gray-brown, very moist to wet, very	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-2 (sheet 9 of 11) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						poorly sorted, fine- to very coarse-grained sand, 10% very fine gravel, subrounded to rounded, trace of very fine micas, no silt	
240	17:03 8:41		0.0				
					SM SW	SILTY GRAVELLY SAND (SM-SW) brown, saturated, very poorly sorted, equal percentage of all sand sizes, with silt and approximately 25% gravel, sand is angular to rounded, fine gravel, well rounded, granitic	
245							
250	8:50 11:47		0.0				
						SANDY GRAVEL (GW) gray, saturated, poorly sorted, fine gravel and coarse-grained sand, 20% medium-grained sand, gravel mostly well rounded granitic	
255	11:48		0.0		GW		
						GRAVELLY SAND (SW) gray, saturated, poorly sorted, medium- to coarse-grained sand, 25% fine gravel, mostly well rounded, trace of micas	
260	11:51 11:54		0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB-2 (sheet 10 of 11) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-2 CLIENT LADWP

DATE STARTED 6/26/89 COMPLETED 6/28/89 PROJECT San Fernando Valley RI

ELEVATION 710.50 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265	11:58		0.0		SM	SILTY GRAVELLY SAND (SM-SW) gray, saturated, medium- to coarse-grained sand, with silt	Boring terminated at 264 feet on 6/28/89. Boring converted to monitoring well NH-VPB-2 on 6/28/89. Ground water measured at 234.12 feet on 6/28/89.
270							
275							
280							
285							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 261 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

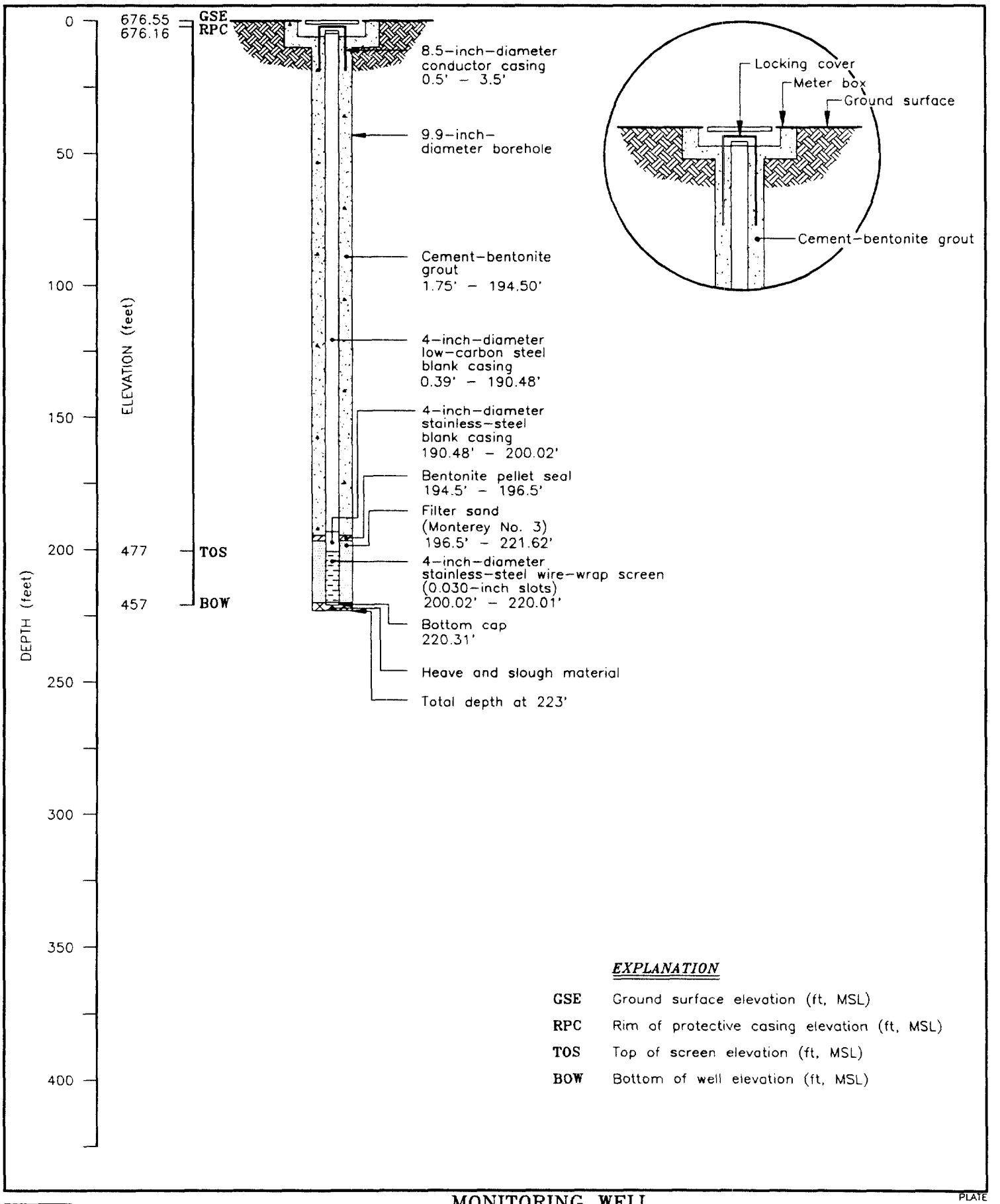
TOTAL DEPTH 264 ft WELL MATERIAL 312-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-2 (sheet 11 of 11) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		



Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL NH-VPB-3

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372 020 11		11/89	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	12:19				SM	SILTY SAND (SM) dark brown, moist, well sorted, fine- to very fine-grained micaceous sand, 10% coarse-grained sand, rare pebbles and cobbles to 3-inch diameter	Hand auger to 5 feet below grade.
5	12:27		0.0		ML	SANDY SILT (ML) dark brown, moist, well sorted, with very fine-grained micaceous sand	
10	12:29 12:33		0.0		SW	SAND (SW) brown, moist, poorly sorted micaceous sand, rare pebbles to 2-inch diameter	
15	12:35		0.0		SM	SILTY SAND (SM) fine- to very fine-grained micaceous sand and silt, trace (5%) of medium- and coarse-grained sand	
20	12:35 12:40		0.0				
25	12:42		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-3 (sheet 1 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	12:42 12:59	1	0.0			GRAVELLY SAND (SW) brown, moist, poor to moderately sorted micaceous sand, 25% well rounded granitic gravel up to 4-inch diameter, with trace of silt	
35	13:00		0.0		SW		
40	13:01		0.0				
45	13:07		0.0				
50	13:09 13:15		0.0			SANDY GRAVEL (GW)	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring NHVPB-3 (sheet 2 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	13:19		0.0		GW	gray, dry, poorly sorted, medium-grained sand, well rounded to tabular granitic gravel, up to 1-1/2-inch diameter	
60	13:20 13:26		0.0				
65	13:31		0.0				
70	13:33 13:38		0.0				
75	13:45		0.0		SM	SILTY SAND (SM) light brown, slightly moist, moderately to poorly sorted, fine-grained sand and silt, with some coarse-grained sand and fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-3 (sheet 3 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	13:46 14:31		0.0			SANDY GRAVEL/GRAVELLY SAND (SW-GW) brown, moist, poorly sorted, well rounded granitic and mafic gravel and micaceous sand, with trace of silt	
85	14:35		0.0		GW		
90	14:35 14:43		0.0			GRAVELLY SAND (SW) gray, dry, poorly sorted sand and rounded gravel up to 1-inch diameter, 50% poorly sorted, equal percent of all sand sizes	
95	14:47		0.0		SW		
100	14:49 14:55		0.0		GW		
105						CLAYEY SILT (ML) dark brown, very moist, dense, cohesive micaceous silt and clay with	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-3 (sheet 4 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	14:59		0.0		ML	approximately 10% poorly sorted sands	
110	15:09 15:47		0.0				
						SAND (SW) brown, moist, poorly sorted, fine- to coarse-grained micaceous sand, with trace of silt, no gravel	
115	15:50		0.0		SW		
120	15:51 15:59		0.0				
125	16:00		0.0		SW		
						SANDY GRAVEL (GW) well rounded granitic gravel, up to 2-inch diameter, with brown, moist, very poorly sorted, fine- to very coarse-grained sand	
130	16:01 16:06		0.0		GW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-3 (sheet 5 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	16:07		0.0				
						SILTY SAND (SM) brown, moist, well sorted, very fine- to fine-grained, slightly mottled, micaceous sand and silt	
140	16:10 14:37	4	0.0		SM		
						SANDY SILT (ML) brown, moist, micaceous silt with trace of well sorted very fine-grained sand and clay	
145	14:41		0.0		ML		
150	14:47 14:51		0.0				
						SAND (SW) gray-brown, moist, poorly sorted, fine- to coarse-grained, subangular, micaceous, with trace of silt	
155	14:55		0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-3 (sheet 6 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	14:56 15:02		0.0				
						increasing silt content with depth	
165	15:06		0.0				
						SANDY CLAYEY GRAVEL (GM) brown, moist, well rounded granitic gravel, fine grained to 1-inch diameter, with 30% poorly sorted sand and 10% silt and clay	
170	15:08 15:58	5	0.0		GM		
						SANDY SILT (ML) brown, moist, well sorted, very fine- to fine-grained micaceous sand and silt	
175	16:00		0.0		ML		
180	16:01 16:07		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-3 (sheet 7 of 9)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	16:13		0.0				
						increasing sand content	
190	16:14 16:25		0.0		SM		
							Ground water encountered at 192 feet.
						SAND (SW) gray-brown, very moist, poorly sorted micaceous sand, 10% very fine-grained, well rounded and polished gravel	
195	16:28		0.0		SW		
							Depth to Water After Development 200.01 ft. (07/25/89)
200	16:29		0.0				Hydropunch sample taken at 200 feet.
	10:00		0.0				
	10:06						
205	10:09		0.0		SW	GRAVELLY SAND (SW) gray, saturated, poorly to moderately sorted, medium- to coarse-grained sand, 5% fine-grained sand, 20% fine, well rounded granitic gravel	
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-3 (sheet 8 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-3 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/1/89 PROJECT San Fernando Valley RI

ELEVATION 676.55 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	10:11 10:17		0.0				
215	10:21		0.0				
220	10:23 10:30 10:32		0.0		SW	SAND (SW) gray, saturated, moderately sorted, very coarse- to medium-grained sand, 10% very fine, well rounded and polished gravel	
225							Boring terminated at 223.0 feet on 6/1/89. Boring converted to monitoring well NH-VPB-3 on 6/1 and 6/2/89. Ground water measured at 192.15 feet on 6/2/89.
230							
235							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 221 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 223 ft WELL MATERIAL 304-SS & Low Carbon

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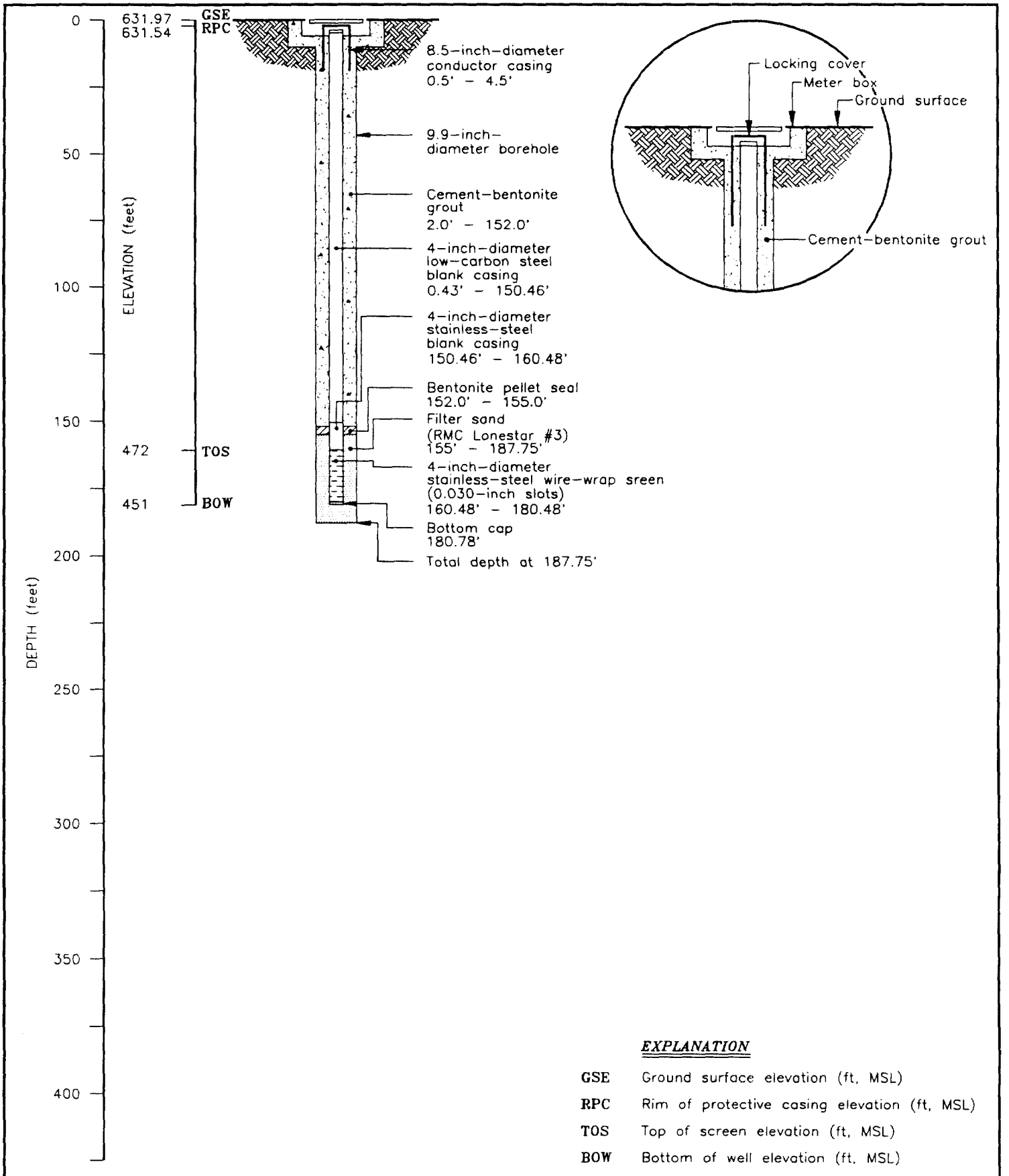
Log of Boring NHVPB-3 (sheet 9 of 9)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		



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MONITORING WELL NH-VPB-4

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372 020 11		5/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	14:45				SW	GRAVELLY SAND (SW) gray-brown, moist, poorly sorted, fine- to coarse-grained, subangular, micaceous sand, with occasional subrounded granitic gravel up to 1.5-inch diameter	Hand auger to 5 feet below grade.
5	14:59 9:35		0.0				
10	9:43		0.0				
15			0.2			decrease in gravel content	
20	9:48 9:53		0.2				
25	9:55		0.1				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-4 (sheet 1 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	9:56 10:12	1	0.2			SAND (SW) gray-brown, poorly sorted, micaceous fine- to coarse-grained sand, subangular, with occasional gravel up to 1.5-inch diameter	
35			0.1				
40	10:14 10:16		0.1			increase in gravel content to approximately 25%, subrounded, 1/4- to 2-inch diameter	
45			0.0			decrease in gravel content to 10%	
50	10:19 10:21		0.0 0.0			increase in gravel content to 15%	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring NHVPB-4 (sheet 2 of 8)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			0.0			GRAVELLY SAND (SW) gray-brown, moist, very fine- to coarse-grained, poorly sorted, subangular sand, with coarse-grained dominant, approximately 35% rounded granitic gravel, 1/4- to 1.5-inch diameter	
60	10:25 11:04	2	0.0				
65			0.0			GRAVELLY SAND (SW) medium brown (color change), 80% subangular, poorly sorted, very fine- to very coarse-grained sand, with silt, 15% subrounded very fine to fine gravel	
70	11:10 11:13		0.0				
75			0.0			SILTY SAND WITH GRAVEL (SM) medium brown, moist, 50% very fine- to coarse-grained, subangular, poorly sorted sand, with fine-grained dominant, 35% subrounded gravel, 1.5- to 4-inch diameter, 15% silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-4 (sheet 3 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	11:17 11:20		0.0				
85			0.0		ML	SANDY SILT (ML) moist, dark gray-brown, 50% very fine-grained sand, 50% silt	
90	11:28 12:36	3	0.0		SW	GRAVELLY SAND (SW) brown, moist, 85% fine- to coarse-grained, subangular, poorly sorted sand, with coarse-grained dominant, 15% subangular gravel up to 1/2-inch diameter	
95			0.0			increase in gravel content to 25-30%	
100	12:40 12:43		0.0		SM	SILTY SAND (SM) medium brown, moist, 75% fine- to medium-grained sand, fine-grained dominant, 25% silt	
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-4 (sheet 4 of 8)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105			0.0				
110	12:47 12:54		0.0			slight increase in gravel content	
115			0.0				
120	13:01 13:43	4	0.0		SW SM	SILTY GRAVELLY SAND (SW-SM) medium to light brown, moist, 65% fine- to very coarse-grained subangular sand, 15-20% subrounded gravel, up to 1.5-inch diameter, 10% silt	
125	13:45		0.0		SW	GRAVELLY SAND (SW) medium to light brown, moist, 75% medium- to coarse-grained angular sand, 25% gravel up to 1/2-inch diameter, small amounts of mica and silt	
130	13:47 13:50		0.0		SM	SILTY SAND (SM) medium to light brown, moist, fine- to medium-grained sand, with fine grained dominant, 30% silt and mica.	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-4 (sheet 5 of 8)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP
DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI
ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						very minor gravel (1-3%)	
135			0.0				
140	13:54 14:35		0.0		SW	SAND WITH GRAVEL (SW) brown, moist, 90% fine- to coarse-grained sand, 10% rounded gravel	
145			0.0			decrease in gravel and increase in coarse-grained sand	
							Depth to Water After Development 148.74 ft. (08/01/89)
150	14:39 15:23	5	0.0 0.0				
155						sand and light brown, angular and fine (2-inch diameter) gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-4 (sheet 6 of 8) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
							∇ Ground water encountered at 158 feet. Hydropunch sample taken at 158 feet.
160	15:26 8:35					slight decrease in gravel content	
165			0.0		GW	GRAVEL WITH SAND (GW) brown, wet, 75% gravel, subangular, 25% coarse-grained sand	
170	8:49		0.5		SM	SILTY SAND (SM) brown, moist to wet, 80% fine- to medium-grained sand, subangular, with 20% silt (interbedded silt layers)	
175					ML	SILTY SAND TO SANDY SILT (SM-ML) gray-brown, wet, 50/50 mixture of sand and silt, very fine- to fine-grained sand, small amount of clay (<10%)	
180							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-4 (sheet 7 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-4 CLIENT LADWP

DATE STARTED 7/25/89 COMPLETED 7/26/89 PROJECT San Fernando Valley RI

ELEVATION 631.97 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SM	SILTY GRAVEL WITH SAND (SM) brown, wet, gravel (40%) subrounded, 1/2- to 1-inch diameter, 30% sand, very coarse grained, subangular, 30% silt interbedded with sand	
190							Boring terminated at 188.0 feet on 7/26/89. Boring converted to monitoring well NH-VPB-4 on 7/26/89. Ground water measured at 150.3 feet on 7/26/89.
195							
200							
205							
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 181 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

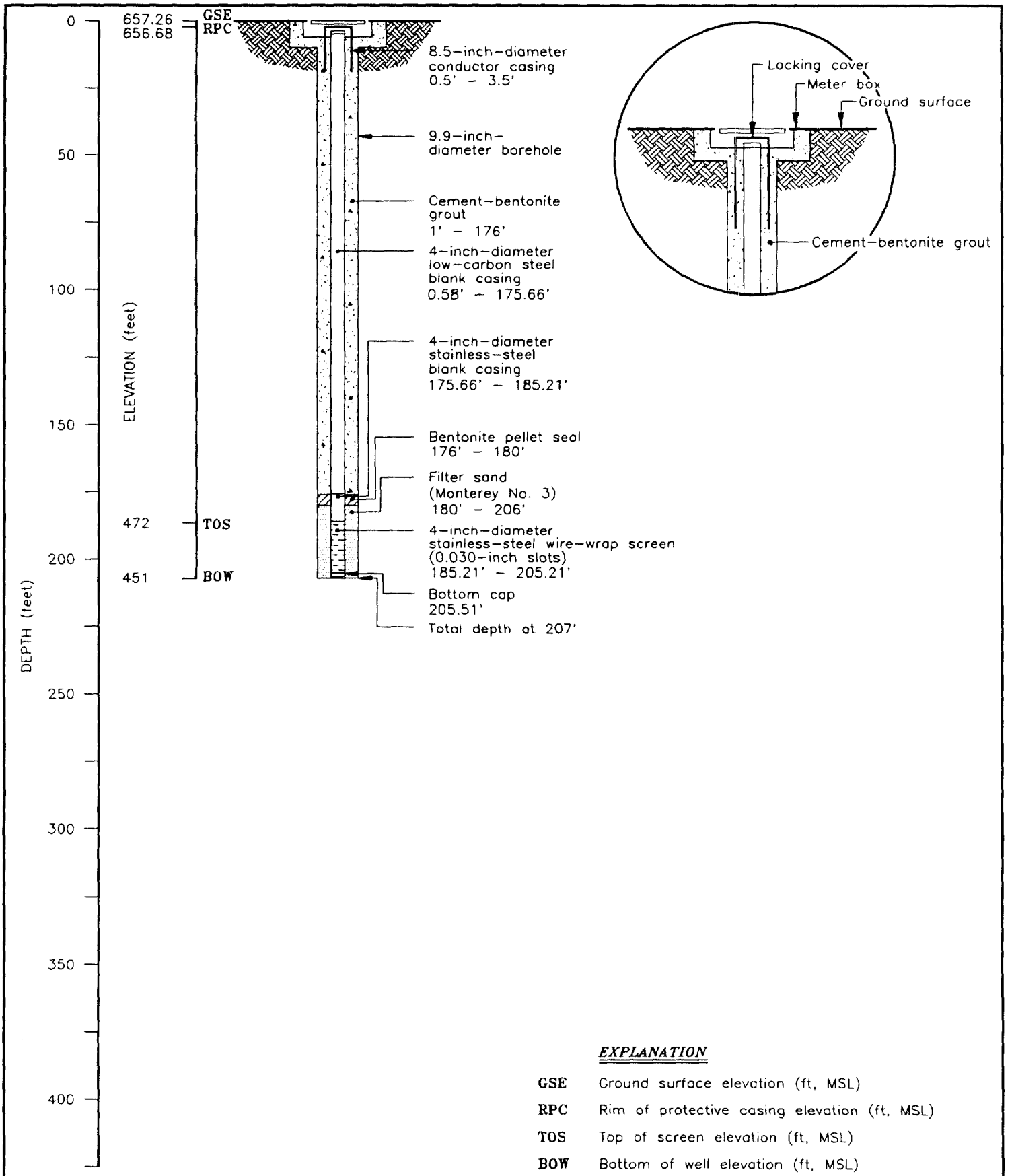
TOTAL DEPTH 188 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-4 (sheet 8 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		



Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
NH-VPB-5
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		5/90	IMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:05				SP	SAND (SP) dark brown-green, moist, fine-grained sand, trace of silt	Hand auger to 5 feet below top of pavement.
5	11:05		0.0			increasing gravel content and sand grain size	
10	11:06 11:10		0.0				
15	11:12		0.0		GW	GRAVELLY SAND (GW) brown, moist, poorly sorted, fine- to medium-grained micaceous sand, approximately 30% gravel, trace of silt	
20	11:12 11:19		0.0		SW	SAND (SW) brown, moist, poorly sorted, fine- and medium-grained micaceous sand, trace of silt and gravel (2-3%)	
25	11:22		0.0		GW	GRAVELLY SAND (GW) brown, moist, poorly sorted, micaceous	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-5 (sheet 1 of 8) PLATE

San Fernando Valley RI
San Fernando, California

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HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						sand, 20% gravel up to 3-inch diameter, trace of silt	
30	11:22 11:37	1	0.0		SP	SAND (SP) brown, moist, fine- to very fine-grained, well sorted sand, 10% medium- to coarse-grained sand with trace of gravel	
35	11:39		0.0				
40	11:40 11:44		0.0			increase in gravel content to approximately 30%	
45	11:45		0.0			decrease in gravel content to 15%	
50	11:46 11:49		0.0			approximately 5% gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-5 (sheet 2 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	11:50		0.0		GW	GRAVELLY SAND (GW) brown, moist, poorly sorted, fine- to coarse-grained micaceous sand, approximately 40% gravel, very fine to 3-inch diameter	
60	11:51 12:08	2	0.0		SW	SAND (SW) brown, moist, well sorted, fine-grained micaceous sand, trace of silt, no gravel	
65	12:10		0.0				
70	12:11 12:18		0.0				
75	12:21		0.0		GW	GRAVELLY SAND (GW) brown, moist, poorly sorted, micaceous sand with very fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-5 (sheet 3 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	12:22 12:26		0.0			SANDY GRAVEL (GW) brown, moist, poorly sorted, fine- to medium-grained sand, well rounded gravel to 2-inch diameter	
85	12:28		0.0				
90	12:29 13:34	3	0.0				
95	13:40		0.0			GRAVELLY SAND (SW) brown, dry to moist, moderately sorted, mostly medium-grained micaceous sand, approximately 10-15% black sand, gravel up to 6-inch diameter	
100	13:55 13:59		0.0				
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring NHVPB-5 (sheet 4 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	14:03		0.0		SM	SAND (SM) brown, moist, moderately sorted, medium- to coarse-grained sand, silty, trace of fine gravel	
110	14:04 14:09		0.0			SILTY SAND (SM) yellow-brown, moist, well sorted, very fine- to fine-grained micaceous sand	
115	14:11		0.0			cuttings show silt and clay	
120	14:12 14:38		0.0				
125	14:40		0.0		SW	SAND (SW) brown, moist, poorly sorted, micaceous medium grained, trace of silt, fine gravel and well rounded coarse-grained sand and gravel	
130	14:41 15:05		0.0			increase in gravel content to gravelly sand (SW)	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-5 (sheet 5 of 8)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	15:16						
140	15:22 15:25				SW	SAND (SW) gray-brown, poorly sorted, trace of fine gravel, well rounded	
145	15:31		0.0			GRAVELLY SAND (SW) brown, moist, poorly to moderately sorted, micaceous medium-grained sand, trace of silt, well rounded gravel, fine to 1/2-inch diameter	
150	15:38 16:36		0.0		SM	SILTY SAND (SM) brown, very moist, very poorly sorted, very micaceous fine-grained sand and silt with 10% coarse-grained sand and 10% fine gravel	
155	16:39		0.0		SW	GRAVELLY SAND (SW) brown, very moist, poorly sorted, micaceous coarse-grained sand and well rounded gravel up to 1-inch diameter	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-5 (sheet 6 of 8) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP
DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI
ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	16:41 16:47		0.0		SP	SAND (SP) brown, very moist, moderately sorted, mostly medium-grained micaceous sand with 15% coarse-grained sand, trace of gravel and silt	
165	16:50		0.0		SM SP	SILTY SAND/SAND (SM/SP) brown, very moist, moderately to well sorted, micaceous fine- to very fine-grained sand, silty, trace of fine gravel	
170	16:55 17:00		0.0				Depth to Water After Development 174.03 ft. (07/13/89)
175	17:02		0.0		SP	SAND (SP) brown, very moist to wet, well sorted micaceous fine-grained sand, trace of silt and gravel	Ground water encountered at 175 feet.
180	17:06 11:17		0.0			apparent decrease in sorting; fine- to medium-grained sand with 5% coarse-grained sand, trace of fine gravel	Attempt to sample with hydropunch at 180 feet; no recovery.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-5 (sheet 7 of 8) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
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581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-5 CLIENT LADWP

DATE STARTED 5/25/89 COMPLETED 5/26/89 PROJECT San Fernando Valley RI

ELEVATION 657.26 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	11:29		0.0		GW	SANDY GRAVEL (GW) gray, saturated, well sorted, fine, well rounded gravel and coarse-grained sand	
190	11:24 11:29		0.0		SW	GRAVELLY SILTY SAND (SW) brown, saturated, very poorly sorted sand, well rounded gravel up to 2-inch diameter	
195	11:33		0.0				
200	11:33 11:39		0.0		SP	SAND (SP) gray, saturated, moderately sorted, coarse-grained sand, well rounded, approximately 20% very fine gravel	
205	11:41				GP SP	GRAVELLY SAND/SANDY GRAVEL (GP/SP) gray, saturated, moderately sorted sand, well rounded gravel	Boring terminated at 207.0 feet on 5/26/89. Boring converted to monitoring well NH-VPB-5 on 5/26/89. Ground water measured at 175.0 feet on 5/26/89.
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 207 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-5 (sheet 8 of 8)

San Fernando Valley RI
San Fernando, California

PLATE

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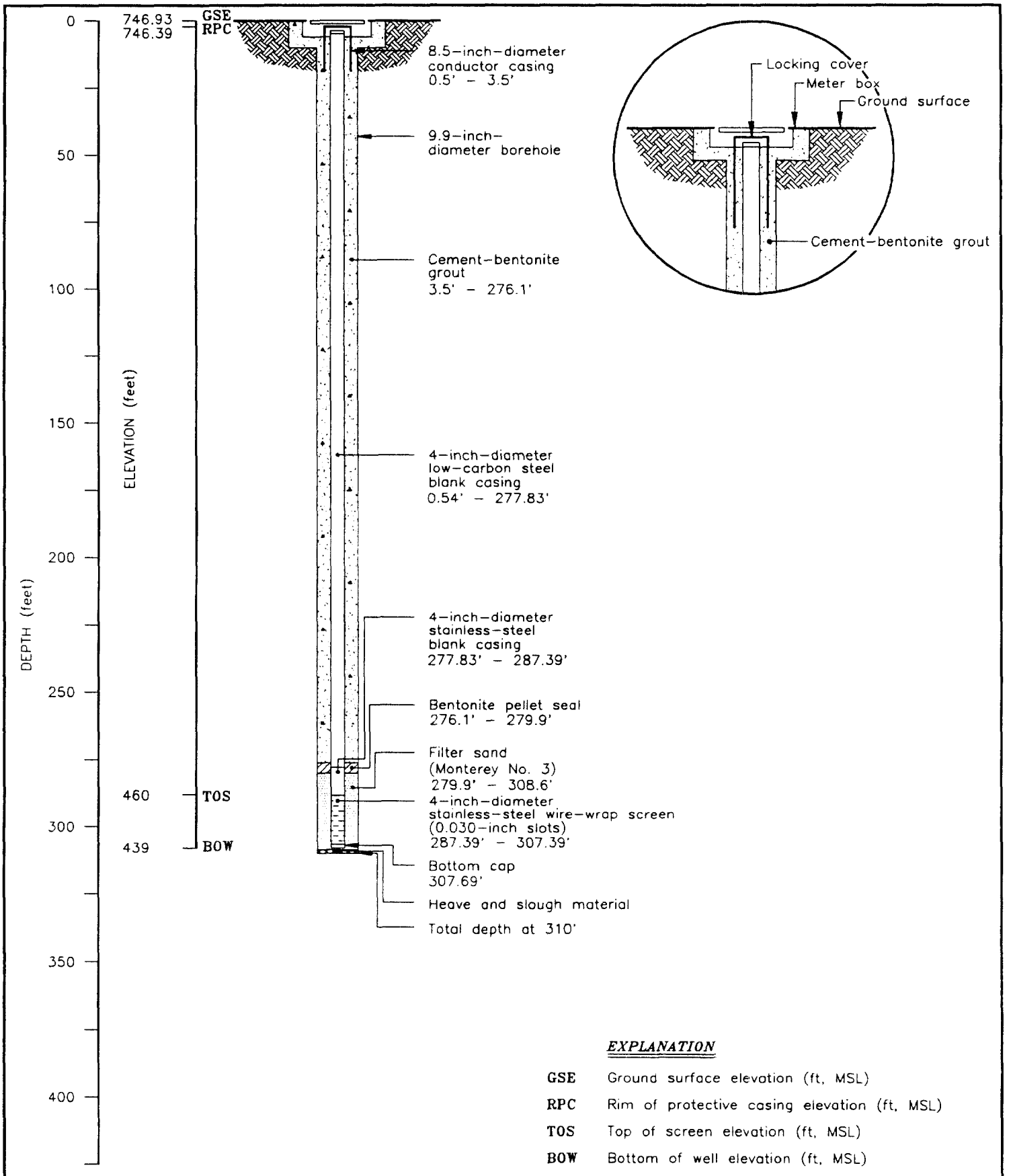
NK	9372,020.11		12/89		



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
NH-VPB-6

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		5/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:50				SP	GRAVELLY SAND (SP) brown, dry, poorly sorted, medium-grained micaceous sand, 20% fine, well rounded, granitic and gneissic gravel to cobbles 1-1/2 to 5-inch diameter	
5	11:50		0.0		SP	SAND (SP) brown, moist, poorly sorted, fine- to coarse-grained micaceous sand, trace of fine gravel	
10	11:55 12:01		0.0				
15	12:06		0.0			increasing gravel content (20%), well rounded, fine to 1-inch diameter	
20	12:08 12:13		0.0				
25	12:13		0.0		SP	SAND (SP) brown, moist, poorly sorted, well	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-6 (sheet 1 of 12) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						rounded, coarse-grained micaceous sand, trace of very fine gravel (approximately 5%)	
30	12:14 12:29	1	0.0				
35	12:30		0.0				
40	12:31		0.0		SP	GRAVELLY SAND (SP) brown, moist, poorly sorted sand with 50% coarse-grained sand, 40% pebble-size, well rounded gravel	
45			0.0				
50	12:35 12:39		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-6 (sheet 2 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	12:41		0.0		SP		
60	12:42 13:02	2	0.0				
65	13:07		0.0		GW	SANDY GRAVEL (GW) brown, moist, poorly sorted, well rounded sand, tabular and rounded gravel up to 5-inch diameter	
70	13:24 13:28		0.0				
75	13:31		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-6 (sheet 3 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	13:33 14:06		0.0				
85						SANDY GRAVEL/GRAVELLY SAND (GW-SP) brown, moist, poorly sorted fine- to coarse-grained sand, round and elongate shaped, granitic and gneissic gravel	
90	14:08 14:19		0.0				
95	14:22		0.0				
100	14:24 14:45		0.0				
105						SANDY GRAVEL (GW-GP) brown-gray, moist, moderately sorted	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-6 (sheet 4 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-6 CLIENT LADWP
DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI
ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	14:47		0.0		GW GP	fine gravel to 1-inch diameter with well rounded pebbles, approximately 40% poorly sorted sand	
110	14:48		0.0		SP	SAND (SP) brown, moist, moderately sorted, fine to medium grained, rounded sand, trace of gravel (5%)	
115	15:03		0.0				
120	15:04 15:30	3	0.0				
125			0.0		SP	GRAVELLY SAND (SP) brown, moist, poorly sorted, rounded sand, well rounded gravel (approximately 20%), very fine to 1-inch diameter	
130	15:33 15:36		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-6 (sheet 5 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

601 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	15:40		0.0				
140	15:41 15:59		0.0		SP	GRAVELLY SAND (SP) brown, moist, poorly sorted sand, rounded to subrounded gravel, fine to 3-inch diameter	
145	16:03		0.0				
150	16:24 16:28						
155	16:31		0.0		SM	SILTY SAND (SM) brown, moist, well sorted, fine- to very fine-grained micaceous sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-6 (sheet 6 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	16:32 8:43		0.0				
165	8:45		0.0		SP	SAND (SP) brown, moist, poorly sorted, medium- and coarse-grained slightly micaceous sand, trace (5-10%) of very fine, well rounded gravel	
170	8:47 9:19	4	0.0		SP	GRAVELLY SAND (SP) increase to 20% gravel up to 1/4-inch diameter	
175	9:21		0.0		SM	SILTY SAND (SM) brown, moist, poorly sorted, fine- to coarse-grained, well rounded, micaceous sand, 15-20% cohesive silt/clay	
180	9:23 9:30		0.0			cobble zone	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-6 (sheet 7 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-6
DATE STARTED 5/19/89 COMPLETED 5/23/89
ELEVATION 746.93 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	9:32		0.0		SM	SAND (SM) moderately sorted, fine- to medium-grained, rounded and tabular shape sand, pebbles up to 1-inch diameter	
190	9:33 10:16	5	0.0				
195	10:18		0.0				
200	10:19 10:23		0.0		SM	SAND/SILTY SAND (SM) brown, very moist, moderately sorted, fine- to medium-grained micaceous sand with silt, trace of well rounded gravel up to 1-1/2-inch diameter	
205	10:25		0.0				
210							

METHOD OF DRILLING Dual Wall - Air Perc
HOLE DIAMETER 9-7/8"
TOTAL DEPTH 310 ft
WELL COMPLETION DEPTH 308 ft
WELL DIAMETER 4"
WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-6 (sheet 8 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	10:26 10:35		0.0				
215	10:38		0.0			poorly sorted sand with approximately 20% very fine to fine, well rounded gravel	
220	10:40 11:24	6	0.0		SW	SAND (SW) brown, very moist, well sorted, fine-grained micaceous sand, 15% black sand	
225	11:27		0.0		SM	SAND (SM) brown, moist, poorly sorted, medium-grained, well rounded sand, with 20% coarse- and very coarse-grained sand, and silt	
230	11:31 12:26						
235							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-6 (sheet 9 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
MK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-6 CLIENT LADWP
DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI
ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
240	12:35 12:49				SP	SAND (SP) brown, saturated, poorly sorted, medium- to coarse-grained sand	
245	12:50		0.0		SM	SILTY SAND (SM) dark brown, moist, well sorted, very micaceous fine-grained sand, trace of coarse-grained sand and silt, 20% well rounded black sand	
250	12:52 14:19	7	0.0 0.0				
255	14:22		0.0		SM	SILTY SAND/SAND (SM) dark brown, moist, moderately sorted, fine- and medium-grained sand and silt, rounded, abundant black sand, trace of fine gravel	
260	14:24 14:31		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-6 (sheet 10 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-6 CLIENT LADWP

DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265	14:36				ML SM	SANDY SILT/SILTY SAND (ML-SM) brown, moist, very fine-grained micaceous sand and silt, with trace of coarse-grained sand and very fine gravel	
270	14:47				SM	SILTY SAND (SM) brown, moist, very fine-grained micaceous sand and silt, with approximately 10 to 20% medium- to coarse-grained sand	
275	14:51		0.0		SW	SAND (SW) gray-brown, very moist, poorly sorted sand, no gravel	▽ Depth to Water After Development 274.02 ft. (07/11/89)
280	14:53 8:43		0.0		ML	SANDY SILT (ML) brown, very moist, silt and very fine-grained micaceous sand, 15% coarse-grained sand, well rounded gravel, fine to 1-inch diameter, silt in cohesive balls with some clay	
285	8:51		0.0		SP	GRAVELLY SAND (SP) brown, very moist, very dense, coarse-grained sand, 25% well rounded fine gravel, trace of silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-6 (sheet 11 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-6 CLIENT LADWP
DATE STARTED 5/19/89 COMPLETED 5/23/89 PROJECT San Fernando Valley RI
ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	8:58 9:11		0.0		SP		
295	9:13		0.0				
300	9:11					SAND (SP) brown, very moist, 30% coarse-grained sand, 70% medium-grained sand, well rounded, little or no fines, micaceous	∇ Ground water encountered at 300.0 feet.
305	9:40		0.0		SM	SILTY SAND (SM) brown, wet, 10-15% angular coarse-grained sand, 50% medium-grained micaceous sand	
310	9:42				SP	SANDY GRAVEL (GP) brown, wet, 80% gravel 2- to 3/8-inch diameter, with micaceous coarse-grained sand, trace of silt	Boring terminated at 310.0 feet on 5/23/89. Boring converted to monitoring well NH-VPB-6 on 5/22 and 5/23/89. Ground water measured at 284.5 feet on 5/23/89.
315							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 308 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 310 ft WELL MATERIAL 304-SS & Low Carbon

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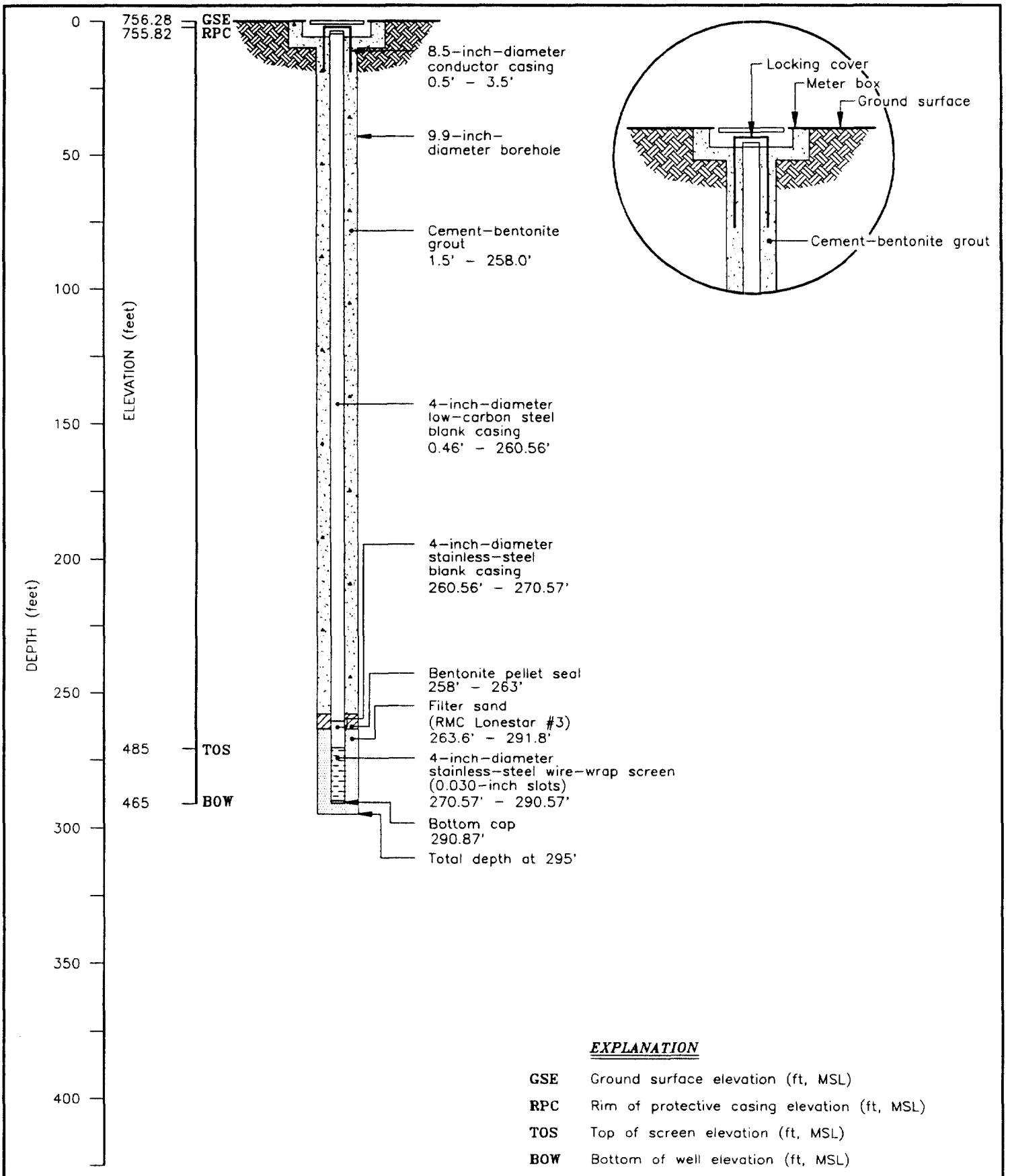
Log of Boring NHVPB-6 (sheet 12 of 12)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
MK	9372,020.11		12/89		



Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL NH-VPB-7

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372020.11		5/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	14:37				SW	SAND (SW) brown, moist, poorly sorted, fine- to coarse-grained micaceous sand with 10% fine, well rounded granitic gravel	Hand auger to 5 feet below grade.
5	14:38		0.0			GRAVELLY SAND (SW) dark brown, moist, poorly sorted, fine- to coarse-grained sand with 30% very fine to fine gravel	
10	14:40 14:56		0.0				
15	14:57		0.0		GW	SANDY GRAVEL (GW) gray-brown, moist, poorly sorted, very fine to fine gravel, up to 2-inch diameter, 40% poorly sorted sand	
20	15:00 15:07		0.0				
25	15:08		0.0			SANDY GRAVEL (GW) brown, moist, poorly to moderately	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-7 (sheet 1 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						sorted, 55% gravel, well rounded to subangular, fine to 2-1/5-inch diameter, round and tabular shaped, 45% fine- to coarse-grained sand	
30	15:09 15:33	1	0.0				
35	15:34		0.0				
40	15:35 15:42		0.0				
45	15:43		0.0				
50	15:49 15:54		0.0		SP	SAND (SP) light brown, dry, moderately to poorly sorted, fine- to medium-grained sand, 15% coarse-grained sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-7 (sheet 2 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	15:59		0.0		GW SW	SANDY GRAVEL TO GRAVELLY SAND (GW-SW) light brown, moist to dry, poorly to moderately sorted, very fine granitic gravel (50%), well rounded, round shaped, 45 to 50% micaceous sand, moderately sorted, medium grained	
60	16:00 16:33	2	0.0				
65	16:34		0.0				
70	16:35 16:53		0.0				
75	16:59		0.0		SW	GRAVELLY SAND (SW) brown, moist, poorly sorted, micaceous sand, 40% gravel, some silt, tabular well rounded granitic gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-7 (sheet 3 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	17:02 17:06		0.0		GW	GRAVEL (GW) gray-brown, moist, poorly sorted granitic gravel, 1/2- to 2-inch diameter, well rounded to subrounded, 20% medium- to coarse-grained sand with silt	
85	17:42		0.0		SW	GRAVELLY SAND (SW) gray-brown, moist, poorly sorted, medium- to fine-grained sand, 25% coarse-grained sand, 10% very fine, well rounded granitic gravel	
	17:43 12:32						
90	12:34 13:20	3	0.0		GW	SANDY GRAVEL (GW) gray-brown, moist to dry, poorly sorted, rounded, granitic gravel, very fine to 1-inch diameter, 35% fine- to coarse-grained micaceous sand with silt	
95	13:23		0.0				
100	13:27 13:30		0.0				
105	13:32		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-7 (sheet 4 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							
110	13:36 13:42		0.0				
115	13:45		0.0		SW	GRAVELLY SAND (SW) brown, moist, poorly sorted micaceous sand, with 40% very fine, well rounded, granitic and mafic gravel	
120	13:48 14:28	4	0.0				
125	14:30		0.0			GRAVELLY SAND (SW) brown, moist, poorly sorted micaceous sand, coarse-grained sand dominant, with 35% very fine gravel	
130	14:32 14:42		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-7 (sheet 5 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-7 CLIENT LADWP
DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI
ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	14:46		0.0				
140	14:49 15:00		0.0			angular, fresh rock fragments up to 2-inch diameter clean gravel up to 3-inch diameter (no silt coverings)	
145	15:07		0.0				
150	15:18 15:55		0.0		SW	SAND (SW) light brown, dry, poorly sorted, equal percentage of all sand sizes, 10% very fine gravel	
155	16:04		0.0		SW	GRAVELLY SAND (SW) brown, dry, poorly sorted sand with 25% very fine to 1-1/2-inch diameter rounded, granitic gravel, with moderate	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-7 (sheet 6 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						silt coatings	
160	16:15 16:01		0.0				
165	16:25		0.0				
170	16:31 16:56		0.0		GW	SANDY GRAVEL (GW) brown, dry, poorly sorted, round, granitic gravel, fine to 2-inch diameter, 30% medium-grained micaceous sand with trace of fine- and coarse-grained sand	
175	16:58		0.0				
180	17:00 10:05	5	0.0		SW	SAND (SW) brown, dry, poorly sorted, micaceous sand, 10% very fine gravel, 10% very fine sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-7 (sheet 7 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	10:06		0.0		GW	SANDY GRAVEL (GW) brown, dry, poorly sorted, 80% fine, well rounded, round shaped gravel, 20% poorly sorted, medium grained, rounded, micaceous sand	
190	10:09 10:15		0.0		SP	SAND (SP) brown, dry, moderately sorted, medium-grained, well rounded sand, 20% coarse-grained sand, 10% black sand, trace of mica	
195	10:27		0.0				
200	10:35 11:28		0.0		SW	SAND (SW) brown, dry, poorly sorted medium-grained sand, 15% very fine gravel, well rounded, round shaped	
205	11:30		0.0			GRAVELLY SAND (SW) brown, dry, poorly sorted micaceous sand, 25% fine to very fine rounded gravel	
						decrease in gravel content	
210	11:33		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-7 (sheet 8 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP
DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI
ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	14:32	6				sand (same as above), 10-15% very fine gravel	
215	14:34		0.0			sand (same as above)	
220	14:36 14:43		0.0			sand (same as above)	
225	14:44		0.0		SW	GRAVELLY SAND (SW) brown, very moist, poorly sorted, medium-grained micaceous sand, 40% fine, granitic, well rounded silt coated gravel, very fine to 3/4-inch diameter	
230	14:48 14:53		0.0			SAND (SW) brown, very moist, poorly to moderately sorted, medium-grained sand, with fine- to coarse-grained sand, slightly micaceous, 10 to 15% very fine gravel and very coarse-grained sand, with thin silt coatings	
235	14:56		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-7 (sheet 9 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
240	14:57 17:04	7 7	0.0			5-10% very fine gravel and coarse-grained sand	
245	17:06		0.0		SW	SAND (SW) brown, moist, poorly sorted, medium to coarse grained, well rounded, trace of fine gravel	
250	17:12 17:20		0.0		SP	SAND (SP) yellow-brown, moist, moderately to well sorted, fine to medium grained, 10% very fine gravel, some silt (5%)	
255	17:23		0.0				
260	17:25 8:31		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-7 (sheet 10 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP
DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI
ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265	8:42		0.0		SW	SAND (SW) dry, poorly sorted, fine grained slightly micaceous sand, 15 to 20% very coarse-grained sand to very fine gravel	Depth to Water After Development 266.88 ft. (07/31/89)
270	8:53 10:18	8	0.0		ML	SANDY SILT (ML) brown, moist, well sorted, silt and very fine-grained micaceous sand, trace of medium- to coarse-grained sand	
275	10:22 10:38		0.0				
280	10:40 10:53		0.0		SM	SILTY SAND (SM) brown, moist, poorly sorted, medium- to very fine-grained sand, with silt, trace of coarse-grained sand and very fine gravel	
285	10:57		0.0		SP	SAND (SP) gray-brown, moist, poorly to moderately sorted, very coarse- to medium-grained sand, trace of fine sand and very fine gravel (10%), dry silt coatings on larger pieces	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-7 (sheet 11 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-7 CLIENT LADWP

DATE STARTED 6/16/89 COMPLETED 6/20/89 PROJECT San Fernando Valley RI

ELEVATION 746.93 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	11:07 14:37		0.0		SM GM	SILTY GRAVELLY SAND (SM-GM) brown, saturated, silt, sand (all sizes) and gravel (very fine to 1-inch diameter), composed of rounded granitics and mafics	∇ Ground water encountered at 290 feet. Hydropunch sample taken at 290 feet.
295	14:38		0.0		SP	SAND (SP) gray-brown, saturated, well to moderately sorted, medium- to coarse-grained sand, trace of fine-grained sand, 10% very fine gravel	Boring terminated at 295 feet on 6/20/89. Boring converted to monitoring well NH-VPB-7 on 6/20 and 6/21/89. Ground water measured at 267.03 feet on 6/21/89.
300							
305							
310							
315							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 295 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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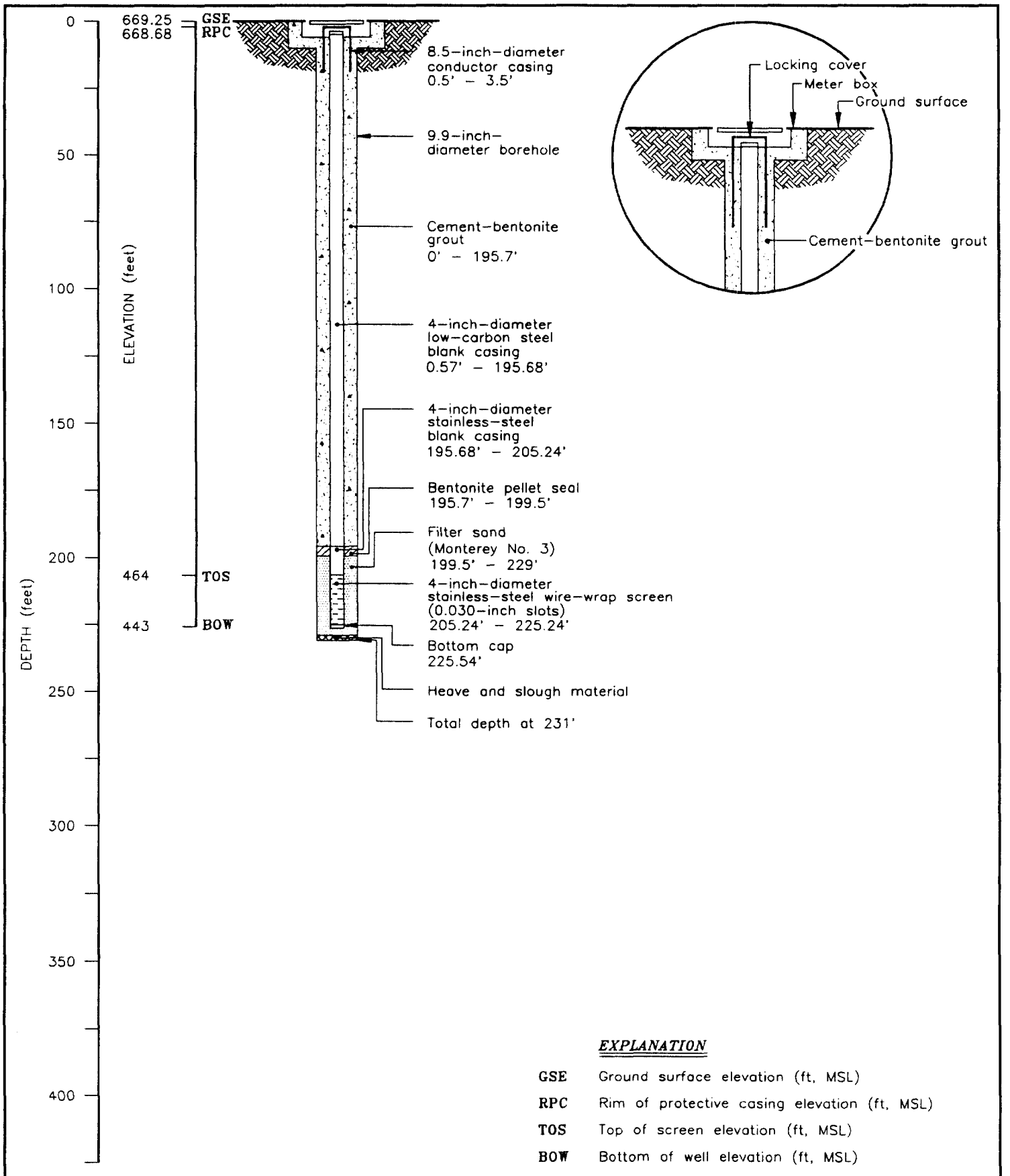
Log of Boring NHVPB-7 (sheet 12 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		



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MONITORING WELL NH-VPB-8

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372 020 11		5/90	JMM	7/92

JAMES M. MONTGOMERY
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP

DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI

ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:50				SM	LIGHT BROWN SAND (SM) loose, moist, silty, micaceous, fine to very fine grained	
5	11:52						
10	11:55 12:00		0.0		SM	SILTY SAND (SM) brown, moist, micaceous, predominantly fine grained, trace of coarse-grained sand and pebbles	
15					SP	GRAVELLY SILTY SAND (SP) brown, moist, micaceous, fine-grained sand and fine gravel with silt	
20	12:01 12:05		0.0				
25	12:06						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 1 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP
DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI
ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	12:09 12:24	1	0.0		SP	SAND (SP) brown, moist, poorly sorted, fine to coarse grained, slightly micaceous, trace of fine, well rounded gravel	
35	12:25						
40	12:26 12:30		0.0		SW	SAND (SW) brown, moist, well sorted, fine-grained micaceous sand, with trace of coarse-grained sand and fine, well rounded gravel	
45	12:32				SP	GRAVELLY SAND (SP) brown, moist, poorly sorted, slightly micaceous sand, well rounded gravel with trace of silt	
50	12:34 12:37		0.0		SP	SAND (SP) brown, moist, poorly sorted, micaceous sand with trace of silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 2 of 9) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP
DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI
ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	12:38					small cobbles to 1-inch diameter	
60	12:40 12:56		0.0			cobbles to 2-1/2-inch diameter	
65	13:00				GM	SANDY GRAVEL (GM) brown, moist, poorly sorted sand matrix with 1- to 2-inch well rounded, granitic cobbles	
70	13:03 13:15		0.0		SP	SAND (SP) brown, moist, poorly sorted sand with trace of silt and well rounded gravel	
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 3 of 9) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP

DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI

ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	13:20		0.0		SP	SAND (SP) brown, moist, poorly sorted, fine- to coarse-grained micaceous sand with gravel and cobbles	
85	13:28						
90	13:29	2	1.0		SM	SAND (SM) light brown, moist, poorly sorted, predominantly fine- to very fine-grained well rounded sand, with gravel and silt	
95	14:26				SP	GRAVELLY SAND (SP) brown, moist, poorly sorted medium-grained micaceous sand, size ranges from very fine to very coarse grained, with fine to pebble size, well rounded gravel	
100	14:28 14:34		1.0		SM	SAND (SM) light brown, moist, silty, fine-grained sand, with 10% well rounded gravel	
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 4 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP

DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI

ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	14:39						
110	14:40 14:45		0.0			SAND (SM) light brown, moist, silty, predominantly fine-grained sand, with large cobbles (up to 3-inch diameter)	
115	14:48						
120	14:48 15:10	3	0.0				
125	15:39				SP	SAND (SP) brown, moist, poorly sorted predominantly fine-grained sand with trace of silt and fine to pebble size gravel	
130	15:40		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 5 of 9)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP
DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI
ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	15:46				SP GM	GRAVELLY SAND (SP)/SANDY GRAVEL (GM) brown, moist, poorly sorted, well rounded, fine to pebble size gravel, equal percentage of all sand grain sizes, some silt	
140	15:48		0.0				
145	15:54				SM	SAND (SM) brown, moist, moderately sorted, silty, trace of fine gravel (3-5%), very fine micas, fine- to medium-grained sand	
150	15:55 16:25	4	0.0		SM		
155	16:26						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 6 of 9) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP

DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI

ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	16:27 16:38		0.0				
165	16:40						
170	16:41 16:46		0.0		SM	SAND (SM) brown, moist, well sorted, predominantly fine grained, rare (<1%) fine gravel	
175	16:49		0.0		SM	SILTY SAND (SM) brown, moist, well sorted, predominantly fine-grained sand, very rare (approximately 1%) small, well rounded pebbles	
180	16:50 8:28	5	0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 7 of 9) PLATE

San Fernando Valley RI
San Fernando, California

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-8 CLIENT LADWP

DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI

ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	8:30				SM	SILTY SAND (SM) brown, moist, moderately sorted, dominantly fine to medium grained, with distinct moist, cohesive, micaceous silt	▽ Depth to Water After Development 188.75 ft. (07/12/89)
190	8:33 8:38		0.0				
195	8:40					increasing silt content	
						< 2-foot-thick, very fine, well rounded gravel bed	
200	8:45 8:50		0.0				▽ Ground water encountered at 203 feet.
205	9:04				SM	SILTY SAND (SM) brown, saturated, fine-grained sand with silt	
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-8 (sheet 8 of 9) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-8 CLIENT LADWP

DATE STARTED 5/16/89 COMPLETED 5/17/89 PROJECT San Fernando Valley RI

ELEVATION 669.00 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	9:23 9:27		0.0				
215	9:30					appears to be interbedded fine and coarse gravelly zones approximately 1-2 feet thick	
220	9:33 9:59						
225	10:00		1.0		GM	GRAVEL (GM) gray-brown, saturated, well rounded large pebbles and fine-grained sand with silt	
230	10:03		0.0		GW	GRAVEL (GW) gray, saturated, trace of silt and fine-grained sand, with abundant coarse-grained sand and fine gravel, some well rounded large gravel	Boring terminated at 231.0 feet on 5/17/89. Boring converted to monitoring well NH-VPB-8 on 5/18/89. Ground water measured at 203.0 feet on 5/18/89.
235							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 230 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 231 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-8 (sheet 9 of 9) PLATE

San Fernando Valley RI
San Fernando, California

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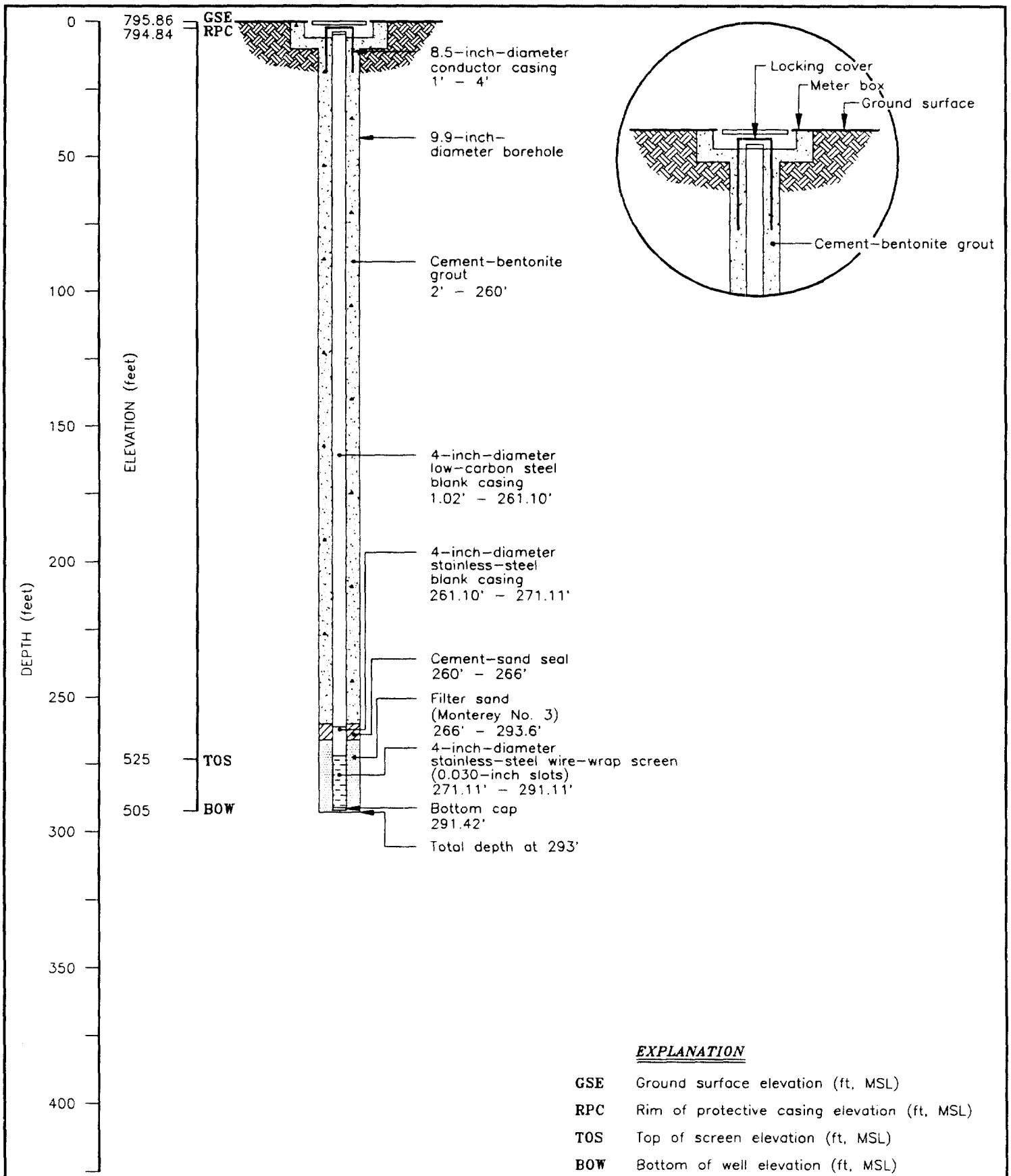
HK	9372,020.11		12/89		



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL NH-VPB-9

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020 11		5/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:02				SP SM	SAND (SP)/SILTY SAND (SM) brown, moist, moderately sorted, predominantly fine-grained micaceous sand, 15% medium- and coarse-grained sand, some silt	
5	10:04		0.0				
10	10:13 10:22		0.0		SM	SILTY SAND (SM) gray, dry, well sorted to moderately sorted, fine- to very fine-grained sand, some silt, trace of very fine gravel	
15	10:23		0.0				
20	10:24 10:28		0.0		SP	SAND (SP) brown, moist, poorly sorted, medium- to fine-grained micaceous sand, 20% coarse-grained sand, 10% very fine gravel, some silt	
25	10:29		0.0		GW	SANDY GRAVEL (GW) gray-brown, moist to dry, poorly sorted, very fine gravel, with poorly sorted micaceous sand and well	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 1 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						rounded gravel	
30	10:30 10:51	1	0.0				
35	10:52		0.0		SW	SAND/GRAVELLY SAND (SW) brown, moist, poorly sorted, medium-grained sand, with equal percentage of fine- and coarse-grained sand, 20% fine gravel, with pebbles up to 2-inch diameter	
40	10:53 10:57		0.0				
45	10:58		0.0		GW	SANDY GRAVEL (GW) brown, moist, poor to moderately sorted, well rounded pebbles 1 to 3-1/2-inch diameter, coated with silt	
50	10:59		0.0		SW	GRAVELLY SAND (SW) gray-brown, moist, poorly sorted, equal percentage of all sand sizes, 30% very fine, well rounded granitic gravel with thin coating of silt, micas present	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 2 of 12) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	11:03		0.0				
60	11:04 11:31	2	0.0		GW	SANDY GRAVEL (GW) gray-brown, moist, poorly sorted, well rounded micaceous sand with equal percentage of all sand sizes, 3-1/2-inch diameter rounded granitic gravel	
65	11:33		0.0				
70	11:34 11:40		0.0		SM	SILTY SAND (SM) gray-brown, dry, poorly sorted, fine- to very fine-grained micaceous sand and silt, with 40% medium- to coarse-grained sand	
75	11:44		0.0		GW	SANDY GRAVEL (GW) gray-brown, dry, poorly sorted, predominantly fine gravel, up to 2-inch diameter, micaceous sand is poorly sorted, fine to very fine grained, with 40% medium to coarse grained	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 3 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	11:46 11:51		0.0		SW	SAND (SW) gray-brown, dry, poorly to moderately sorted, medium-grained, well rounded sand, 15% very fine, well rounded gravel	
85	11:55		0.0				
90	12:40 13:13		0.0				
95	13:16 13:19		0.0		SW SP	SAND (SW/SP) brown, dry, poor to moderately sorted, fine- to medium-grained sand, 25% coarse-grained, silty micaceous sand, 10% well rounded granitic gravel with thin silt coatings	
100	13:25 13:35		0.0		SW GW	GRAVELLY SAND/SANDY GRAVEL (SW/GW) gray-brown, poorly sorted, equal percentage of all sand sizes, very fine-grained micaceous sand to fine, well rounded gravel	
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-9 (sheet 4 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	13:40		0.0				
110	13:42 14:27		0.0				
115	14:34		0.0				
120	14:48 15:02		0.0		SW	GRAVELLY SAND (SW) gray, dry, poorly sorted, fine-grained sand with granitic and mafic gravel	
125	15:07		0.0		SW	GRAVELLY SAND (SW) yellow-brown, dry, poorly sorted, slightly micaceous sand, equal percentage of all sand sizes, 30% fine, well rounded gravel	
130	15:13 16:14	3	0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-9 (sheet 5 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	16:16 16:33		0.0				
140	16:38 16:46		0.0		SW	SAND (SW) brown, moist, poorly sorted sand, equal percentage of all grain sizes, 10% very fine rounded gravel	
145	16:50		0.0				
150	16:53 8:35				SW	SAND WITH GRAVEL (SW) dark brown, very dense, moist, 10% fine gravel, approximately 25% medium-grained sand, 45% coarse-grained sand, 15% fine rounded gravel, 5% gravel 1-2 inch diameter	
155	8:36		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB-9 (sheet 6 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB-9
DATE STARTED 6/12/89 COMPLETED 6/14/89
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						boulder at approximately 159.0 feet	
160	8:43		0.0				
165	8:55		0.0		SW	SAND WITH GRAVEL (SW) brown, very dense, moist, with increased percentage of fine-grained sand, gravel fine to 1 to 2-inch diameter	
170	9:05	4	0.0				
175	10:04		0.0		SW	GRAVELLY SAND (SW) brown, moist, poorly sorted, predominantly very fine-grained sand and fine gravel, equal percentage of all sand sizes, micaceous, 45% rounded granitic gravel, thick silt coating	
180	10:11 10:55	5	0.0				

METHOD OF DRILLING Dual Wall - Air Perc
HOLE DIAMETER 9-7/8"
TOTAL DEPTH 294 ft

WELL COMPLETION DEPTH 291 ft
WELL DIAMETER 4"
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB-9 (sheet 7 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	10:58		0.0		GW	SANDY GRAVEL (GW) brown, moist, poorly sorted, fine gravel, 30% sand of well rounded granitic gravel with thin silt coating, up to 2-inch diameter	
190	11:05 11:10		0.0		SW	SAND (SW) light brown, dry, very poorly sorted, equal percentage of all sand sizes, trace of silt and fine gravel	
195	11:17		0.0		SP	SAND (SP) light brown, dry, well to moderately sorted, fine- and medium-grained sand, 5% coarse-grained sand, some rounded grains	
200	11:29 11:34		0.0		GW	SANDY GRAVEL (GW) gray-brown, dry, poorly sorted, very fine to fine gravel, with approximately 40% sand, predominantly fine grained with 25% coarse-grained sand	
205	11:36		0.0				
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 8 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	11:42 13:04	6	0.0				
215	13:06		0.0				
220	13:08 13:19		0.0				
225	13:20		0.0		GW	SANDY GRAVEL (GW) brown, moist, poorly sorted, very fine well rounded gravel, with approximately 40% rounded, micaceous poorly sorted sand	
230	13:23 13:33		0.0				
235	14:02		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 9 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP
DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
240	14:19 14:50		0.0				
245	15:11		0.0		SW	SAND (SW) light brown, dry, poorly sorted, micaceous sand, 15% very fine gravel well rounded granitic gravel	
250	15:22 16:08		0.0			gray, dry, well graded sand and very fine gravel	
255	16:27		0.0			sand matrix is predominantly coarse-grained	
260	16:45 16:51		0.0		SW	SAND (SW) light brown, moist, poorly to moderately sorted, fine- to medium-grained sand, with 20%	▽ Depth to Water After Development 260.16 ft. (07/20/89)

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 10 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP

DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						coarse-grained, slightly micaceous sand, trace of very fine well rounded gravel	▽ Ground water encountered at 263 feet.
265	16:53		0.0		GW	SANDY GRAVEL (GW) brown, wet, poorly to moderately sorted, well rounded, fine, granitic and mafic gravel to 2-inch diameter with thin clay coating, approximately 35% sand, medium grained, with coarse- and fine-grained sand	Hydropunch sample taken at 265 feet.
270	16:56 10:04		0.0		SW	GRAVELLY SAND (GW) brown, wet, poorly sorted, predominantly very coarse-grained sand to very fine gravel, 35% medium- to fine-grained sand, clay coatings on coarse material	
275	10:06		0.0		SP	GRAVELLY SAND (SP) gray, saturated, moderately to well sorted, medium- to very coarse-grained sand, approximately 25% very fine gravel, less than 10% fine-grained sand, all are well rounded	
280	10:08 10:12		0.0			SANDY SILT (ML) brown, moist, cohesive medium-grained sandy silt, micaceous	
285	10:18		0.0			SANDY GRAVEL (GW) gray-brown, saturated, poorly to moderately sorted, predominantly very fine gravel to very coarse-grained sand (approximately 75%), 25% fine- to	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB-9 (sheet 11 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB-9 CLIENT LADWP
DATE STARTED 6/12/89 COMPLETED 6/14/89 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	10:24 10:30		0.0		GW	medium-grained sand, with well rounded gravel	
295	14:32		0.0				Boring terminated at 294.0 feet on 6/14/89. Boring converted to monitoring well NH-VPB-9 on 6/14 and 6/15/89. Ground water measured at 262.0 feet on 6/15/89.
300							
305							
310							
315							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 291 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 294 ft WELL MATERIAL 304-SS & Low Carbon

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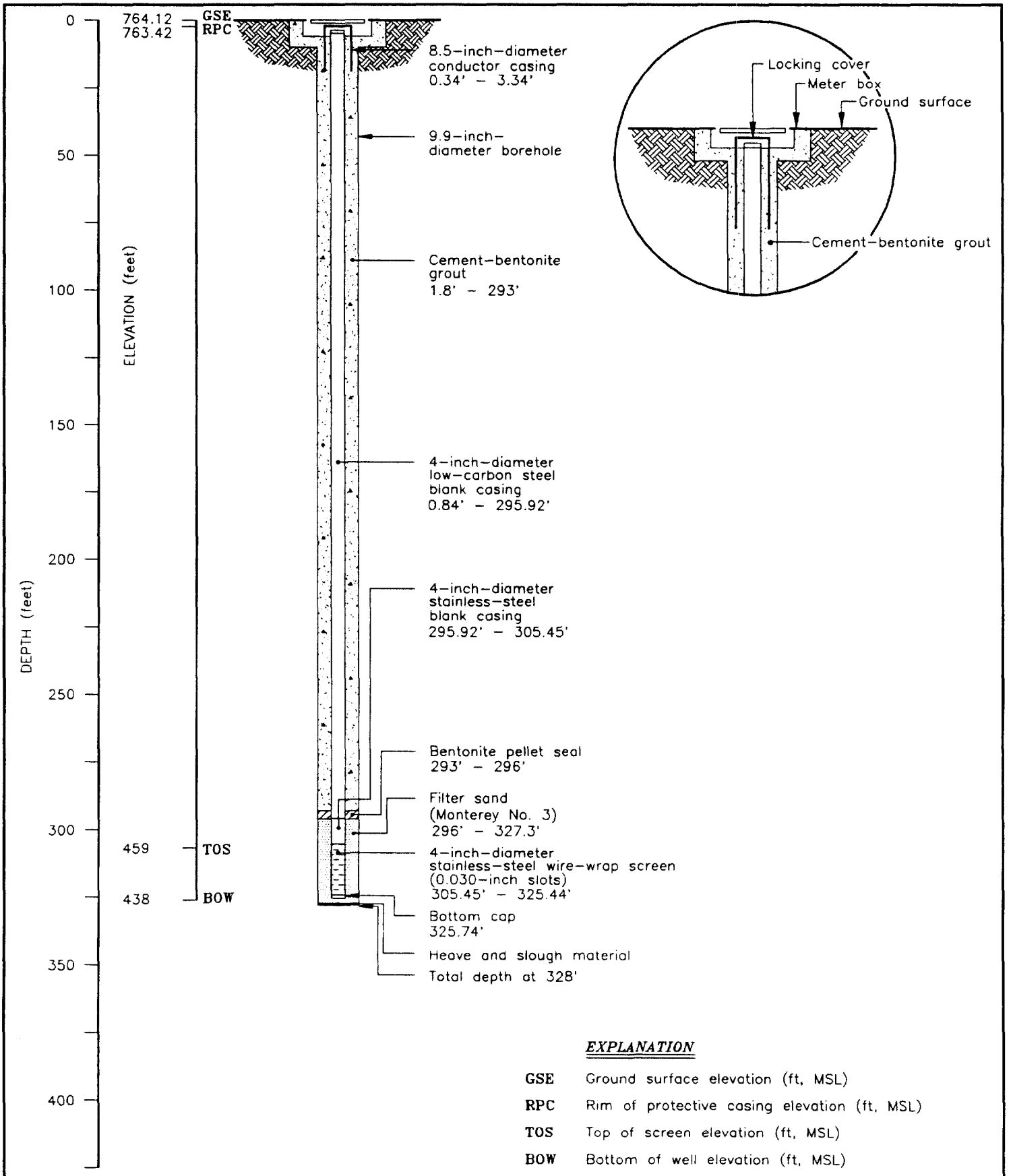
Log of Boring NHVPB-9 (sheet 12 of 12) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		



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MONITORING WELL NH-VPB-10

San Fernando Valley RI
Los Angeles Coutny, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
TI	9372 020 11		12/89	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					SP SM	SAND WITH FINE GRAVEL AND SILT (SP/SM) loose to medium dense, moist, fine-grained sand, with gravel predominantly less than 2-inch diameter, some 4-inch diameter, 10-15% silt	Hand auger to 5 feet below grade.
	10:40						
5	13:56		0.0				
10	14:00		0.0				
						increased gravel content at 12.0 feet	
15	14:07		0.0				
20	14:10		0.0		SP	SAND WITH GRAVEL (SP) brown, dry, poorly sorted fine- to coarse-grained sand, with fine to 1-inch diameter gravel, 10-20% silt	
25	14:15		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 1 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	14:30	1	0.0			SAND (SP/SM) light brown, moist, poorly sorted fine- to coarse-grained sand, with 5-15% silt, and 10-20% gravel	
35	16:02		0.0				
40	16:04		0.0				
45	1610		0.0		SP SM	SAND (SP/SM) light brown, moist, poorly sorted, 15% coarse-grained sand, 50% medium- and fine-grained sand, 5-15% silt, 10-20% gravel	
50	16:12		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 2 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	16:20		0.0		SP SM	SAND (SP/SM) light brown, moist, poorly sorted sand, with 10% silt, 15% gravel, 1- to 4-inch diameter	
	16:24		0.0				
60	16:40	2	0.0				
65	16:45		0.5				
70	16:59		0.0				
75	17:05		0.0		SP SM	SAND (SP/SM) light brown, moist, poorly sorted fine- to coarse-grained sand, with 10% silt and 20% fine- to medium-grained gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 3 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	17:08		0.0				
						boulders at 83.0 feet	
85	17:25		0.5				
90	17:35 8:45		0.0				
						SILTY SAND AND BOULDERS (GM) light olive-brown, moist, silty fine-grained sand and dioritic boulders	
95	8:55		0.0		GM		
100	9:05		0.0			*BOULDERS AND SAND (GM)* light olive-brown, moist, fine- to medium-grained sand, with small coarse-grained sand fraction, light gray and very slightly weathered gravel	
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 4 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	9:06		0.0				
110	9:10	3	0.0			very hard at 112.0 feet	
115	10:04						
120	10:10				GM	light brown gravel (boulders), with silty sand, boulders to several feet in diameter, matrix is moist, silty fine-grained sand	
125	10:15		0.0			sandy gravel, gravel 2- to 6-inch diameter, silty sand matrix	
130	10:22		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 5 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135	11:55	4	0.0				
140	11:58		0.0			gravel with silty sand, with cobbles and boulders	
145	12:04		0.0				
150	12:09		0.0			gravel with silty sand	
155	12:14		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 6 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP
DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI
ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	12:18		0.0				
165	12:35		0.0				
170	12:38		0.0			gravel with silty sand, light olive-brown, moist, gravel 1/2- to over 6-inch diameter, occasional boulders to several feet in diameter	
175	12:57		0.0			light olive-brown gravel with moist silty sand	
180	13:04 15:00	5	0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 7 of 13) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB10 CLIENT LADWP
DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI
ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	15:02		0.0				
190	15:04		0.0		SC	CLAYEY SAND (SC) dark yellow-brown, moist, fine- to medium-grained sand, trace (<10%) of coarse-grained sand with clay, 10-15% gravel less than 2-inch diameter	
195	15:10		0.0			clay balls 2- to 6-inch diameter, massive to very thinly laminated, very stiff, moist, moderately plastic, dark brown, may represent clay interbeds	
200	15:15	6	0.0			dark yellow-brown, moist, moderately plastic, fine- to medium-grained clayey sand, with trace of coarse-grained sand and gravel	
205	16:55		0.0			increase coarse-grained sand fraction, 10-15% gravel <2-inch diameter	
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB10 (sheet 8 of 13) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	16:58		0.0				
215	17:11				SC	CLAYEY SAND WITH GRAVEL (SC) very moist, fine- to medium-grained sand with trace of coarse-grained sand, moderately weathered gravel, 1- to 2-inch diameter	
220	15:14 17:14						
	17:30				CL	SANDY CLAY (CL) laminated, stiff to very stiff, moderately plastic clay with 40% sand	
225	17:42				SC	CLAYEY SAND (SC) brown, stiff, slightly plastic clayey fine-grained sand with some granitic gravel	
230	17:48 9:33	7				SAND (SP) dark green-brown, moist, medium grained, micaceous sand, trace of silt and well rounded subspherical gravel of weathered schist	
235			0.0		SP		∇ Depth to Water After Development 234.57 ft. (07/19/89)

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates Engineers and Geoscientists

Log of Boring NHVPB10 (sheet 9 of 13) PLATE

San Fernando Valley RI

San Fernando, California

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
240	9:44		0.0		SC	CLAYEY SAND (SC) dark green-brown, moist, medium-grained highly micaceous sand, with increased clay content	
245			0.0		SM	SILTY SAND (SM) dark green-brown, moist, fine- to medium-grained sand and silt, micaceous with trace of gravel	
250	10:16 14:36		0.0		SM		
255	15:08		0.0		SW	SAND (SW) olive-brown, moist, poorly sorted fine- to coarse-grained micaceous sand, with trace of rounded gravel	
260	15:56 16:00		0.0			increased silt content	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 10 of 13) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP
DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI
ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265	16:15		0.0				
270	16:24		0.0				
275	16:58		0.5		SM	SILTY SAND (SM) dark brown, moist, fine- to medium-grained micaceous sand, with silt, trace of coarse-grained sand and sandy clay	
280	17:03 8:31		0.0		SP	SAND (SP) light olive-brown, slightly moist to dry, fine- to coarse-grained sand with trace of rounded gravel	
285					SP	SAND (SP) olive-brown, slightly moist to moist, fine- to coarse-grained sand, trace of gravel and laminated sandy clay in cuttings	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 11 of 13) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB10 CLIENT LADWP

DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI

ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	9:02 9:55	8					
295						SAND (SP) olive-brown, slightly moist, fine- to coarse-grained sand and clay, with trace of gravel and clay	
300	10:30 10:41				SC	CLAYEY SAND (SC) olive-brown, slightly moist, fine- to coarse-grained sand and clay, with trace of gravel GRAVEL (GP) olive-brown, slightly moist, subangular gravel with trace of medium-grained sand	
305					GP		▽ Ground water encountered at 306 feet.
310	11:24					trace of clay SAND (SP) olive-brown, slightly moist, moderately to poorly graded fine- to medium-grained sand, trace of rounded gravel	
315							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 12 of 13)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB10 CLIENT LADWP
DATE STARTED 5/30/89 COMPLETED 6/2/89 PROJECT San Fernando Valley RI
ELEVATION 763.78 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					SP		
						SILTY GRAVEL (GP) subrounded, poor recovery	
320					SP		
325							
							Boring terminated at 328.0 feet on 6/2/89. Boring converted to monitoring well NH-VPB-10 on 6/5/89. Ground water measured at 243.5 feet on 6/5/89.
330							
335							
340							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB10 (sheet 13 of 13) PLATE
San Fernando Valley RI
San Fernando, California

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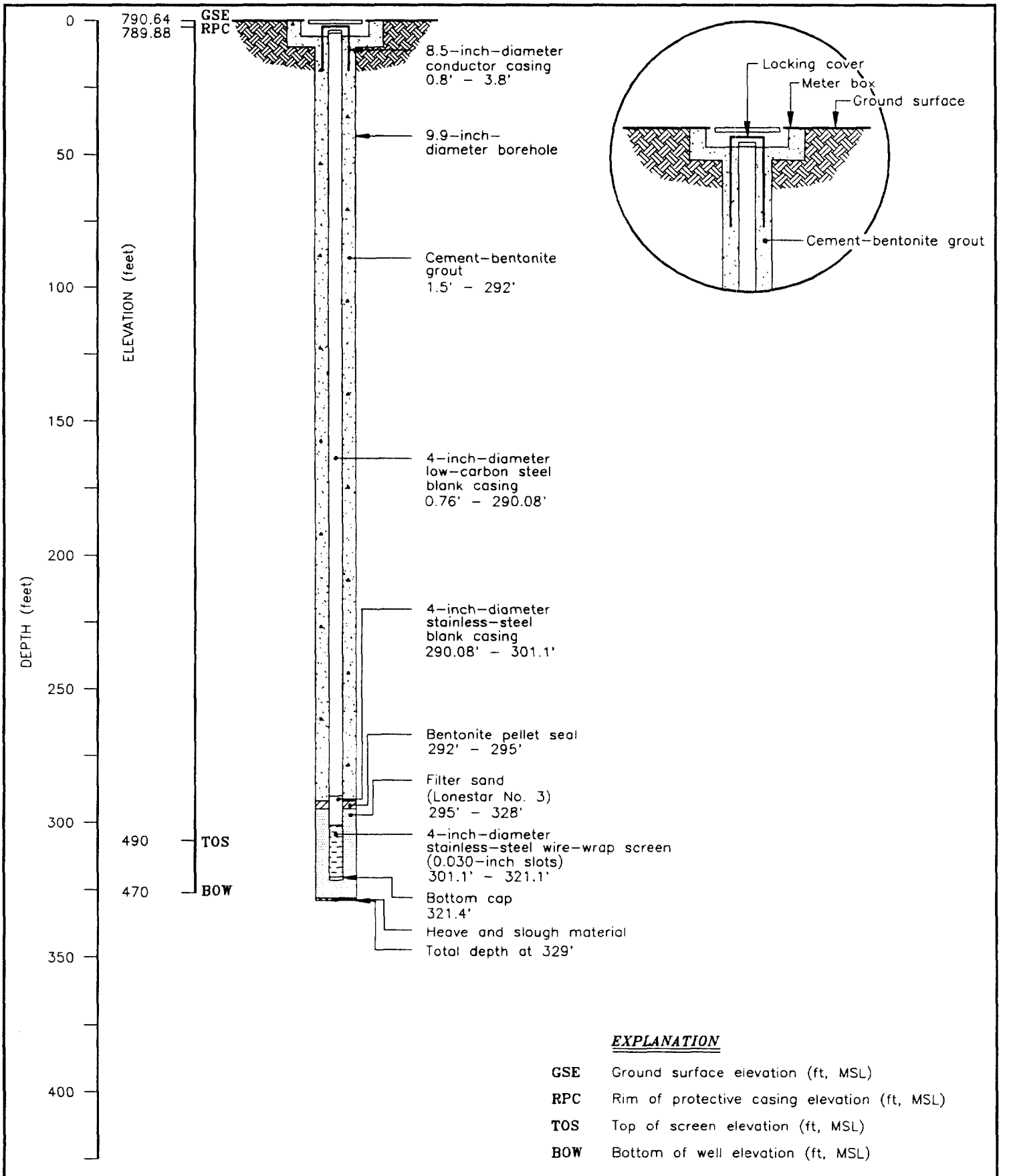

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL NH-VPB-11

San Fernando Valley RI
Los Angeles County, California

PLATE

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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	14:42				GW	SANDY GRAVEL (GW) light tan-brown, dry, poorly sorted, subrounded gravel, 1/4- to 1/2-inch diameter, 35% fine- to very coarse-grained sand	
5							
10	14:53		0.2		SW	SAND (SW) tan-brown, dry, poorly sorted, very fine- to very coarse-grained angular to subangular sand, 10% very fine subrounded pebbles	
15			0.0				
20	15:12 15:14		0.0				
25			0.0			SAND WITH GRAVEL (SW) brown, moist, poorly sorted,	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 1 of 13)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						subangular, fine- to very coarse-grained subrounded sand, 35% gravel up to 1/2-inch diameter	
30	15:18 15:33	1	0.0				
35	15:34		0.0		SW	GRAVELLY SAND (SW) brown, moist, poorly sorted, fine- to very coarse-grained subangular sand, 50% very fine, subrounded gravel, 1/2-inch diameter	
40	15:35 15:40		0.0			increasing silt content, 50% very fine- to medium-grained sand, 35% silt, 15% gravel	
45	15:45		0.0		SM	SILTY SAND (SM) dark brown, moist, well sorted, fine-grained subangular sand, with 30% silt	
50	15:46		0.0		SW	SAND WITH SILT AND GRAVEL (SW) brown, moist, poorly sorted, fine- to very coarse-grained rounded sand.	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 2 of 13) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						with 30% gravel, 1/4- to 1/2-inch diameter, 10% silt	
55			0.0				
60	15:51 16:05		0.0		SW	GRAVELLY SAND (SW) brown, moist, poorly sorted subrounded sand, 35% subrounded gravel up to 4-inch diameter, 5% silt	
65	16:09		0.0		SP	SAND WITH GRAVEL (SP) tan, moist, well sorted, medium-grained sand, 15% subrounded gravel up to 1-inch diameter	
70	16:12 16:26		0.0		SW	SAND WITH GRAVEL (SW) black-brown, moist, poorly sorted, medium- to coarse-grained sand, 35% gravel, 1/4- to 4-inch diameter	
75			0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 3 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	16:32 8:38	2	0.0		SW SM	SAND WITH SILT AND GRAVEL (SW-SM) brown, moist, poorly sorted, fine-grained subangular sand, 25% rounded, 1/2- to 3-inch diameter gravel, 10% silt	
85			0.0		GW	SANDY GRAVEL (GW) brown, moist, poorly sorted, subrounded gravel, 1/4- to 2-inch diameter, 30% medium-grained subangular sand, less than 5% silt	
90	8:42 8:49		0.0		SW	GRAVELLY SAND (SW) brown, moist, poorly sorted, very fine- to coarse-grained subangular sand, 15% subrounded gravel, 1/4-inch diameter	
95			0.0				
100	8:55 8:58		0.0		SW		
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 4 of 13) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105			0.0		SW	GRAVELLY SAND (SW) tan-brown, moist, poorly sorted, angular, predominantly medium-grained sand, 35% subrounded gravel up to 2-inch diameter	
110	9:02 9:09		0.0				
115			0.0				
120	9:18 9:54		0.0		SM	SILTY SAND (SM) dark brown, moist, well sorted, fine-grained sand, 15% silt, 5-10% gravel, 1/4- to 1/2-inch diameter	
125			0.0			SILTY SAND (SM) dark brown, moist, well sorted, fine-grained subrounded sand, 10% silt, no gravel	
130	10:00 10:07		0.0		SW	SILTY GRAVELLY SAND (SW) dark brown, moist, poorly sorted, medium- to fine-grained sand, 15% subrounded gravel up to 1-inch diameter, 15% silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 5 of 13) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135			0.0		SM SC	SILTY/CLAYEY SAND (SM-SC) brown, moist, very well sorted, fine-grained, subrounded to subangular sand, 25% silt, 15% clay	
140	10:17 10:23		0.0				
145						<10% gravel	
150	10:34 11:17	4	0.0		SP	SAND WITH GRAVEL (SP) tan, moist, fine- to medium-grained subangular sand, 10% rounded gravel	
155							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 6 of 13) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB11 CLIENT LADWP
DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI
ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	11:22 11:26				SM	SILTY SAND WITH GRAVEL (SM) brown, moist, poorly sorted, fine- to medium-grained subangular sand, 15% silt, 15% fine gravel	
165					SW	SAND (SW) brown, moist, poorly sorted, medium- to very coarse-grained subangular to soubrounded sand, trace of gravel	
170	11:34 12:16						
175			0.0		SP	SAND WITH GRAVEL (SP) tan, moist, well sorted, medium-grained subangular sand, with 10% subrounded gravel up to 1-inch diameter	
180	12:29 13:07	5	0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 7 of 13) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185			0.0			GRAVELLY SILTY SAND (SW) dark brown, moist, very poorly sorted, medium-grained subrounded sand, 30% gravel, 1/4- to 1/2-inch diameter, 10% silt/clay balls	
190	11:14 13:21		0.0		SW		
195			0.0				
200	13:26 13:36		0.0				Hole re-reamed from 190.0 to 200.0 feet.
205			0.0				
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 8 of 13) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	13:38 15:08	6	0.0				
215			0.0		SW	SAND WITH GRAVEL (SW) tan, brown, moist, poorly sorted, fine- to very coarse-grained subangular to subrounded sand, 25% subrounded gravel up to 1/2-inch diameter	
220	15:20 13:25		0.0				
225			0.0				
230	15:30 15:34		0.0			increase in fine-grained sand content, decrease in gravel content SILTY SAND WITH GRAVEL (SM) dark brown, moist, poorly sorted, fine- to medium-grained sand, 25% gravel, 15% silt	
235			0.0		SM		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 9 of 13)

PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
240	15:48		0.0		SW	SAND WITH GRAVEL (SW) tan-brown, moist, poorly sorted, fine- to medium-grained subangular sand, 15% subrounded gravel up to 1/2-inch diameter	
245			0.0				
250	9:32 10:57	7	0.0		SW	decrease in sand size, fine-grained sand dominant, no gravel	
255			0.0		SW	SAND (SW) tan, moist, poorly sorted, medium- to very coarse-grained subrounded to angular sand with orange-brown clay/silt balls	Perched water at 257.0 feet.
260	11:24 11:28		0.0		SM SC	SILTY/CLAYEY SAND (SM-SC) dark brown, moist, poorly sorted, fine- to medium-grained subangular sand, 40% silt/clay, slightly plastic	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 10 of 13) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER NHVPB11 CLIENT LADWP
DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI
ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265			0.0		SM		
270	11:35 11:40		0.0		SM	SILTY SAND WITH GRAVEL (SM) orange-brown, moist, poorly sorted, fine- to coarse-grained subangular sand, 25% angular gravel, 1/4-inch diameter, 20% silt/clay	
275			0.0		SM	SILTY SAND (SM) brown, moist, poorly sorted, 65% fine- to medium-grained subangular sand, 20% angular gravel, 1/4-inch diameter, with silt coatings, 15% silt	
280	11:55 12:52	8	0.0				
285			0.0		GM GC	GRAVEL WITH SAND AND SILT (GM-GC) brown, saturated, multicolored subangular gravel, 1/4- to 1/2-inch diameter, 25% very coarse-grained subrounded sand, 15% silt/clay	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB11 (sheet 11 of 13) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	13:18 13:45		0.0		GW	SANDY GRAVEL (GW) tan and black, saturated, poorly sorted, subangular to subrounded gravel, 1/4- to 1/2-inch diameter, 30% medium- to coarse-grained sand	Ground water encountered at 289 feet.
295			5.0				
300	14:30 8:40		0.0		SW	SAND WITH GRAVEL (SW) tan, wet, poorly sorted, medium- to coarse subangular sand, 15% angular gravel, 1/4-inch diameter SANDY GRAVEL (GW) multicolored, saturated, poorly sorted, gravel is predominantly 1/4- to 1/2-inch diameter, subangular to subrounded, 25% coarse-grained angular and subrounded sand	
305	9:06		0.0		GW		Depth to Water After Development 304.67 ft. (08/05/89)
310	9:11		0.0				
315						GRAVELLY SAND (SW) tan, saturated, poorly sorted fine- to very coarse-grained, subangular to	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB11 (sheet 12 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB11 CLIENT LADWP

DATE STARTED 7/27/89 COMPLETED 7/31/89 PROJECT San Fernando Valley RI

ELEVATION 790.64 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315	9:35		0.0		SW	subrounded sand, 45% subrounded gravel, 1/4- to 1/2-inch diameter	
320	9:44 9:53		0.0				
325	10:03		0.0		SW	SAND (SW) tan, saturated, moderately sorted, medium- to coarse-grained subangular to subrounded sand, predominantly coarse-grained sand, 15% gravel	
330							Boring terminated at 329.0 feet. Boring converted to monitoring well NH-VPB-11 on 7/31 and 8/1/89. Ground water measured at 289.9 feet on 7/31/89.
335							
340							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 325 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 329 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB11 (sheet 13 of 13) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

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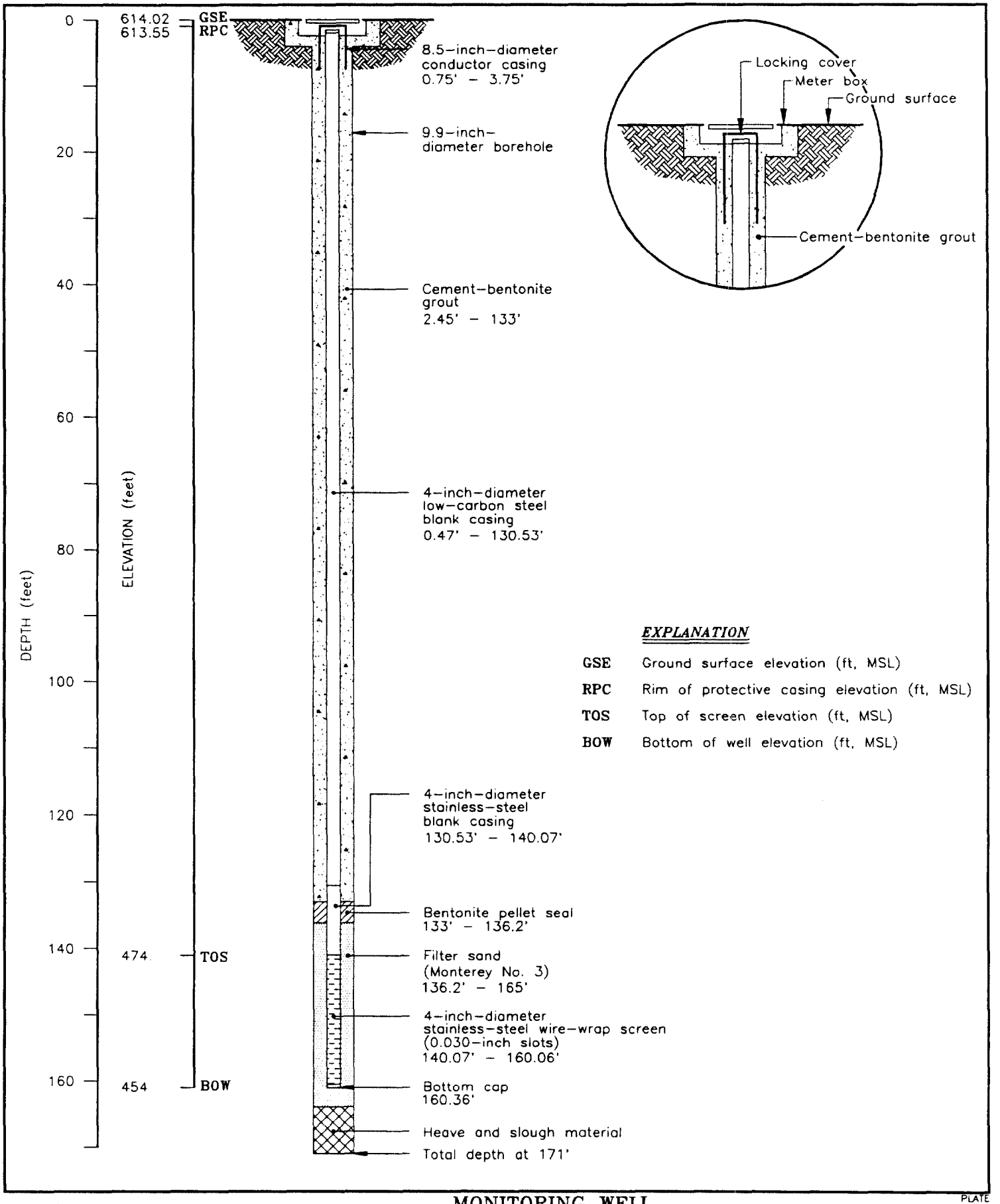

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MONITORING WELL
NH-VPB-12

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		5/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	12:11				SM	SILTY SAND (SM) brown, moist, poorly sorted, fine- to medium-grained sand, 10% coarse-grained sand, with rare well rounded, granitic cobbles up to 6-inch diameter	
5	12:13		0.0				
10	12:15 12:25		0.0				
15	12:25		0.0				
20	12:26 12:29		0.0			cobble zone at 22.0 feet, cobbles up to 3-inch diameter	
25	12:31		0.0		SM ML	SILTY SAND/SANDY SILT (SM-ML) dark brown, moist, fine- to very fine-grained micaceous sand with silt, 10% medium- to coarse-grained sand.	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB12 (sheet 1 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						trace of very fine gravel	
30	12:32 12:57	1	0.0				
35	13:00		0.0		SW	SAND (SW) brown, moist, poorly to moderately sorted, fine- to medium-grained micaceous sand, 20% coarse-grained sand and gravel up to 3/4-inch diameter, trace of silt	
40	13:01 13:05		0.0				
45	13:09		0.0		GW	SANDY GRAVEL (GW) brown, poorly sorted, medium- to coarse-grained sand, well rounded to subangular granitic and metamorphic gravel	
50	13:09 13:12		0.0		SW	SAND (SW) brown, moist, poorly sorted, fine- to coarse-grained very micaceous sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB12 (sheet 2 of 7)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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601 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			0.0				
60	13:17 13:42		0.0		SP SM	SAND/SILTY SAND (SP-SM) brown, moist, moderately sorted, very fine- to fine-grained sand and silt, 25% medium- to coarse-grained sand, trace of very fine gravel	
65	13:45		0.0				
70	13:48 14:07		0.0		SM	SILTY SAND (SM) yellow-brown, moist, moderately sorted, fine- to very fine-grained micaceous sand, 20% medium- to coarse-grained sand, trace of gravel	
75	14:11		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB12 (sheet 3 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
WK	9372,020.11		12/89		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	14:12 15:17	2	0.0		ML	SANDY SILT (ML) brown, moist, well sorted silt and very fine-grained sand, 10% medium- and coarse-grained sand	
85	15:20		0.0		SW	SAND (SW) brown, moist, poorly sorted, coarse-grained micaceous sand, with trace of well rounded gravel and silt	
90	15:25 15:29		0.0		SW	GRAVELLY SAND (SW) approximately 30% gravel up to 1 1/2-inch diameter	
95	15:34		0.0		SM	SILTY SAND (SM) brown, moist, moderately to well sorted, fine-grained micaceous sand and silt, approximately 10% medium-grained sand, trace of coarse-grained sand	
100	15:38 15:42		0.0				
105						SAND (SW) brown, moist, poorly sorted, micaceous	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB12 (sheet 4 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	15:45		0.0		SW	sand, trace of silt and fine gravel	
110	15:47 16:26	3	0.0				
115	16:35		0.0				
120	16:37 8:58		0.0		SM	SILTY SAND (SM) brown, moist, moderately sorted, very fine- to medium-grained very micaceous sand, with silt, 15% coarse-grained sand, trace of 1-inch diameter gravel	
125	9:04		0.0		SW		∇ Depth to Water After Development 128.45 ft. (07/18/89)
130	9:06 9:16		0.0		SM	SILTY SAND (SM) brown, moist, poorly to moderately	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB12 (sheet 5 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						sorted, fine- to medium-grained sand, with silt, coarse-grained sand, trace of fine gravel	
135	9:33		0.0		SW	SAND (SW) brown, moist, poorly sorted, well rounded micaceous sand, trace of fine gravel and silt	
140	9:35 10:32	4	0.0				▽ Ground water encountered at 141 feet.
145			0.0		GW	SANDY GRAVEL (GW) brown, wet, poorly sorted, fine gravel with medium- to coarse-grained sand	
150	10:39 13:25		0.0		SP	SAND (SP) tan-brown, saturated, moderately sorted, coarse-grained sand, with 15% fine gravel and 10% medium-grained sand	Hydropunch sample taken at 150 feet.
155	13:31		0.0		SM	SILTY SAND (SM) brown, wet, poorly sorted, medium-grained sand, with 20-30% silt and 5% very fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB12 (sheet 6 of 7) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB12 CLIENT LADWP

DATE STARTED 6/5/89 COMPLETED 6/6/89 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	13:38 14:46		0.0				
165	14:46		0.0		SM	SILTY SAND (SM) brown, saturated, fine- to medium-grained micaceous sand with silt, 15% coarse-grained sand and very fine gravel	
170	14:49		0.0		GW	SANDY GRAVEL (GW) gray-brown, saturated, moderately to well sorted, fine granitic gravel with weathered surfaces and coarse-grained subangular sand	Boring terminated at 170.0 feet on 6/6/89. Boring converted to monitoring well NH-VPB-12 on 6/7/89. Ground water measured at 131.0 feet on 6/6/89.
175							
180							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 161 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

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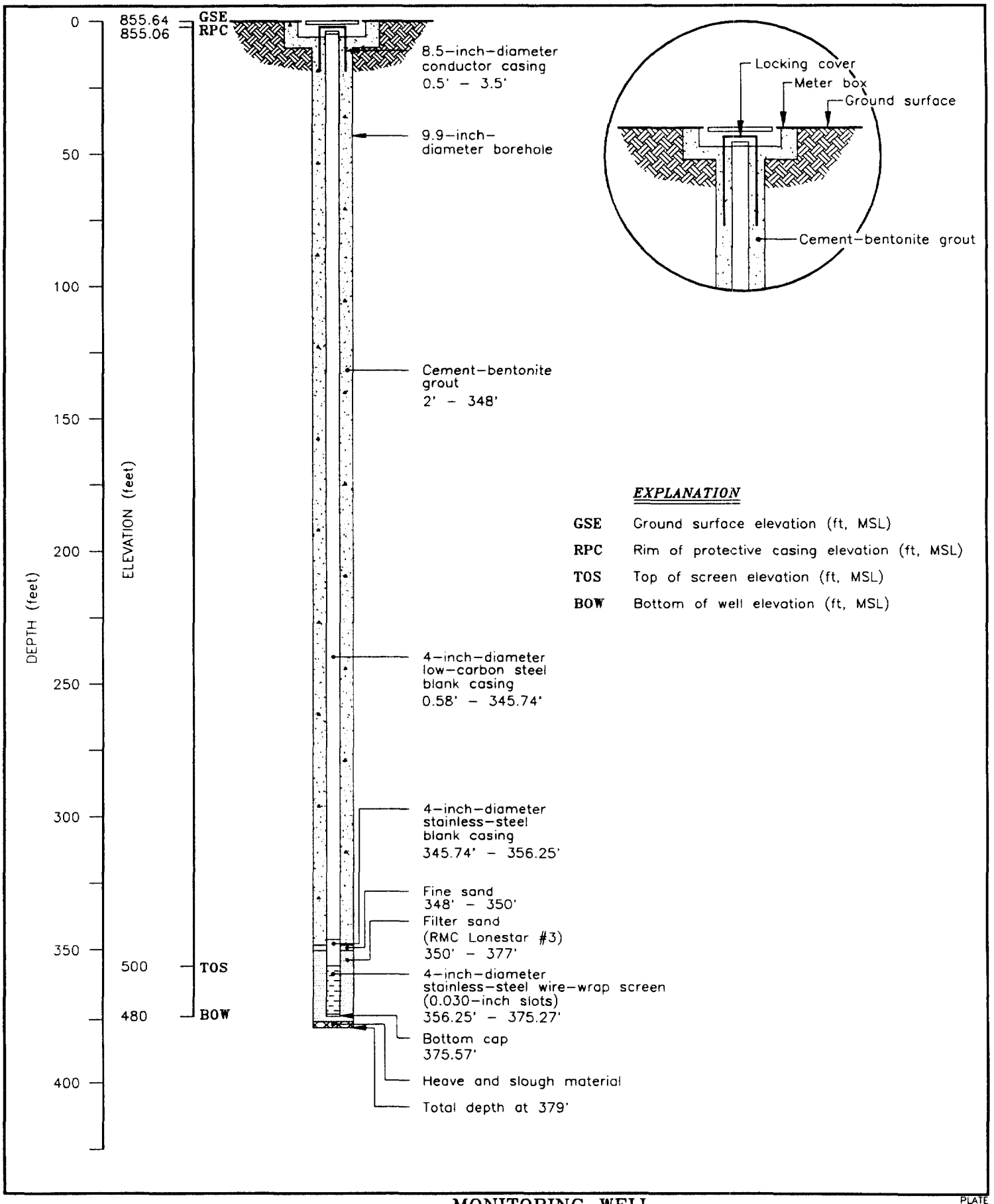
Log of Boring NHVPB12 (sheet 7 of 7)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		



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MONITORING WELL NH-VPB-13

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372 020 11		12/89	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	14:09				SW	SILTY GRAVELLY SAND (SW) gray-brown, moist, poorly sorted sand, 10 to 15% subrounded gravel up to 2-inch diameter	Hand auger to 5 feet below grade.
5	14:15		4.0				
	15:30						
10	15:34 15:46		1.0			SILTY GRAVELLY SAND (SW) gray-brown, moist, very fine- to coarse-grained sand, 25% subrounded very fine gravel, trace of silt	
15	15:46		1.0		SW	GRAVELLY SAND TO SILTY GRAVELLY SAND (SW) brown, moist, poorly sorted, medium-grained sand with some coarse- to fine-grained sand and silt, 25% gravel, very fine to 4-inch diameter	
20	15:47 15:59		1.0				
25	16:00		2.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 1 of 15)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	16:01 16:25	1	1.0		SM ML	SILTY SAND TO SANDY SILT (SM-ML) medium brown, moist, fine-grained sand and silt with medium- to coarse-grained sand (20%), approximately 10% very fine rounded gravel	
35	16:25		1.0			increase in gravel (25-35%) up to 1-inch diameter, increase in coarse-grained sand content	
40	16:26 16:36		1.0				
45	16:37		1.0		GW	SILTY SANDY GRAVEL (GW) brown, moist, poorly to moderately sorted, 75% very fine rounded gravel, 25% fine-grained micaceous sand and silt, some medium- to coarse-grained sand	
50	16:40 16:57		1.0		GW	SILTY SANDY GRAVEL (GW) medium brown, moist, poorly to moderately sorted, tabular and round shaped gravel, very fine to 3-inch	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB13 (sheet 2 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
MK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB13 CLIENT LADWP
DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI
ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						diameter 10% poorly sorted, fine- to medium-grained silty sand	
55	17:00		1.0		SW	SILTY GRAVELLY SAND (SW) gray-brown, moist, poorly sorted, fine-grained sand and silt, abundant medium- to coarse-grained sand, 20% very fine subangular, granitic gravel	
	17:01 17:24						
60	17:25 8:33		1.0				
						SILTY SANDY GRAVEL (GW) dark to medium brown, very moist, poorly sorted, fine to 1-inch diameter round and tabular gravel with thick silt coatings, 40% poorly sorted, rounded to angular, very fine- to very coarse-grained micaceous sand and silt	
65			0.0		GW		
						SILTY GRAVELLY SAND (SW) green-brown, moist, poorly to moderately sorted, very fine-grained sand, 30% very fine mafic and granitic gravel and very coarse-grained sand, predominantly angular, with some rounded surfaces	
70	8:38 9:25	2	0.0		SW		
						SAND TO SILTY SAND (SW-SM) green-brown, moist, poorly sorted, fine- to medium-grained sand, 10% fine subrounded gravel, abundant silt	
75	9:26		0.0		SW		
					GW	SILTY SANDY GRAVEL (GW) dark brown, moist, poorly sorted, very fine rounded to angular gravel, very	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 3 of 15) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	9:27 9:31		0.0		GW	fine up to 1-inch diameter, with 20% poorly sorted, angular, slightly micaceous sand	
85	9:32		0.0				
90	9:34 9:37		0.0		SM	SILTY SAND (SM) green-brown, moist, poorly sorted fine- to medium-grained sand and silt, with 10% very fine gravel and very coarse-grained sand	
95	9:39		0.0		GW	SILTY SANDY GRAVEL (GW) brown, moist, poorly sorted, rounded to subangular gravel, very fine to 2-1/2-inch diameter, slightly micaceous, silty, poorly sorted sand	
100	9:41 10:13	3	0.0				
105	10:14		0.0		SM	SILTY SAND (SM) medium to dark brown, moist, poorly sorted, fine- to medium-grained micaceous sand and silt, 10% coarse-grained sand, 15% very	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring NHVPB13 (sheet 4 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105						coarse-grained sand and very fine gravel	
110	10:15 10:20		0.0				
115	10:22		0.0		GW	SILTY SANDY GRAVEL (GW) brown, moist, mostly fine gravel with 25% poorly sorted sand and silt	
120	10:24 10:34		1.0		SW	GRAVELLY SILTY SAND (SW) gray-brown, dry to slightly moist, poorly sorted, very fine- to very coarse-grained sand, 10% silt, 5 to 10% very fine to fine gravel	
125	10:37		1.0				
130	10:40 11:40	4	0.0		SW	SAND (SW) brown, dry, poorly sorted, fine- to	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 5 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						coarse-grained sand with silt	
135	11:42		0.0		GW	SANDY GRAVEL TO GRAVELLY SAND (GW-SW) brown, moist, poorly sorted sand and 30% very fine gravel, equal percentage of fine- to coarse-grained sand	
140	11:44		0.0			increase in gravel content to 40%	
145	11:51		0.5		SW	SILTY GRAVELLY SAND (SW) gray-brown, moist, poorly sorted, very fine- to coarse-grained sand, 20% very fine gravel and very coarse-grained sand, 5 to 10% silt	
150	11:53 12:00		0.0			SILTY GRAVELLY SAND (SW) light brown, moist, poorly sorted, slightly micaceous very fine- to very coarse-grained sand, with abundant fine to very fine subangular gravel (25%) and silt	
155	12:02		0.5				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB13 (sheet 6 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	12:04 13:22	5	0.0		GW	SILTY SANDY GRAVEL (GW) brown, moist, poorly sorted, very fine to fine mafic and granitic gravel, round, elongate and tabular shaped, thick silt coatings, poorly sorted sand with mica	
165	13:24		1.0				
						SAND (SW) brown to light brown, moist, poorly sorted micaceous sand, 10% fine subangular gravel, trace of silt	
170	13:35 13:39		1.0		SW		
175	13:42		0.0			SILTY GRAVELLY SAND (SW) brown, moist, poorly sorted sand, 15-20% fine to very fine, rounded, granitic gravel with thin silt coatings	
180	13:44 13:48		0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 7 of 15)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	13:50						
						SILTY SAND (SM) gray-brown, moist, moderately to well sorted, fine-grained sand and silt, 15% medium- to coarse-grained sand, 10% fine gravel	
190	13:51 15:24	6	0.5		SM		
195	15:26		0.5				
						SANDY SILT TO SILTY SAND (ML-SM) dark brown, moist, very fine-grained sand and silt, very fine gravel (up to 10%) and medium-grained sand	
200	15:28 15:35		0.5 0.5		ML		
						SILTY SAND (SM) dark brown, moist, poorly sorted fine- to coarse-grained micaceous sand and silt, abundant coarse-grained sand and rare gravel	
205	15:36		0.0		SM		
210	15:38		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 8 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	15:43						
215	15:45		0.0		SM	SILTY SAND (SM) dark brown, moist, poorly sorted, fine- to coarse-grained sand and silt, with abundant coarse-grained sand, rare rounded gravel	
220	15:46 16:29	7	0.5			increase in gravel (25-30%) up to 1-inch diameter	
225	16:32		0.5		SM		
230	16:34 16:41		0.0		ML	SANDY SILT (ML) brown, moist, very well sorted micaceous silt and very fine-grained sand	
235	16:42		0.0		SM	SILTY SAND (SM) medium brown, moist, moderately sorted, very fine- to medium-grained sand, with silt, some coarse-grained sand (5-10%)	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
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Log of Boring NHVPB13 (sheet 9 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP
DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI
ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
240	16:44 8:32		0.0				
245	8:34		0.0			increase in coarse-grained sand content	
250	8:46 9:48		0.5		SW	SAND (SW) gray-brown, moist, moderately to poorly sorted, coarse- to medium-grained sand with some fine-grained sand and silt, 10% very fine subrounded gravel	
255	10:03		0.0				
260	10:09 11:10	8	0.0		SW	GRAVELLY SAND (SW) light brown, moist, very poorly sorted, about equal percentage of silt, sand, and gravel, gravel is very fine, well rounded with thick silt coatings	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 10 of 15) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP

DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI

ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265			0.5			SAND (SP) brown to gray-brown, moist, well sorted, medium-grained sand, 10% coarse-grained sand, slightly silty, no mica	
270	11:12 11:30		0.5		SP		
						SILTY SAND (SM) dark brown, moist, well sorted, very fine-grained micaceous sand and silt, some medium- to coarse-grained sand, 5% fine gravel	
275	11:32		0.0		SM		
280	11:37 11:41		0.5				
285	11:43		0.0		SM	SAND (SM) brown, moist, well sorted, slightly silty micaceous sand, 10-15% fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB13 (sheet 11 of 15) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP
DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI
ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	11:45 13:38	9	0.0				
295	13:40		0.0			SILTY SAND (SM) brown, moist, fine- to coarse-grained sand and silt, trace of very fine gravel	
300	13:44 14:17		0.5 0.5		SM		
305	14:19		0.0		SP	SAND (SP) brown, moist, well to moderately sorted, fine- to medium-grained micaceous sand, rare coarse-grained sand, trace of silt, no gravel	
310	14:21 14:32		0.3		SM	SILTY SAND (SM) light brown, moist, poorly sorted, very fine- to very coarse-grained micaceous sand and silt, trace of fine to very fine rounded gravel, possible clay interbeds	
315	14:33		0.3				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB13 (sheet 12 of 15) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP
DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI
ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315							
						SAND (SP) tan, moist sand, 15% coarse-grained sand and very fine gravel, well rounded to subangular with silt coatings	
320	14:39 16:13	10	0.5		SP		
						SAND (SW) gray-brown, moist, poorly sorted, fine- to coarse-grained micaceous sand, trace of silt and very fine gravel	
325	16:14		0.5		SW		
330	16:16 16:29		0.5				
							▽ Depth to Water After Development 334.97 ft. (07/18/89)
335	16:36		0.5				
						SILTY SAND (SW-SM) tan to brown, moist, poorly sorted, fine- to coarse-grained micaceous sand, with silt coatings, no gravel	
340	16:43 9:26		0.5		SW SM		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

HLA Harding Lawson Associates
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 13 of 15) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP
DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI
ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
345	9:27		0.5			GRAVELLY SAND (SW) medium brown, moist, poorly sorted, predominantly coarse-grained sand, with abundant medium- to fine-grained sand, 5-10% very fine gravel and very coarse-grained sand, silt coatings on all grains, some mica	Ground water encountered at 345 feet.
350	9:38 13:45		0.5		SW		Hydropunch sample taken at 350 feet.
355	13:47		3.0				
360	13:52 14:00		3.5		SP	GRAVELLY SAND (SP-SW) tan, saturated, moderately to poorly sorted, coarse- to very coarse-grained sand, with abundant medium-grained sand, 20% very fine gravel, trace of silt	
365	14:20		0.5				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring NHVPB13 (sheet 14 of 15) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB13 CLIENT LADWP
DATE STARTED 7/5/89 COMPLETED 7/10/89 PROJECT San Fernando Valley RI
ELEVATION 855.64 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
370	14:41 14:47		0.5		SW	SAND (SW) gray-brown, saturated, poorly sorted, very fine to very coarse-grained micaceous sand, 10% very fine gravel, trace of silt	
375	14:57		0.5		GW	SANDY GRAVEL (GW) gray, saturated, moderately sorted, fine gravel, 30% medium- to coarse-grained sand, trace of silt, gravel from 1- to 4-inch diameter	
380	15:17						Boring terminated at 379 feet on 7/10/89. Boring converted to monitoring well NH-VPB-13 on 7/10/89. Ground water measured at 338.25 feet on 7/10/89.
385							
390							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 376 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 379 ft WELL MATERIAL 304-SS & Low Carbon

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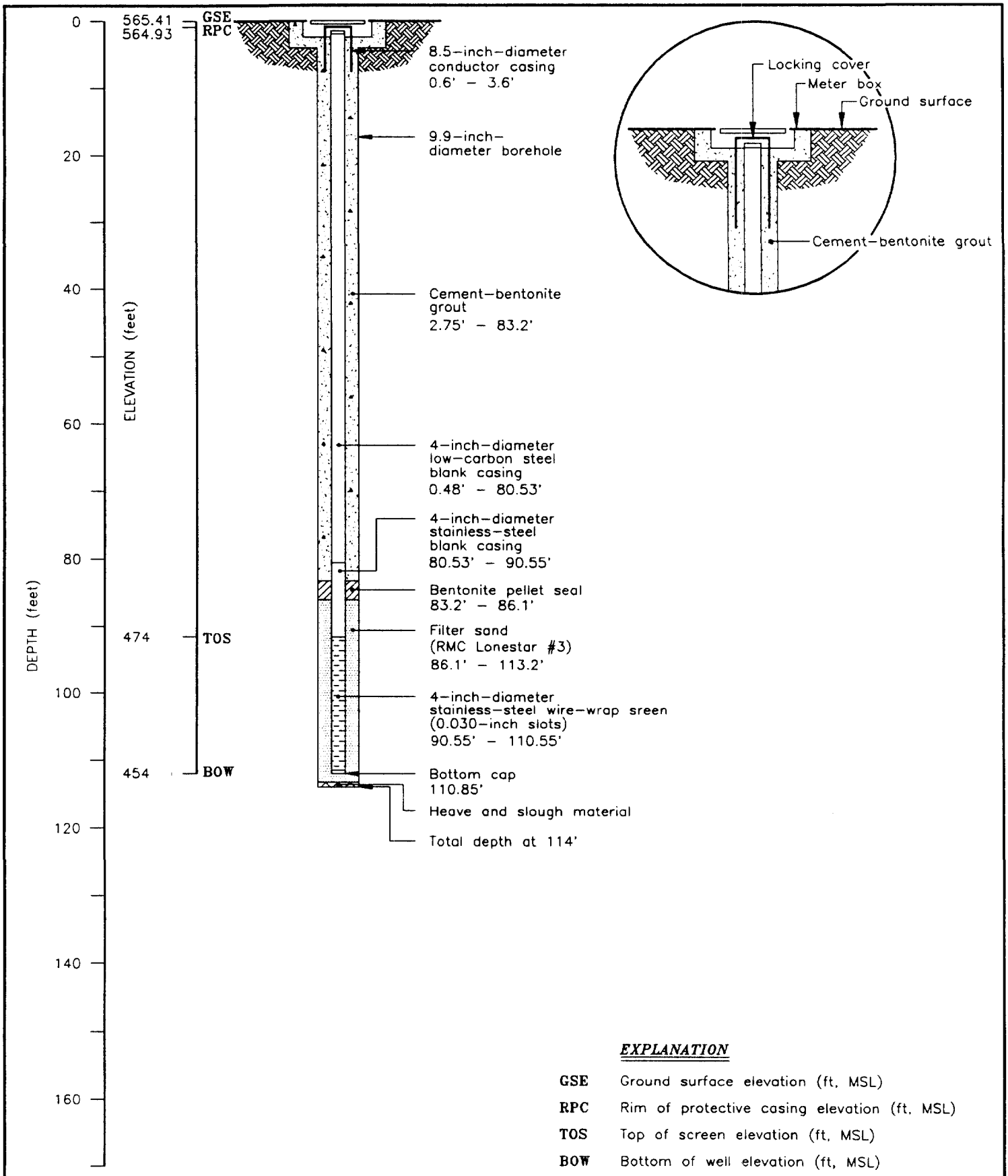
Engineers and Geoscientists

Log of Boring NHVPB13 (sheet 15 of 15) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		



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MONITORING WELL
NH-VPB-14
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
TI	9372 020 11		12/89	JMM	7/92

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BORING/WELL NUMBER NHVPB14 CLIENT LADWP

DATE STARTED 6/22/89 COMPLETED 6/22/89 PROJECT San Fernando Valley RI

ELEVATION 565.41 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	12:32				SM	SILTY GRAVELLY SAND (SM) brown, moist, poorly sorted subangular sand, gravel up to 2-inch diameter	Hand auger to 5 feet below grade.
5	12:35		0.0		SM	SILTY SAND (SM) gray, moist, well sorted, fine grained, micaceous sand with silt	
10	12:38 12:43		0.0		SM	SILTY SAND (SM) gray-brown, moist, well sorted, silt and fine-grained rounded, very micaceous sand with silt	
15	12:43		0.0		SM	CLAYEY TO SILTY SAND (SM) dark brown, very moist, very fine-grained, micaceous, rounded sand, with silt, trace of clay and fine mafic gravel	
20	12:43 12:47		0.0				
25	12:48				SM	CLAYEY SILTY SAND (SM) dark brown, moist, moderately to	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 111 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 114 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB14 (sheet 1 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB14 CLIENT LADWP

DATE STARTED 6/22/89 COMPLETED 6/22/89 PROJECT San Fernando Valley RI

ELEVATION 565.41 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						sorted, fine- to medium-grained micaceous sand and clayey silt	
30	12:49 13:06	1	0.0				
					ML	SANDY CLAYEY SILT (ML) dark brown, moist, micaceous silt with very fine-grained sand and clay	
35	13:07		0.0				
40	13:08 13:13		0.0		ML	SANDY SILT (ML) brown, moist silt, well sorted, very fine-grained micaceous sand	
45	13:15		0.0		SM	SILTY SAND (SM) brown, moist, very fine-grained micaceous sand and silt	
50	13:18 13:22		0.0		ML	SANDY CLAYEY SILT (ML) dark gray-brown, moist, micaceous silt, clay and poorly sorted, very fine- to medium-grained sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 111 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 114 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB14 (sheet 2 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER NHVPB14 CLIENT LADWP

DATE STARTED 6/22/89 COMPLETED 6/22/89 PROJECT San Fernando Valley RI

ELEVATION 565.41 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	13:24		0.0		ML		
60	13:30 14:04	2	0.0		SM	SILTY CLAYEY SAND (SM) brown, moist, poorly sorted, fine- to medium-grained micaceous, well rounded sand, with brown silt	
65	14:07		0.0		SP	SAND (SP) brown, moist, poorly to moderately sorted, medium-grained sand with abundant fine- to coarse-grained, subrounded, micaceous, Fe-stained	
70	14:10 15:01		0.0				
75	15:04				SW	SAND (SW) light brown, moist, poorly sorted, micaceous sand, trace of very fine subrounded gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 111 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 114 ft WELL MATERIAL 312-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring NHVPB14 (sheet 3 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER NHVPB14 CLIENT LADWP

DATE STARTED 6/22/89 COMPLETED 6/22/89 PROJECT San Fernando Valley RI

ELEVATION 565.41 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	15:08 15:15		0.0				
85	15:17		0.0				
							Depth to Water After Development 88.37 ft. (07/17/89)
90	15:26 16:03	3	0.0		SW	SAND/SILTY SAND (SW) brown, moist, poorly sorted, fine- to coarse-grained sand and silt, with 10% fine gravel	
							Ground water encountered at 93 feet.
95	16:05		0.0		SP	SAND (SP) gray-brown, saturated, moderately sorted, medium- to coarse-grained slightly micaceous sand, 10% fine, well rounded gravel	
100	16:09 12:29		0.0		GW	SANDY GRAVEL (GW) brown, saturated, poorly sorted, well rounded granitic gravel, very fine to 1-1/2-inch diameter, 40% poorly sorted sand, trace of mica and silt	Hydropunch sample taken at 101 feet.
105	17:31		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 111 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 114 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB14 (sheet 4 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

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BORING/WELL NUMBER NHVPB14 CLIENT LADWP

DATE STARTED 6/22/89 COMPLETED 6/22/89 PROJECT San Fernando Valley RI

ELEVATION 565.41 feet AMSL GEOLOGIST M. Rickertson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW	SILTY SAND (SW) brown, saturated, well sorted, fine-grained micaceous sand and silt, 10% fine gravel, trace of medium- to coarse-grained sand	
110	17:38 17:41		0.0			increase in fine gravel to 20-25%	
115	17:44		0.0				Boring terminated at 114 feet on 6/22/89. Boring converted to monitoring well NH-VPB-14 on 6/23/89. Ground water measured at 79.5 feet on 6/23/89.
120							
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 111 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 114 ft WELL MATERIAL 312-SS & Low Carbon

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Log of Boring NHVPB14 (sheet 5 of 5)

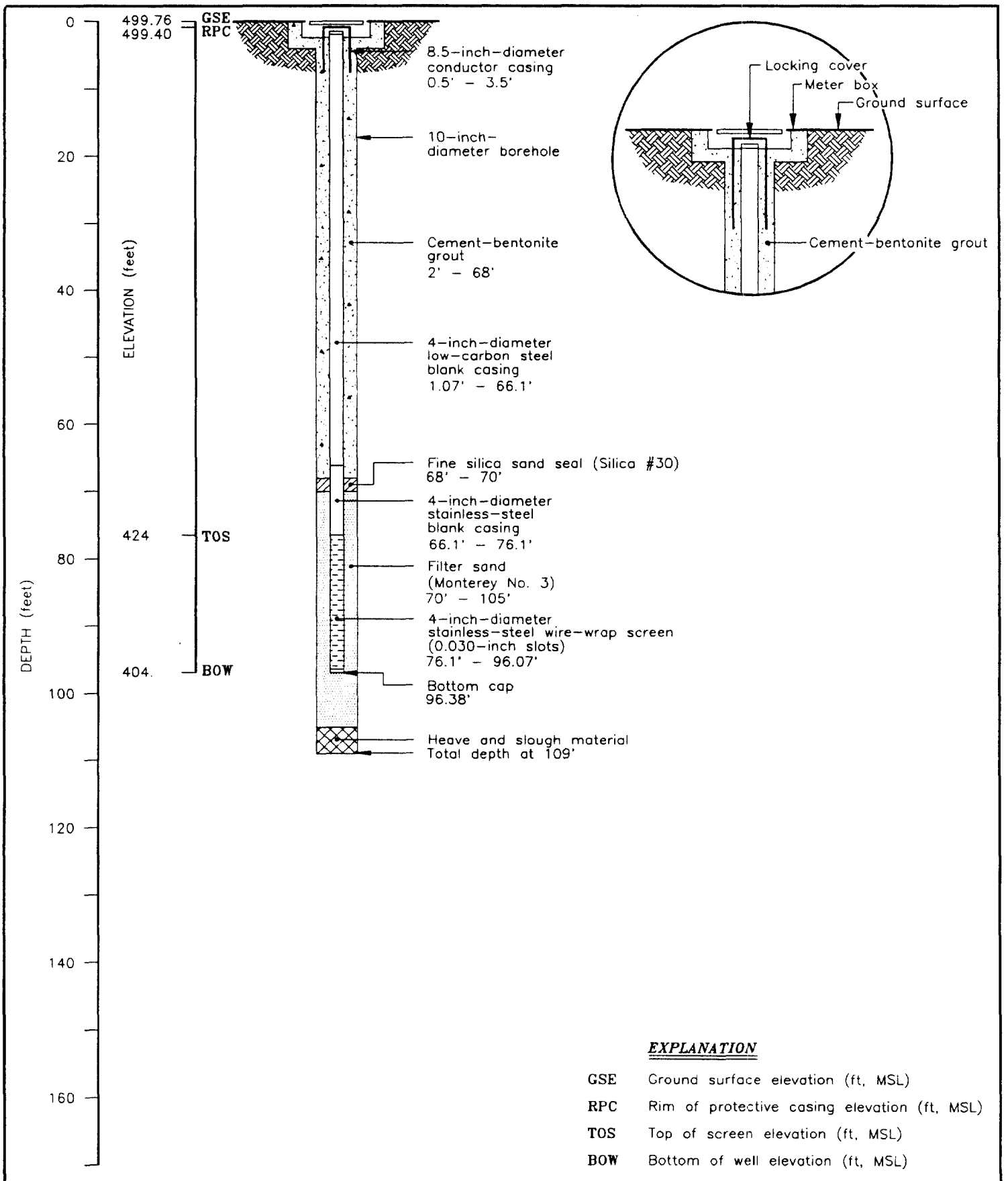
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		12/89		

Appendix C: Boring Logs

Appendix C.2 Crystal Springs VPBs



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL CS-VPB-1

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-1 CLIENT LADWP

DATE STARTED 8/28/89 COMPLETED 8/29/89 PROJECT San Fernando Valley RI

ELEVATION 500 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	12:03				CL	SANDY CLAY (CL) greenish-brown, very moist to saturated, low plasticity, clay with fine-grained sand	
5							
						CLAYEY SAND (SC) dark greenish-brown, saturated, moderately sorted, medium- to fine-grained sand and clay	
10	12:04 12:20				SC		
						SAND (SP) light greenish-brown, moist, well sorted, fine grained, subrounded	
15					SP		
20	12:23 12:29						
25	12:30				CL		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.38 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 109 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-1 (sheet 1 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-1 CLIENT LADWP
DATE STARTED 8/28/89 COMPLETED 8/29/89 PROJECT San Fernando Valley RI
ELEVATION 500 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL	SILTY CLAY (CL) light green-brown, moist, mottled iron staining, low plasticity	
30	12:31 12:43	1					
35	12:45						
40	12:49 13:20	2					
					GP	SANDY GRAVEL (GP) brown, moist, subrounded gravel, with fine- to coarse-grained sand with some cobbles (6-inch-diameter)	
45	13:22				SP	SAND (SP) brown, moist, fine to coarse grained, moderately sorted, subrounded to rounded	
50	13:27 13:40		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.38 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 109 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-1 (sheet 2 of 5)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-1 CLIENT LADWP

DATE STARTED 8/28/89 COMPLETED 8/29/89 PROJECT San Fernando Valley RI

ELEVATION 500 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	13:42		0.0		SP		
						SANDY GRAVEL (GP) brown, moist, subrounded to rounded gravel with coarse-grained sand	
	15:40						∇ Ground water encountered at 59 feet.
60	13:45 14:18		0.0		GP		
65	14:22		0.0				
70	14:25 14:33						
75	14:35		0.0			brown, saturated	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.38 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 109 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-1 (sheet 3 of 5)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER CSVPB-1 CLIENT LADWP
DATE STARTED 8/28/89 COMPLETED 8/29/89 PROJECT San Fernando Valley RI
ELEVATION 500 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	14:37 16:11		0.0				Hydropunch sample taken.
85	16:14		0.0			SILTY SAND (SM) dark brown, saturated, fine grained, well sorted sand and silt, trace of clay, micaceous	
90	16:19		0.0		SM		
95	16:22		0.0				
100	16:24		0.0				
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.38 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 109 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-1 (sheet 4 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2260

BORING/WELL NUMBER CSVPB-1 CLIENT LADWP

DATE STARTED 8/28/89 COMPLETED 8/29/89 PROJECT San Fernando Valley RI

ELEVATION 500 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							
110							Boring terminated at 109 feet. Boring converted to monitoring Well CS-VPB-1 on 8/29/89. Ground water measured at 59 feet on 8/29/89.
115							
120							
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.38 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 109 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-1 (sheet 5 of 5)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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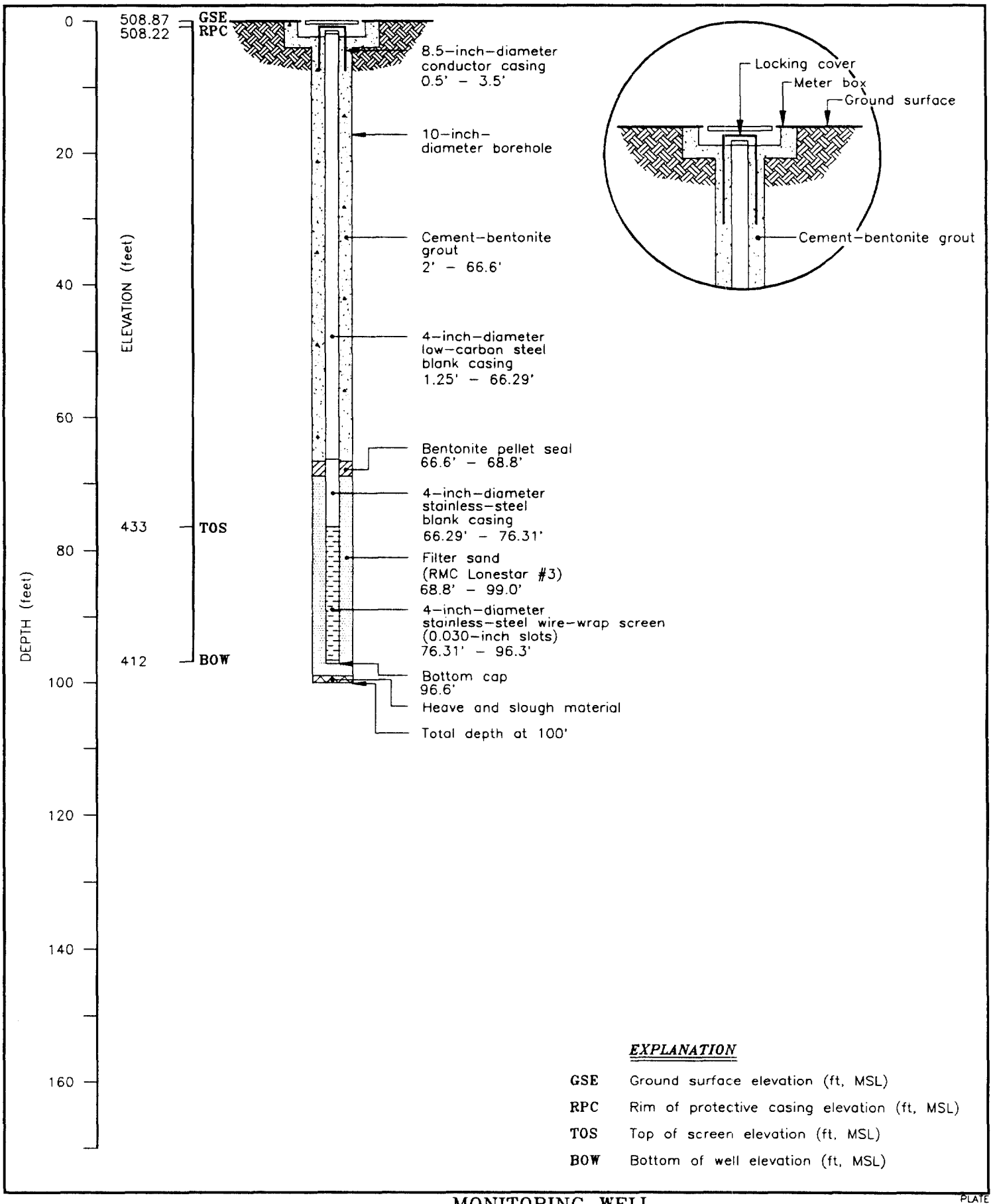

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
CS-VPB-2

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-2 CLIENT LADWP

DATE STARTED 8/14/89 COMPLETED 8/15/89 PROJECT San Fernando Valley RI

ELEVATION 509 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					SP	SAND (SP) gray-brown, moist, fine- to medium-grained sand	
	13:08						
5			0.4				
					SW	SAND (SW) brown, damp, poorly sorted, medium-grained sand, with subrounded gravel to 1 1/2-inch-diameter	
10	13:10 13:17		1.0				
15	13:18		1.0 1.2				
20	13:19 13:22		1.1			increase in coarse-grained sand	
						CLAYEY SAND/SILTY SAND (SC/SM) moist, fine- to medium-grained sand, with clay and silt and some subrounded gravel	
25	13:23		2.6		SC SM		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.60 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-2 (sheet 1 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-2 CLIENT LADWP
DATE STARTED 8/14/89 COMPLETED 8/15/89 PROJECT San Fernando Valley RI
ELEVATION 509 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	13:23 13:38	1	1.0		CL	SILTY CLAY (CL) brown, medium plasticity, firm to very firm	
					SW	GRAVELLY SAND (SW) brown, moist, medium- to coarse-grained sand and subrounded gravel to 1-inch-diameter	
35	13:39		1.4				
40	13:40 13:56	2	2.6				
45	13:58		1.2				
50	14:00 14:12	3	1.6			abundant silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.60 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-2 (sheet 2 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-2 CLIENT LADWP
DATE STARTED 8/14/89 COMPLETED 8/15/89 PROJECT San Fernando Valley RI
ELEVATION 509 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	14:14		2.0		SW	SAND (SW) brown, moist, medium- to coarse-grained sand and gravel with thin silt coatings	
60	14:16 14:49	4	2.4				
						increase in coarse-grained sand	
65	14:51		2.0		GW GP	GRAVEL (GW/GP) brown, with silt coating, moderately to well sorted, 2-inch-diameter subangular to subrounded, no sand	
						SAND (SW) light red-brown, moist, medium- to coarse-grained sand, and 1-1/2-inch-diameter gravel with silt coatings	
70	14:54 15:19	5	1.7		SW		∇ Ground water encountered at 70 feet.
						cobbles at 74 feet	
75					GW	GRAVEL (GW) brown, wet, poorly sorted, granitic, subangular to subrounded, gravel to 2-inch-diameter	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.60 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-2 (sheet 3 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-2 CLIENT LADWP
DATE STARTED 8/14/89 COMPLETED 8/15/89 PROJECT San Fernando Valley RI
ELEVATION 509 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	15:27 16:32		1.3				Hydropunch sample taken.
					ML	SILT (ML) brown, red-brown, and brown-gray, wet, laminated, firm, sandy and slightly clayey	
85	16:34		2.2		GW	GRAVEL (GW) brown, poorly sorted, gravel up to 4-inch-diameter, with occasional thin beds of brown clayey silt	
90	16:37 16:42		1.8				
95	16:44		2.1				
						gravel up to 3 1/2-inch-diameter	
100	16:46		2.6				Boring terminated at 100 feet. Boring converted to monitoring Well CS-VPB-2 on 8/15/89. Ground water measured at 68.02 feet on 8/15/89.
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.60 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring CSVPB-2 (sheet 4 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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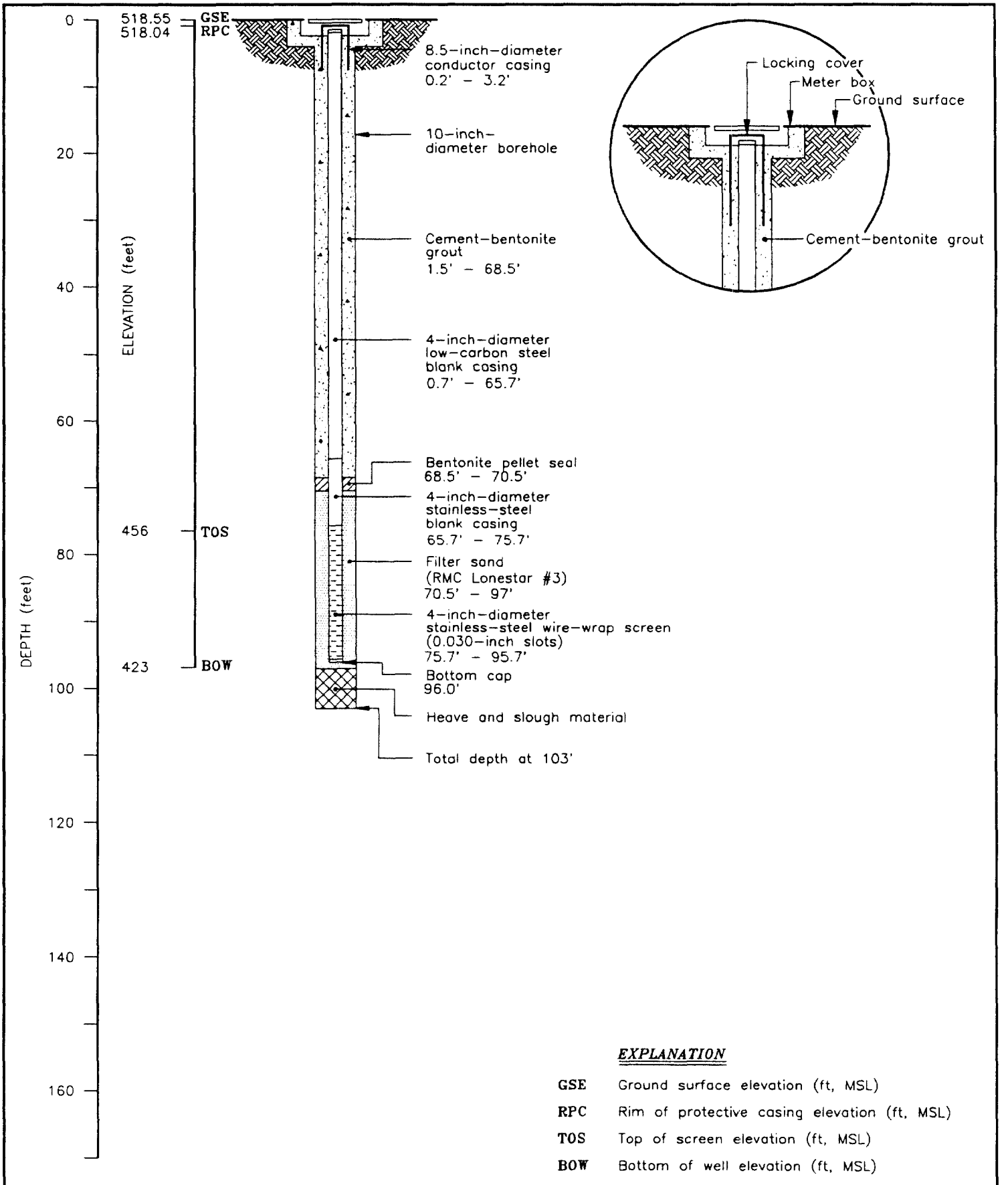

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

MONITORING WELL
CS-VPB-3

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372.020.11		1/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-3 CLIENT LADWP

DATE STARTED 8/15/89 COMPLETED 8/16/89 PROJECT San Fernando Valley RI

ELEVATION 518 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					ML	SANDY SILT (ML) dark brown, moist, silt with fine to coarse grained, rounded to well rounded sand	
5			0.0				
10			1.5		SM	SILTY SAND (SM) dark brown, moist, poorly sorted fine to coarse grained, subrounded to well rounded sand with abundant silt, fine gravel, and rare medium gravel	
15			2.0				
20			3.0		SM	SILTY SAND (SM) moist, medium brown, subangular to subrounded, fine- to coarse-grained sand, with abundant silt and rare fine gravel	
25			1.0		ML	SANDY SILT (ML) dark brown, moist, with some fine- to coarse-grained sand, minor amounts of medium gravel and clay	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.00 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-3 (sheet 1 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-3 CLIENT LADWP
DATE STARTED 8/15/89 COMPLETED 8/16/89 PROJECT San Fernando Valley RI
ELEVATION 518 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30		1	2.5				
35			2.0		SW	SAND (SW) red-brown, poorly sorted, fine- to coarse-grained angular to subrounded sand, with trace of fine gravel	
40		2	2.0				
45			3.0		ML	SANDY SILT (ML) medium brown, moist, silt, with micaceous fine-grained, sand; minor amount of medium to coarse grained angular to subrounded sand, trace of clay	
50		3	3.5		SW	SAND (SW) light yellow-brown, poorly sorted, moist, fine- to coarse-grained angular to rounded sand, with few fines and fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.00 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring CSVPB-3 (sheet 2 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-3
CLIENT LADWP
DATE STARTED 8/15/89 COMPLETED 8/16/89
PROJECT San Fernando Valley RI
ELEVATION 518 feet AMSL
GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			2.0				
60		4	2.5				
65			2.0				
70		5	2.0		CL	CLAY (CL) olive brown, moist, soft, with abundant micaceous silt and some fine-grained sand	
75			1.0				

METHOD OF DRILLING Dual Wall - Air Perc
WELL COMPLETION DEPTH 96.00 ft
HOLE DIAMETER 9-7/8"
WELL DIAMETER 4"
TOTAL DEPTH 100 ft
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-3 (sheet 3 of 4)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-3 CLIENT LADWP
DATE STARTED 8/15/89 COMPLETED 8/16/89 PROJECT San Fernando Valley RI
ELEVATION 518 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80			1.0		ML	SANDY SILT (ML) olive brown, moist, with micaceous fine-grained sand and silt proportion estimated to be greater than clay	
85			0.5				
90			1.0		SW	SAND (SW) red-brown, wet, fine- to coarse-grained angular to subrounded sand, with few fines	∇ Ground water encountered at 89 feet.
						saturated	
95			0.5				
100					SW	SAND (SW) red-brown, saturated, medium to coarse grained, poorly sorted angular to subangular sand, with fine gravel and trace of medium gravel and fine-grained sand	Boring terminated at 100 feet. Boring converted to monitoring Well CS-VPB-3 on 8/16/89. Ground water measured at 89 feet on 8/16/89.
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.00 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 100 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-3 (sheet 4 of 4)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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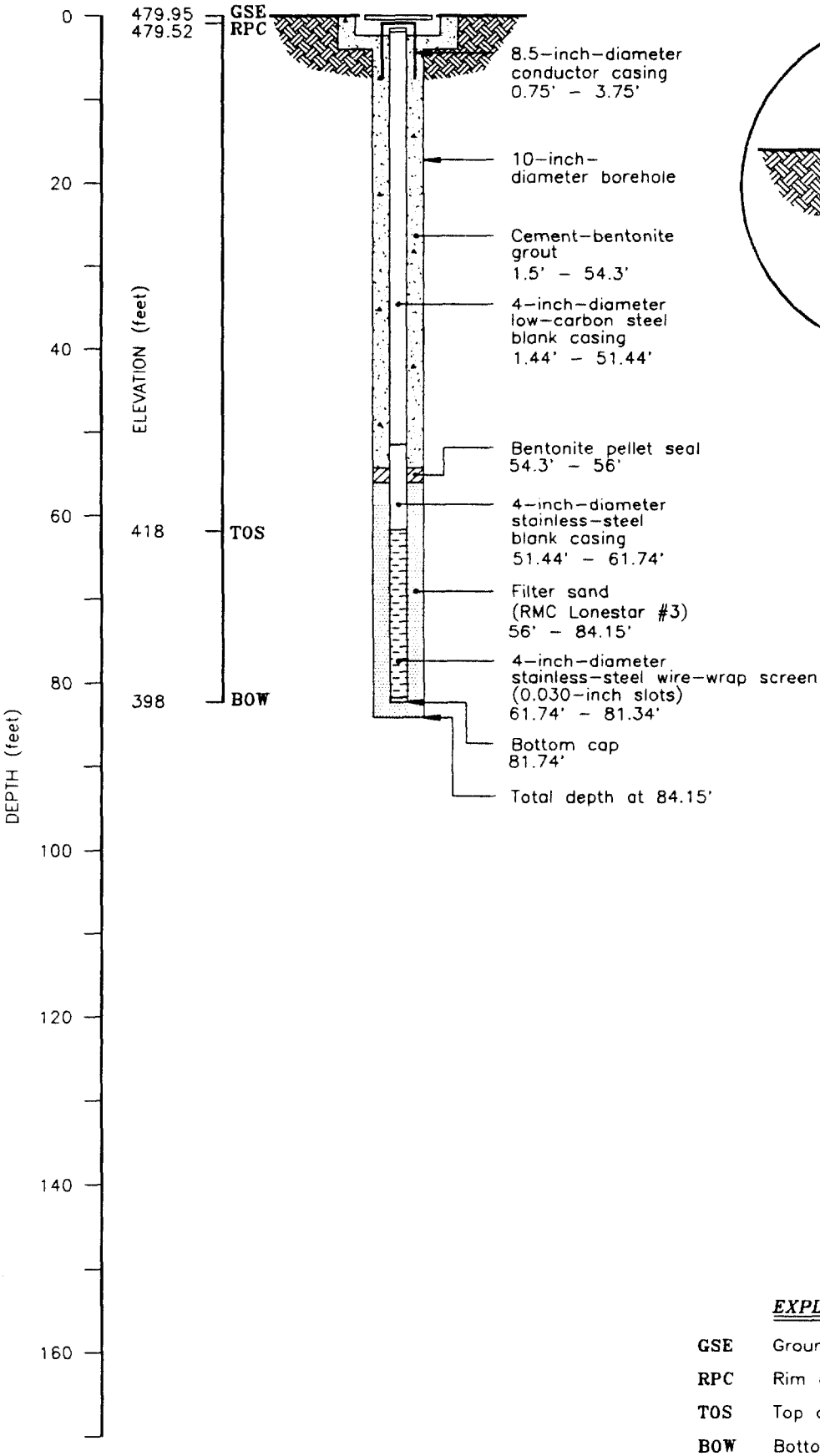

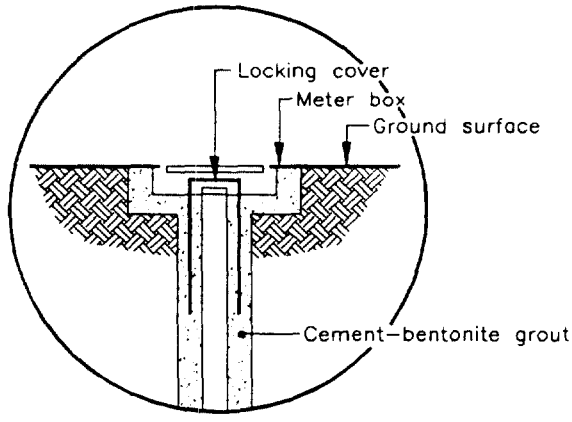

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-VPB-4
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

601 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-4 CLIENT LADWP

DATE STARTED 8/16/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:45				SM	SILTY SAND (SM) dark brown, moist, fine-grained sand, minor amount of medium-grained sand, subangular to subrounded gravel to 3/4-inch-diameter	
5	10"46		-.6				
10	10:47 10:51		8.5				
15	10:52		2.0				
20	10:54 11:08	1	2.6		SM SC	SILTY/CLAYEY SAND (SM/SC) brown, moist, fine- to medium-grained sand, large silt balls	
25	11:11		2.0			decreasing amount of silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.74 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-4 (sheet 1 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
RK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-4 CLIENT LADWP
DATE STARTED 8/16/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM) brown, moist, fine- to medium-grained sand, slightly clayey, some brown, firm sandy silt (ML) fragments, subangular to subrounded	
30	11:14 11:23		2.6				
35	11:26		2.8				
40	11:27 11:58	2	4.8		SW	GRAVELLY SAND (SW) brown, moist, medium- to coarse-grained sand, some clayey and sandy silt, micaceous, subangular to rounded, granitic and metamorphic gravel, with silt coatings	
45	11:59		3.0				∇ Ground water encountered at 46 feet.
50	12:01 12:22	3	1.8		GW	GRAVEL (GW) brown, wet, subangular to rounded, poorly sorted granitic gravel to 3-1/2-inch-diameter, with silt and sand coatings	
						GRAVELLY SAND/SANDY GRAVEL	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.74 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-4 (sheet 2 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-4 CLIENT LADWP
DATE STARTED 8/16/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	12:23		1.0		SW GW	(SW/GW) brown, saturated, fine- to coarse-grained sand and subangular to rounded gravel to 1/4-inch-diameter	
60	12:24 12:28		1.6				
65	12:30						
70	12:32 14:49				SW	SAND (SW) brown, saturated, medium- to coarse-grained sand, subangular to subrounded granitic gravel to 1 1/2-inch-diameter	Hydropunch sample taken.
75	14:50					SANDY GRAVEL (GW) brown, saturated, granitic and metamorphic, fine subangular to	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.74 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-4 (sheet 3 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-4 CLIENT LADWP
DATE STARTED 8/16/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	14:51				GW	subrounded gravel to 2-inch-diameter, with medium- to coarse-grained sand, and minor fine-grained sand	
	14:57						Boring terminatedd at 84 feet. Boring converted to monitoring Well CS-VPB-4 on 8/17/89. Ground water measured at 45.64 feet on 8/17/89.
85							
90							
95							
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.74 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-4 (sheet 4 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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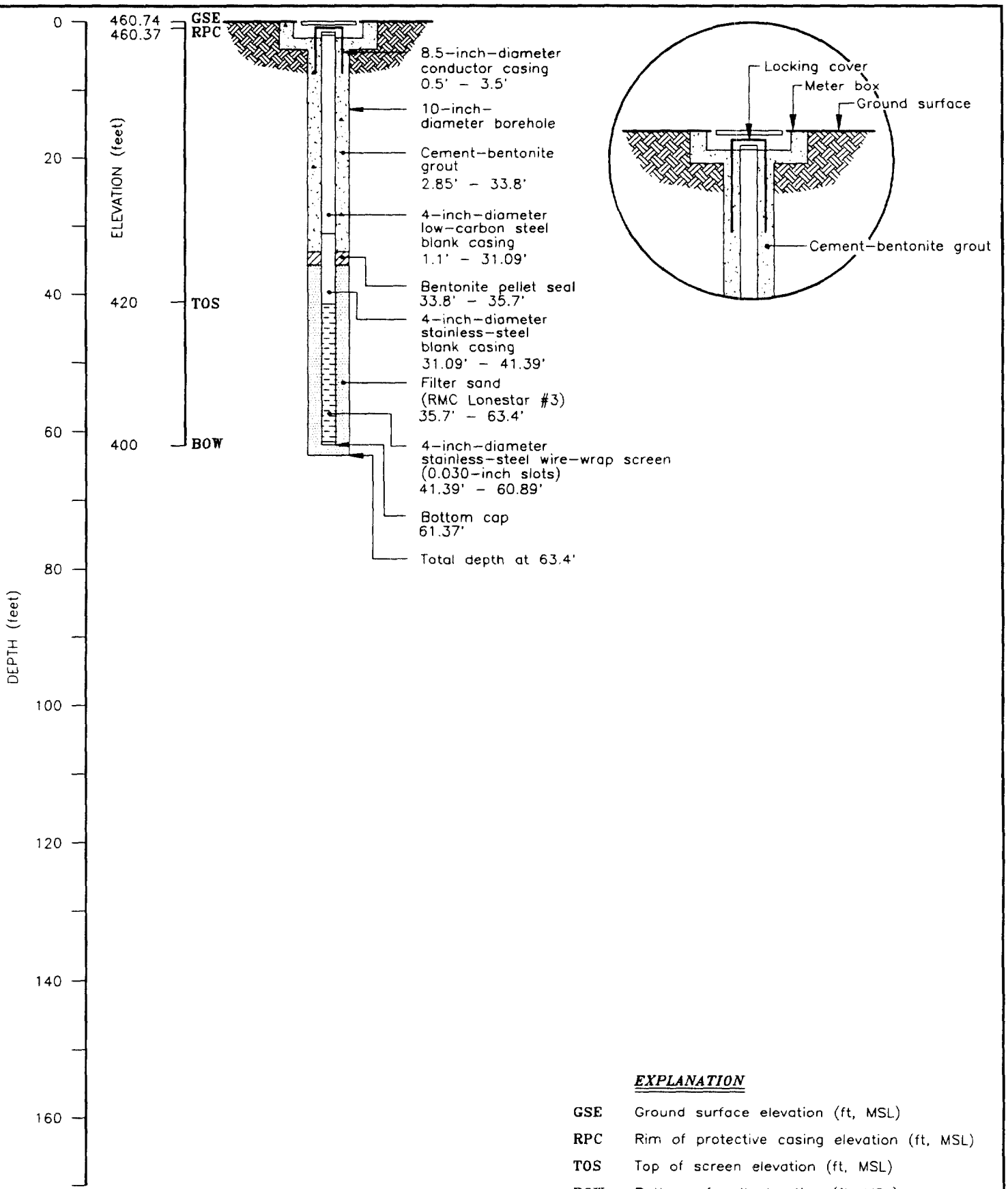

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL CS-VPB-5

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372,020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-5 CLIENT LADWP

DATE STARTED 8/17/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI

ELEVATION 461 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:42				ML SM	SANDY SILT/SILTY SAND (ML/SM) dark brown, medium dense, moist, micaceous fine-grained sand and silt, with gravel to 1 1/4-inch-diameter	
5	11:42		0.2				
10			0.0		SM	SILTY SAND (SM) brown, moist, very micaceous sand, with silt, no gravel	
15	11:54		0.0				
20	11:56 11:11	1	0.0				
					SW	SAND (SW) yellow-brown, moist, medium- to coarse-grained micaceous sand, rare fine gravel	
25	12:13		0.0		ML	CLAYEY SANDY SILT (ML) mottled dark brown and gray, moist.	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 61.37 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 63 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-5 (sheet 1 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-5 CLIENT LADWP
DATE STARTED 8/17/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI
ELEVATION 461 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						very firm, very micaceous sandy silt	
30	12:14 12:18		0.2				▽ Ground water encountered at 31 feet.
35	12:20		0.4		SW GW	GRAVELLY SAND/SANDY GRAVEL (SW-GW) brown, wet, coarse-grained sand and fine subrounded gravel, approximately 5-10% fine- to medium-grained sand, silt coating on gravel	
40	12:28	2	0.2		SW	SAND (SW) brown, wet, fine- to coarse-grained sand, trace of silt, some fine gravel, subrounded to rounded, interbedded dark gray silty clay layers	
45			0.0		GW	SAND GRAVEL (GW) brown, wet, fine to subrounded gravel to 3-inch-diameter, granitic, with silt coatings	
50	14:25 14:35		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 61.37 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 63 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-5 (sheet 2 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-5 CLIENT LADWP

DATE STARTED 8/17/89 COMPLETED 8/17/89 PROJECT San Fernando Valley RI

ELEVATION 461 feet AMSL GEOLOGIST G. Guacci, EZ

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	14:37						
	14:39						
60	14:45						
	14:47						Boring terminated at 63 feet Boring converted to monitoring Well CS-VPB-5 on 8/17/89. Ground water measured at 31.03 feet on 8/17/89.
65							
70							
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 61.37 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 63 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-5 (sheet 3 of 3) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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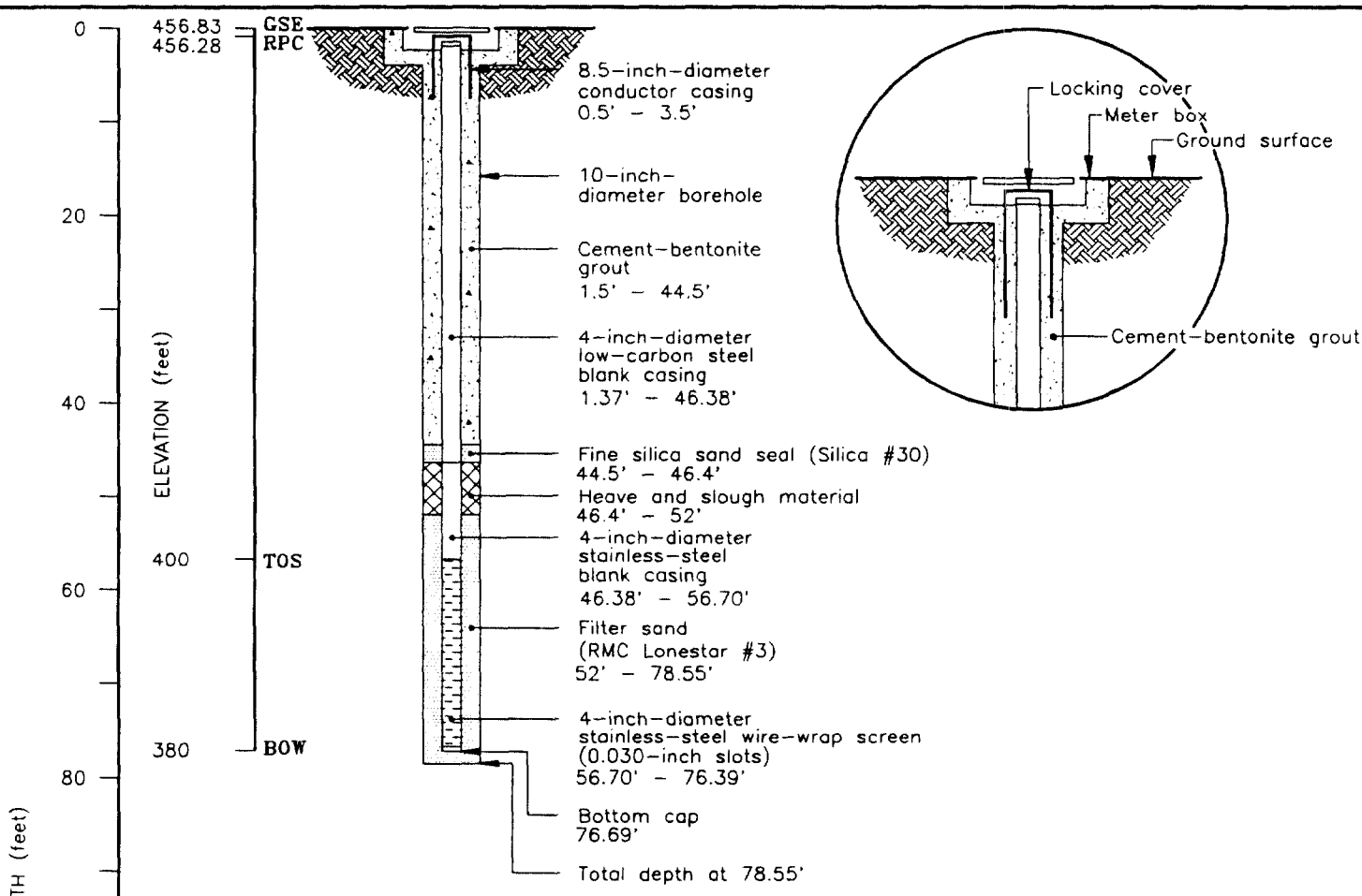

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-VPB-6
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-6
CLIENT LADWP
DATE STARTED 8/30/89 COMPLETED 8/30/89
PROJECT San Fernando Valley RI
ELEVATION 457 feet AMSL
GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:35		0.0		SP	SAND (SP) brown, dry, poorly sorted coarse grained, subangular sand	
5	11:37		0.0				
10	11:39 11:43		0.0		SP	SAND (SP) light brown, moist, poorly sorted, subangular coarse-grained sand, with coarse gravel	
15	11:44		0.0				
20	11:45	1			SP		
25	11:58		0.0				

METHOD OF DRILLING Dual Wall - Air Perc
WELL COMPLETION DEPTH 76.69 ft
HOLE DIAMETER 9-7/8"
WELL DIAMETER 4"
TOTAL DEPTH 78 ft
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-6 (sheet 1 of 4)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-6 CLIENT LADWP
DATE STARTED 8/30/89 COMPLETED 8/30/89 PROJECT San Fernando Valley RI
ELEVATION 457 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	12:00	2			SW	SAND (SW) brown, moist, well sorted, subrounded, micaceous, fine-grained sand	
35	12:17		0.0				∇ Ground water encountered at 37 feet.
40	12:18 13:57		0.0				
45	13:58		0.0		SC	CLAYEY SAND (SC) dark green to gray, saturated, soft, non plastic, micaceous clayey and silty fine-grained sand	
50	13:59 14:04		0.0		SW SC	SAND (SW-SC) dark brown, saturated, well sorted, subrounded fine-grained sand, trace of clay	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 76.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 78 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-6 (sheet 2 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-6
CLIENT LADWP
DATE STARTED 8/30/89 COMPLETED 8/30/89
PROJECT San Fernando Valley RI
ELEVATION 457 feet AMSL
GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	14:05		0.0				
60	14:07 14:11		0.0		SP	GRAVELLY SAND (SP) dark brown, saturated, poorly sorted, subrounded, coarse-grained sand and gravel, with trace of clay	
65	14:12		0.0				
70	14:13 14:17		0.0		GW	SANDY GRAVEL (GW) light brown, saturated, well sorted, subrounded gravel and coarse-grained sand	
75	14:18		0.0				
	19:19		0.0				Boring terminated at 78 feet.

METHOD OF DRILLING Dual Wall - Air Perc
WELL COMPLETION DEPTH 76.69 ft
HOLE DIAMETER 9-7/8"
WELL DIAMETER 4"
TOTAL DEPTH 78 ft
WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring CSVPB-6 (sheet 3 of 4)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-6 CLIENT LADWP
DATE STARTED 8/30/89 COMPLETED 8/30/89 PROJECT San Fernando Valley RI
ELEVATION 457 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80							Boring converted to monitoring Well CS-VPB-6 on 8/30/89. Ground water measured at 36.5 feet on 8/30/89
85							
90							
95							
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 76.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 78 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-6 (sheet 4 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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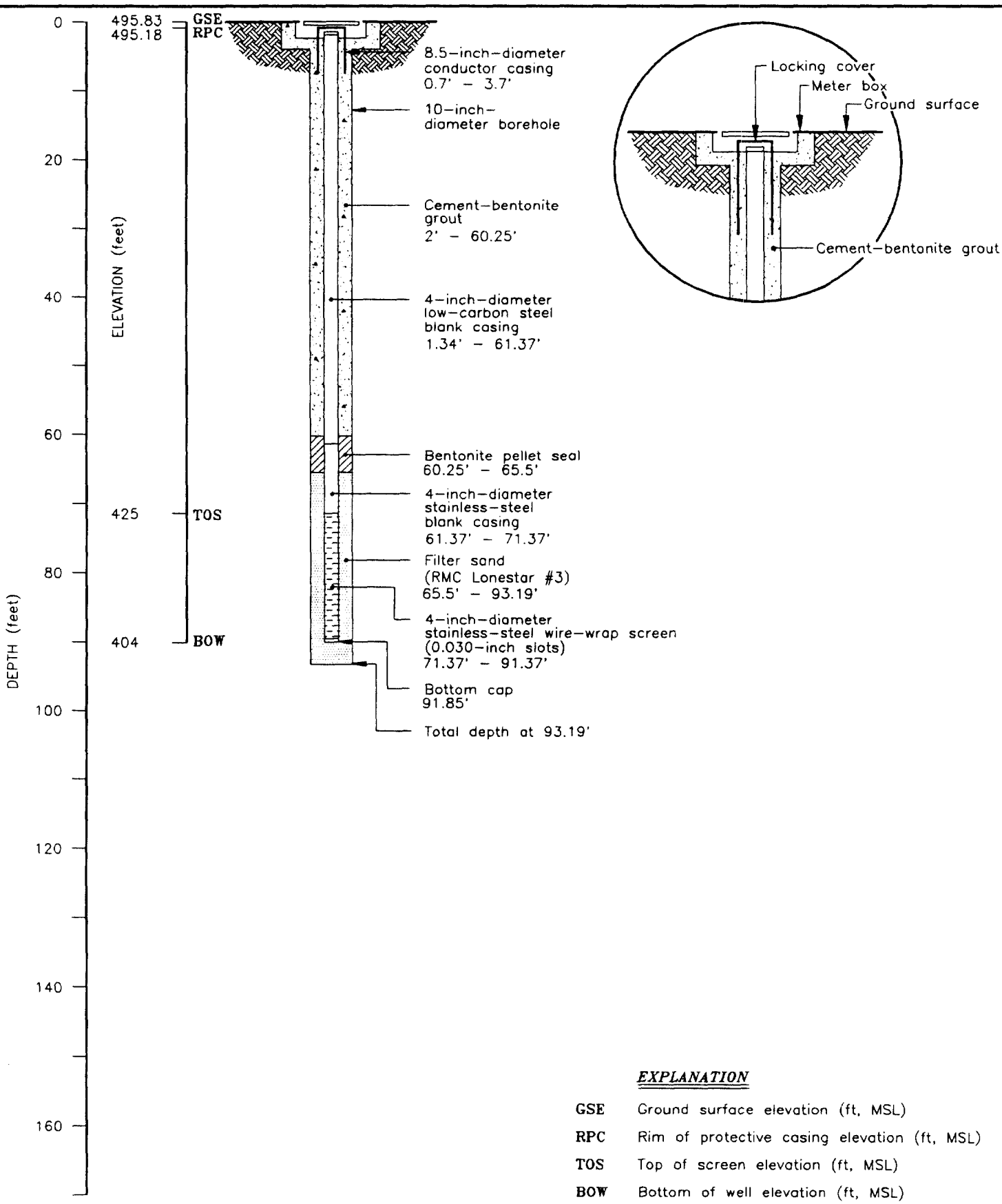

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-VPB-7

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-7
DATE STARTED 8/21/89 COMPLETED 8/22/89
ELEVATION 496 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SAND WITH SILT (SM) dark brown, moist, fine grained micaceous sand, with abundant silt and small cobbles up to approximately 2-inch-diameter	
5					SM		
10							
15							
20		1	1.0				
25					ML	SILT WITH SAND (ML) gray-brown, moist, micaceous silt with abundant fine grained subangular to subrounded sand, with minor clay	

METHOD OF DRILLING Dual Wall - Air Perc
HOLE DIAMETER 9-7/8"
TOTAL DEPTH 93 ft
WELL COMPLETION DEPTH 91.85 ft
WELL DIAMETER 4"
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-7 (sheet 1 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
601 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-7 CLIENT LADWP
DATE STARTED 8/21/89 COMPLETED 8/22/89 PROJECT San Fernando Valley RI
ELEVATION 496 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30							
35					SC	SAND WITH CLAY (SC) gray-brown, moist, angular to subangular, fine- to coarse-grained sand, with clay	
40		2	9.0		CL	CLAY WITH SAND (CL) brown, moist, fine- to coarse-grained, angular to subangular sand, much of sample in the form of medium to large clay balls 1- to 2-inch-diameter, medium plasticity	
45							
50		3	4.0		CL SC	CLAY WITH SAND (CL-SC) gray-brown, moist, fine to medium grained, angular to subangular sand and minor coarse-grained sand and clay balls 1- to 2-inch-diameter, medium plasticity	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 91.85 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-7 (sheet 2 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-7 CLIENT LADWP
DATE STARTED 8/21/89 COMPLETED 8/22/89 PROJECT San Fernando Valley RI
ELEVATION 496 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					SC	SAND WITH CLAY (SC) dark gray, moist, fine- to medium-grained, subangular to subrounded sand, with abundant fines, low plasticity	
60							
65					CL	SAND WITH CLAY (SC) dark olive, moist, fine subangular to subrounded sand, with abundant clay and medium- and coarse-grained sand, small (<.5") clay balls, low plasticity	▽ Ground water encountered at 65 feet.
70							
75					SM	SILTY SAND (SM) brown, saturated, well sorted sand with silt, predominantly fine-grained sand with some medium- and coarse-grained sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 91.85 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-7 (sheet 3 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-7
DATE STARTED 8/21/89 COMPLETED 8/22/89
ELEVATION 496 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80							
85					SW	SAND (SW) light yellow to gray-brown, saturated, poorly sorted, subangular to subrounded, medium- to coarse-grained micaceous sand, 50-60% medium-grained sand, approximately 20% coarse-grained sand with fine gravel <12%	
90					SW	SAND (SW) light gray-brown, saturated, poorly sorted, fine- to coarse-grained, subangular to subrounded sand, with silt and gravel	
95							Boring terminated at 93 feet. Boring converted to monitoring well CS-VPB-7 on 8/22/89. Ground water measured at 58.15 feet on 8/22/89.
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc
HOLE DIAMETER 9-7/8"
TOTAL DEPTH 93 ft

WELL COMPLETION DEPTH 91.85 ft
WELL DIAMETER 4"
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-7 (sheet 4 of 4)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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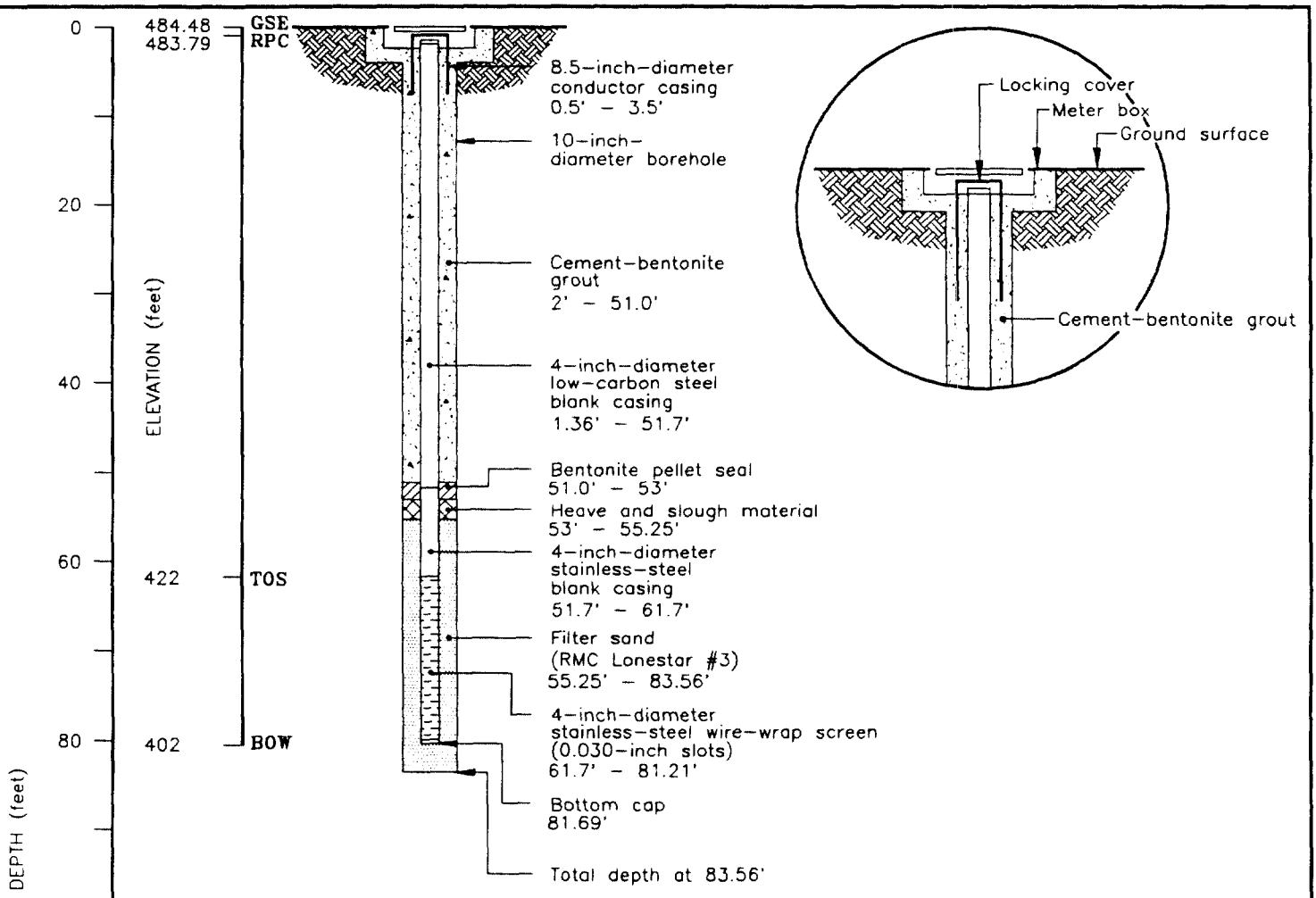

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-VPB-8
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-8 CLIENT LADWP
DATE STARTED 8/23/89 COMPLETED 8/23/89 PROJECT San Fernando Valley RI
ELEVATION 484 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SAND (SP-SM) brown, moist, fine, angular to subangular sand with silt and trace of medium- and coarse-grained sand	
5					SP SM		
10							
15					SW	SAND (SW) light gray, dry, angular to subangular, fine- to medium-grained sand, with trace of coarse-grained sand	
20		1					
25					SM	SAND WITH SILT (SM) dark olive-green, moist, fine-grained sand, with silt and clay	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-8 (sheet 1 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2260

BORING/WELL NUMBER CSVPB-8 CLIENT LADWP
DATE STARTED 8/23/89 COMPLETED 8/23/89 PROJECT San Fernando Valley RI
ELEVATION 484 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30					SM	SAND WITH SILT AND CLAY (SM) olive-green, moist, fine-grained sand, with silt, interbedded with dark gray clay with fine-grained sand, clay in the form of balls, clay has medium to high plasticity	
35					SP	SAND (SP) dark gray, moist, subangular to subrounded fine-grained sand, with silt and trace of coarse-grained sand, fine gravel	
40					SW	SAND (SW) gray, moist, subangular to rounded, fine- to coarse-grained sand, with some subrounded to rounded fine gravel, interbeds of small lenses of clay, clay balls contain fine- and coarse-grained sand	
45					GW	GRAVEL (GW) gray, moist, subangular to well rounded fine- to coarse-grained sand, with some well graded, subangular to well rounded, medium- to coarse-grained sand, clay balls contain 30-70% sand, clay or silt coatings	∇ Ground water encountered at 49 feet.
50							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-8 (sheet 2 of 4)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-8 CLIENT LADWP
DATE STARTED 8/23/89 COMPLETED 8/23/89 PROJECT San Fernando Valley RI
ELEVATION 484 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					SP	SAND (SP) yellow-brown, wet, subangular to subrounded, predominantly medium-grained sand, with some coarse-grained sand and fine gravel, gravels are generally subrounded to well rounded	
60							
65					GW	GRAVEL (GW) brown, wet, subangular to rounded, well graded fine to coarse gravel, with some well graded fine- to coarse-grained sand and little fines	
70					SP	SAND WITH GRAVEL (SP) light gray, wet, subangular to subrounded, medium-grained sand with little fine-grained sand and fine to medium subangular to rounded gravel	
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-8 (sheet 3 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-8 CLIENT LADWP
DATE STARTED 8/23/89 COMPLETED 8/23/89 PROJECT San Fernando Valley RI
ELEVATION 484 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80					GW	GRAVEL WITH SAND (GW) dark gray, wet, subrounded to rounded, well graded fine to coarse gravel with some medium- to coarse-grained sand	
85							Boring terminated at 83.5 feet. Boring converted to monitoring Well CS-VPB-8 on 8/23/89. Ground water measured at 49.16 feet on 8/23/89.
90							
95							
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 81.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 84 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-8 (sheet 4 of 4)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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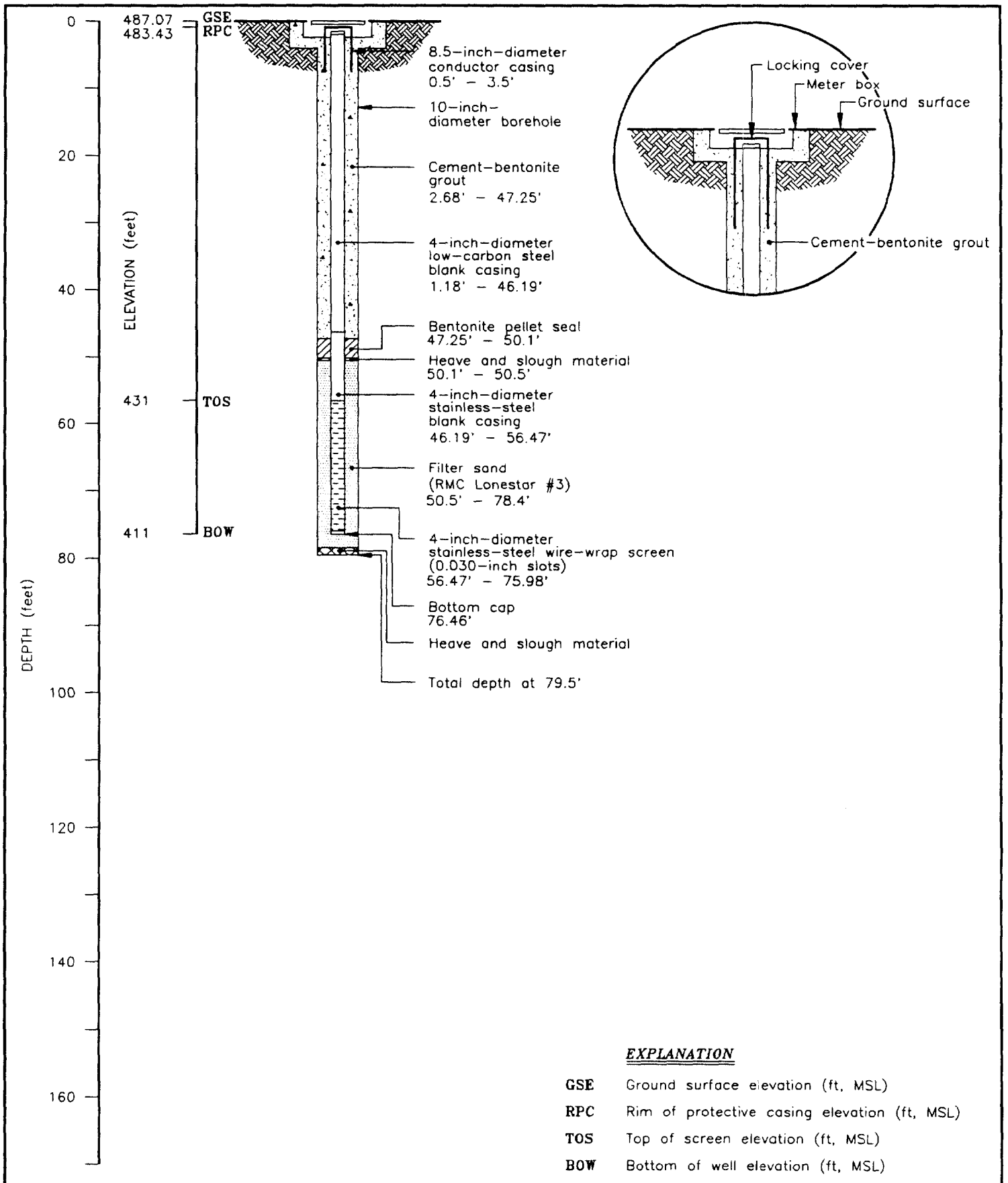

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

MONITORING WELL
CS-VPB-9
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372 020 11		1/90	JMM	7/92

JAMES M. MONTGOMERY
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB-9 CLIENT LADWP

DATE STARTED 8/17/89 COMPLETED 8/18/89 PROJECT San Fernando Valley RI

ELEVATION 487 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					ML	SILT (ML) brown, mottling, hard, dry, with some fine-grained sand	
5							
10						SILT WITH SAND (ML) brown, dry, with some fine- to coarse-grained sand	
15						increasing sand content	
20						moist	
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 76.46 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 80 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB-9 (sheet 1 of 4)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-9 CLIENT LADWP
DATE STARTED 8/17/89 COMPLETED 8/18/89 PROJECT San Fernando Valley RI
ELEVATION 487 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30		1			ML	SILT WITH SAND (ML) dark brown, slightly moist, silt with fine to coarse grained, angular to subangular sand and some clay	
35					SM	SAND WITH SILT (SM) brown, moist, fine to coarse grained, angular to subrounded sand, with silt and clay, trace of fine gravel	
40							
45							
50			~.0		ML	SILT WITH SAND (ML) brown, moist, silt with fine-grained sand, some medium- and coarse-grained sand, trace of clay	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 76.46 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 80 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-9 (sheet 2 of 4)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-9 CLIENT LADWP

DATE STARTED 8/17/89 COMPLETED 8/18/89 PROJECT San Fernando Valley RI

ELEVATION 487 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55							
60							
65					SW	SAND (SW) gray-brown, moist, fine to coarse grained, subangular to subrounded poorly sorted sand, with fine gravel and trace of fines (silt and clay)	
70							
75					SP	SAND (SP) yellow-brown, wet, angular to subrounded, medium-grained sand, with coarse-grained sand and trace of fine gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 76.46 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 80 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-9 (sheet 3 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB-9 CLIENT LADWP

DATE STARTED 8/17/89 COMPLETED 8/18/89 PROJECT San Fernando Valley RI

ELEVATION 487 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80							Boring terminated at 79.5 feet. Boring converted to monitoring Well CS-VPB-9 on 8/18/89. Ground water measured at 44.86 feet on 8/18/89.
85							
90							
95							
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 76.46 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 80 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB-9 (sheet 4 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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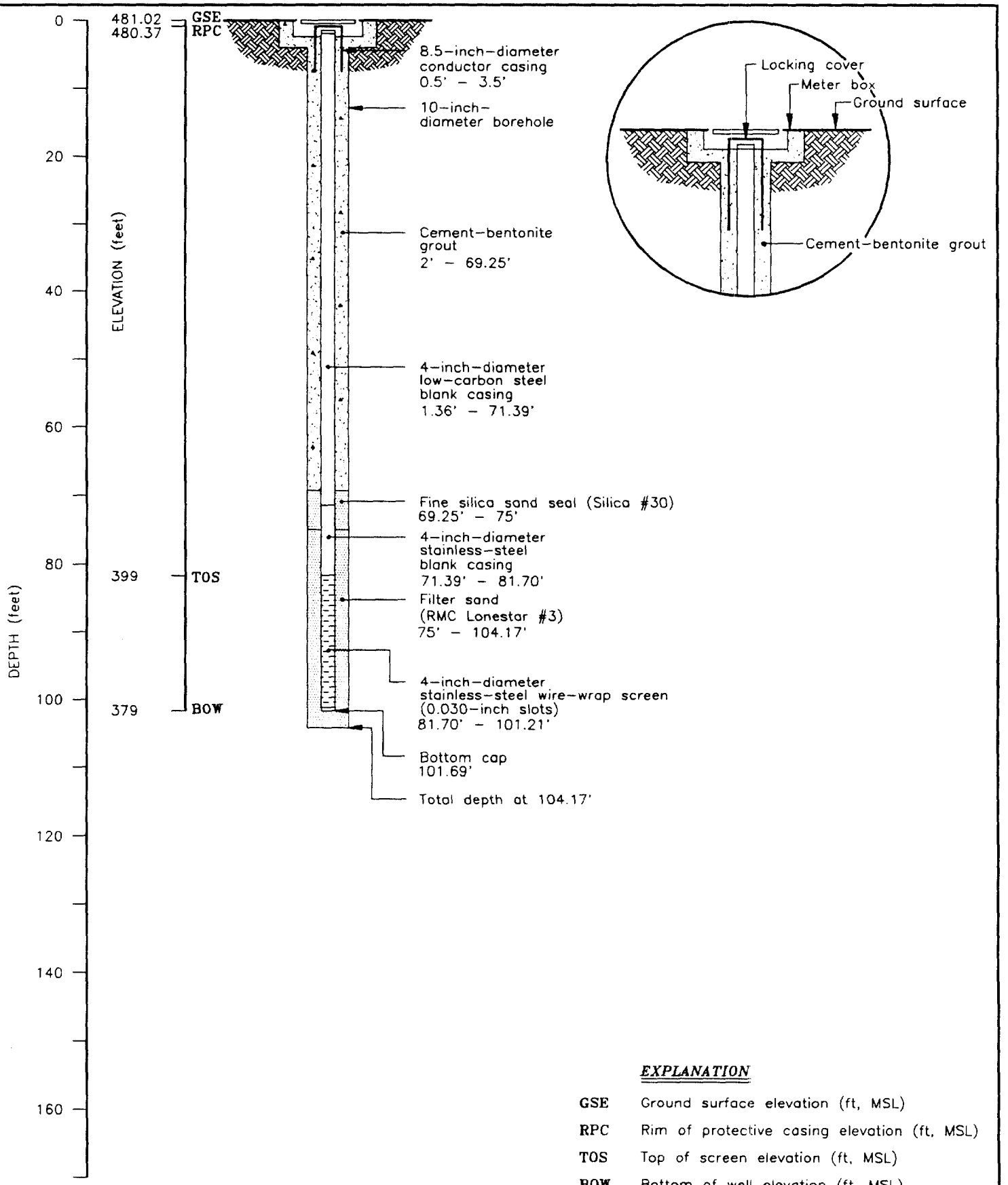

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

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MONITORING WELL
CS-VPB-10
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372 020 11		1/90	MM	7/92

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BORING/WELL NUMBER CSVPB10 CLIENT LADWP
DATE STARTED 8/24/89 COMPLETED 8/24/89 PROJECT San Fernando Valley RI
ELEVATION 481 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					SW	SAND (SW) tan, moist, angular to subangular, fine- to medium-grained sand	
5							
10					SW	SAND (SW) brown, moist, angular to subrounded well graded, fine- to medium-grained sand, with little coarse-grained sand and trace of fine gravel	
15						increase in fine gravel	
20		1					
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 101.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 104 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB10 (sheet 1 of 5) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB10 CLIENT LADWP
DATE STARTED 8/24/89 COMPLETED 8/24/89 PROJECT San Fernando Valley RI
ELEVATION 481 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30					GW	GRAVEL WITH SAND (GW) dark brown, moist, fine to coarse grained, subrounded to rounded, well graded gravel with abundant fine to coarse grained, subangular to subrounded sand	
35					SM	SAND WITH SILT (SM) dark brown, moist, well graded, angular to subrounded, fine- to medium-grained sand, with some silt and trace of fine grained gravel	
						increase in gravel content	
40		2					
						cobble sized gravel encountered	
45					SP	SAND (SP) tan, moist, angular to subangular, fine-grained sand and trace of fine gravel	
50		3				some silt and some coarse gravel, cobbles	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 101.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 104 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB10 (sheet 2 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB10 CLIENT LADWP

DATE STARTED 8/24/89 COMPLETED 8/24/89 PROJECT San Fernando Valley RI

ELEVATION 481 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55							
60							∇ Ground water encountered at 63 to 64 feet.
65					SM	SAND WITH SILT (SM) gray-brown, saturated, angular to subangular, fine-grained sand, with some silt	
70		4					
75						coarse-grained sand with fine to medium gravel, clay balls also present	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 101.69 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 104 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB10 (sheet 3 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB10 CLIENT LADWP
DATE STARTED 8/24/89 COMPLETED 8/24/89 PROJECT San Fernando Valley RI
ELEVATION 481 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80							
85					SM	SAND WITH SILT AND CLAY (SM) gray-brown, saturated, subangular to subrounded fine to medium-grained sand, with abundant clay and silt	
90							
95					SM	SAND WITH SILT (SM) gray-brown, saturated, angular to subrounded, fine- to coarse-grained sand, with silt and trace of fine gravel	
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 101.69 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 104 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB10 (sheet 4 of 5) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB10 CLIENT LADWP

DATE STARTED 8/24/89 COMPLETED 8/24/89 PROJECT San Fernando Valley RI

ELEVATION 481 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							Boring terminated at 104.0 feet. Boring converted to monitoring Well CS-VPB-10 on 8/24/89. Ground water measured at 64.52 feet on 8/24/89.
110							
115							
120							
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 101.69 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 104 ft WELL MATERIAL 304-SS & Low Carbon

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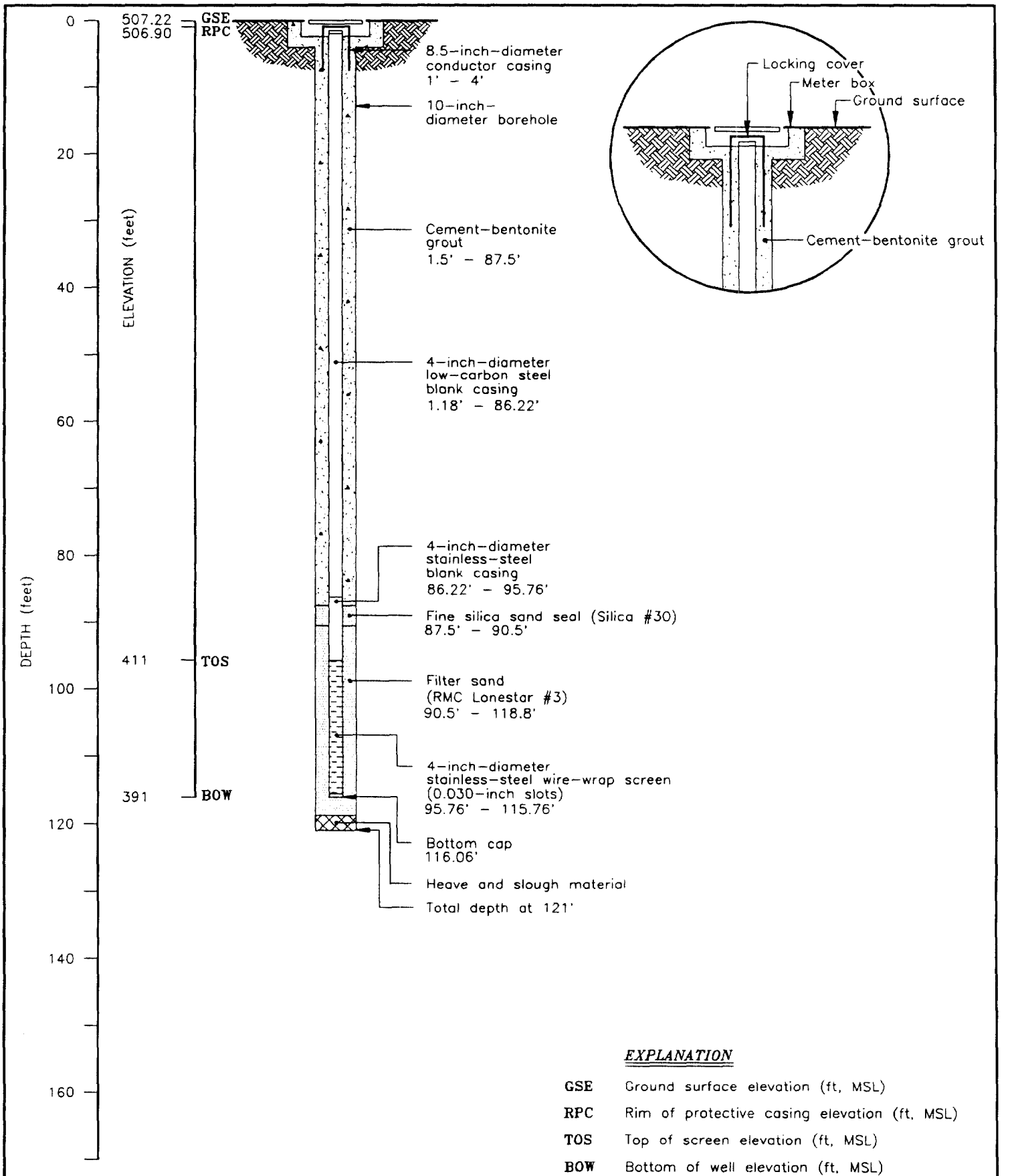
Log of Boring CSVPB10 (sheet 5 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		



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MONITORING WELL
CS-VPB-11
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		5/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB11 CLIENT LADWP

DATE STARTED 8/25/89 COMPLETED 8/25/89 PROJECT San Fernando Valley RI

ELEVATION 507 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SAND (SW) tan, dry, angular to subangular, fine- to coarse-grained sand, with some fine gravel	
5					SW		
10						slightly moist	
15					SM	SAND WITH SILT (SM) brown, moist, fine-grained sand, with some silt and little fine to medium grained, angular to subangular gravel	
20							
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.06 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 121 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB11 (sheet 1 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER CSVPB11 CLIENT LADWP
DATE STARTED 8/25/89 COMPLETED 8/25/89 PROJECT San Fernando Valley RI
ELEVATION 507 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30		1				increase in gravel content	
35						increase in fine content	
40					SW	SAND (SP) tan, moist, angular to subangular, fine-grained sand and angular to subrounded fine gravel	
45							
50		2			SM	SAND WITH SILT (SM) dark brown, moist, angular to rounded, fine- to coarse-grained sand, with little fine gravel and clay balls	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.06 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 121 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring CSVPB11 (sheet 2 of 5) PLATE
San Fernando Valley RI
San Fernando, California

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB11 CLIENT LADWP
DATE STARTED 8/25/89 COMPLETED 8/25/89 PROJECT San Fernando Valley RI
ELEVATION 507 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55							
60							
65					SM	SAND WITH SILT (SM) olive-tan, angular to subrounded, fine-grained sand, with some silt	
70		3			SW	SAND (SW) tan, moist, angular to subrounded, fine- to coarse-grained sand, with little silt and subangular to rounded gravel	
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.06 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 121 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB11 (sheet 3 of 5) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CSVPB11 CLIENT LADWP

DATE STARTED 8/25/89 COMPLETED 8/25/89 PROJECT San Fernando Valley RI

ELEVATION 507 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80						wet	
							∇ Ground water encountered at 82 feet.
85							
90		4			SM	SAND WITH SILT AND CLAY (SM) dark olive-green, wet, angular to subrounded, fine-grained sand, with abundant fines	
95						increase in gravel content	
100							Hydropunch sample taken.
105						SAND (SW) tan, wet, angular to subrounded sand.	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.06 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 121 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB11 (sheet 4 of 5) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
601 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER CSVPB11 CLIENT LADWP
DATE STARTED 8/25/89 COMPLETED 8/25/89 PROJECT San Fernando Valley RI
ELEVATION 507 feet AMSL GEOLOGIST G. Kupillas, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW	with very little fine to medium gravel	
110					SM	SAND WITH SILT (SM) gray-brown, wet, angular to subrounded, fine- to medium-grained sand and abundant silt	
115							
120							Boring terminated at 121 feet. Boring converted to monitoring Well CS-VPB-11 on 8/25/89. Ground water measured at 81.37 feet on 8/31/89.
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.06 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 121 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring CSVPB11 (sheet 5 of 5)

PLATE

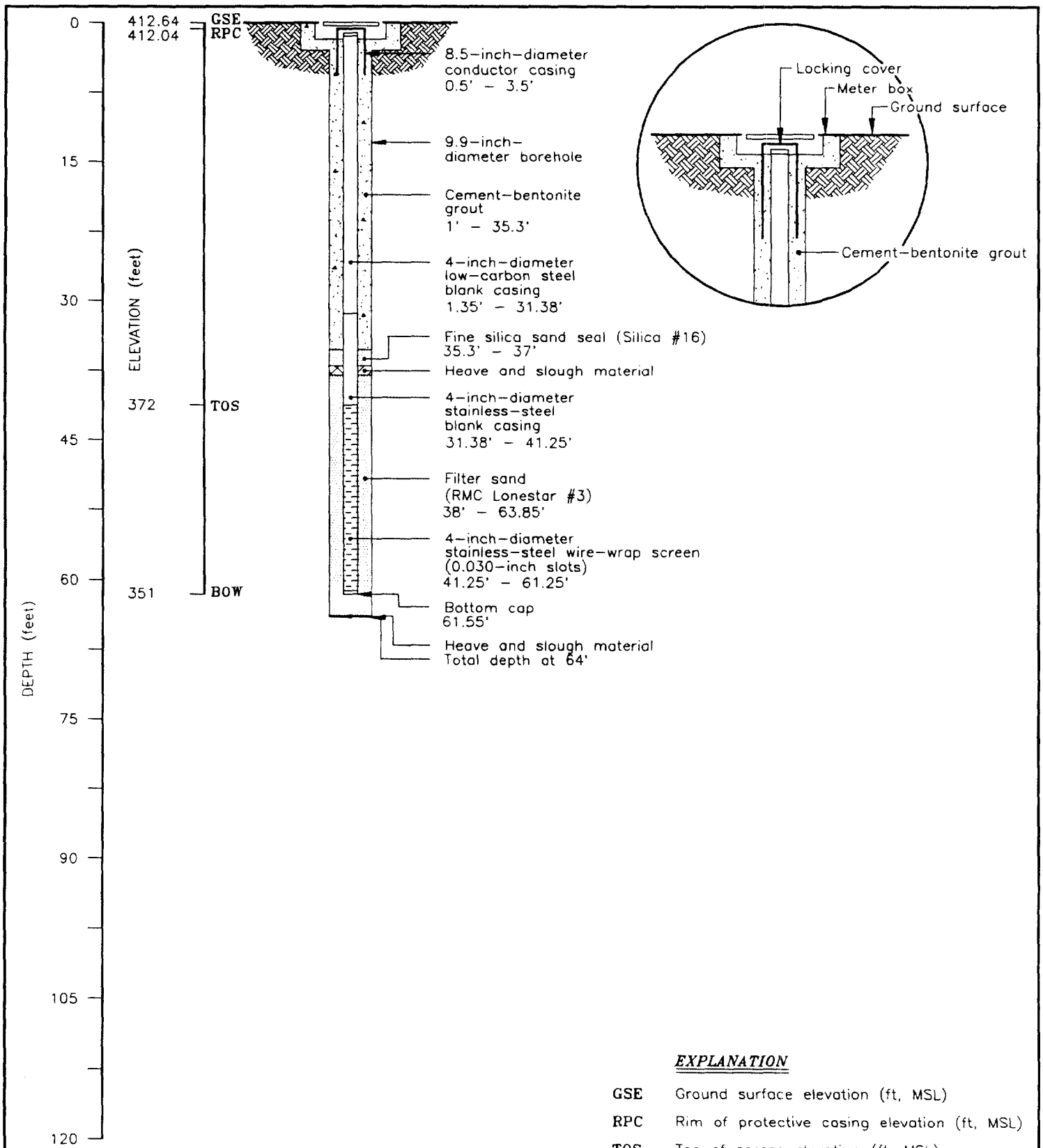
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

APPENDIX C: BORING LOGS

APPENDIX C.3 POLLOCK VPBS

20\9372020\P01



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
PO-VPB-1

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-1 CLIENT LADWP

DATE STARTED 10/25/89 COMPLETED 10/25/89 PROJECT San Fernando Valley RI

ELEVATION 413.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	9:23					SILT (ML) dark brown, moist, nonplastic, micaceous, with roots and fine-grained sand	* No PID available on site.
5					ML		
						increase in gravel content	
10	9:26						
						increase in sand content	
15							
						decrease in sand content, increase in clay content, low plasticity	
20	9:29 9:38	1					
					SP	SAND (SP) light gray-brown, subangular, coarse- to medium-grained sand, with gravel	
25	9:41						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 64.55 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 65 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-1 (sheet 1 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

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CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-1 CLIENT LADWP
DATE STARTED 10/25/89 COMPLETED 10/25/89 PROJECT San Fernando Valley RI
ELEVATION 413.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
							∇ Ground water encountered at 28 feet.
30	9:44 10:02	2			SP		
						increase in gravel content	
35						decrease in gravel content, with clay	
40	10:58						Hydropunch sample taken.
						increase in gravel content	
45							
50	11:00 11:04				SP		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 64.55 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 65 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-1 (sheet 2 of 3)

San Fernando Valley RI
San Fernando, California

PLATE

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BORING/WELL NUMBER POVPB-1 CLIENT LADWP

DATE STARTED 10/25/89 COMPLETED 10/25/89 PROJECT San Fernando Valley RI

ELEVATION 413.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55						decrease in gravel content	
60	11:06 11:10						
65							Borehole terminated at 65 feet on 10/25/89. Boring converted to monitoring Well PO-VPB-1 on 10/25/89. Ground water measured at 28 feet on 10/25/89.
70							
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 64.55 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 65 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-1 (sheet 3 of 3)

San Fernando Valley RI
San Fernando, California

PLATE

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HK	9372,020.11		1/90		

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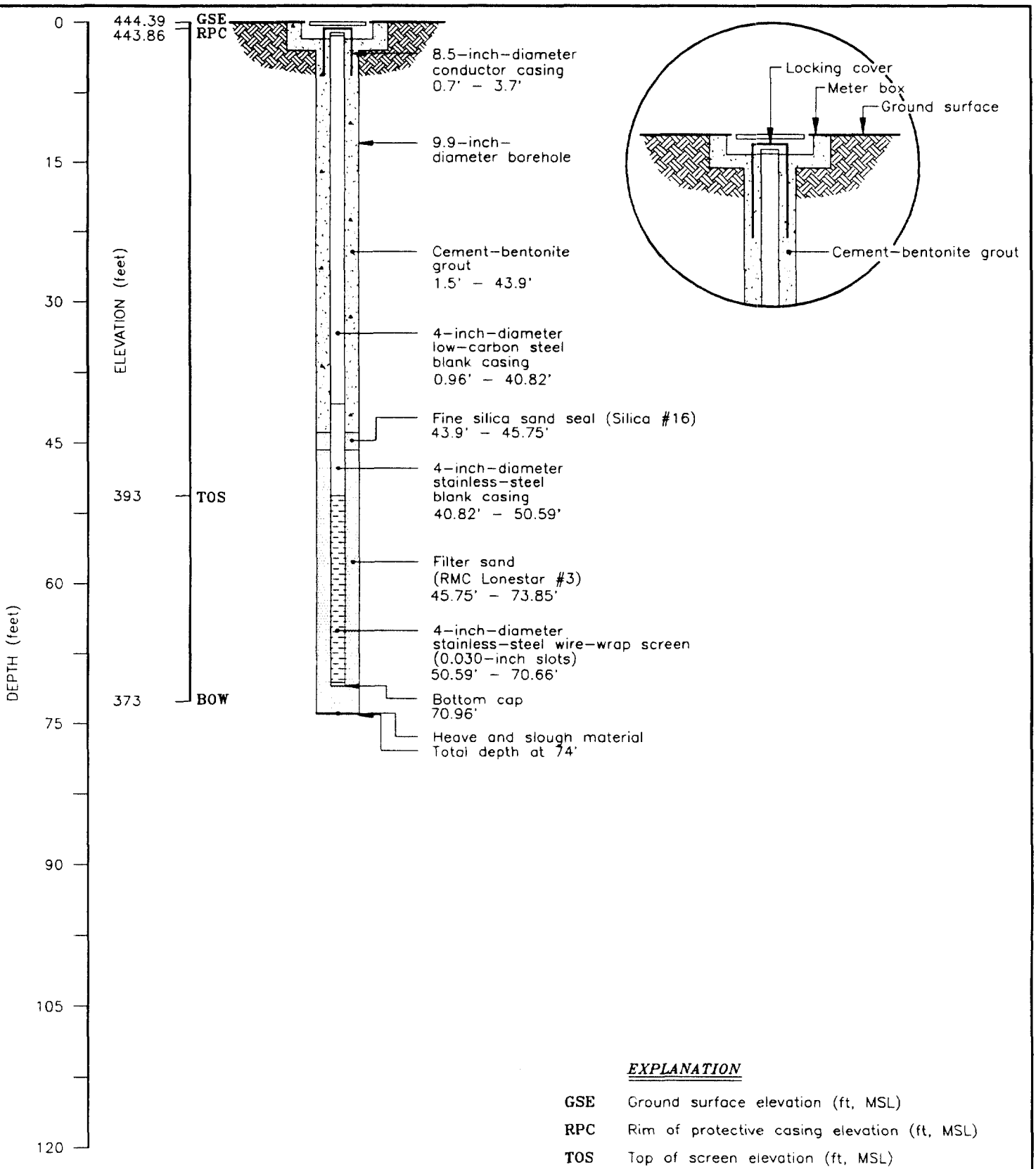

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

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MONITORING WELL
PO-VPB-2

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-2 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 444.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						1" CONCRETE SILTY SAND (SM) dark brown, moist, fine to medium grained, micaceous sand with silt	
5	9:50		1.4		SM		
10	9:52 9:56		0.8			brown, fine-grained sand	
15			0.2		SM	SILTY SAND (SM) medium brown, slightly moist, fine- to medium-grained sand with silt, poorly sorted	
20	9:58 10:15	1	0.0			some gravel up to 1-inch diameter	
25					SP	SAND (SP) brown, moist, fine to medium grained, micaceous sand with minor gravel and silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 70.98 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 74 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring POVPB-2 (sheet 1 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-2 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 444.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	10:18 10:40	2	0.0		SP	increase in gravel content	
35	10:44		1.0			increase in gravel content	
40	10:48 11:08	3	0.4				∇ Ground water encountered at 40 feet.
45			0.0				
50	11:12 11:16				SM	SILTY SAND (SM) brown, saturated, fine-grained sand and silt, with gravel SAND (SP) brown, saturated, coarse-grained sand.	Hydropunch sample taken.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 70.98 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 74 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-2 (sheet 2 of 3)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-2 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 444.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						with silt and gravel	
55	11:18						
					SP	SAND (SP) light brown, saturated, coarse-grained sand, with gravel up to 3-inch diameter	
60	11:20 13:18						
65							
70	13:24 13:27					increase in gravel content, gravels are granitic diorite composition decrease in gravel content	
75							Boring terminated at 74 feet on 10/26/89. Boring converted to monitoring Well PO-VPB-2 on 10/26/89. Ground water measured at 41 feet on 10/26/89.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 70.98 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 74 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-2 (sheet 3 of 3)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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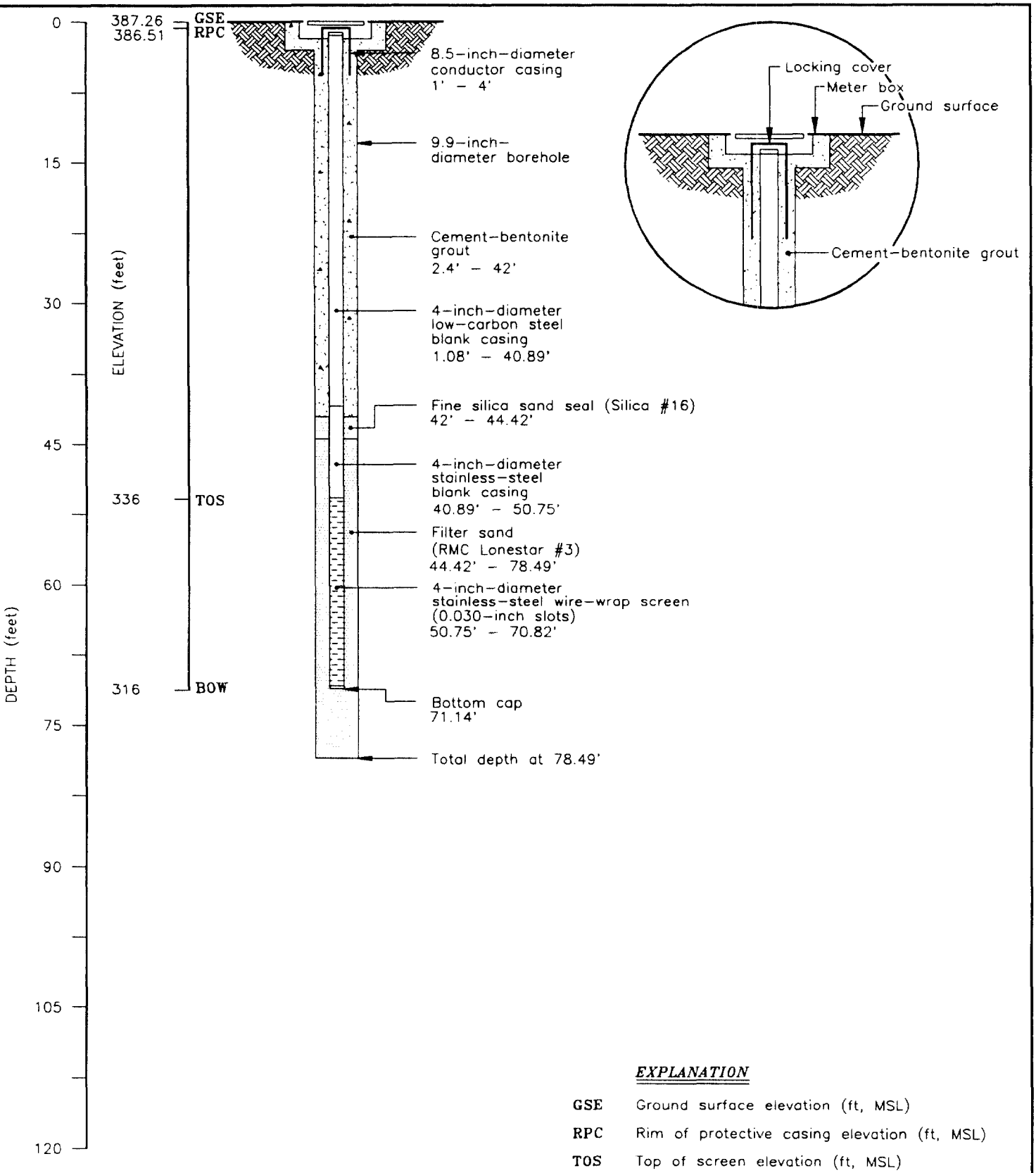

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

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MONITORING WELL
PO-VPB-3

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-3 CLIENT LADWP

DATE STARTED 11/6/89 COMPLETED 11/6/89 PROJECT San Fernando Valley RI

ELEVATION 387.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:02					SILTY SAND (SM) brown, dry, angular to subangular, fine- to medium-grained micaceous sand	
5			0.0		SM		
10	11:04 11:11		0.0			thin clay lenses encountered	
15			0.0			SILTY SAND (SM) brown, slightly moist, poorly sorted, angular to subangular very fine-grained sand, with silt	
20	11:13 11:26	1					
25			0.0			decrease in silt content	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 71.14 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 78 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-3 (sheet 1 of 4)

San Fernando Valley RI
San Fernando, California

PLATE

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BORING/WELL NUMBER POVPB-3 CLIENT LADWP

DATE STARTED 11/6/89 COMPLETED 11/6/89 PROJECT San Fernando Valley RI

ELEVATION 387.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	11:28 11:44	2	0.0				
						SAND (SP) light brown, moist, subrounded, medium- to fine-grained sand, with silt and gravel	
35			0.1		SP		
40	11:40 12:14	3				light gray-brown	▽ Ground water encountered at 41 feet.
			0.0			saturated	
45						decrease in fine content	
50	12:18						Hydropunch sample taken.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 71.14 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 78 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-3 (sheet 2 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER POVPB-3 CLIENT LADWP

DATE STARTED 11/6/89 COMPLETED 11/6/89 PROJECT San Fernando Valley RI

ELEVATION 387.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					SP		
60	12:30 13:33					increase in gravel content (cobble size)	
65						increase in silt content	
70	13:35 14:06					decrease in silt content	
75					SP		
	14:16						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 71.14 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 78 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-3 (sheet 3 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-3 CLIENT LADWP

DATE STARTED 11/6/89 COMPLETED 11/6/89 PROJECT San Fernando Valley RI

ELEVATION 387.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80							Borehole terminated at 78.5 feet on 11/6/89. Boring converted to monitoring Well PO-VPB-3 on 11/6/89. Ground water measured at 41.15 feet on 11/6/89.
85							
90							
95							
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 71.14 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 78 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-3 (sheet 4 of 4)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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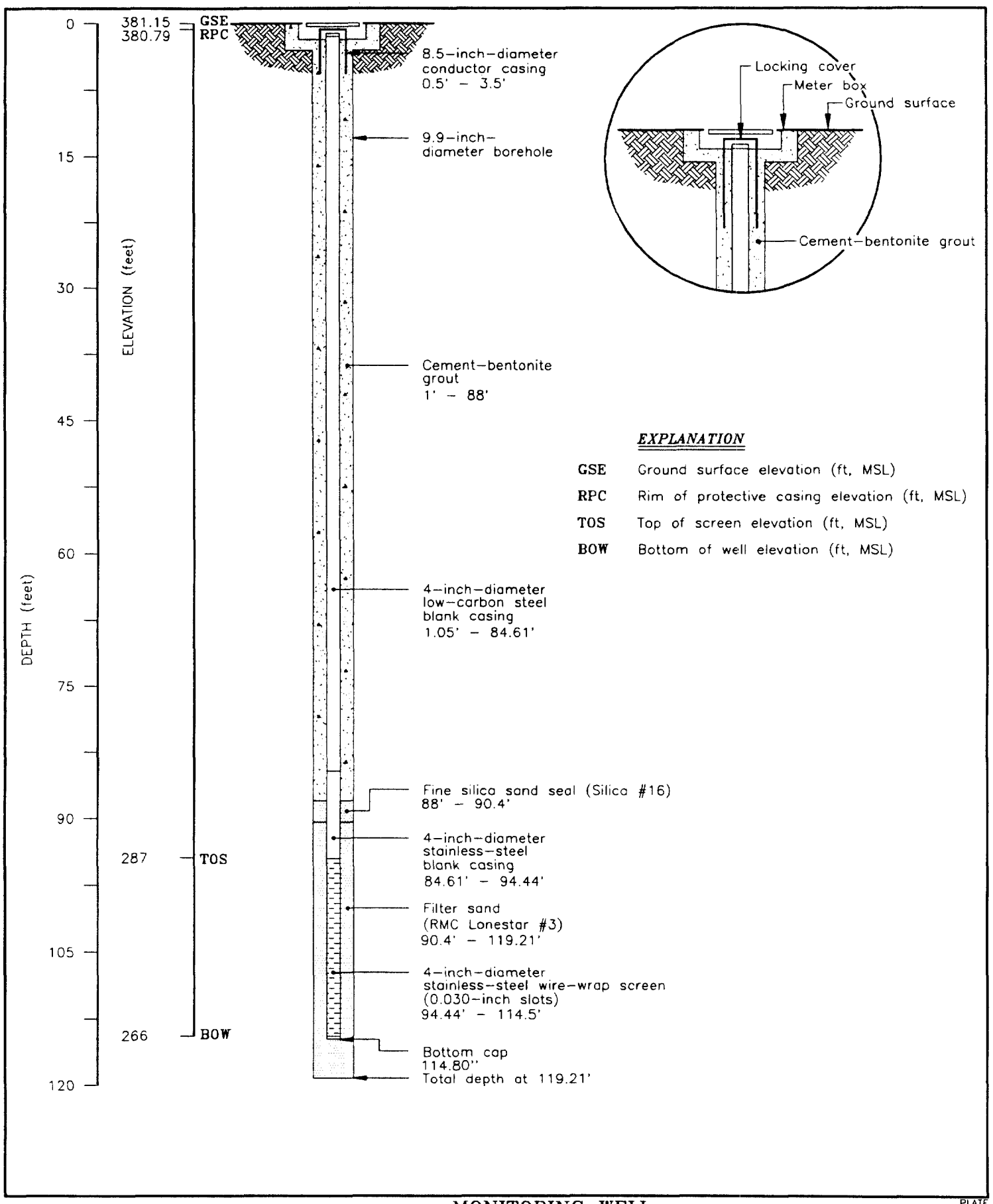

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MONITORING WELL PO-VPB-4

San Fernando Valley RI
Los Angeles County, California

PLATE

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JTL	9372,020.11		1/90	JMM	7/92

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CONSULTING ENGINEERS, INC.

581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-4 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 381.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SILTY SAND (SM) dark brown, moist, low plasticity, fine-grained sand, with clay	
					SM		
5	11:14		0.0				
10	11:16 11:19		0.0				
15						brown, fine to medium grained	
20	11:26 11:29						
25	11:34 11:35					increase in clay content	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 114.80 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 119 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-4 (sheet 1 of 5)

San Fernando Valley RI
San Fernando, California

PLATE

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HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2260

BORING/WELL NUMBER POVPB-4 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 381.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	11:38 11:55	1			SM		
35	11:58 12:00 12:02						
40	12:05 12:08					increase in medium-grained sand content	
45	12:13 12:26					SILTSTONE AND GRAVELLY SANDSTONE (BEDROCK) light brown, thinly laminated siltstone, with interbedded gravelly fine- to medium-grained sandstone, material slightly well indurated	Possible alluvium-bedrock contact at 45 feet.
50	12:20 12:50						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 114.80 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 119 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-4 (sheet 2 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-4 CLIENT LADWP
DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI
ELEVATION 381.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55							
60	12:50 13:04					increase in gravel content	
						CLAYSTONE (BEDROCK) light brown, wet, weak, friable, with thinly laminated siltstone and gravel lenses, slightly indurated	
65							
70	13:14 13:32						
						SILTY SANDSTONE (BEDROCK) light brown, moist, weakly cemented, fine grained, with gravel, very slightly indurated	
75	13:42 14:08	3					
						SILTSTONE (BEDROCK) light brown, moist, weakly cemented, poorly consolidated, friable, with	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 114.80 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 119 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-4 (sheet 3 of 5) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-4 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 381.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						fine-grained sand and gravel	
80	14:15		0.0				
85						increase in fine-grained sand content	
							⊽ Ground water encountered at 89 feet.
90	14:30 14:54	4				saturated	
95						lenses of dark gray siltstone	
100	15:08 16:54		0.0				Hydropunch sample taken.
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 114.80 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 119 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-4 (sheet 4 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-4 CLIENT LADWP

DATE STARTED 10/26/89 COMPLETED 10/26/89 PROJECT San Fernando Valley RI

ELEVATION 381.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	17:02 17:03					light gray silt and clay	
110	17:12 17:20					SILTY SANDSTONE (BEDROCK) light gray, saturated, composed of well sorted, fine-grained sand and silt, poorly cemented, friable	
115	17:29 17:31						
120	17:37						Borehole terminated at 119 feet on 10/26/89. Boring converted to monitoring Well PO-VPB-4 on 10/26/89. Ground water measured at 66.64 feet on 10/26/89.
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 114.80 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 119 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB-4 (sheet 5 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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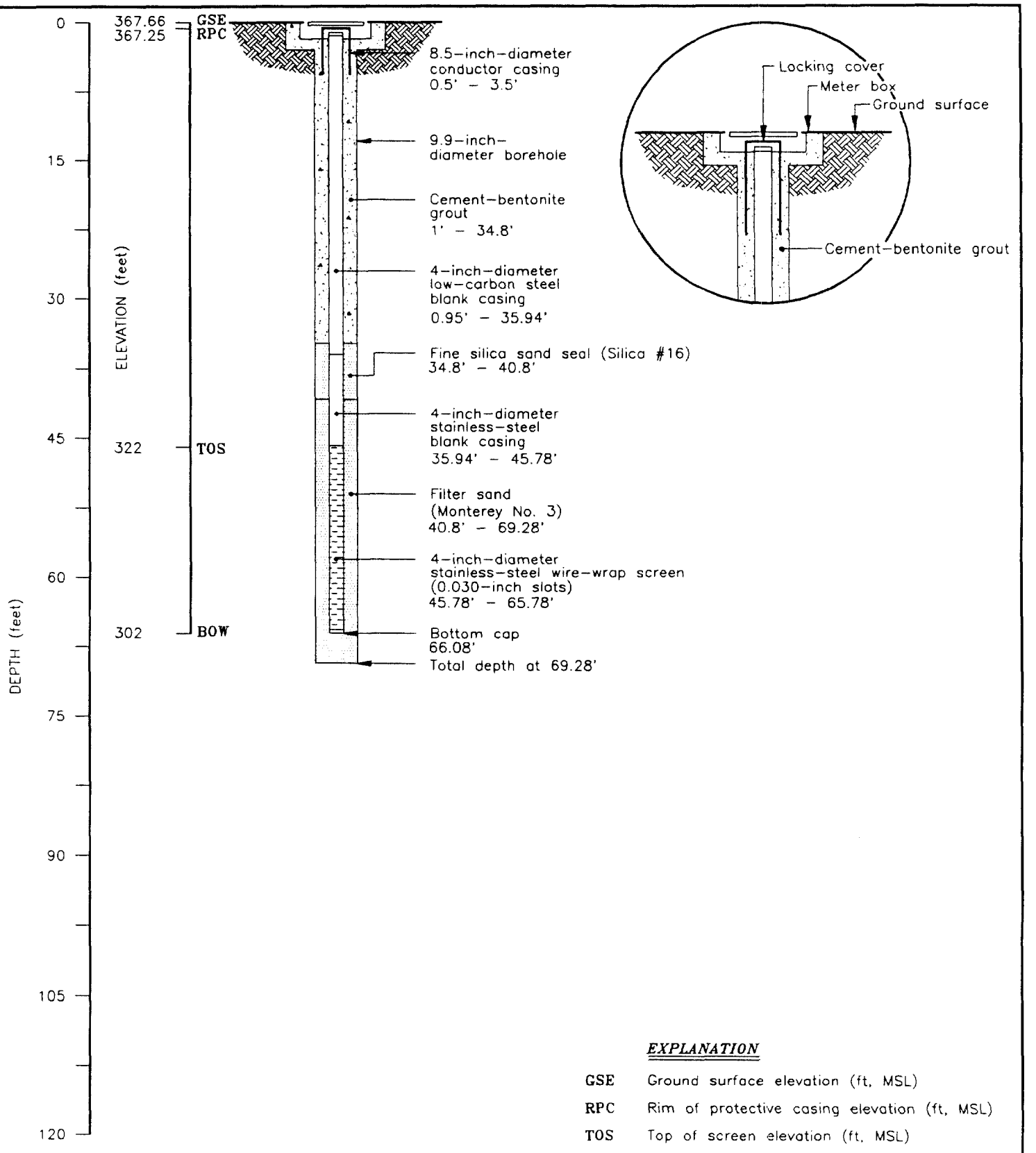

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL PO-VPB-5

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

591 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-5 CLIENT LADWP

DATE STARTED 10/24/89 COMPLETED 10/24/89 PROJECT San Fernando Valley RI

ELEVATION 368.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	9:54					SILT (ML) gray-brown, moist, nonplastic, micaceous, with roots	
5	9:55 10:05				ML		
10	10:06				GP	GRAVEL (GP) brown, moist, poorly sorted, rounded granitic gravel, with medium-grained sand	
15							
20	10:07 10:21	1			SP	SAND (SP) light yellow-gray, subrounded, medium-grained sand with gravel and silt	
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 65.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 69 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-5 (sheet 1 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-5 CLIENT LADWP

DATE STARTED 10/24/89 COMPLETED 10/24/89 PROJECT San Fernando Valley RI

ELEVATION 368.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	10:24 10:41	2			GP	GRAVEL (GP) moist, poorly graded, subangular, granitic (diorite) gravel with coarse-grained sand	
35						increase in coarse-grained sand saturated	⊽ Ground water encountered at 37 feet.
40	10:45 10:54						
45							
50	10:56 11:52						Hydropunch sample taken.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 65.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 69 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-5 (sheet 2 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11	SD	1/90		

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581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-5 CLIENT LADWP

DATE STARTED 10/24/89 COMPLETED 10/24/89 PROJECT San Fernando Valley RI

ELEVATION 368.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					GP	with some clay	
60	12:55 12:01					decrease in clay content	
						SAND (SP) yellow-gray, saturated, subangular, coarse to medium grained	
65					SP		
70							Borehole terminated at 69 feet on 10/24/89. Boring converted to monitoring Well PO-VPB-5 on 10/24/89. Ground water measured at 35.05 feet on 10/24/89.
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 65.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 69 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-5 (sheet 3 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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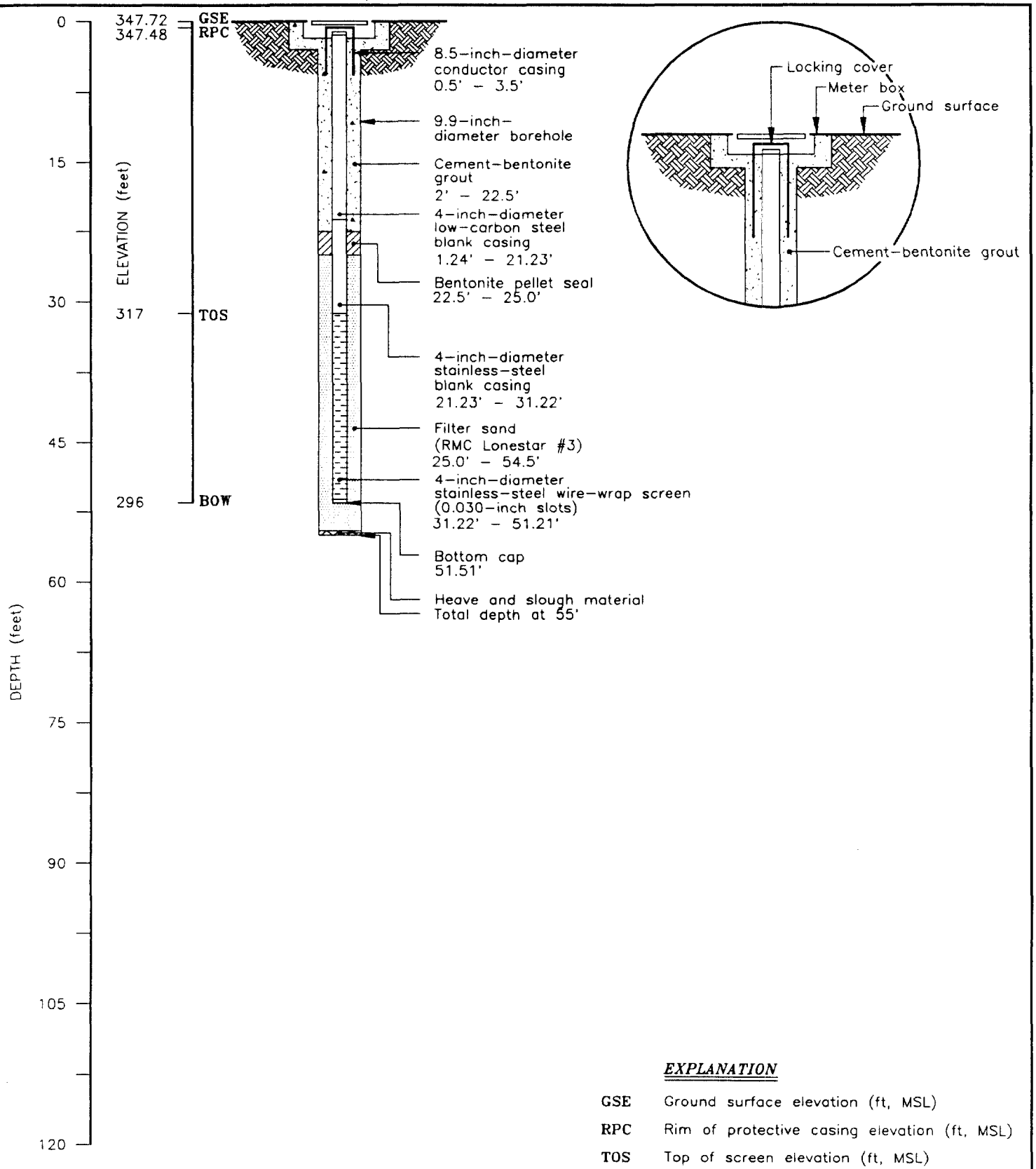

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

MONITORING WELL PO-VPB-6

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372,020.11		1/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-6 CLIENT LADWP

DATE STARTED 10/27/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 348.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					SM	SILTY SAND (SM) gray-brown, slightly moist, fine grained, subangular, micaceous sand with some silt	
5							
10	10:39 10:42		0.8				
15			0.4			sand predominantly fine to medium grained	
20		1	0.0		SP	SAND (SP) gray-brown, moist, medium to coarse grained, subangular sand with gravel and silt	
					SM	SILTY SAND (SM) gray-brown, moist, fine- to medium-grained sand, with gravel	
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 51.51 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 55 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-6 (sheet 1 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER POVPB-6 CLIENT LADWP

DATE STARTED 10/27/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 348.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	GRAVELLY SAND (SP) light gray, saturated, medium to very coarse grained, subangular sand with rounded gravel	
30	11:00 11:10						∇ Ground water encountered at 30 feet.
					SP		
35							
40	11:14 12:42					increase in gravel content gravel up to 4-inch diameter	Hydropunch sample taken.
45						decrease in gravel content	
50	12:46 12:51				SW	GRAVELLY SAND (SW) light brown, medium-grained sand, with gravel up to 4-inch diameter	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 51.51 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 55 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-6 (sheet 2 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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BORING/WELL NUMBER POVPB-6 CLIENT LADWP

DATE STARTED 10/27/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 348.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	12:53						Borehole terminated at 55 feet on 10/27/89. Boring converted to monitoring Well PO-VPB-6 on 10/31/89. Ground water measured at 23.5 feet on 10/31/89.
60							
65							
70							
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 51.51 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 55 ft WELL MATERIAL 304-SS & Low Carbon

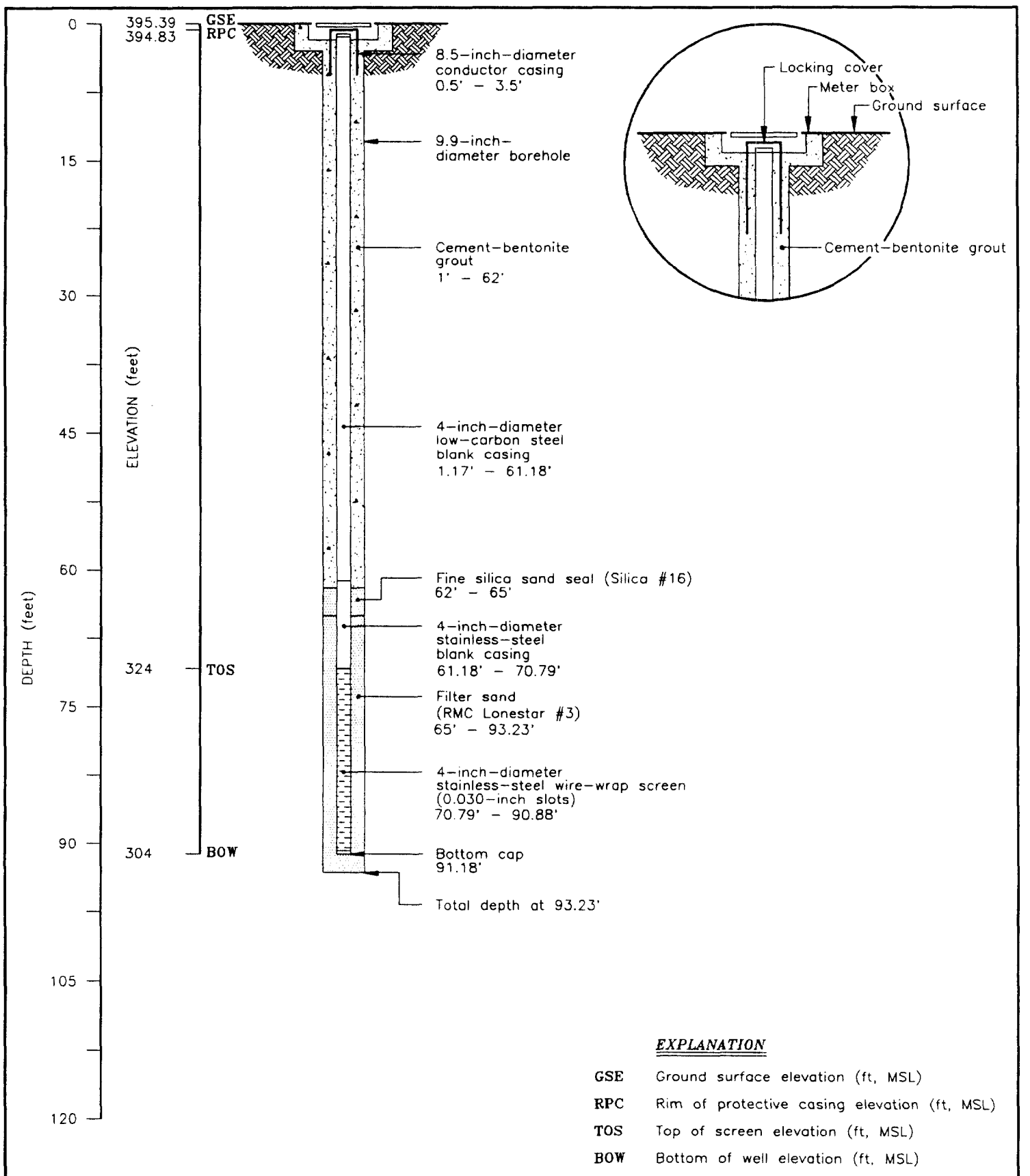
Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-6 (sheet 3 of 3)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL PO-VPB-7

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372,020.11		1/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-7 CLIENT LADWP

DATE STARTED 10/31/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 395.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	8:49					SILTY SAND (SM) brown, moist, fine grained, micaceous sand with some asphaltic concrete	
					SM		
5							
	8:51						
10	8:55					light brown	
	8:56						
	8:57						
15	8:58					SILTY SAND (SM) red-brown, medium- to fine-grained sand, with clay and silt	
					SM		
20	9:01		0.5				
	9:06						
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 90.01 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-7 (sheet 1 of 4) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-7 CLIENT LADWP

DATE STARTED 10/31/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 395.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM		
30	9:08 9:13					with subangular gravel	
35	9:15 9:22						
40	9:28 9:47	1	0.0				
					SM		
45						increase in gravel content	
						light gray, fine-grained sand, with silt	
50	9:52 9:59						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 90.01 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-7 (sheet 2 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

JAMES M. MONTGOMERY
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-7 CLIENT LADWP

DATE STARTED 10/31/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 395.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		2			SP	SAND (SP) light brown, moist, medium grained, angular sand with gravel and silt	
55	10:02 10:22						
					SM	SILTY SAND (SM) red-brown, moist, fine- to medium-grained sand, with gravel and silt	
60	10:27 10:31						⊻ Ground water encountered at 61 feet.
					SP	SAND (SP) light brown, moist, medium to coarse grained, subangular sand with gravel and some silt	
65			0.0				
70	10:36 11:58					medium-grained sand, increase in gravel and silt content	Hydropunch sample taken.
75						medium- to coarse-grained sand, decrease in gravel content	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 90.01 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-7 (sheet 3 of 4) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-7
CLIENT LADWP
DATE STARTED 10/31/89 COMPLETED 10/31/89
PROJECT San Fernando Valley RI
ELEVATION 395.00 feet AMSL
GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	12:04 12:08				SP		
85							
90	12:10					increase in gravel content	
	12:09						Borehole terminated at 93 feet on 10/31/89. Boring converted to monitoring Well PO-VPB-7 on 10/31/89. Ground water measured at 60.5 feet on 10/31/89.
95							
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc
WELL COMPLETION DEPTH 90.01 ft
HOLE DIAMETER 9-7/8"
WELL DIAMETER 4"
TOTAL DEPTH 93 ft
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-7 (sheet 4 of 4) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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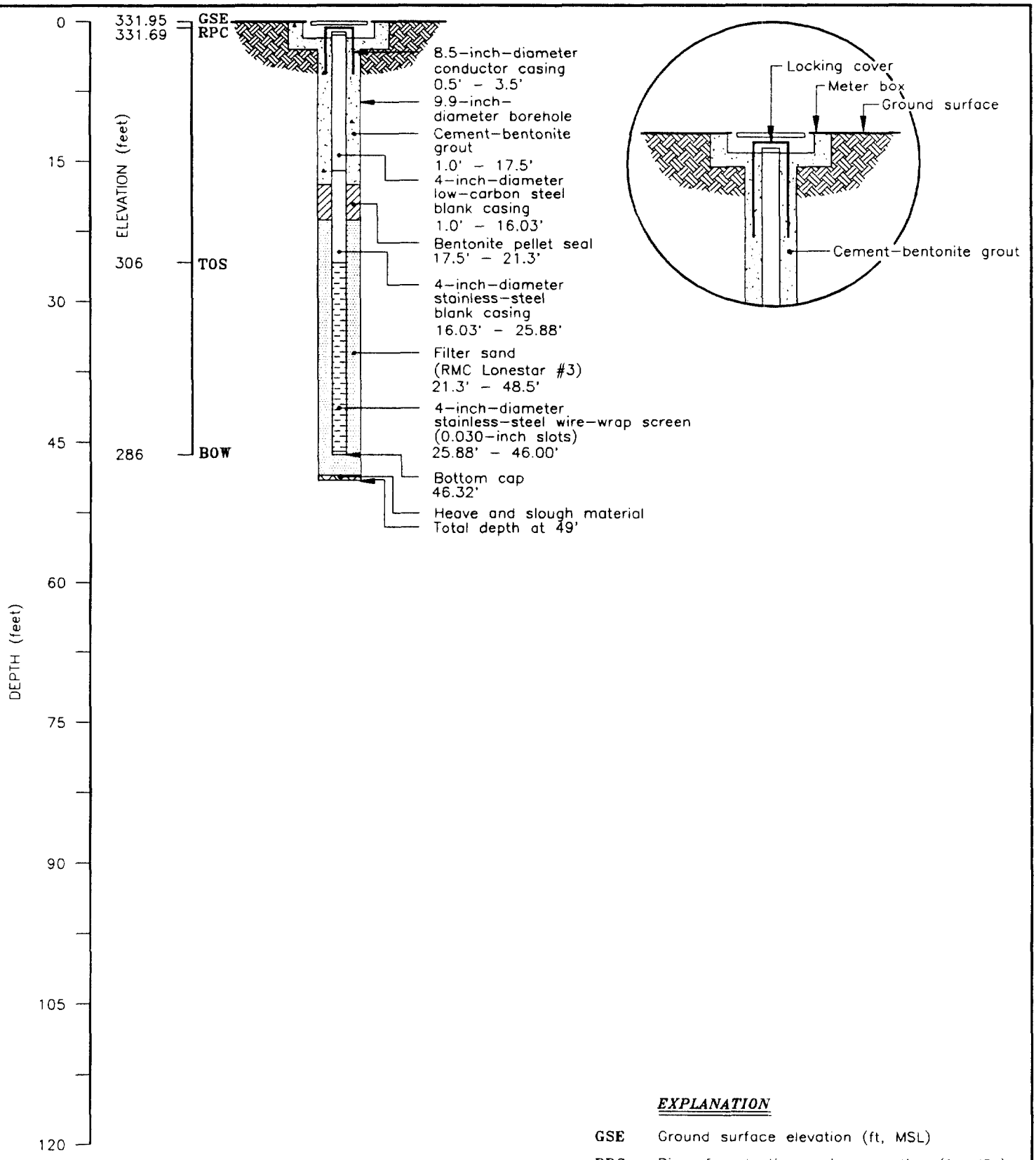

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
PO-VPB-8

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		1/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-8 CLIENT LADWP

DATE STARTED 10/30/89 COMPLETED 10/30/89 PROJECT San Fernando Valley RI

ELEVATION 332.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SAND (SP) gray-brown, moist, fine to medium grained, subangular sand with silt	
5					SP		
10	11:02 11:06		0.0				
15			0.0			increase in gravel content	
							∇ Ground water encountered at 19 feet.
20	11:11 11:27	1	0.0		SP	increase in medium- to coarse-grained sand content GRAVELLY SAND (SP) tan, moist, fine to very coarse grained, subangular sand with gravel and trace of clay	
25			0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 46.32 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 49 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-8 (sheet 1 of 2) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-8 CLIENT LADWP

DATE STARTED 10/30/89 COMPLETED 10/30/89 PROJECT San Fernando Valley RI

ELEVATION 332.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	11:32 12:39		0.0			sand is predominantly medium to coarse grained	Hydropunch sample taken.
35					SP	sand predominantly coarse grained, decrease in fine-grained sand	
40	12:47 12:52					increase in gravel content	
45						increase in fines (silt and clay)	
50							Borehole terminated at 49 feet on 10/30/89. Boring converted to monitoring Well PO-VPB-8 on 10/30/89. Ground water measured at 18.4 feet on 10/30/89.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 46.32 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 49 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-8 (sheet 2 of 2)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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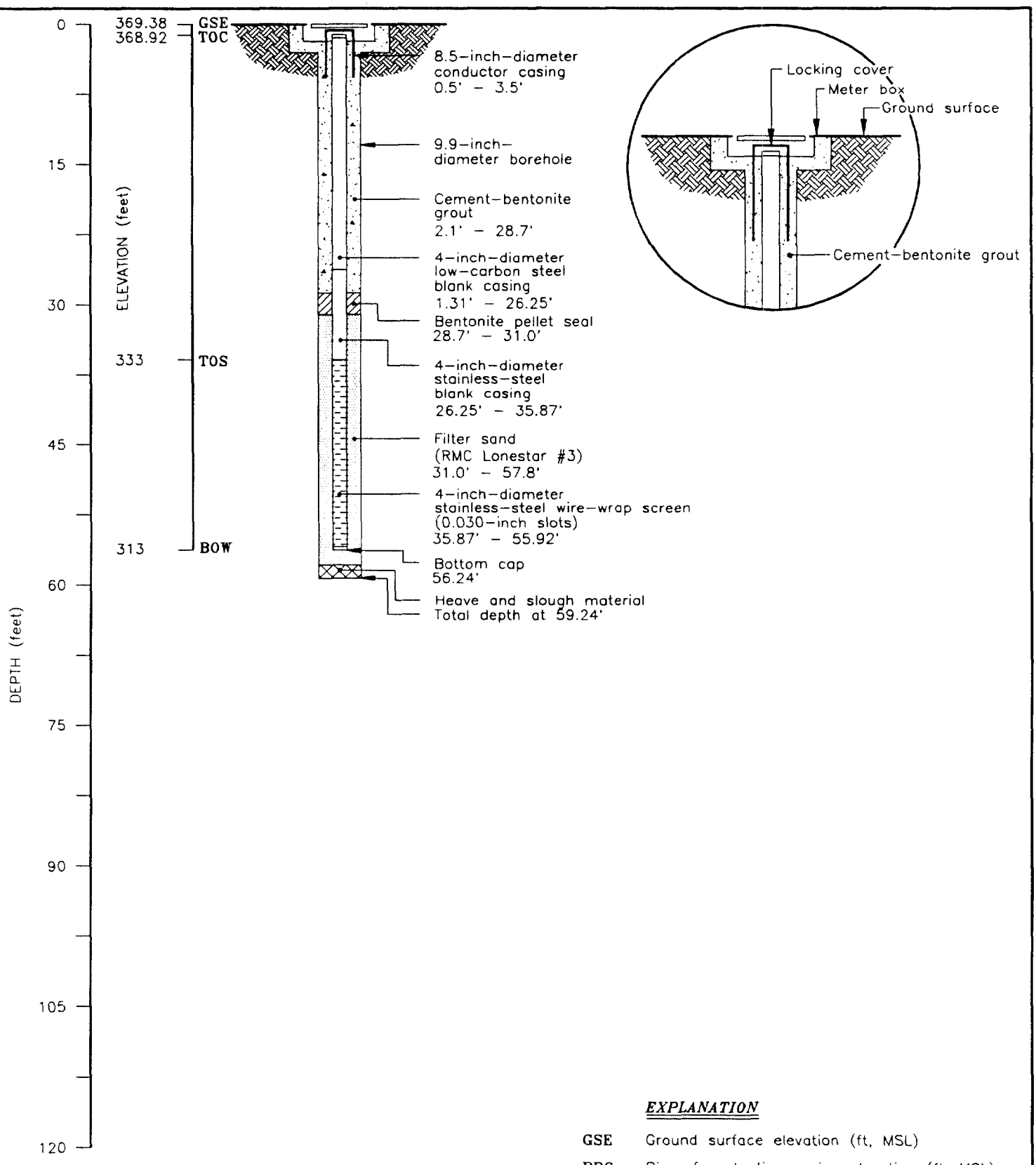

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
PO-VPB-9

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

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581 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER POVPB-9 CLIENT LADWP

DATE STARTED 10/31/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 369.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:56					SILTY SAND (SM) dark brown, fine- to coarse-grained sand, with silt and gravel	
					SM		
5	10:58 11:01						
10			1.0		SM	increase in fine to medium grained sand content	
15			0.5			increase in medium-grained sand content, decrease in silt content	
						SILTSTONE (BEDROCK) yellow-brown, moist, weakly cemented, low hardness	Possible alluvium-bedrock contact at 18 feet.
20	11:05 11:19	1	0.7				
25			0.0			SANDSTONE (BEDROCK) yellow-brown, weakly cemented, consolidated, moderately hard, fine-grained sand	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 59.24 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 58 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-9 (sheet 1 of 3) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-9 CLIENT LADWP
DATE STARTED 10/31/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI
ELEVATION 369.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	11:27 11:31		4.5				
35			0.5			weak, friable sandstone	
						saturated	∇ Ground water encountered at 39 feet.
40	11:38 12:01	2	0.5			sandstone with siltstone interbeds	
45			0.0				
50	12:15 14:00		0.4				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 59.24 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 58 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-9 (sheet 2 of 3)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB-9 CLIENT LADWP

DATE STARTED 10/31/89 COMPLETED 10/31/89 PROJECT San Fernando Valley RI

ELEVATION 369.00 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	14:15		0.0				
60							Borehole terminated at 58 feet on 10/31/89. Boring converted to monitoring Well PO-VPB-9 on 10/31/89. Ground water measured at 39 feet on 10/31/89.
65							
70							
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 59.24 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 58 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB-9 (sheet 3 of 3)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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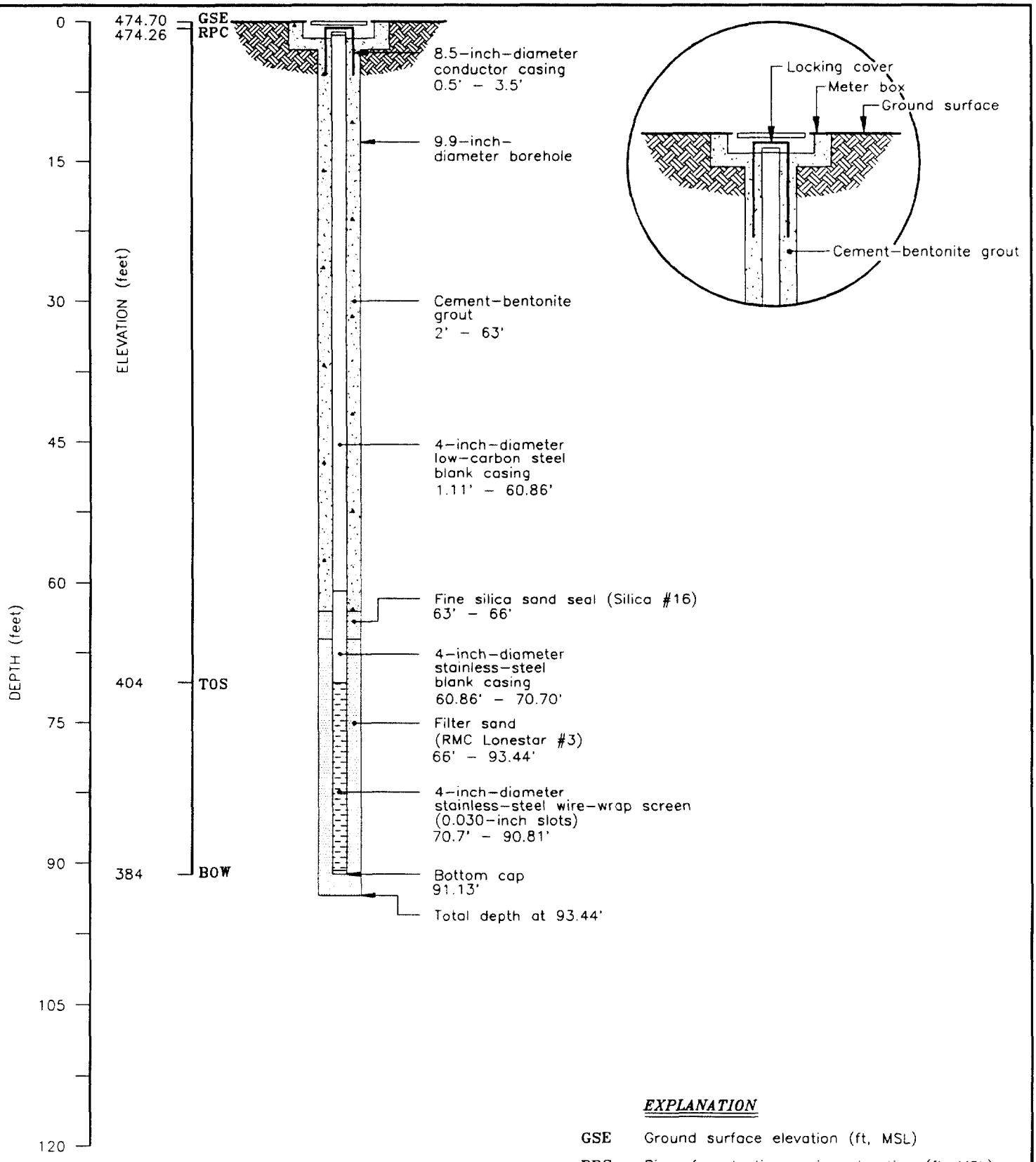

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
PO-VPB-10

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.020.11		1/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB10 CLIENT LADWP

DATE STARTED 11/8/89 COMPLETED 11/9/89 PROJECT San Fernando Valley RI

ELEVATION 475.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:32					SILTY SAND (SM) brown-gray, slightly moist, subrounded to subangular, medium- to fine-grained sand, with silt, gravel and asphaltic concrete	
5					SM		
10	10:33 10:44		0.0			SILTY SAND (SM) light brown, slightly moist, poorly sorted, subrounded to subangular sand	
15							
20	10:49 11:06	1				some granitic cobbles	
	11:08 11:11						
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 91.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring POVPB10 (sheet 1 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER POVPB10 CLIENT LADWP

DATE STARTED 11/8/89 COMPLETED 11/9/89 PROJECT San Fernando Valley RI

ELEVATION 475.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	11:17 11:20						
35						CLAYEY SAND (SM) dark brown, moist, very fine- to fine-grained sand, with clay, decrease in cobble content	
40	11:24 11:41	2	0.0				
45							
50	11:46 12:03	3					

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 91.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB10 (sheet 2 of 4)

PLATE

San Fernando Valley RI
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BORING/WELL NUMBER POVPB10 CLIENT LADWP

DATE STARTED 11/8/89 COMPLETED 11/9/89 PROJECT San Fernando Valley RI

ELEVATION 475.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55						increase in clay content	
60	12:08 12:28	4	0.0			saturated	∇ Ground water encountered at 61 feet.
65							
70	11:32 14:12					CLAYEY SILTY SAND (SM) dark brown, very fine- to fine-grained sand, with silt and clay, some cobbles	Hydropunch sample taken.
75					SC	CLAYEY SAND (SC) dark brown, saturated, low plasticity, medium- to fine-grained sand and clay	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 91.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB10 (sheet 3 of 4)

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BORING/WELL NUMBER POVPB10 CLIENT LADWP

DATE STARTED 11/8/89 COMPLETED 11/9/89 PROJECT San Fernando Valley RI

ELEVATION 475.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	14:19 14:24				SC		
85						medium plasticity	
90	14:30 14:36						
						low plasticity, with coarse-grained sand	
95							Borehole terminated at 93.5 feet on 11/8/89. Boring converted to monitoring Well PO-VPB-10 on 11/9/89. Ground water measured at 60.27 feet on 11/9/89.
100							
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 91.13 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 93 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB10 (sheet 4 of 4)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		1/90		

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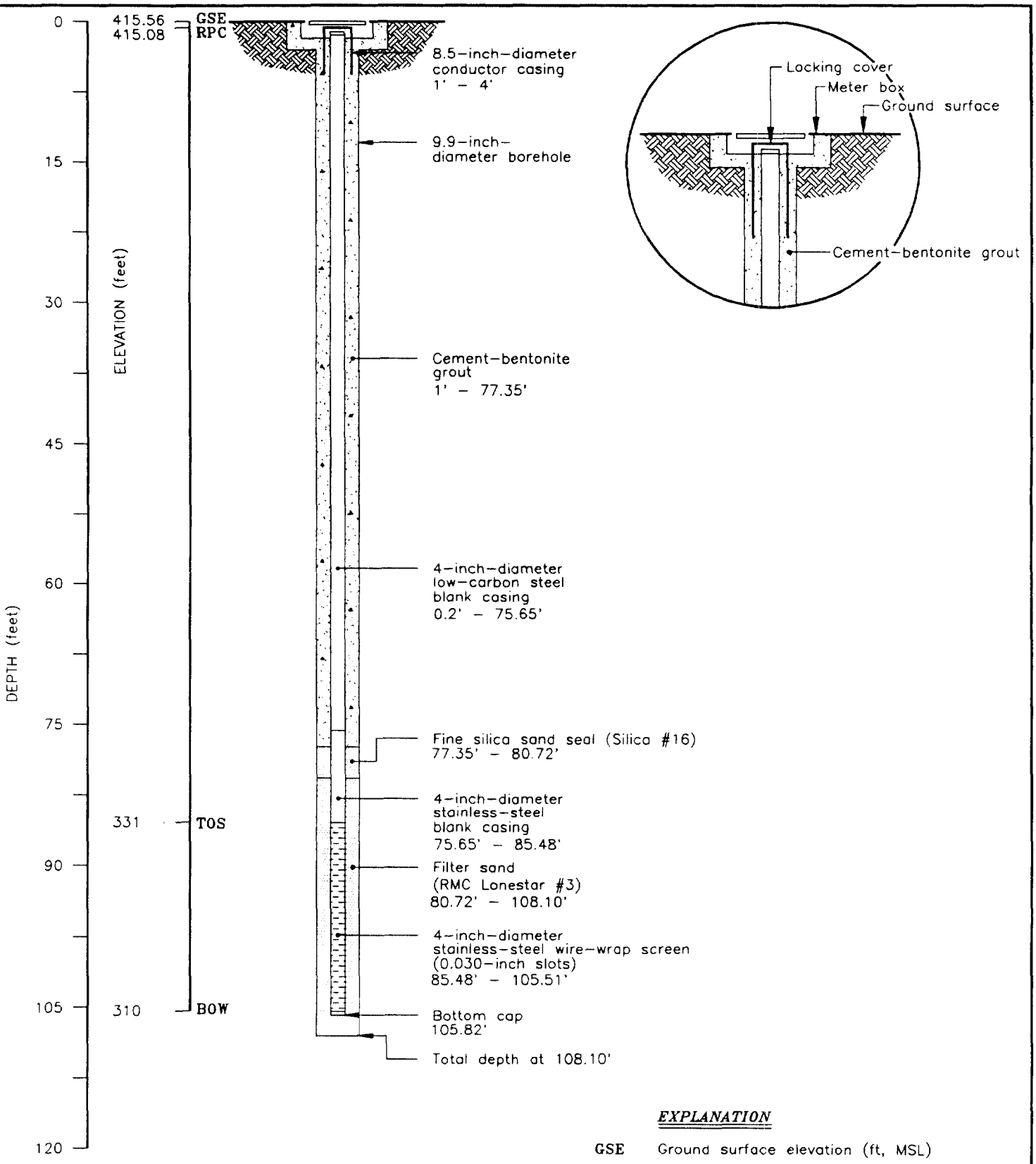

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
PO-VPB-11
San Fernando Valley RI
Los Angeles County, California

PLATE

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JTL	9372,020.11		1/90	JMM	7/92

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BORING/WELL NUMBER POVPB11 CLIENT LADWP

DATE STARTED 11/1/89 COMPLETED 11/2/89 PROJECT San Fernando Valley RI

ELEVATION 416.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:37				CL	CLAY (CL) dark brown, dry, moderate plasticity, with silt	
	10:38 10:39						
5							
10	10:41 11:12	1	0.0		SC	increased moisture content CLAYEY SAND (SC) brown, slightly moist, low plasticity, sand grains are angular and medium to fine grained	
15							
	11:17 11:18	2					
20	11:21 11:37						
25					SC	low plasticity, increase in sand content	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 105.82 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 110 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB11 (sheet 1 of 5)

PLATE

San Fernando Valley RI
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BORING/WELL NUMBER POVPB11 CLIENT LADWP
DATE STARTED 11/1/89 COMPLETED 11/2/89 PROJECT San Fernando Valley RI
ELEVATION 416.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	11:46 12:08	3	0.0			increase in fine-grained sand content	
						SILTY SAND (SM) light brown, slightly moist, poorly sorted, subangular fine- to medium-grained sand, with silt and trace of clay	
35							
40	12:17 12:41				SC	increase in fines (silt and clay)	
	12:44 12:45						
45	12:50 12:51					increase in very fine-grained sand content	
50	12:58 13:28	4	0.0		SC		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 105.82 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 110 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB11 (sheet 2 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER POVPB11 CLIENT LADWP

DATE STARTED 11/1/89 COMPLETED 11/2/89 PROJECT San Fernando Valley RI

ELEVATION 416.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	13:31 13:32					MUDSTONE (BEDROCK) brown, unconsolidated, low hardness, friable, some lamination	Possible alluvium-bedrock contact at 54 feet.
55	13:34 13:37						
60	13:50 8:39		0.0				
65							
70	8:46 9:19	5					
75						mottled gray and brown	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 105.82 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 110 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB11 (sheet 3 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER POVPB11 CLIENT LADWP

DATE STARTED 11/1/89 COMPLETED 11/2/89 PROJECT San Fernando Valley RI

ELEVATION 416.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	9:28 9:34 9:42					MUDSTONE (BEDROCK) dark gray, fragments are hard to well indurated	
85	9:41						
90	9:52 10:24	6	0.0				
	10:33						
95	10:32						
100	10:44 13:24		0.0			saturated, with some light gray lenses of fine-grained sandstone	⊻ Ground water encountered at 100 feet.
105	13:31						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 105.82 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 110 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB11 (sheet 4 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER POVPB11 CLIENT LADWP

DATE STARTED 11/1/89 COMPLETED 11/2/89 PROJECT San Fernando Valley RI

ELEVATION 416.00 feet AMSL GEOLOGIST H. Moaddel, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	13:35						
110							Borehole terminated at 110 feet on 11/1/89. Boring converted to monitoring Well PO-VPB-11 on 11/2/89. Ground water measured at 93.78 feet on 11/2/89.
115							
120							
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 105.82 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 110 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring POVPB11 (sheet 5 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

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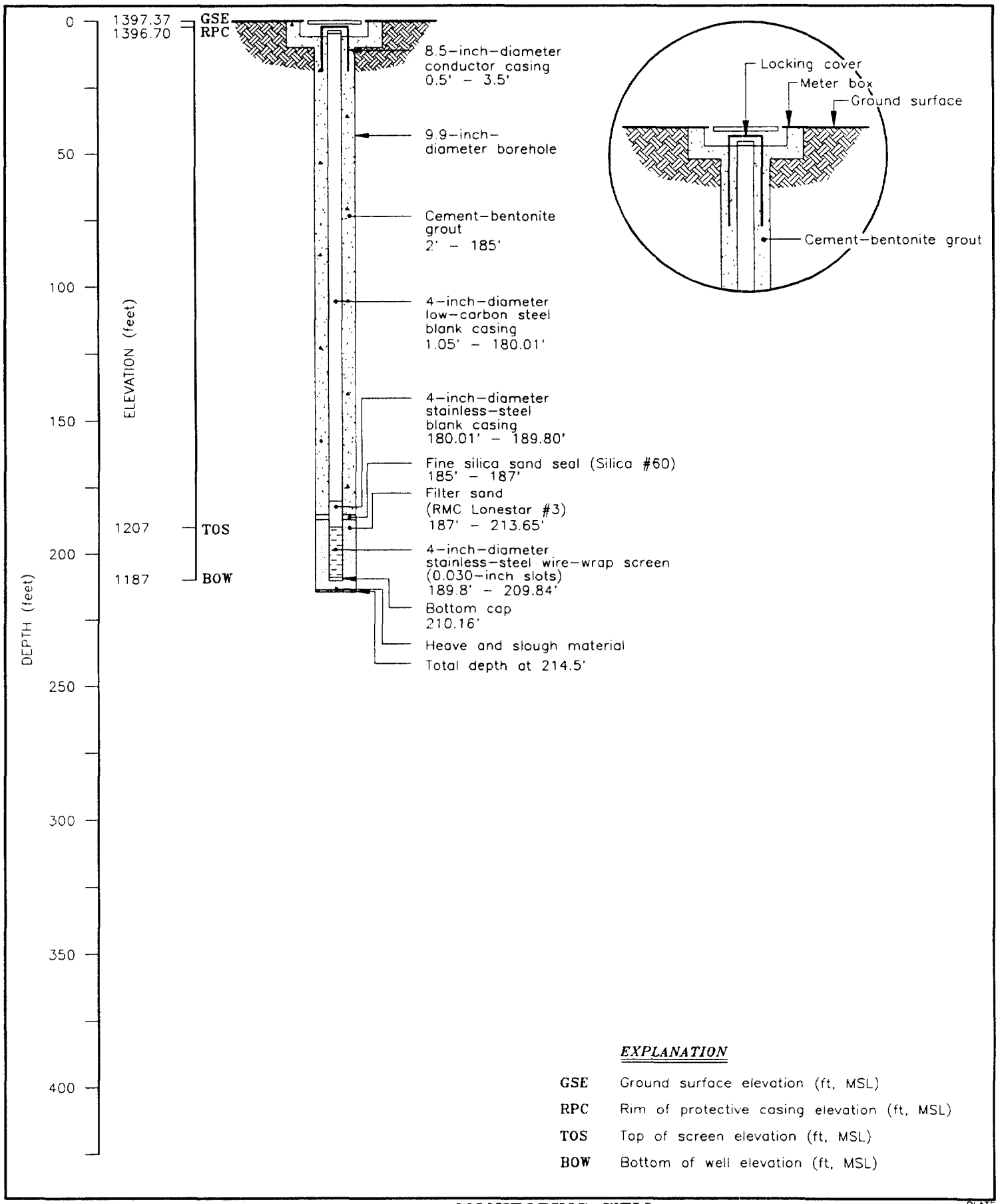
HK	9372,020.11		1/90		

APPENDIX C: BORING LOGS

APPENDIX C.4 VERDUGO VPBS



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MONITORING WELL
VD-VPB-1

San Fernando Valley RI
Los Angeles County, California

PLATE

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-1 CLIENT LADWP

DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI

ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:22				SP	BROWN SAND (SP) moist, subangular fine- to very coarse-grained sand, with fine subrounded pebbles and up to 1/4-inch-diameter gravel	PID not available on site.
5							
10	10:28 10:32						
15					GP	SANDY GRAVEL (GP) tan, dry, 1/2- to 4-inch-diameter angular to subrounded gravel, angular coarse-grained sand	
20	10:43 10:44				SW	SAND (SW) tan, moist, subrounded to subangular fine- to very coarse-grained sand, with 1/4- to 2-inch-diameter, subrounded gravel	
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 1 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP
DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI
ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	10:53 11:07	1					
35					GP	SANDY GRAVEL (GP) tan, moist, 1/4- to 3-inch-diameter gravel, with weathered subrounded surfaces, with angular to subangular fine- to very coarse-grained sand	
40	11:16 11:19						
45					SP GP		
50	11:27 11:33				SW	GRAVELLY SAND (SW) light brown, moist, angular to subangular fine- to very coarse-grained sand, 1/4- to 1-inch-diameter angular gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 2 of 9)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP
DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI
ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55							
60	11:44 12:03	2					
65							
70	12:18 12:46				SP	SAND (SP) brown, moist, subrounded to subangular fine- to very coarse-grained sand	
75							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring VDVPB-1 (sheet 3 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP
DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI
ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	12:57 13:00						
						increase in gravel content	
85					SP		
90	13:14 13:31	3				decrease in gravel content	
95						1/4- to 2-inch-diameter gravel, clast types include granitic and felsic igneous	
100	13:47 13:49				SP		
						1/4- to 3-inch-diameter gravels	
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 4 of 9)

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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP

DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI

ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							
110	14:05 14:07				SP	GRAVELLY SAND (SP) tan, moist, subangular fine- to very coarse-grained sand, with 1/4-inch-diameter granitic and felsic gravel	
115							
120	14:40 15:00	4					
125						increase in moisture content	
130	15:21 15:23						

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 5 of 9) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP
DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI
ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135							
140	15:41 15:45					decrease in gravel content	
145						GRAVELLY SAND (SP) tan, moist, subangular fine- to coarse-grained sand, with 1/4- to 1/2-inch-diameter gravel	
150	16:02 8:38						
155							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP

DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI

ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	8:52 8:53						
165						increase gravel content, angular, granitic composition	
170	9:18 9:22						
						decrease in gravel content, fine- to coarse-grained sand dominant	
175					SM	SILTY SAND (SM) brown, moist, subangular fine- to coarse-grained sand, with 1/4-inch-diameter gravel and silt	
180	9:41 10:10	5			SP	SAND (SP) tan, moist, subangular to subrounded medium- to coarse-grained sand, with 1/4-inch-diameter gravel and trace of silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 7 of 9)

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP
DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI
ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						increase in moisture content	
185							
190	10:30 11:12 11:14 15:13				SP	GRAVELLY SAND (SP) brown, saturated, coarse-grained sand, with 1/2-inch-diameter angular gravel and some silt	Hydropunch sample taken.
195					SM	SILTY SAND (SM) brown, saturated, fine grained, angular sand with abundant silt	
200	15:46 15:49				SP	SAND (SP) brown, saturated, very coarse angular sand, with 1/4-inch-diameter angular gravel and trace of silt	
205							
210							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 8 of 9)

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BORING/WELL NUMBER VDVPB-1 CLIENT LADWP

DATE STARTED 1/8/90 COMPLETED 1/10/90 PROJECT San Fernando Valley RI

ELEVATION 1400 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	14:11 14:14						
215							Boring terminated at 214 feet on 1/9/90. Boring converted to Monitoring Well VD-VPB-1 on 1/10/90. Ground water measured at 180 feet on 1/10/90.
220							
225							
230							
235							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 210.16 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 214 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-1 (sheet 9 of 9)

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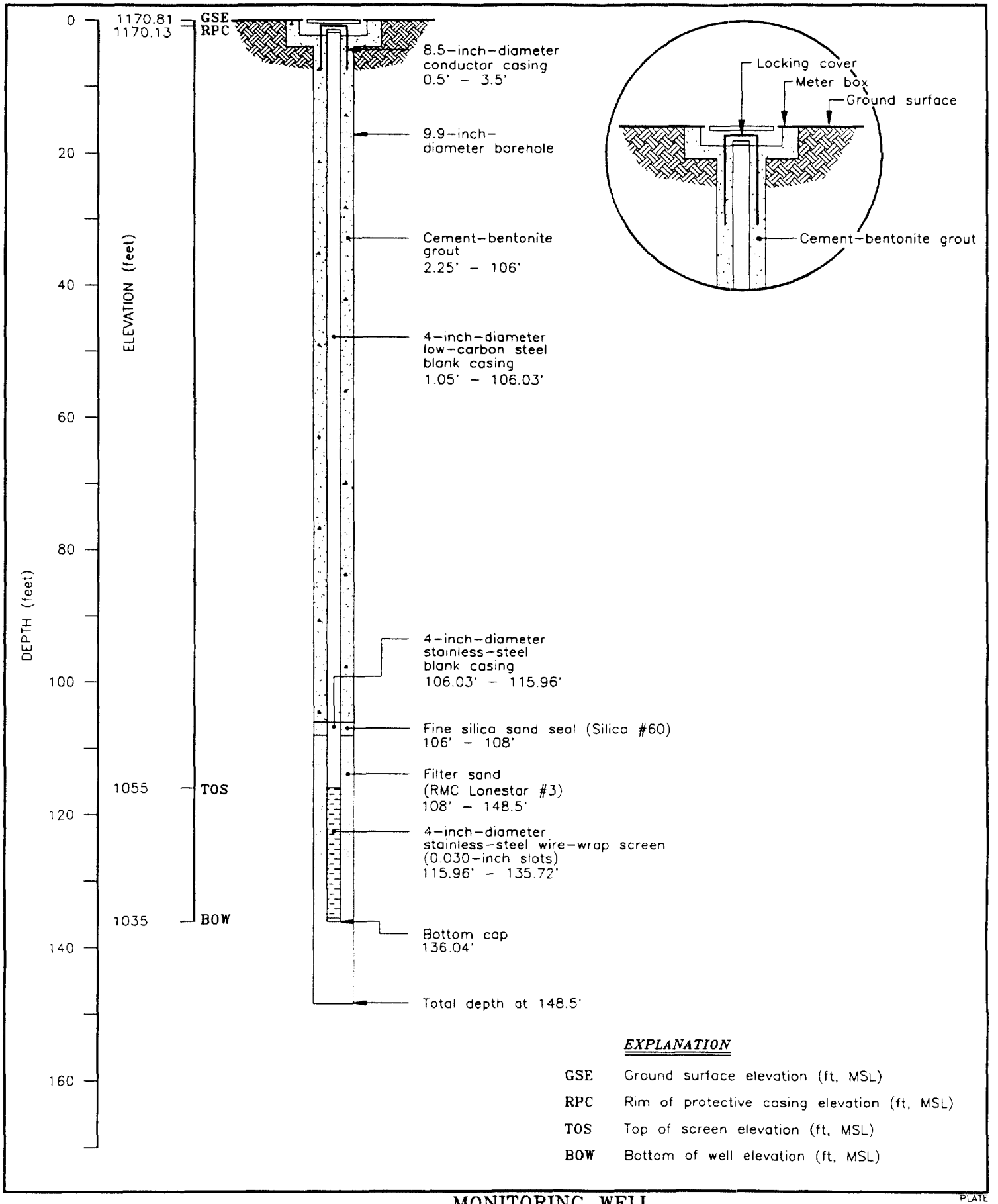
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		



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MONITORING WELL
VD-VPB-2
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		5/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-2 CLIENT LADWP

DATE STARTED 12/6/89 COMPLETED 12/7/89 PROJECT San Fernando Valley RI

ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	12:24				SW	GRAVELLY SAND (SW) brown, moist, loose, very fine- to coarse-grained sand, with 1/4- to 3-inch-diameter gravel	
5							
10	12:31 12:34						
15							
20	12:43 12:52		0.0		GW	SANDY GRAVEL (GW) light tan, dry, 1/4- to 2-inch-diameter gravel, with medium- to coarse-grained sand	
						GRAVELLY SAND (SW) brown, moist, subangular fine- to very coarse-grained sand, with rounded, 1/4- to 2-inch-diameter gravel	
25			0.0		SW		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 136 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 149 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring VDVPB-2 (sheet 1 of 6)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-2 CLIENT LADWP

DATE STARTED 12/6/89 COMPLETED 12/7/89 PROJECT San Fernando Valley RI

ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	13:01 13:24	1	0.0				
35	13:29		0.0		SW		
40	13:31 13:34		0.0			1/4- to 1-inch-diameter gravel	
45	13:37		0.0			1/4- to 2-inch-diameter gravel	
50	13:42	2	0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 136 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 149 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring VDVPB-2 (sheet 2 of 6)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-2 CLIENT LADWP
DATE STARTED 12/6/89 COMPLETED 12/7/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			0.0				
60	14:06 14:11		0.0				
65			0.0		SM	SILTY SAND (SM) brown, moist, fine- to coarse-grained sand, with silt	
70	14:25 14:45	3	0.0				
75	14:51		0.0		SW	SAND (SW) brown, moist, very fine- to coarse-grained sand, with silt and trace of mica	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 136 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 149 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-2 (sheet 3 of 6)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2260

BORING/WELL NUMBER VDVPB-2 CLIENT LADWP
DATE STARTED 12/6/89 COMPLETED 12/7/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80			0.0				
						increase in 1/4- to 1/2-inch-diameter gravel	
85	15:15		0.0				
90	15:17 15:41	4	0.0		SW	GRAVELLY SAND (SW) brown, moist, fine- to coarse-grained sand, with 1/4- to 1/2-inch-diameter subrounded gravel	
95			0.0				
100	15:57 16:04		0.0				
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 136 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 149 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-2 (sheet 4 of 6) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-2 CLIENT LADWP
DATE STARTED 12/6/89 COMPLETED 12/7/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	16:12						▽ Ground water encountered at 105 feet.
110	16:25 16:52	5					
115	17:00				SW	SAND (SW) tan, very moist to wet, medium- to very coarse-grained sand	
120	17:08				SM	SILTY SAND WITH GRAVEL (SM) brown, saturated, medium- to very coarse-grained sand, with silt and 1/4- to 3-inch-diameter subangular gravel	Hydropunch sample taken.
125							
130	9:55 9:58				SW	GRAVELLY SAND WITH SILT (SW) brown, wet, medium- to very coarse-grained sand, with 1/4- to 3-inch-diameter subangular gravel and silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 136 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 149 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring VDVPB-2 (sheet 5 of 6) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER VDVPB-2 CLIENT LADWP

DATE STARTED 12/6/89 COMPLETED 12/7/89 PROJECT San Fernando Valley RI

ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135						SAND (SW) brown, saturated, medium- to very coarse-grained sand, with 1/4-inch-diameter gravel	
140	10:06 11:14						
145							
150							Boring terminated at 148.5 feet on 12/7/89. Boring converted to Monitoring Well VD-VPB-2 on 12/7/89. Ground water measured at 105.5 feet on 12/7/89.
155							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 136 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 149 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-2 (sheet 6 of 6)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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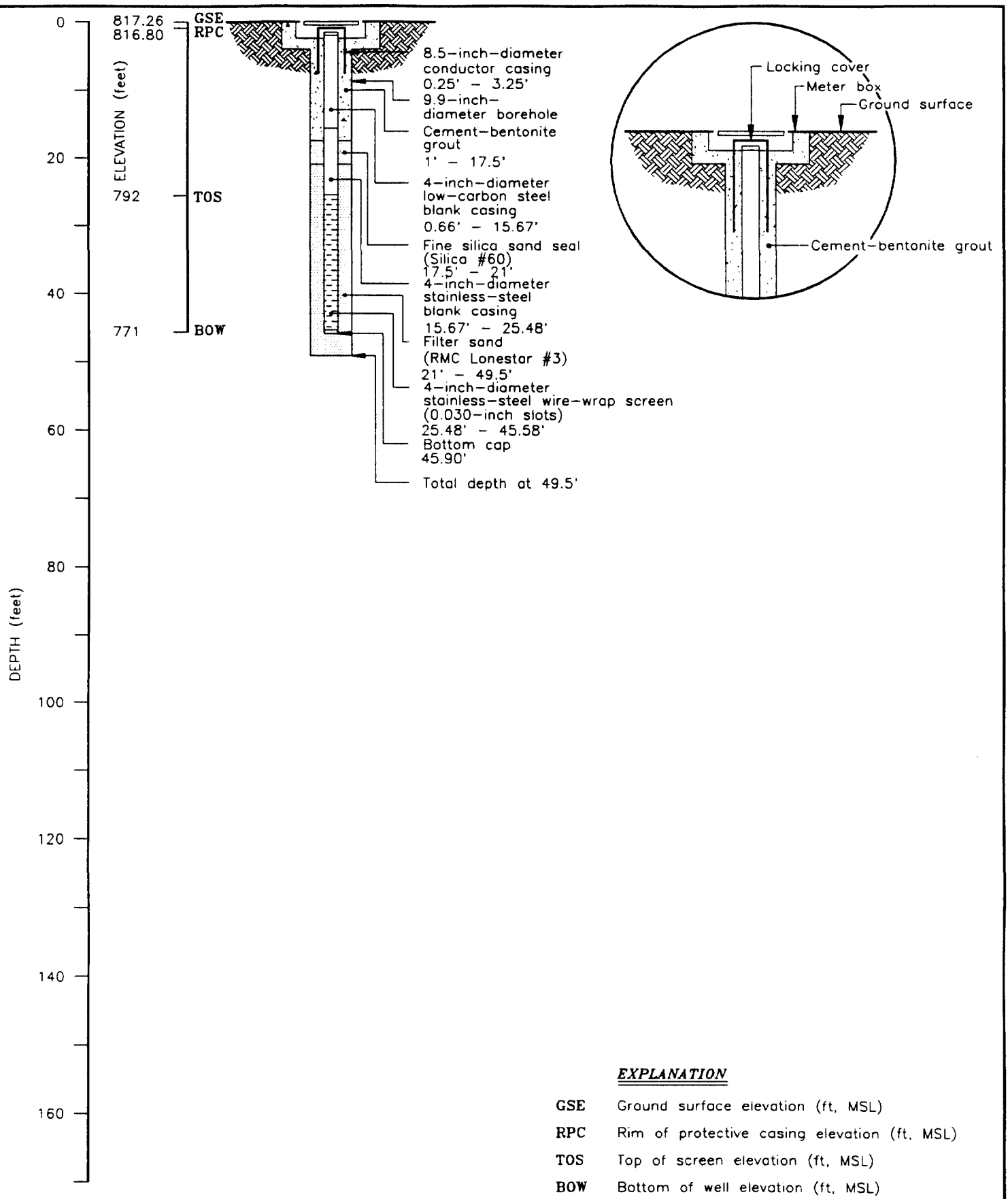

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
VD-VPB-3

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372 020 11		1/90	JMM	7/92

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-3 CLIENT LADWP

DATE STARTED 12/11/89 COMPLETED 12/11/89 PROJECT San Fernando Valley RI

ELEVATION 820 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:26				SM	SILTY SAND (SM) dark brown, moist, very fine- to medium-grained sand, with silt and trace of very fine gravel	
5			0.3		SW	GRAVELLY SAND (SW) dark brown, moist, fine- to very coarse-grained sand, with 1/4- to 1-inch-diameter subangular gravel and trace of silt	
10	11:31 11:34		0.4				
15			0.3		GW	GRAVELLY SAND (GW) brown, dry, fine- to very coarse-grained sand, 1/4- to 1-inch-diameter subangular gravel and trace of silt	
20	11:38 11:41		0.3				
25	11:45 12:06	1	0.3				∇ Ground water encountered at 24 feet.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 45.9 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 50 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring VDVPB-3 (sheet 1 of 2)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-3 CLIENT LADWP
DATE STARTED 12/11/89 COMPLETED 12/11/89 PROJECT San Fernando Valley RI
ELEVATION 820 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	12:08 12:12		0.3		SW	GRAVELLY SAND (SW) light tan, saturated, medium- to coarse-grained subangular sand, with 1/4- to 3-inch-diameter, subangular to subrounded, granitic and gneissic gravel	
35			0.2				
40	12:17 13:24		0.2				Hydropunch sample taken.
45					GW	SANDY GRAVEL (GW) tan, saturated, fine- to very coarse-grained subangular sand, with 1/4- to 6-inch-diameter rounded to subangular gravel	
50							Boring terminated at 49.5 feet on 12/11/89. Boring converted to Monitoring Well VD-VPB-3 on 12/11/89. Ground water measured at 24 feet on 12/7/89.

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 45.9 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 50 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-3 (sheet 2 of 2) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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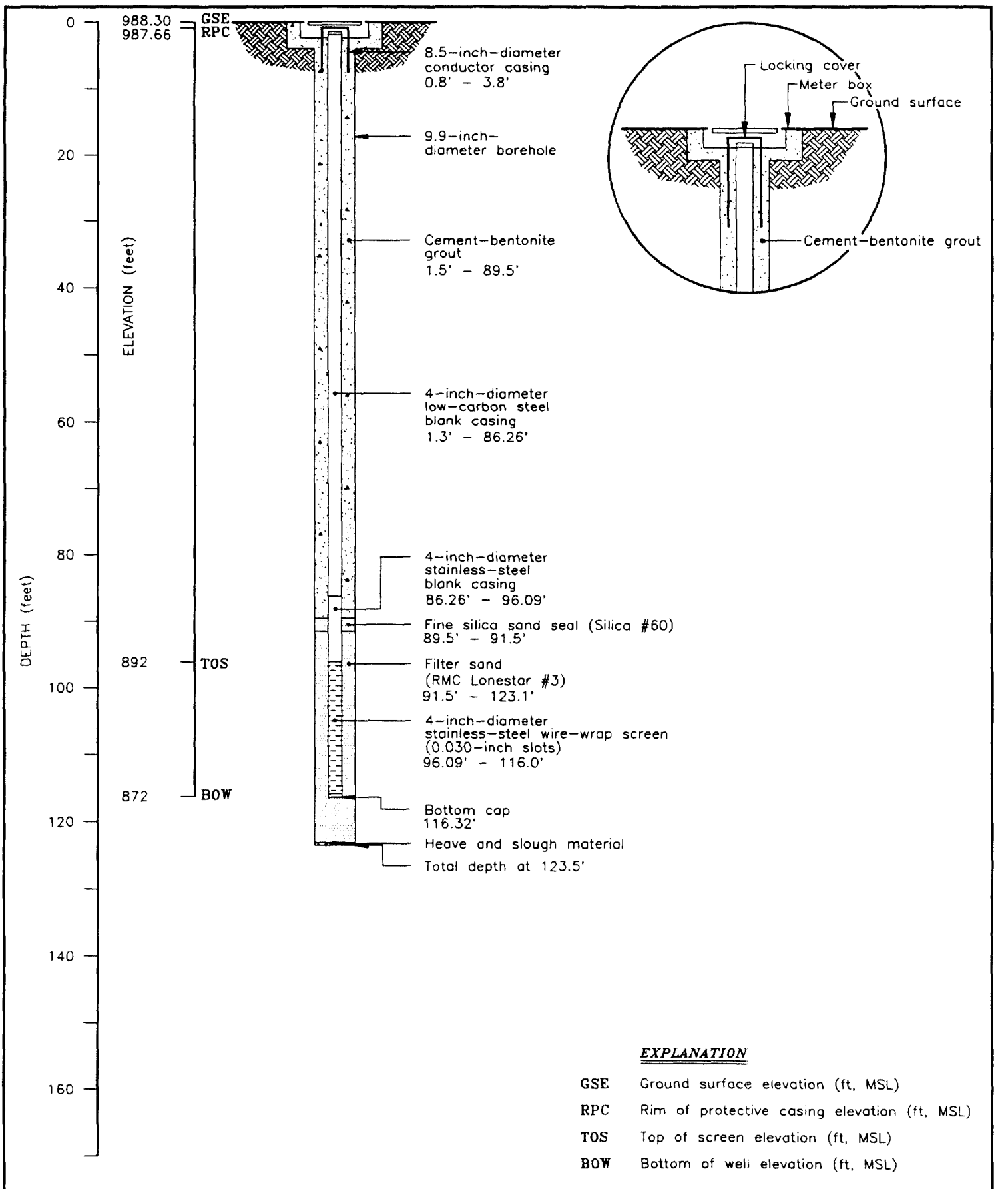

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

MONITORING WELL VD-VPB-4

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

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BORING/WELL NUMBER VDVPB-4
DATE STARTED 12/13/89 COMPLETED 12/14/89
ELEVATION 990 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	9:37				SM	SILTY SAND (SM) dark brown, moist, fine- to medium-grained sand, with silt	
5			0.2		SW	GRAVELLY SAND (SW) dark brown, slightly moist, fine- to very coarse-grained subangular sand, with 1/4-inch-diameter subrounded gravel	
10	9:44 10:00		0.1			increase in moisture content	
15			0.2			increase in gravel content	
20	10:13	1	0.1				
25			0.1				

METHOD OF DRILLING Dual Wall - Air Perc
HOLE DIAMETER 9-7/8"
TOTAL DEPTH 124 ft
WELL COMPLETION DEPTH 116.32 ft
WELL DIAMETER 4"
WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring VDVPB-4 (sheet 1 of 5)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-4 CLIENT LADWP
DATE STARTED 12/13/89 COMPLETED 12/14/89 PROJECT San Fernando Valley RI
ELEVATION 990 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SW) brown, moist, fine- to coarse-grained sand, with 1/2-inch-diameter gravel	
30	10:36		0.0				
35			0.2				
40	10:40 11:25		0.2			GRAVELLY SAND (SW) brown, moist, fine- to coarse-grained sand, with 1/4- to 1-inch-diameter gravel	
45			0.6			decrease in sand content	
50	11:33 11:40		0.0		SM	SILTY SAND (SM) dark brown, moist, fine- to very coarse-grained sand, with silt and gravel	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 124 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-4 (sheet 2 of 5) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-4 CLIENT LADWP
DATE STARTED 12/13/89 COMPLETED 12/14/89 PROJECT San Fernando Valley RI
ELEVATION 990 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			0.0		SW	GRAVELLY SAND (SW) brown, moist, angular medium-grained sand, with 1/4-inch-diameter subrounded gravel	
60	11:54 12:07	2	0.2			decrease in gravel content	
65			0.2				
70	12:11 12:15		0.2			SAND (SW) brown, moist, medium-grained sand, with some gravel and silt	
75			0.2		SM	SILTY SAND (SM) brown, moist, fine- to medium-grained sand, with silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 124 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-4 (sheet 3 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-4 CLIENT LADWP

DATE STARTED 12/13/89 COMPLETED 12/14/89 PROJECT San Fernando Valley RI

ELEVATION 990 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	12:28		0.2				
85			0.2				
90	13:02 13:07		0.2		SM	SILTY SAND (SM) brown, wet, fine- to very coase-grained angular sand, with silt	⊽ Ground water encountered at 93 feet.
95	13:10		0.0				
100	13:19 15:30				SW	GRAVELLY SAND (SW) tan, saturated, medium- to very coarse-grained sand, with 1/4- to 1/2-inch-diameter subangular gravel	Hydropunch sample taken.
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.32 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 124 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-4 (sheet 4 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER VDVPB-4 CLIENT LADWP

DATE STARTED 12/13/89 COMPLETED 12/14/89 PROJECT San Fernando Valley RI

ELEVATION 990 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105			0.2				
						increase in gravel size to 2 inches in diameter	
110	15:34 15:39						
						SANDY GRAVEL (GW) dark brown, saturated, 1/4- to 4-inch-diameter subangular gravel, with fine-grained sand and some silt	
115					GW		
						GRAVELLY SAND (SW) tan, saturated, medium- to very coarse-grained sand, with 1/4- to 1/2-inch-diameter angular gravel	
120	15:45				SW		
125							Boring terminated at 123.5 feet on 12/14/89. Boring converted to Monitoring Well VD-VPB-4 on 12/14/89. Ground water measured at 93.5 feet on 12/14/89.
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 116.32 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 124 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-4 (sheet 5 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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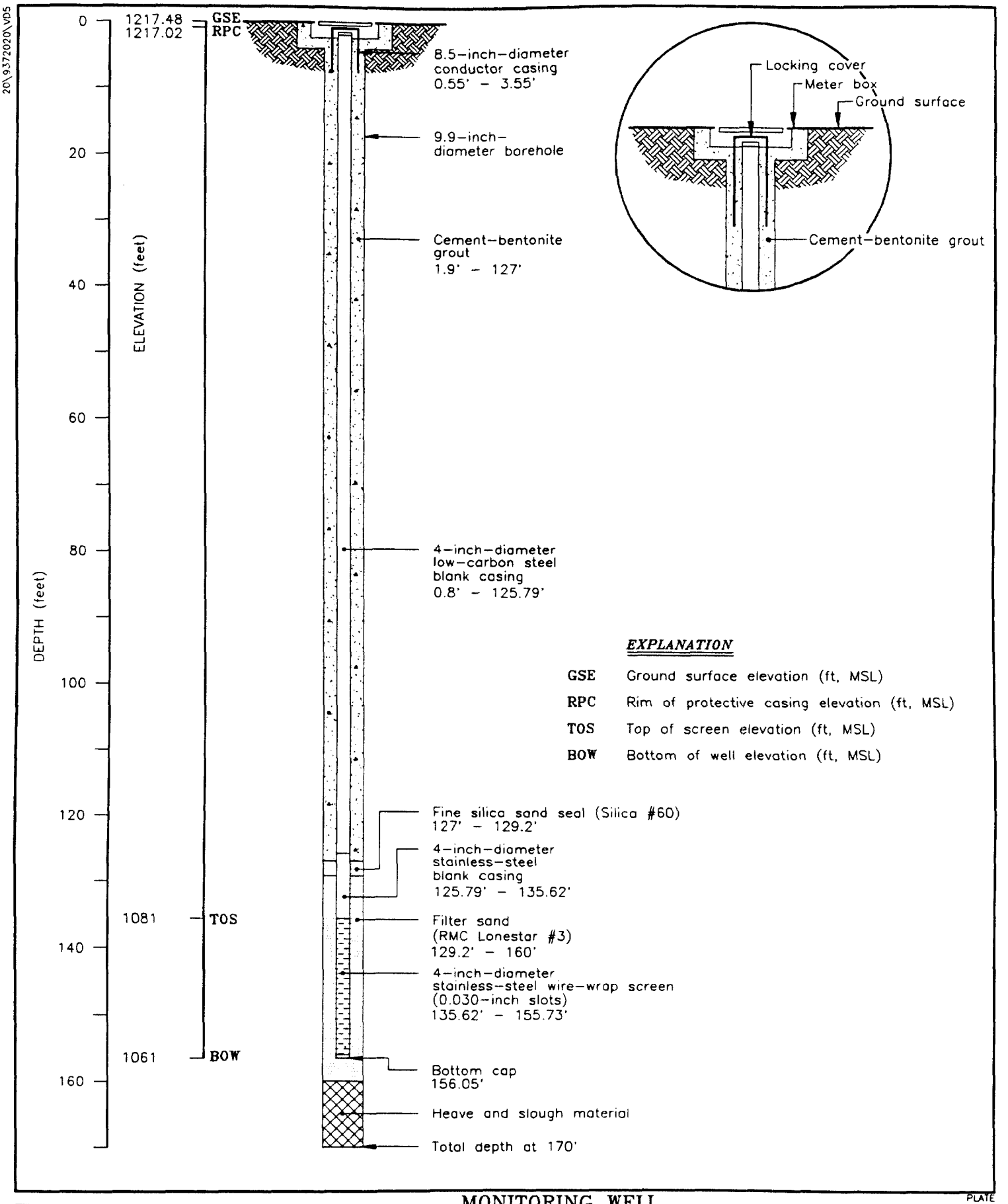

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MONITORING WELL
VD-VPB-5

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372,020.11		1/90	JMM	7/92

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BORING/WELL NUMBER VDVPB-5 CLIENT LADWP

DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI

ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	8:44				SW	SAND (SW) tan, dry, very fine- to coarse-grained sand, with minor 1/4-inch-diameter angular gravel	
5			0.0			increase in gravel content	
10	8:46 8:49		0.0			decrease in gravel content	
15			0.0				
20	8:52 8:55		0.0		SW	GRAVELLY SAND (SW) brown, slightly moist, very fine- to coarse-grained sand, with 1/4- to 3-inch-diameter rounded gravel	
25			0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-5 (sheet 1 of 7)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-5 CLIENT LADWP
DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	8:59 9:11	1	0.0			increase in gravel content	
35			0.0				
40	9:17 9:19		0.0			increase in gravel content	
45			0.0			increase in gravel content, 1/4 to 4 inches in diameter	
50	9:29 9:31		0.0			decrease in gravel content	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring VDVPB-5 (sheet 2 of 7)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-5 CLIENT LADWP
DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			0.0			increase in gravel content	
60	9:41 9:54	2	0.0		SW	GRAVELLY SAND (SW) tan, slightly moist, coarse-grained sand and 1/4- to 1/2-inch-diameter subrounded, weathered granitic gravel	
65							
70	10:04 10:07		0.0			gravel to 1/2-inch-diameter increase in moisture content	
75			0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-5 (sheet 3 of 7)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-5 CLIENT LADWP
DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	10:14 10:17		0.0				
85			0.0				
90	10:57 11:14		0.0		SC	CLAYEY SAND (SC) brown, moist, medium- to coarse-grained sand, with clay and trace of 1/4-inch-diameter gravel	
95			0.0		SM	SILTY SAND (SM) brown, moist, fine- to medium-grained sand, with silt and trace of 1-inch-diameter gravel	
100			0.0				
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-5 (sheet 4 of 7)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-5 CLIENT LADWP
DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							
110	11:47 11:54		0.0		SW	SAND (SW) tan, moist, very coarse angular sand, with 1/4-inch-diameter gravel	
115	12:00		0.0			increase in 1/2- to 3-inch-diameter gravel content	
120	12:08 12:30	3	0.0				
125			0.0				
130	12:43 13:20		0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-5 (sheet 5 of 7)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER VDVPB-5 CLIENT LADWP
DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI
ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135			0.0			SAND (SW) tan, wet, medium- to coarse-grained sand, with trace of 1/4-inch-diameter gravel	
140	13:47 13:48		0.0				▽ Ground water encountered at 140 feet.
145			0.0			GRAVELLY SAND (SW) tan, wet, very coarse angular sand, with 1/4-inch-diameter subangular gravel and silt	
150	15:12 15:27		0.0				
155			0.0		SM	SILTY SAND (SM) brown, wet, very fine- to coarse-grained sand and silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-5 (sheet 6 of 7)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-5 CLIENT LADWP

DATE STARTED 12/14/89 COMPLETED 12/18/89 PROJECT San Fernando Valley RI

ELEVATION 1210 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	15:54 9:20		0.0				
165	9:35					increase in gravel content	
						decrease in gravel content	Hydropunch sample taken.
170							Boring terminated at 170 feet on 12/18/89. Boring converted to Monitoring Well VD-VPB-5 on 12/18/89. Ground water measured at 136 feet on 12/18/89.
175							
180							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 156.05 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 170 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-5 (sheet 7 of 7)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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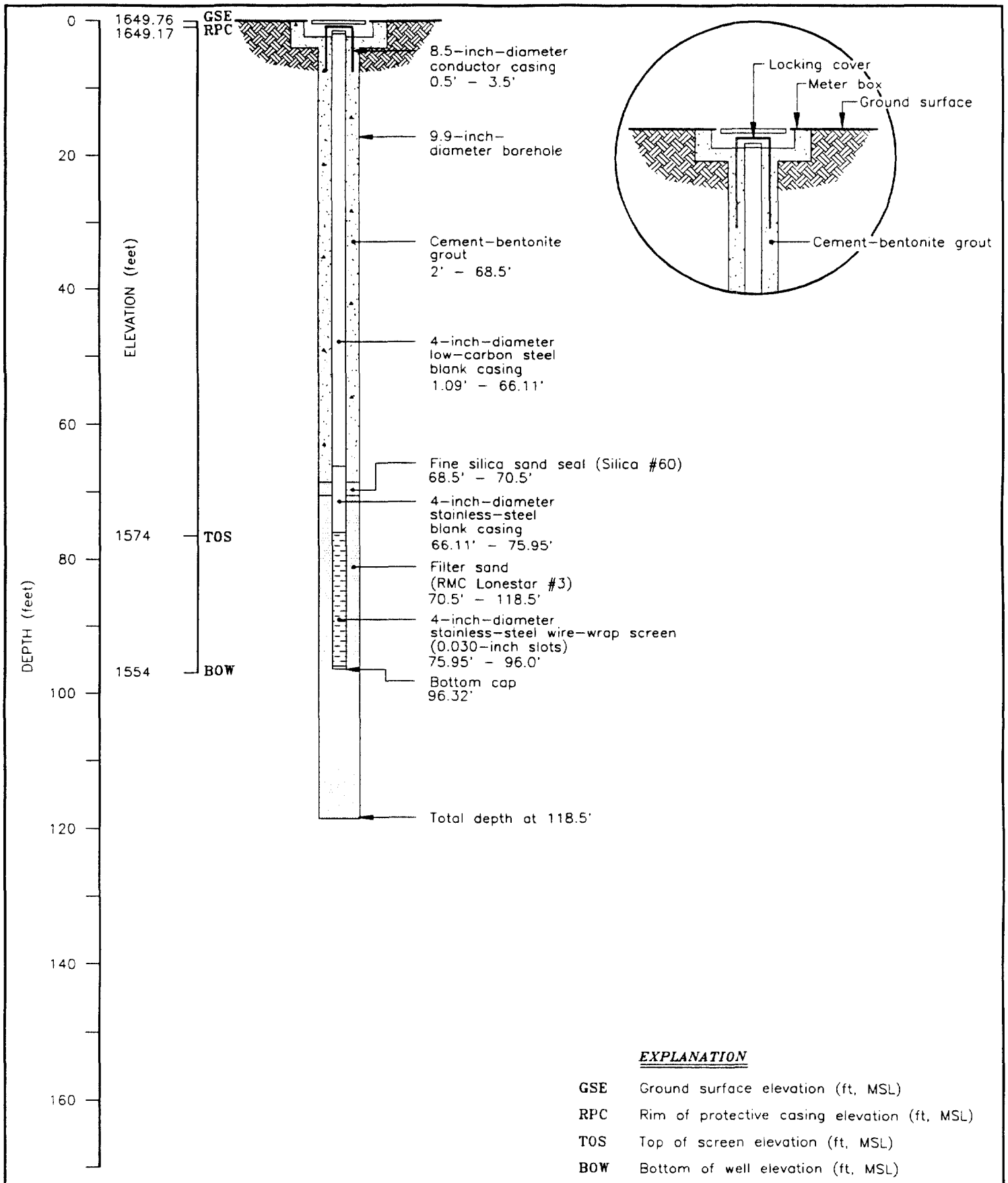

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
VD-VPB-6
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.020.11		1/90	JMM	7/92

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BORING/WELL NUMBER VDVPB-6 CLIENT LADWP
DATE STARTED 1/3/90 COMPLETED 1/4/90 PROJECT San Fernando Valley RI
ELEVATION 1660 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:58				SP	GRAVELLY SAND (SP) brown, slightly moist, subangular fine- to coarse-grained sand, with 1/4- to 1-inch-diameter, subrounded to angular gravel	
5			0.2				
10	12:05 12:11						
15	12:23		0.2				
20	12:33 12:37		0.2				
25			0.2			increase in clast size of gravels up to 5 inches in diameter	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 120 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring VDVPB-6 (sheet 1 of 5) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-6 CLIENT LADWP
DATE STARTED 1/3/90 COMPLETED 1/4/90 PROJECT San Fernando Valley RI
ELEVATION 1660 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30	12:50 12:54					GRAVELLY SAND (SP) brown, slightly moist, fine- to coarse-grained sand, with subangular, 1/4-to 1-inch-diameter gravel	
35			0.2			trace of silt	
40	13:02 13:32	1	0.0		SM	SILTY SAND (SM) brown, moist, subangular fine- to very coarse-grained sand, with silt	
45			0.2				
50	13:44	2	0.0		SC	CLAYEY SAND (SC) brown, moist, coarse-grained sand and clay, with 1/4- to 1/2-inch-diameter gravel and trace of silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 120 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring VDVPB-6 (sheet 2 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-6 CLIENT LADWP
DATE STARTED 1/3/90 COMPLETED 1/4/90 PROJECT San Fernando Valley RI
ELEVATION 1660 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55			0.0		SW	GRAVELLY SAND (SW) brown, moist, angular medium-grained sand, with 1/4- to 1/2-inch-diameter subangular gravel	
60	14:10 14:19		0.0				
						increase in gravel size 1/4 to 1 inch in diameter	
65	14:37		0.0				
						increase in gravel content	
70	14:39		0.0				
						decrease in gravel content	
75			0.0		SP	GRAVELLY SAND (SP) brown, moist, angular fine- to coarse-grained sand, with 1/4- to 1/2-inch-diameter angular gravel and trace of silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 120 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring VDVPB-6 (sheet 3 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-6 CLIENT LADWP
DATE STARTED 1/3/90 COMPLETED 1/4/90 PROJECT San Fernando Valley RI
ELEVATION 1660 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	14:50 15:11	3	0.0				
85			0.0			decrease in gravel content	
90	15:26		0.0		SC	CLAYEY SAND (SC) white, moist, angular coarse-grained sand, with white or light tan clay (weathering product?)	
95	15:47		0.0		SW	SAND (SW) tan, dry, angular fine- to very coarse-grained sand, with 1/4-inch-diameter gravel	
100	16:12		0.0				
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 120 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-6 (sheet 4 of 5)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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CONSULTING ENGINEERS, INC.
501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2258

BORING/WELL NUMBER VDVPB-6 CLIENT LADWP
DATE STARTED 1/3/90 COMPLETED 1/4/90 PROJECT San Fernando Valley RI
ELEVATION 1660 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							
	16:55						∇ Ground water encountered at 108 feet.
	8:13						
110	8:23						
	9:24						
115	10:19						
	10:54						
120							Boring terminated at 120 feet on 1/4/90. Boring converted to Monitoring Well VD-VPB-6 on 1/4/90. Ground water measured at 72 feet on 1/4/90.
125							
130							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 96.32 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 120 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-6 (sheet 5 of 5)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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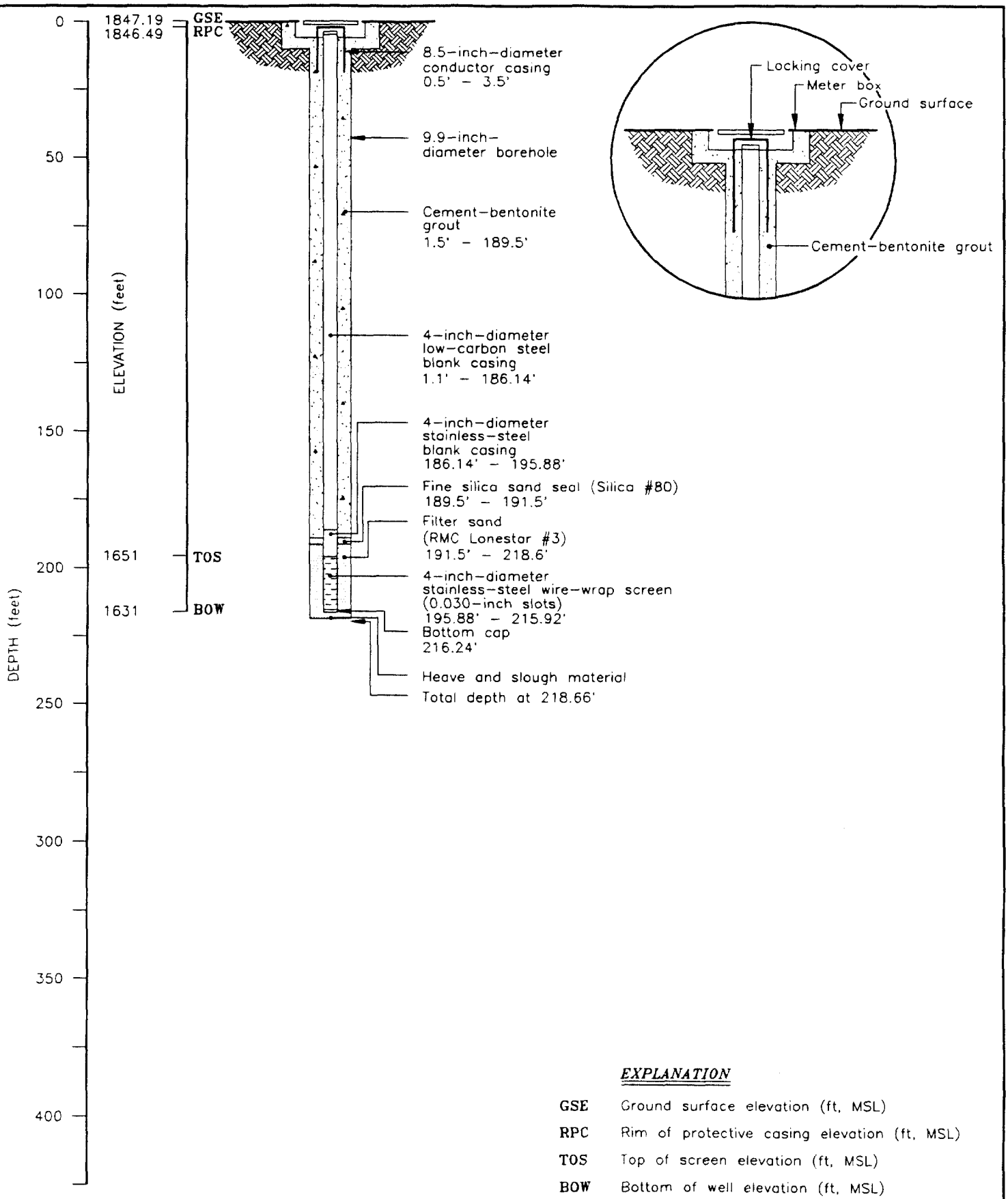

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
VD-VPB-7
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372,020.11		1/90	JMM	7/92

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BORING/WELL NUMBER VDVPB-7 CLIENT LADWP

DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI

ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	11:40				SP	GRAVELLY SAND (SP) light brown, slightly moist, subangular very fine- to coarse-grained sand and fine gravel	
5							
					GP	GRAVEL (GP) light brown, dry, subangular gravel greater than 1/4 inch in diameter	
	11:46		0.0				
10	11:56						
	12:01						
15	12:02					cobble-size gravel encountered	
	12:07		0.0				
20	12:47						
25							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-7 (sheet 1 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-7 CLIENT LADWP
DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI
ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						granitic boulders encountered	
30	12:58 13:16						
35							
40	13:32 13:43				GP	GRAVEL (GP) with minor sand	
45							
50	13:55 14:34	1	0.0				

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-7 (sheet 2 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-7
DATE STARTED 11/29/89 COMPLETED 12/1/89
ELEVATION 1860 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55							
60	14:49 14:58				SP	GRAVELLY SAND (SP) light brown, slightly moist, subrounded to rounded coarse-grained sand and granitic cobbles	
65							
70	15:06 15:35				GP	SANDY GRAVEL (GP) light brown, slightly moist, subrounded and weathered cobbles and minor coarse-grained sand	
75							

METHOD OF DRILLING Dual Wall - Air Perc
HOLE DIAMETER 9-7/8"
TOTAL DEPTH 219 ft
WELL COMPLETION DEPTH 216.24 ft
WELL DIAMETER 4"
WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-7 (sheet 3 of 9)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-7 CLIENT LADWP

DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI

ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	15:46 16:24	2	0.2				
85	16:34 16:37						
90	16:43 8:25		0.0			weathered boulders and cobbles mostly granitic	
95							
100	8:44 8:51				SM	SILTY SAND (SM) light brown, slightly moist, medium- to coarse-grained sand, with silt and fine gravel occasional cobbles and boulders	
105							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-7 (sheet 4 of 9)

San Fernando Valley RI
San Fernando, California

PLATE

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HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-7 CLIENT LADWP
DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI
ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105							
110	9:11 9:16		0.2				
115					GP	GRAVEL (GP) light brown, dry, subrounded and weathered, boulders and cobbles with medium- to coarse-grained sand	
120	9:29 9:37						
125							
130	9:50 10:33	3	0.0			abundant cobbles and boulders	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-7 (sheet 5 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-7 CLIENT LADWP
DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI
ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
135							
140	10:46 10:55		0.0				
145	11:03				SM	**SILTY SAND (SM)** brown, slightly moist, subrounded fine- to coarse-grained sand, with silt and some mica, with occasional boulders and cobbles	
150	11:13 11:29				GP	**GRAVEL (GP)** light brown, slightly moist, subrounded and weathered gravel and cobbles	
155	11:40 11:48				SM	**SILTY SAND (SM)** brown, slightly moist, fine- to medium-grained sand, with silt	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

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Engineers and Geoscientists

Log of Boring VDVPB-7 (sheet 6 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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BORING/WELL NUMBER VDVPB-7 CLIENT LADWP
DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI
ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	13:12	4	0.0			GRAVEL (GP) light brown, slightly moist, subrounded and weathered gravel and cobbles, with some silt	
165							
170	13:28 13:36				GP		
175							
180	14:46 14:59		0.0			occasional lenses of silt encountered	

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

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Log of Boring VDVPB-7 (sheet 7 of 9) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

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501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-7 CLIENT LADWP
DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI
ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185						abundant cobble-sized material	
190	15:34 16:29	5					
195	16:52 8:25					saturated, clay mixed with gravel	∇ Ground water encountered at 195 feet.
200	8:44 9:33					mixture of cobbles, coarse-grained sand with clay and some silt	
205							
210	10:07 10:22				GP		

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft
HOLE DIAMETER 9-7/8" WELL DIAMETER 4"
TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring VDVPB-7 (sheet 8 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,020.11		3/90		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

501 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 933-2250

BORING/WELL NUMBER VDVPB-7 CLIENT LADWP

DATE STARTED 11/29/89 COMPLETED 12/1/89 PROJECT San Fernando Valley RI

ELEVATION 1860 feet AMSL GEOLOGIST P. Patterson, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210						GRAVEL (GP) light brown, wet, coarse gravel and cobbles with subangular coarse grained minor clay and silt	
	10:32						
215							
220							Boring terminated at 219 feet on 12/7/89. Boring converted to Monitoring Well VD-VPB-7 on 12/1/89. Ground water measured at 192.9 feet on 12/1/89.
225							
230							
235							

METHOD OF DRILLING Dual Wall - Air Perc WELL COMPLETION DEPTH 216.24 ft

HOLE DIAMETER 9-7/8" WELL DIAMETER 4"

TOTAL DEPTH 219 ft WELL MATERIAL 304-SS & Low Carbon

Harding Lawson Associates
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Log of Boring VDVPB-7 (sheet 9 of 9)

PLATE

San Fernando Valley RI
San Fernando, California

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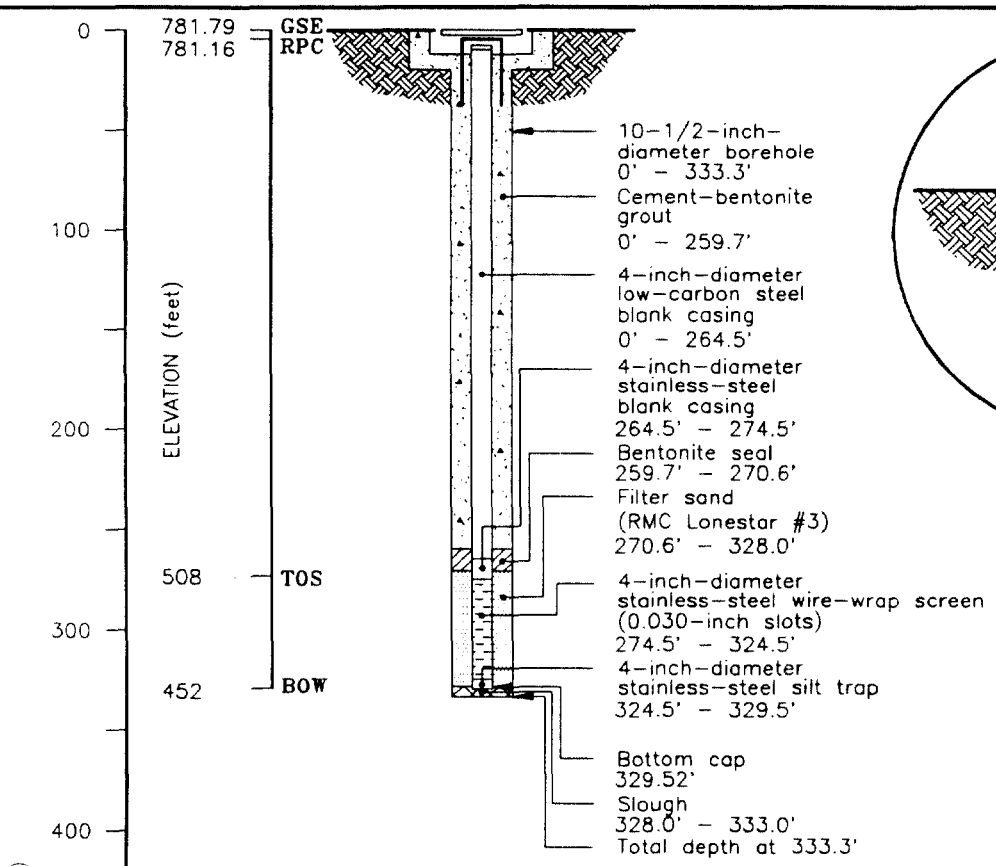
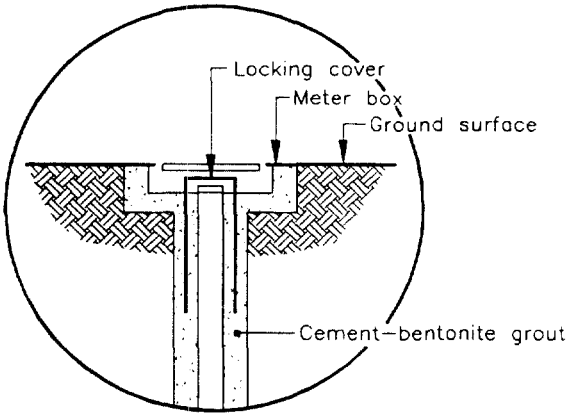
HK	9372,020.11		3/90		

APPENDIX C: BORING LOGS

APPENDIX C.5 NORTH HOLLYWOOD CLUSTER WELLS



(All depths in feet below ground surface)



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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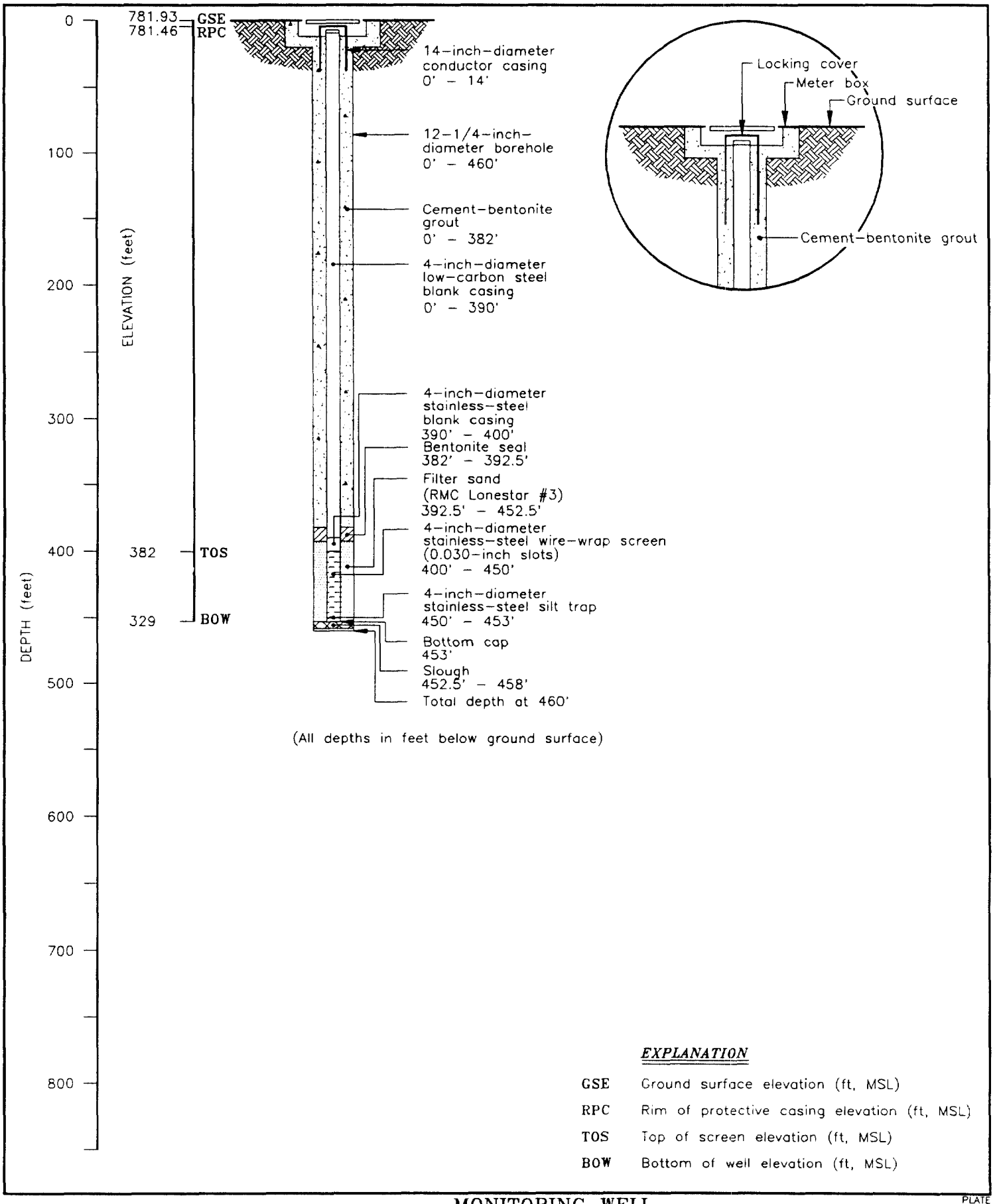
Engineers and Geoscientists

MONITORING WELL
NH-CW-01-325
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372.034.16		12/90	JMM	7/92



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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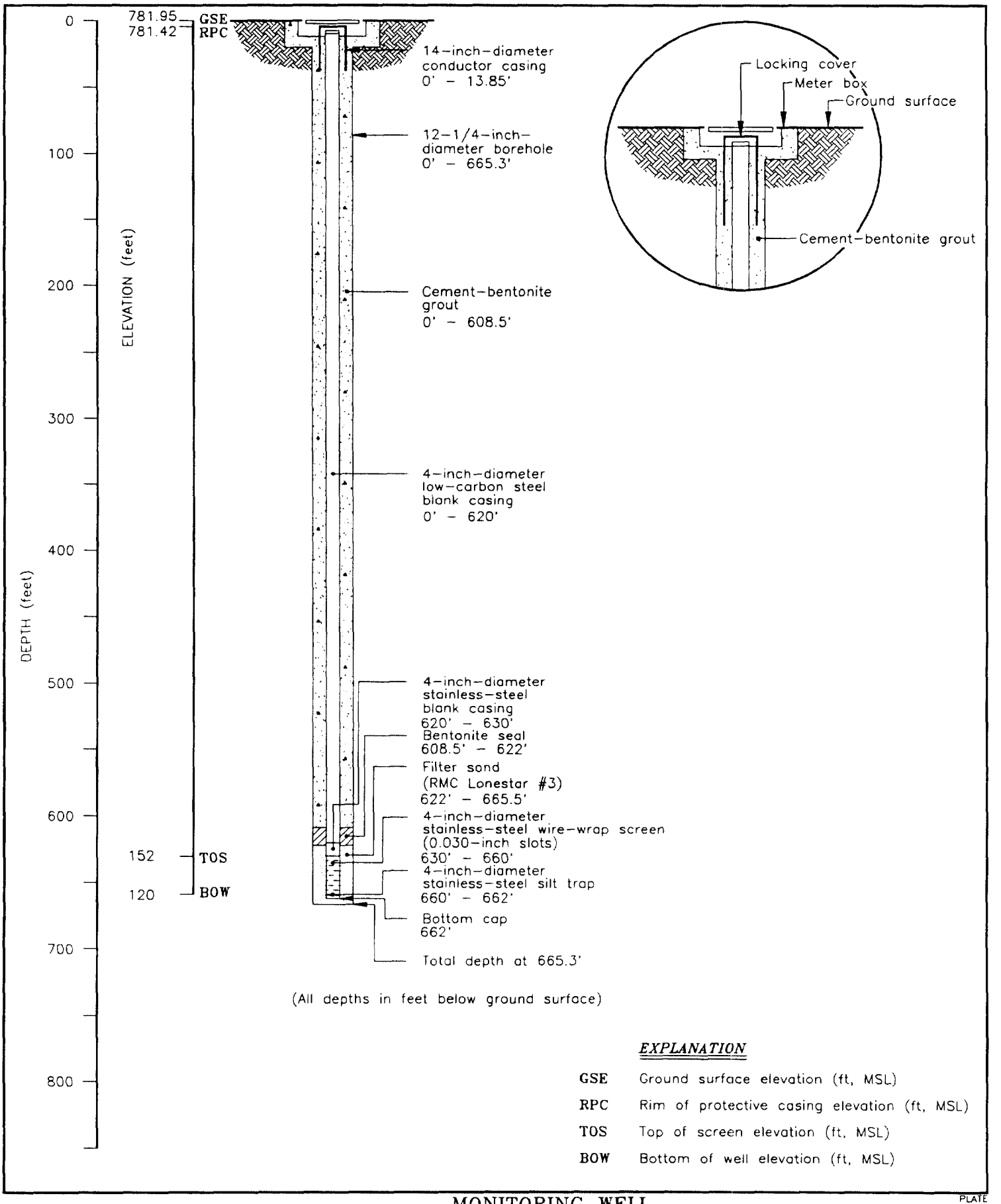
MONITORING WELL
NH-CW-01-450

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372.034.16		12/90	JMM	7/92



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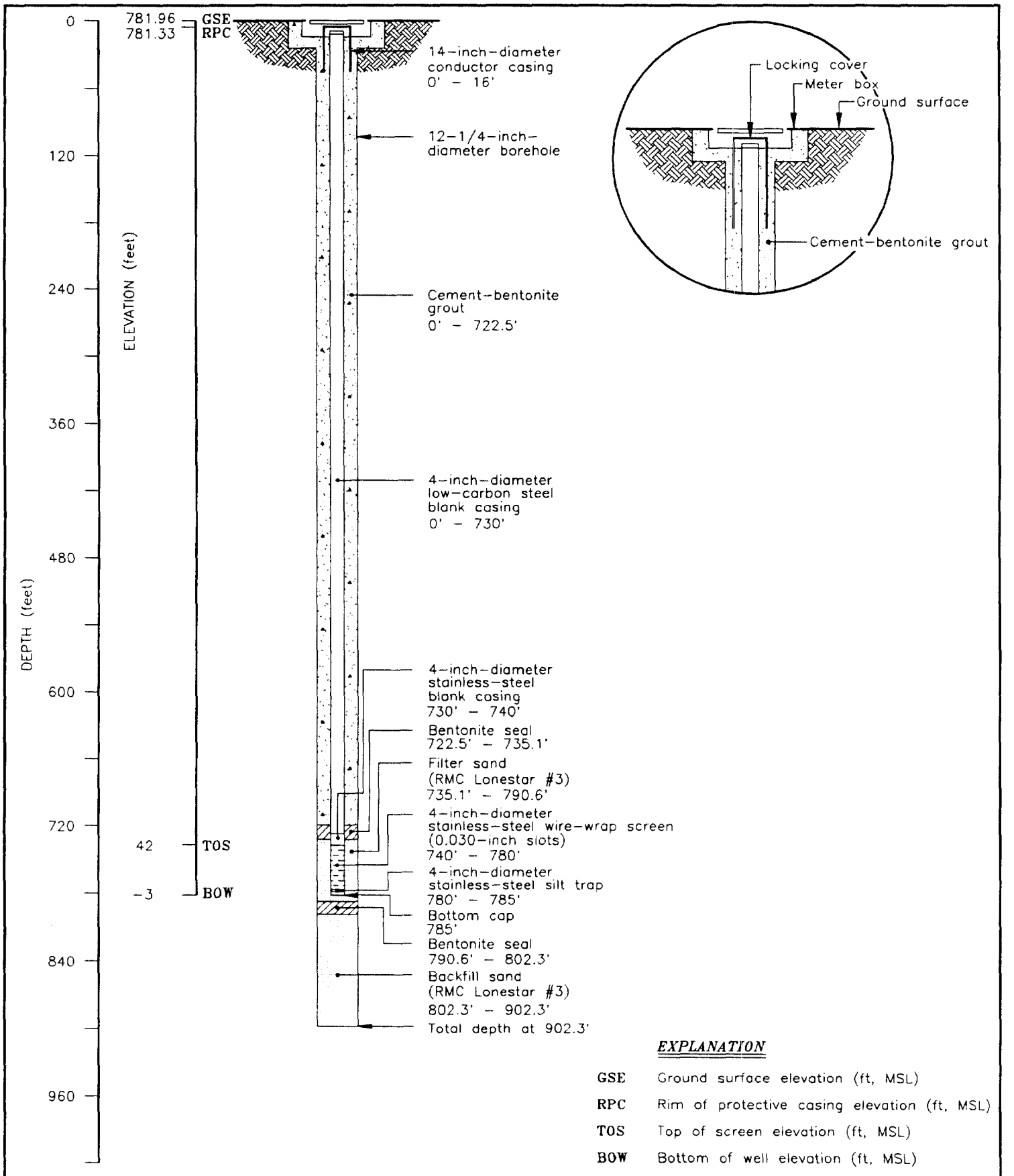
MONITORING WELL NH-CW-01-660

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372.034.16		12/90	JMM	7/92

HDT\JMM\CW01780



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

(All depths in feet below ground surface)

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PLATE

MONITORING WELL
NH-CW-01-780
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.034.16		12/90	JMM	7/92

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	14:25					GRAVELLY SAND (SW) medium brown, moist, equal percents of fine- to coarse-grained sand	Solid stem auger (18-inch-diameter) drilled to 16 feet, conductor casing (14-inch-diameter) set from 0-16 feet, 0-16 feet logged from auger cuttings.
5					SW		
						gravel in zones, subrounded, granitic composition	
10							
15							
	10:00						Begin mud rotary at 16 feet.
20	10:03 10:08					increasing gravel content	
						fine- to medium-grained sand, minor silt	
25					SW		

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C01

(sheet 1 of 35)

PLATE

San Fernando Valley RI
Los Angeles County, California

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HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
30							
35						cobble zone, grabbroic rock fragments	
40	10:15 10:39						
							chatter
							chatter with bounce
45							
					GW	SANDY GRAVEL (GW) medium brown to gray, fine- to coarse-grained gravel with 30% medium- to coarse-grained sand, minor thin silt interbeds, composed of granitic rock fragments	abundant broken grains
50							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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(sheet 2 of 35)

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San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW)	
55					GW		
60	10:51 10:55						
65							
						decreasing sand content	smooth for 6 inches drill bit turning slowly
70							
75							smooth violent chatter/bouncing drill stem

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
Los Angeles County, California

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HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	11:17 11:22				GP	GRAVEL (GP) gray, fine- to coarse-grained gravel, composed of granitic rock fragments, metaquartzite and ultra mafics	many broken grains
	11:26						
85							
	11:32						
90	11:44					increasing sand content	decreasing broken grains
							slight decrease in chatter
95							increase chatter
	11:59						
100	12:07 12:17						
105							consistent rough chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01

(sheet 4 of 35)

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San Fernando Valley RI
Los Angeles County, California

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HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	12:27				GP	GRAVEL (GP) minor silt	
110							
115							
120	13:06 13:12					GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand with fine gravel in zones, minor silty interbeds, micaceous, granular fraction composed of granitic rock fragments	abundant broken grains
125	13:20				SW		
130	13:30						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
135	13:43					decreasing silt content	
					GW	SANDY GRAVEL (GW) brown-gray, fine-grained subangular gravel with medium-grained sand, granitic composition	
140	13:57 14:00						consistent chatter with less intensity, 1 to 2 foot thick cobble zones
145	14:13						
150	14:28						increased chatter
155	14:37						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01

(sheet 6 of 35)

PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SES	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
160	15:09 15:13						
	15:26						chatter with bounce
165							
	15:46						bit catching slower drilling
170						silty zone	
	16:20						smooth, fast drilling
175	16:28				SW	GRAVELLY SAND (SW) light brown-gray, dominantly medium- to coarse-grained, with fine- grained gravel and cobble zones, composed of granitic rock fragments	slow drilling with chatter some broken grains
	16:37						
180	16:49 16:54						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01

(sheet 7 of 35)

PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SW	GRAVELLY SAND (SW)	
190	17:21						
195	17:30				GP	GRAVEL (GP) gray, fine- to coarse-grained gravel, with some medium- to coarse-grained sand, composed of granitic rock fragments	dominantly broken grains
200	17:45 17:53						rough consistent chatter
	18:03				GP		
205	18:15						
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01

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PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SLS	12/90		

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01
DATE STARTED 5/16/90 COMPLETED 5/25/90
ELEVATION 785 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	18:37					SANDY GRAVEL (GW) gray-brown, fine-grained gravel with fine- to coarse-grained sand, trace of silty sand, granular fraction composed of granitic rock fragments	
	8:53						
	9:07				GW		chatter with bouncing drill stem
215							
220	9:17						
	9:21						
	9:26						predominantly smooth with minor chatter decreasing broken grains
225	9:34						
	9:42						
230	9:46					cobble zone	consistent rough chatter with bouncing drill stem
235							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 902 ft

WELL COMPLETION DEPTH 780 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01 (sheet 9 of 35)

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SLS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW)	
240	10:07 10:10				GW	cobble zones	decreased chatter increased chatter smooth with chatter
245							
250	10:28					silty zone	
255						cobble zone	
260	10:45 11:58						consistent chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01

(sheet 10 of 35) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
265							
							smooth
270	12:24				SW	GRAVELLY SAND (SW) medium brown-gray, subrounded fine- to coarse-grained sand with 15% fine-grained gravel, some clayey silt, gravel, and silt occuring as thin interbeds, granular fraction composed of granitic rock fragments	
275							
							slight chatter
280	12:39 12:42					increasing silt content	
							chatter with bounce
285	12:53					cobble zone	smooth chatter with bounce
	13:25						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring NH-C01

(sheet 11 of 35) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	JCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	13:32				SW	GRAVELLY SAND (SW)	
	13:45						
295	13:52						
							smooth
300	14:12 14:15					cobble zone	minor chatter
305							consistent moderate chatter with occasional rough chatter
	14:32					silty zone	
310	14:44						
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C01

(sheet 12 of 35) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					SW	GRAVELLY SAND (SW)	
						decreasing gravel content	
320	15:20 15:24						
325							
330	15:51					cobble zone	chatter
335	16:03						bit catching
340	16:22 16:26						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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(sheet 13 of 35) PLATE

San Fernando Valley RI
Los Angeles County, California

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HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
345							
	16:41						
							6"-1 ft. of faster drilling
350	16:46						
	16:50						
							mild chatter alternating with rough chatter intervals
355							
						gravelly zone	
360	17:15 10:59						
							minor chatter
	11:05						
365							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C01

(sheet 14 of 35) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SLS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
							consistent chatter, slow
370	11:20				GW	SANDY GRAVEL (GW) gray, fine- to coarse-grained gravel with fine- to coarse-grained sand occurring as interbeds, occasional cobble/boulder, granitic composition	rough chatter with bouncing drill stem
							smooth
							bouncing drill stem abundant broken grains
375	12:05					cobble zone	
	12:43						
380	13:06 13:10						
						increasing sand content	
385	13:30						increased chatter with bouncing drill stem
	13:40						
390	13:54						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C01

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San Fernando Valley RI

Los Angeles County, California

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HK	9372,034.16	SCS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395	14:14				GW	SANDY GRAVEL (GW)	
						sandy zone	
400	14:41 14:51						
							rough chatter with bouncing drill stem bit catching on boulders
405	15:08						
	15:30					cobble zone	
410	15:50						
	16:09					increasing thin interbedded sands and gravels	
							rough chatter with bouncing drill stem
415	11:44						smooth with minor chatter
	12:04					increasing cobble/boulder content	
	12:18						chatter with bouncing drill stem, some smooth intervals 90% broken grains
420							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
Los Angeles County, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420					GW	SANDY GRAVEL (GW)	
	12:40 12:44						
425	13:06						
	13:30						
430	13:45						
	14:08						
435							
440							
	14:41 14:45						
445							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
Los Angeles County, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	15:06					SANDY GRAVEL (GW)	
	15:20						
450	15:28					GRAVELLY SAND (SW) gray, medium- to coarse-grained, subangular to subrounded sand, with 10-20% fine- to coarse-grained rounded gravel, variable silt content, granular fraction composed of granitic rock fragments	moderate to rough chatter 40% broken grains
					SW		
455	15:40						
	15:50					increasing gravel content	
	16:26						
460							
	16:39						
	16:49					decreasing gravel content	
465							
	17:26						
							30% broken grains
470	17:38						
							minor chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Los Angeles County, California

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DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	17:43				SW	GRAVELLY SAND (SW)	
475	17:59					thin clayey silt interbeds	minor chatter alternating with smooth intervals
	18:03						
480							
	18:11						
	9:13						
						gravelly zone	
485						decreasing silt content	
	9:35						
490	9:53						
	10:00						
	10:12						
495							
	10:18						
						gravel zone	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Los Angeles County, California

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DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500					SW	GRAVELLY SAND (SW)	
	10:42 10:48					decreasing gravel content	
505	11:18						
510	11:34						
515	12:03					predominantly fine- to medium-grained sand, with fine-grained gravel	
	12:20						
520							
	12:45 12:51					predominantly fine-grained sand, some medium-grained sand with fine-grained gravel	
525					SW		

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525	13:28					GRAVELLY SAND (SW)	
	13:45						
	14:03						
530						fine- to medium-grained, subrounded to subangular sand with minor fine-grained gravel	
535							
	15:21						
540						fine- to coarse-grained sand with fine-grained gravel	
	15:50						moderate chatter
	15:54						20% broken grains
545							
	16:13						
550	16:23						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SW)	
	16:33				SW	cobble zone	chatter with bouncing drill stem, bit catching on cobbles 20% broken grains
555							minor chatter
	16:57				ML	CLAYEY SILT (ML) orange-brown, cohesive, clayey silt, with minor sand	
560							smooth drilling
	17:02 17:06						
565	17:09						
570	17:24						
	17:29				SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained, subrounded sand, with some fine-grained rounded gravel, thin silt interbeds, granular fraction composed of granitic rock fragments	chatter, with bounce
575							minor chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
Los Angeles County, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SW)	
580							
	17:48						
	17:54						
							minor chatter
585	18:02						
590	18:11						
							increasing broken grains
595						silty zone	
	18:20						
600							
	18:28						
	10:22						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
Los Angeles County, California

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					SW	GRAVELLY SAND (SW)	
	10:27						
610	10:30					silty zone	
615	10:40					predominantly medium-grained sand with fine-grained gravel	
620	10:54 11:21						
625	11:28						
630							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
Los Angeles County, California

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DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630	11:40				SW	GRAVELLY SAND (SW)	
635	11:51					SANDY GRAVEL (GW) gray, fine-grained, subrounded gravel with fine- to coarse-grained sand, interbedded cobble zones, composed of granitic rock fragments	chatter with bouncing drill stem abundant broken grains smooth
640	12:09 12:15				GW		slight chatter
645	12:42					cobble zone	chatter with bouncing drill stem
650	12:58					cobble zone	minor chatter
655	13:44					increasing sand content sand interbeds becoming thicker	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
Los Angeles County, California

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW) cobble zone	increased chatter
660							decreased chatter
	13:28 13:34						chatter with bouncing drill stem, thin smooth intervals
665	13:44					cobble zone	
							predominantly smooth minor chatter
670	14:04 14:32				SM	SILTY SAND (SM) light orange-brown, fine- to coarse-grained subangular sand, with silt disseminated throughout	
675	14:44						
680	15:13 15:20					decreasing silt content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Los Angeles County, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
685							
	15:50						
690	15:53					increasing silt content	
695	16:01						increase in drilling rate
700	16:35 16:41					clayey silt interbed	
705						GRAVELLY SAND (SW) gray-brown, medium- to coarse-grained sand with subrounded fine- to coarse-grained gravel, granitic composition	some broken grains moderate consistent chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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San Fernando Valley RI
Los Angeles County, California

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JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01
CLIENT LADWP
DATE STARTED 5/16/90 COMPLETED 5/25/90
PROJECT San Fernando Valley RI
ELEVATION 785 feet AMSL
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710	17:12				SW	GRAVELLY SAND (SW) decreasing gravel content	
715	17:35						
720	18:03 18:07				SW	SAND (SW) gray-brown, fine- to coarse-grained subrounded sand with gravelly zones, composed of quartzite, plagioclase, orthoclase, and mafics, few rock fragments	
725	18:31 8:35						
730							
735	8:53						

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 780 ft
HOLE DIAMETER 12-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 902 ft
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
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ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
735					SW	SAND (SW) medium- to coarse-grained sand with 10% fine-grained gravel	faster drilling, with slightly less chatter
740	9:10 9:14						
745	9:29						increase chatter
750	9:48						moderate to rough chatter, occasional bouncing drill stem
755							
760	10:20						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	10:24				SW	SAND (SW)	
765	10:36						
	10:44						
770	10:49						
775							
780	11:20						
	11:26						
785							smooth with occasional light chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
790	12:01 12:32				CL	SILTY CLAY (CL) medium orange-brown, cohesive, moderately plastic, with 10-20% fine-grained sand occuring as thin interbeds	
795	12:43						
800	13:00 13:04						smooth, with little chatter, faster drilling
805							
810	13:25						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Los Angeles County, California

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DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
815	13:32				CL	SILTY CLAY (CL)	
820	13:51 14:02					color change to light brown, increase grain size of sand	slower drilling
825	14:38						
830	14:59						increased chatter smooth
835	15:28					increasing sand content (40%)	
840					SW	GRAVELLY SAND (SW)	consistent light chatter, faster drilling some broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
840	15:52 16:00				SW	GRAVELLY SAND (SW) light to medium brown, fine- to coarse-grained, subrounded to subangular gravel, with granular fraction, silty clay interbeds composed of granitic rock fragments	
845	16:31					silty zone	
850	16:41 17:14						increased chatter with bouncing drill stem
	17:43						some broken grains
855						cobble zone	bit catching moderate chatter
860	18:20 7:24						
865	7:59				SC	CLAYEY SAND (SC) medium brown, medium-grained, subrounded sand with variable clay content, and thin fine-grained gravel interbeds	decreased chatter, faster drilling

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C01

(sheet 33 of 35)

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

00672/C

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SC	CLAYEY SAND (SC)	
870	8:18					cobble zone	minor chatter
875	8:38					clayey interbed	
880	9:01 9:07						
885							
890	9:31						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C01

(sheet 34 of 35) PLATE

San Fernando Valley RI
Los Angeles County, California

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HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C01 CLIENT LADWP

DATE STARTED 5/16/90 COMPLETED 5/25/90 PROJECT San Fernando Valley RI

ELEVATION 785 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SC	CLAYEY SAND (SC)	
895	9:41					cobble zone	moderate chatter smooth
900	10:14						
	10:17						Boring terminated at 902 feet. Boring converted to monitoring well NH-C01-780 on 6/8/90.
905							
910							
915							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 780 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 902 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C01

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PLATE

San Fernando Valley RI
Los Angeles County, California

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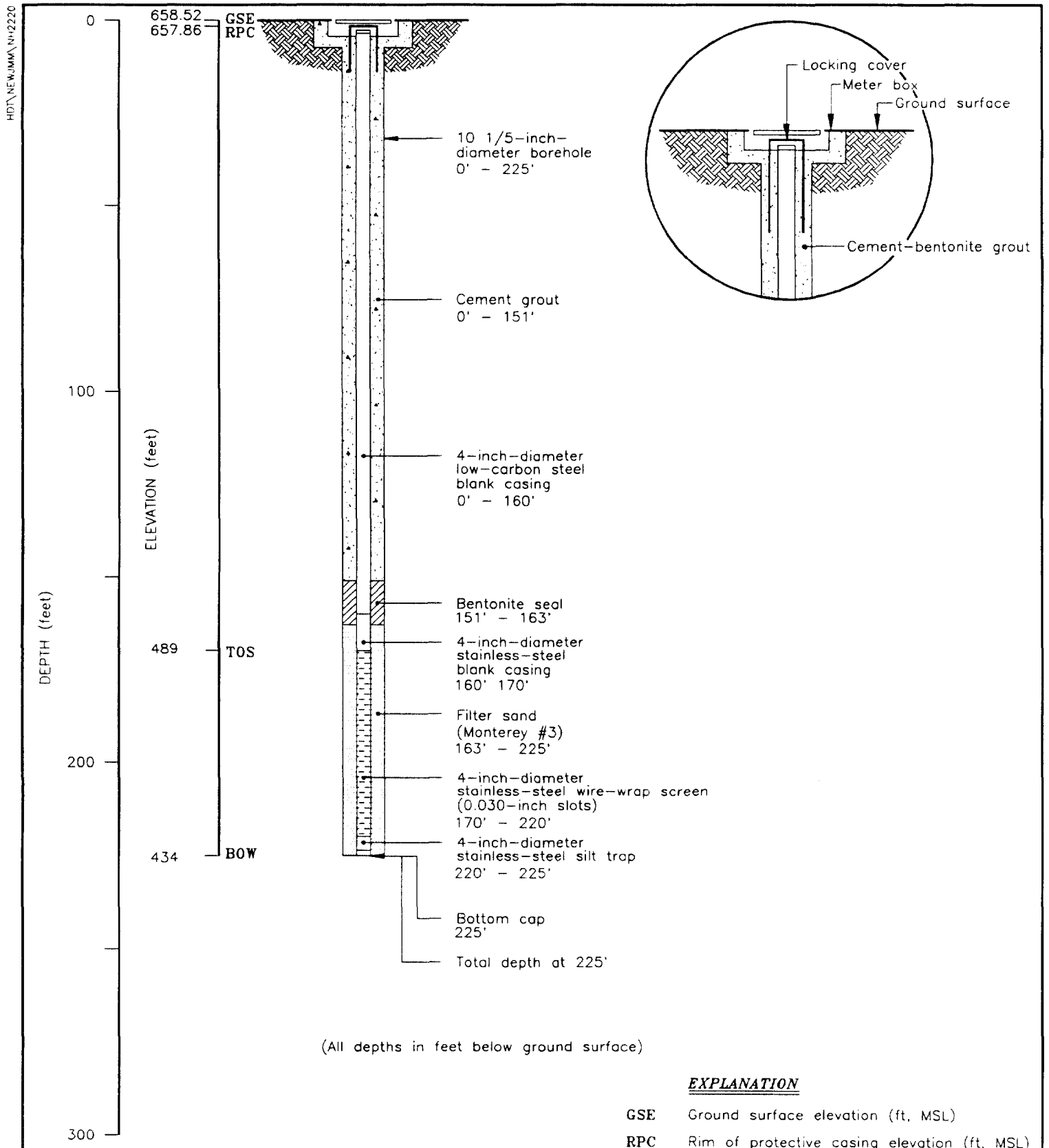
HK	9372,034.16	SCS	12/90		



(All depths in feet below ground surface)

EXPLANATION

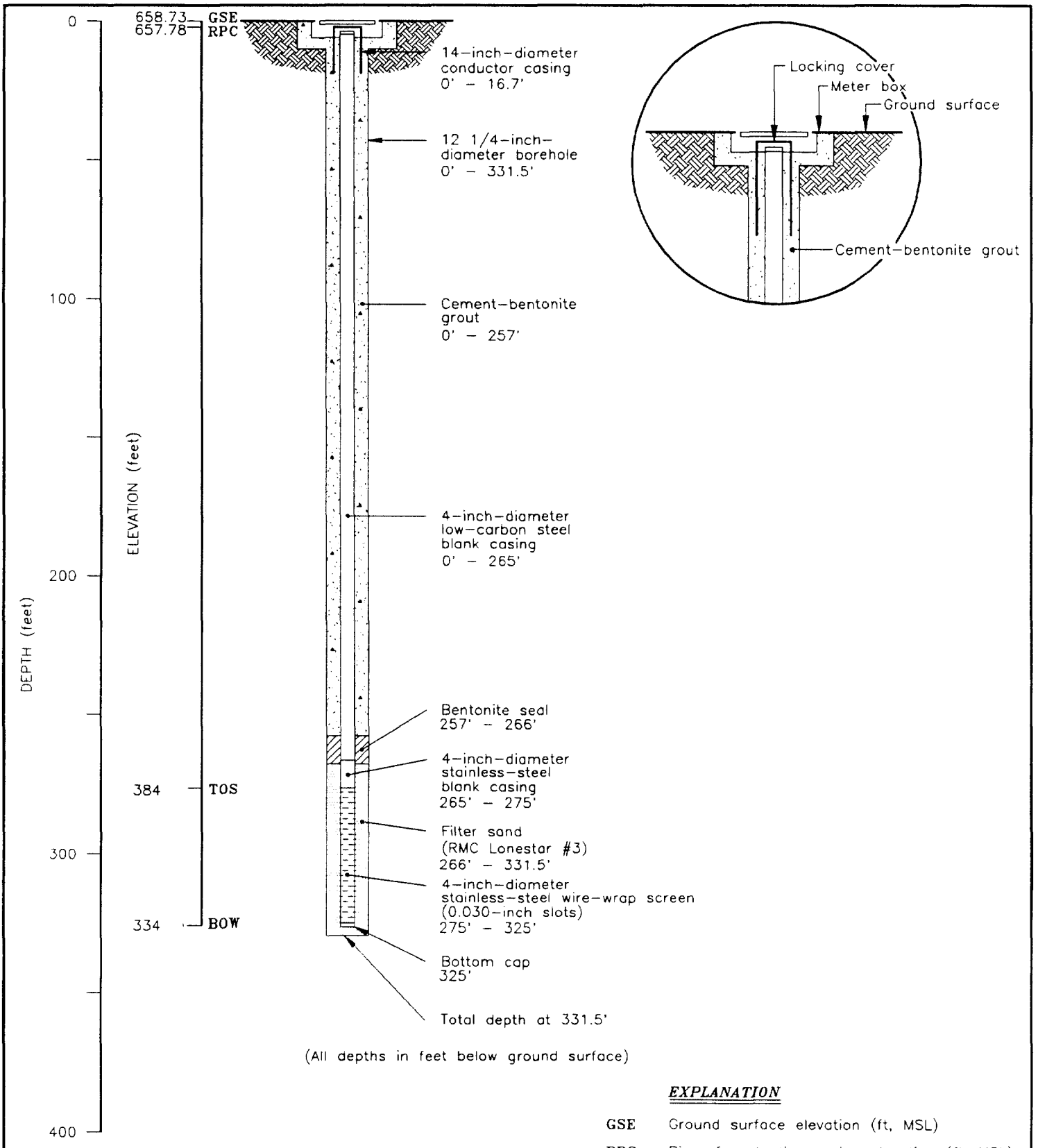
GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
NH-C02-220
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.033.16		1/91	JMM	7/92



(All depths in feet below ground surface)

EXPLANATION

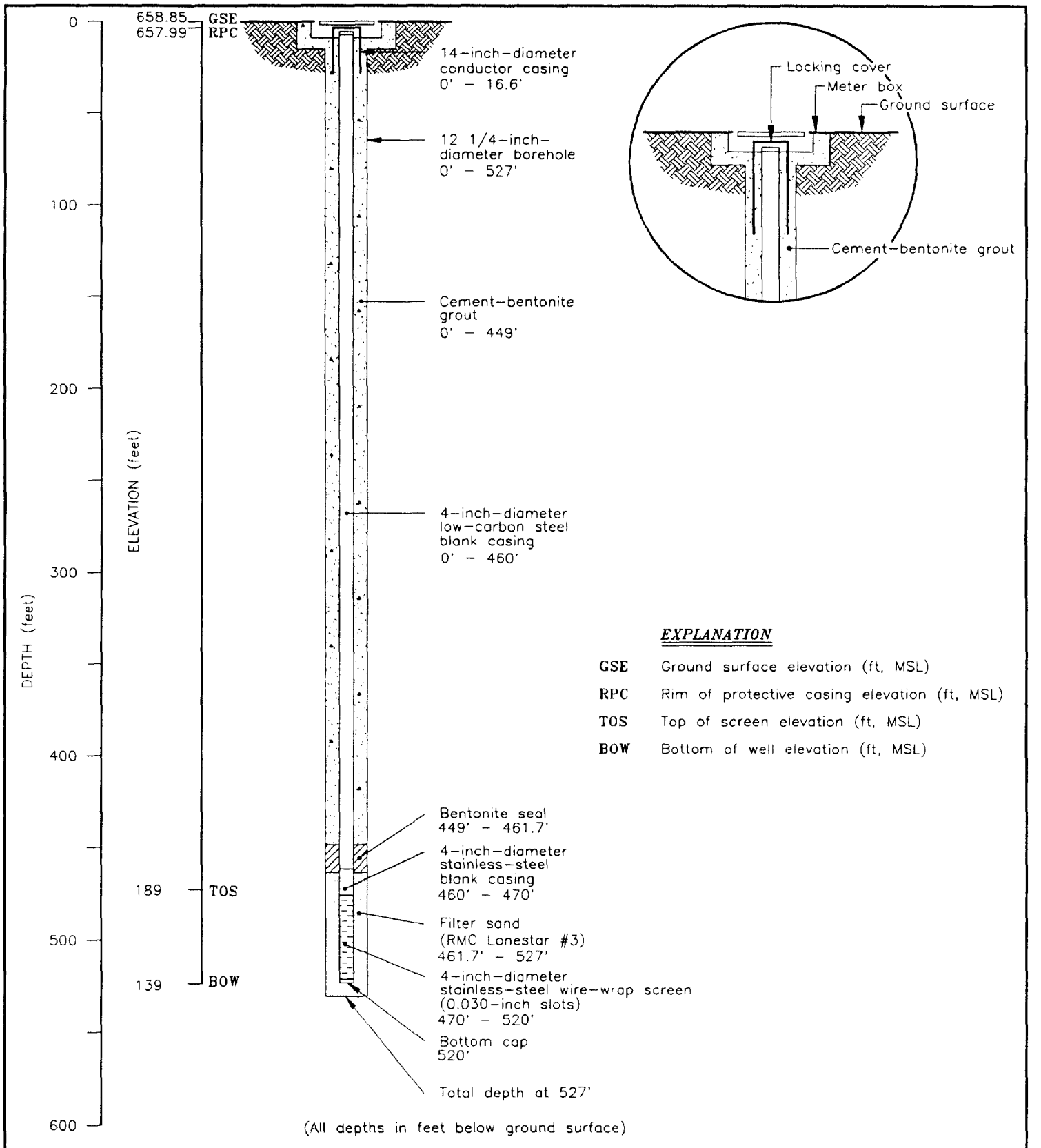
GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
NH-CW-02-325
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
DLS	09372.034.16		12/90	JMM	7/92



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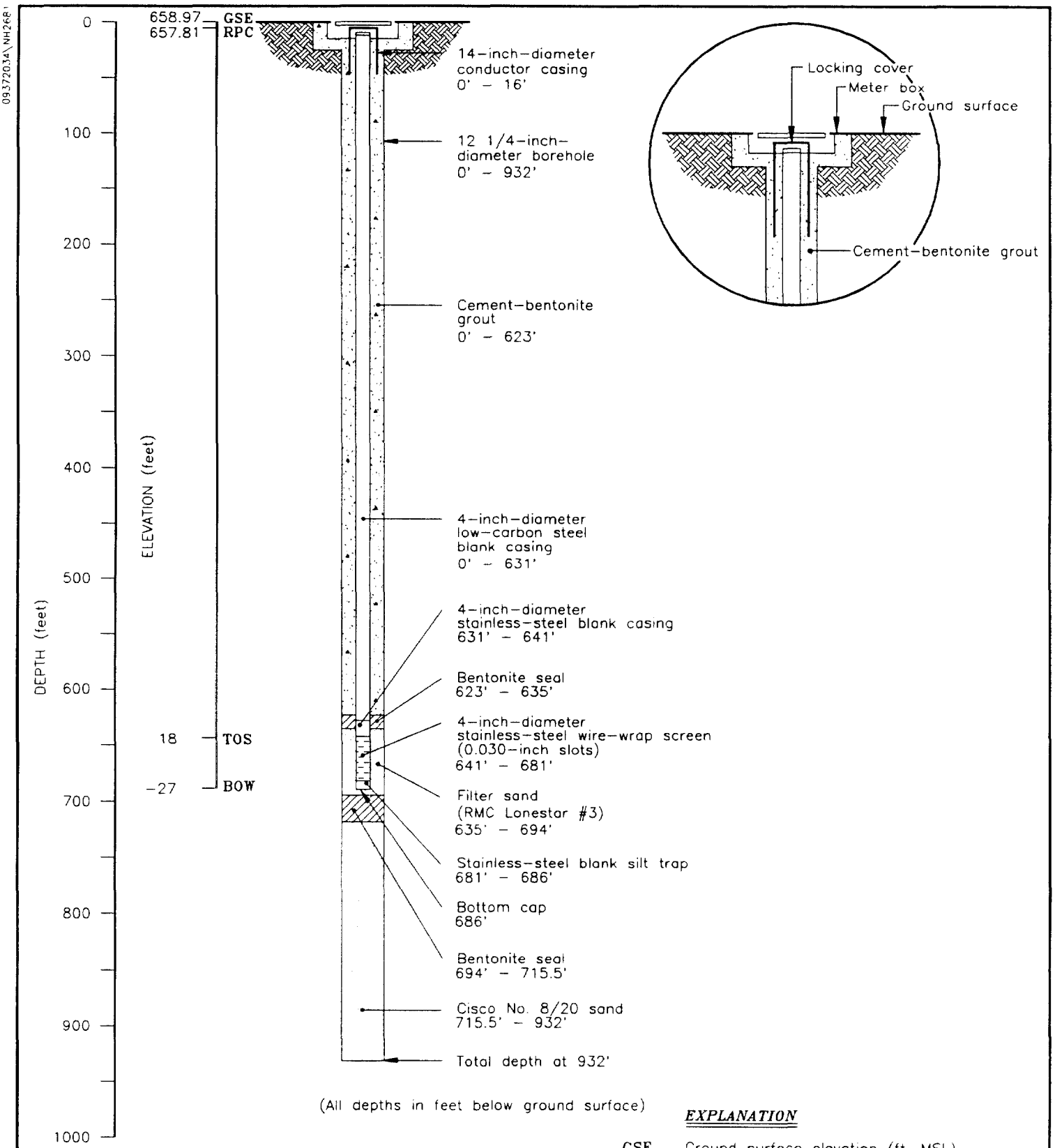
Engineers and Geoscientists

MONITORING WELL
NH-CW-02-520

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
DLS	09372.034.16		12/90	JMM	7/92



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL NH-CW-02-681

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
DLS	09372.034.16		12/90	JMM	7/92

00493/

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						ASPHALTIC CONCRETE & BASE	Solid stem auger (18-inch-diameter) drilled to 16 feet.
					SP	SAND (SP) brown, dominantly fine-grained sand, with some medium-grained sand, trace of coarse-grained sand, fine- to coarse-grained rounded gravel, minor silt, micaceous	Conductor casing (14-inch-diameter) set to 16 feet. 0-16 feet logged from auger cuttings.
5							
10							
15	12:01					dominantly medium-grained sand, granular material composed of quartz and plagioclase, minor mafics and micas	Begin mud rotary at 16 feet.
20						interval of well graded sand	
25	12:10 12:21					trace of brown silt, micaceous	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

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PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
30	12:23					fine- to medium-grained sand, with silt (5%)	chatter
						color change to gray	
35							
40	12:27					increasing percentage mafics	
						GRAVELLY SAND (SW) gray, fine- to coarse-grained sand, with fine-grained well rounded gravels, granular material composed of quartz, plagioclase, orthoclase, granitic, and gabbroic rock fragments	broken grains
45	12:59				SW		
50	13:03					increasing gravel content	increasing amount of broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02 (sheet 2 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	smooth, quiet drilling
55							
60	13:13				GW	SANDY GRAVEL (GW) gray, fine- to coarse-grained gravel, with fine- to coarse-grained sand, trace of black silt, 80% well rounded, 20% angular	chatter
65						increase brown micaceous silt (20%)	violent chatter
70	13:44				GP	GRAVEL (GP) gray, predominantly fine- to coarse-grained rounded and angular gravel, with 20-30% medium- to coarse-grained sand, high percentage gabbroic rock fragments	very slow drilling with violent chatter broken grains
75							increasing broken grains
					GC	CLAYEY GRAVEL (GC) brown, fine- to coarse-grained sand	99% freshly angular, highly weathered rock fragments

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring NH-C02 (sheet 3 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	Scs	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GC	and fine-grained gravel, with silt, micaceous	
80	14:06					SANDY GRAVEL (GW) brown-gray, fine- to coarse-grained rounded to angular gravel, with medium- to coarse-grained sand, high percentage of rock fragments, with 15% thin silty clay interbeds, micaceous	freshly broken grains
					GW		
85							
	14:17					increased roundness	
	14:39						violent chatter with bounce
90	14:45					increasing angularity, decrease silt and clay contents, containing pebbles, cobbles, and boulders	
95						increased clayey silt in balls, with highly weathered granitic or gabbroic material	
							quiet drilling
100	15:03						chatter
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C02 (sheet 4 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					GW	SANDY GRAVEL (GW)	
	15:24 15:30 15:32						
110					ML	CLAYEY SILT (ML) mottled light to red-brown and gray, low to moderate plasticity, micaceous, with minor fine- to medium-grained sand, rare gravel	
115							violent chatter broken grains
120	15:50				GW	SANDY GRAVEL (GW) brown-gray, predominantly fine- to medium-grained sand with silty clay balls, 5% subangular coarse-grained sand and fine-grained gravel, granular material composed of weathered granitic material	
125							
130	16:05 10:10 10:13						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C02

(sheet 5 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
135							
140	10:48					medium- to coarse-grained sand	freshly broken grains
145						increasing fine-grained rounded gravel	
							chatter
150	11:46 12:55					color change to gray	increased broken grains
155							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring NH-C02

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PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
160	13:25					trace rounded grains	
165						increasing fine-grained sand	
170	14:03 14:16				ML	SILT (ML) light brown, micaceous, with fine-grained sand	smooth, quiet drilling
175						color change to red-brown	
180	14:30					increasing fine-grained sand	chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring NH-C02

(sheet 7 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					ML	SILT (ML)	
190	14:50 14:59				ML	CLAYEY SILT (ML) light brown, trace of fine-grained sand, micaceous	quiet, fast drilling
						increasing clay content	
195						color change to brown	
							slower, drilling with chatter
200	15:20					minor gray clay, low to moderate plasticity	increased chatter
205							
	15:55					thin sandy interbed	smooth driling
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

(sheet 8 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	>cs	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	16:40				ML	CLAYEY SILT (ML)	
						little to no clay	
215							
						sandy or gravelly zone, 1 foot thick	
220	16:50						violent chatter, slow drilling
					ML	SANDY SILT (ML) brown, silt with fine-grained sand	
225							
						SAND (SP) brown-gray, fine- to medium-grained angular to rounded sand, trace silt, granular material composed of quartz, plagioclase, and mafics	freshly broken grains
230	17:36 17:48				SP	decrease silt content	
						trace of gray clay	
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

(sheet 9 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP) increase in fine-grained sand	cobbles and boulders
240	18:25 9:08				SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained rounded sand	quiet, slow drilling freshly broken sand grains
245							
							trace freshly broken sand grains
250	9:30 9:33				SM	SILTY SAND (SM) brown-gray, fine- to coarse-grained rounded sand and fine-grained gravel, 30-40% brown, micaceous silt gravelly interbed 1 foot thick increasing silt content (40-45%)	
255							
260	9:48				ML	SANDY SILT (ML) brown, silt with fine-grained sand, with clay, low to moderate plasticity, micaceous	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

(sheet 10 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SANDY SILT (ML)	chatter
265					SM	SILTY SAND (SM) brown, fine- to medium-grained rounded sand, with micaceous silt, granular material of granitic composition	50% of sand grain is freshly broken
270	10:09 10:15						
275							
280	10:45				SW	GRAVELLY SAND (SW) gray, fine- to coarse-grained rounded sand, predominantly medium-grained, with gravel, granular material composed of quartz, plagioclase, mafics, pink orthoclase, granitic, and gabbroic rock fragments	
285						dominantly medium-grained sand	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

(sheet 11 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCJ	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	12:10 12:17				SW	GRAVELLY SAND (SW) medium- to coarse-grained sand	quiet drilling
295						increase percent medium-grained sand	
300	12:55						chatter
305						10% red-brown clay, increase in coarse-grained sand and angularity	
310	14:00 14:05					increase roundness	
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02 (sheet 12 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					SW	GRAVELLY SAND (SW)	
320	14:55					thin silt/clay interbeds	
325							decreased chatter
330	16:30 16:40					increase gabbroic rock fragments	70% freshly broken grains
	17:00 7:30						
335					SC	CLAYEY SAND (SC) brown-gray, fine- to medium-grained angular sand, with abundant gray and white clay	quiet drilling
340	7:45						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

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San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SC	CLAYEY SAND (SC)	
345							
350	8:00					minor silt and micas	
					CL	SILTY CLAY (CL) brown-gray, with minor fine- to medium-grained angular sand	
355							
360	8:27					increase sand content, predominantly fine-grained	smooth, quiet drilling
365							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL	SILTY CLAY (CL)	
370	8:45 8:50					decrease in sand content	slight chatter, slow drilling
375						increase in sand content	
380	9:33				SM	SILTY SAND (SM) gray, fine-grained sand, minor medium-grained sand, with abundant silt, micaceous	
385					CL	SANDY CLAY (CL) gray, with silt and fine-grained sand, micaceous	
390	10:00 10:05						quiet, smooth drilling

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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San Fernando, California

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					CL	SANDY CLAY (CL)	
400	10:20					variable sand content, 2-3 feet sandy interbeds, brown	
405							
410	10:57 11:02					color change to gray	minor chatter
415							
420					SC	CLAYEY SAND (SC) gray, medium grained, with fine-grained subangular to rounded	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	11:57				SC	sand, trace coarse-grained sand, with 30-40% clay, trace gravel, granular material is of granitic and gabbroic composition	
425							25% freshly broken grains
					SP	GRAVELLY SAND (SP) gray, fine- to medium-grained predominantly subrounded sand, trace of clay	20% fresh broken
430	13:13 13:20						
435							violent chatter
440	14:07					dominantly medium-grained sand	
445							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	GRAVELLY SAND (SP)	
450	14:50 14:54				GW	SANDY GRAVEL (GW) gray, predominantly fine-grained rounded to angular gravel, trace of fine- to coarse-grained sand, granitic and micaceous composition	trace of freshly broken sand grains
455							
460	16:25						
						increase mafics, visible mica flakes	
465							
470	18:00						
						SANDY GRAVEL (GW)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
475					SC	CLAYEY SAND (SC) gray-brown, fine- to medium-grained sand, dominantly medium-grained, with light brown micaceous silty clay	trace of freshly angular coarse-grained sand
					GW	SANDY GRAVEL (GW) gray, medium- to coarse-grained sand, with minor clay, granular material is of granitic composition	predominantly freshly broken sand grains,
480	8:23					25% clay	moderate chatter
							quiet drilling
485							violent chatter
490	9:05 9:13					well graded, fine- to coarse-grained sand	freshly broken sand grains
495							Alternating quiet chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	9:33				GW	SANDY GRAVEL (GW) possibly interbedded sandy and gravelly zones	
505							
510	9:59 10:04						
515						little to no clay	
520	10:23					increase clay, predominantly fine- to medium-grained sand, with clayey interbeds	quiet drilling 80% fresh broken sand grains
525							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525					GW	SANDY GRAVEL (GW)	
530	10:54 11:00						little to no clay in cuttings slow drilling
535						increase mafics, plagioclase, and gabbroic rock fragments	violent chatter decreased chatter
540	11:20					increase clay interbeds	
545							
550	11:38				SC	CLAYEY SAND (SC) gray, fine- to coarse-grained sand.	50% freshly broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						predominantly medium- to coarse-grained, with 30-40% clay	quiet, fast drilling
					SC	CLAYEY SAND (SC)	
555							
560	11:57						slight chatter
565							
570	12:20 12:24 12:30						
575						decreasing sand content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
580	12:42				SC	CLAYEY SAND (SC)	
					CL	SANDY CLAY (CL) gray, fine- to coarse-grained rounded sand, clay is of low to medium plasticity, with minor silt	
585							
					SC	CLAYEY SAND (SC) gray, medium- to coarse-grained sand, rounded, granular material is of granitic composition, 20-30% micaceous clay and silt	
590	13:11 13:02 13:11				GW	SANDY GRAVEL (GW) gray, medium- to coarse-grained sand, granitic composition	chatter, slow drilling, binding 95% freshly broken grains
595							
600	13:35						violent chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C02

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San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					GW	SANDY GRAVEL (GW)	
							quiet drilling
610	14:25 14:30 9:53						chatter
615					CL	SANDY CLAY (CL) gray-brown, fine- to medium-grained sand, low to moderate plastic clay	
620	10:03						
625					GW	SANDY GRAVEL (GW) gray, medium-grained sand, granitic and gabbroic composition, with clayey interbeds	95% freshly broken grains
						increase clay interbeds	Alternating quiet and noisy drilling
630	10:50						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630	10:56				GW	SANDY GRAVEL (GW)	
						variable amounts of clay (30-50%)	
635							
						decreased clay content	
640	11:17						
							cobbles and boulders of weathered granite
645							
650	11:45 12:02					little to no clay, predominantly gravel, cobbles and boulders	
655							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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San Fernando, California

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DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
660	13:00					5-10% silty clay as interbeds	quiet drilling
665							
670	13:30 13:38					decrease cobbles/boulders, predominantly medium- to coarse-grained sand and fine-grained gravel, with minor clay	freshly broken grains
675							intermittent chatter
680	13:53					dominantly medium-grained rounded sand with fine-grained sand, trace of coarse-grained sand	some freshly broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
685							
690	14:10 14:15 14:25						
						trace clay	
695						increase roundness	
700	14:39				SW	GRAVELLY SAND (SW) gray, medium-grained well rounded to angular sand, granitic composition, trace to 10% clay	chatter 70% freshly broken sand grains
705					SC	CLAYEY SAND (SC) brown-gray, medium-grained rounded to angular sand, with 25% clay as interbeds, some gravel	quiet drilling

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710	15:00 15:05 15:10				SC	CLAYEY SAND (SC) decrease clay content	
715					SP	SAND (SP) gray, fine- to medium-grained well rounded sand, with minor clay and gravels, granular material composed of quartz, plagioclase, orthoclase, and mafics	
720	15:30					increase angularity	
725							
730	15:45 15:50 15:59						
735							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
735					SP	SAND (SP)	
					SC	CLAYEY SAND (SC) gray, fine- to medium-grained, with 20-40% clay	dominantly freshly broken sand grains
						SILTY CLAY (CL) gray-brown, with sand	
740	16:10				CL		
						increase sand content	
						GRAVELLY SAND (SW) gray to brown-gray, fine- to medium-grained angular sand, minor coarse-grained sand, minor clay from up-hole	chatter
745					SW		moderate chatter
							75% freshly broken grains
							quiet drilling moderate chatter
						little to no clay	
750	16:37 16:40 16:50						
755							
760	17:00					20% clay, occuring as clayey intervals, increased roundness	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
						little to no clay	
765							
770	17:20 17:25 17:30						
							chatter, slow drilling
						increase in clay interbeds (20%), light brown	
775							
780	17:55					fine- to coarse-grained sand	75% fresh broken sand grains
785							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
790	18:18 18:35 8:14					bouldery zone	
							freshly broken grains
795					SC	CLAYEY SAND (SC) gray-brown, medium-grained sand, minor coarse- and fine-grained sand, 30-40% clay	
							quiet drilling
800	8:50					minor fine-grained gravel	chatter
805					CL	SANDY CLAY (CL) gray-brown, silt/clay, with fine- to medium-grained sand, granular material is of granitic composition, possibly gravelly	freshly broken grains
810	9:40 9:47 9:55				SC	CLAYEY SAND (SC) brown-gray, fine- to medium-grained angular to rounded sand variable clay content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C02

(sheet 31 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

00493/

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
815					SC	CLAYEY SAND (SC)	
					GW	SANDY GRAVEL (GW) gray, fine- to coarse-grained angular to rounded sand, granular material composed of quartz, plagioclase, mafics, and orthoclase, with variable clay	
820	10:30						chatter with intermittent thin quiet zones
825						dominately medium-grained sand	freshly broken grains
830	10:55 11:06 11:17					little to no clay	violent chatter
835						increase in sand content	
840	11:40					composed of granitics, possibly some meta-quartzites	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C02

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PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SLS	12/90		

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366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
840					GW	SANDY GRAVEL (GW)	
845							
850	12:08 12:14 12:25						
855							
860	12:43						80% freshly broken, 20% rounded
					SW	SAND (SW) gray, fine- to coarse-grained angular to rounded sand	fast, quiet drilling
865							freshly broken grains
						increasing roundness, 75% rounded	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring NH-C02

(sheet 33 of 36) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
							chatter
870	12:58						smooth, quiet, fast drilling
	13:02 13:09						
						minor fine gravel	
875							
							moderate chatter
880	13:25					increased angularity, (60% freshly angular, 40% rounded)	slow drilling
						fine- to medium-grained angular to rounded sand, granitic composition	
					SW	increased gravel content	
885							
							intermittent violent chatter
						SANDY GRAVEL (GW) gray, dominantly coarse-grained, with minor fine- to coarse-grained sand, granitic composition	
890	13:55				GW		
	14:05						90% freshly broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C02 (sheet 34 of 36)

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	14:15				GW	SANDY GRAVEL (GW)	
895					SW	GRAVELLY SAND (SW) gray, fine- to coarse-grained angular to rounded sand, 20% rounded with minor micaceous silt	quiet faster drilling 80% freshly broken grains
900	14:30						
905					GW	SANDY GRAVEL (GW) gray, medium-grained sand, minor fine- to coarse-grained sand, granitic composition	chatter freshly broken grains
910	15:03					5-10% clay	
	15:28				SW	SAND (SW) gray, medium grained, with fine- and coarse-grained sand, granitic composition	50% freshly broken grains
915							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring NH-C02

(sheet 35 of 36) PLATE

San Fernando Valley RI
San Fernando, California

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HK	9372,034.16	SCJ	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C02 CLIENT LADWP

DATE STARTED 4/26/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 655 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
920	15:40				SW	SAND (SW) minor clay, increasing angularity	smooth, quiet, fast drilling
							slower drilling
925							
930	15:58					fine- to medium-grained dominantly well rounded sand	
	16:05						Boring terminated at 932 feet on 5/3/90. Boring converted to Monitoring Well NH-C02-686 on 5/7/90.
935							
940							
945							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 681 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 932 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C02

(sheet 36 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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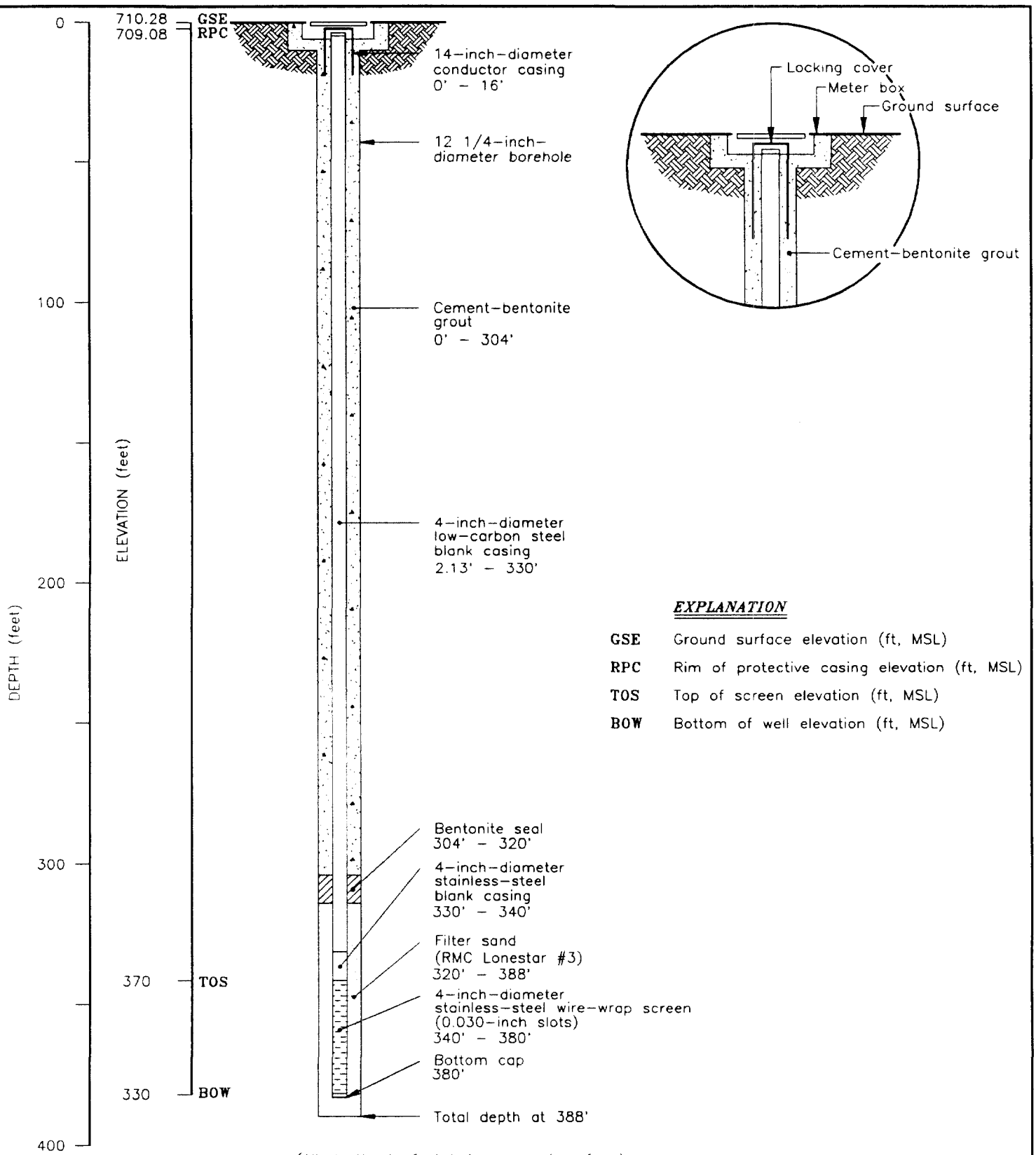

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MONITORING WELL NH-C03-380

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.034.16		12/90	JMM	7/92

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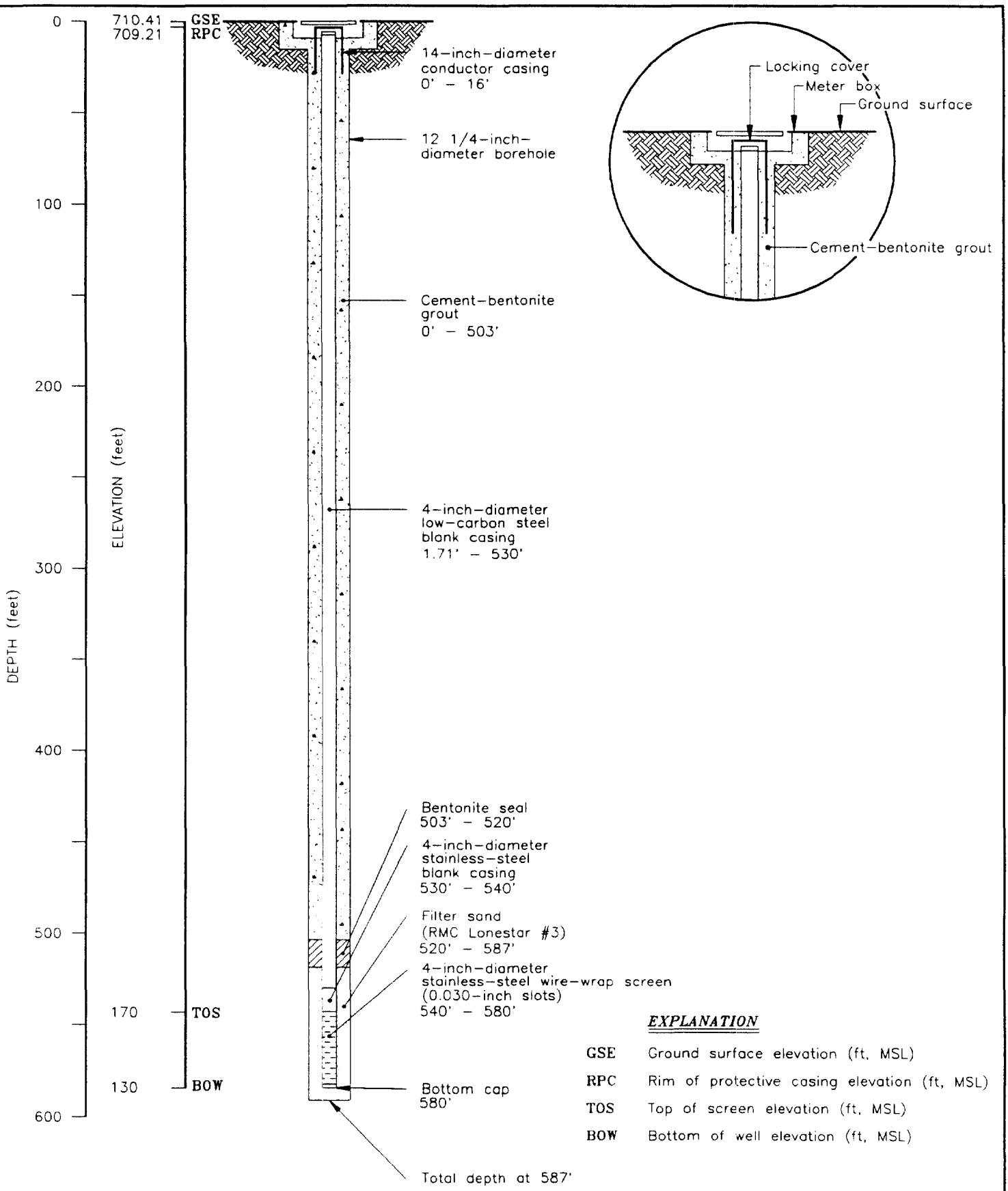

(All depths in feet below ground surface)

PLATE

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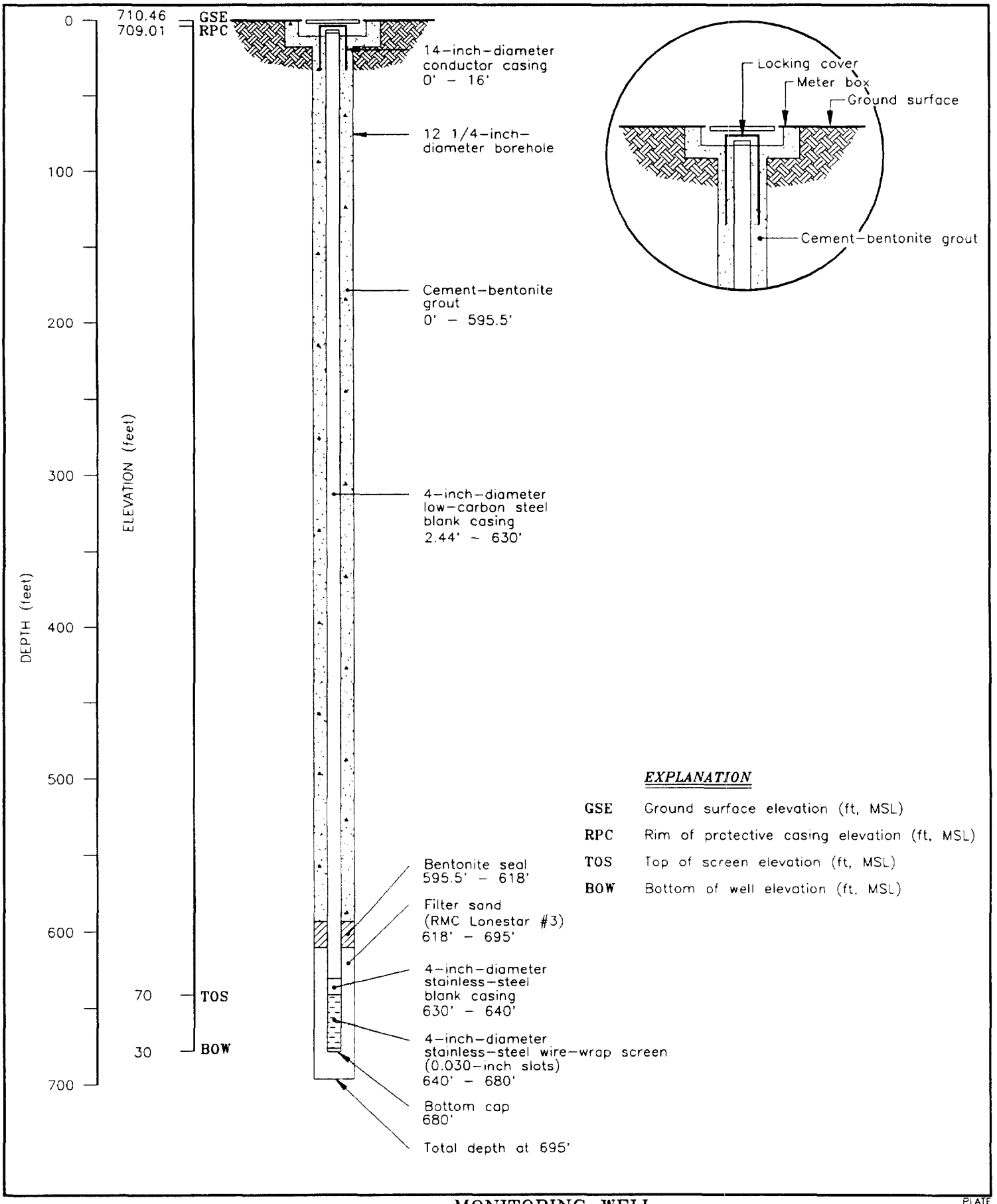
Engineers and Geoscientists

MONITORING WELL NH-C03-580

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.034.16		12/90	JMM	7/92



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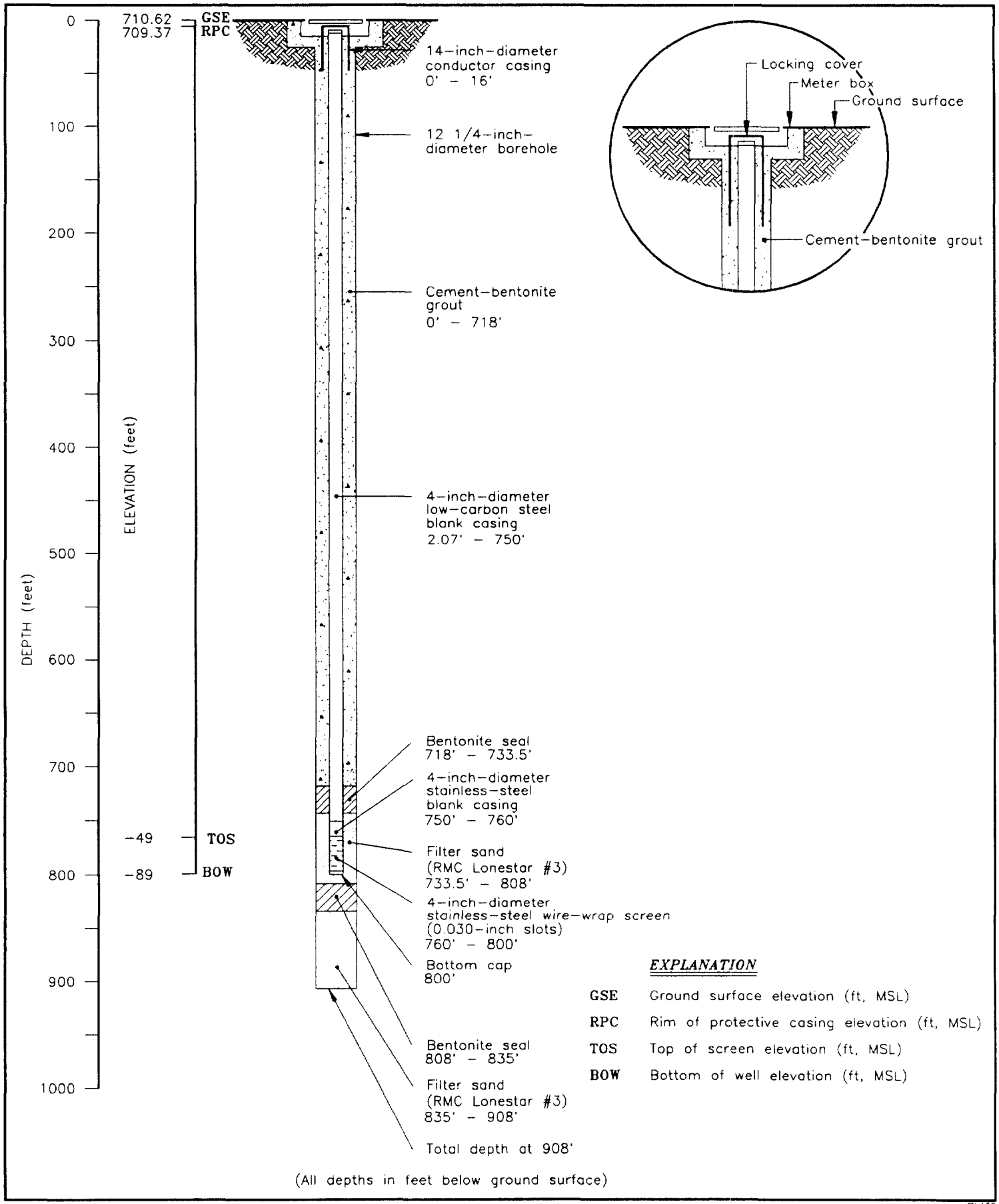
MONITORING WELL NH-C03-680

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.034.16		12/90	JMM	7/92



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MONITORING WELL NH-C03-800

San Fernando Valley RI
Los Angeles County, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	15:39				SM	SILTY SAND (SM) gray, loose, fine- to coarse-grained sand, trace gravel	Boring initiated at NH-C03-TH1 location
5							
10	15:50				SW	SAND (SW) light brown, moist, fine- to medium-grained sand, some well rounded gravel, trace silt (5%)	
15							
20	16:15					minor silt, increasing angular to rounded gravel, granitic composition	
25							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

(sheet 1 of 35)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
30	16:20					trace of gravel and silt	
35	16:22 16:28						
						SAND (SP) light brown, moist, fine-grained sand, trace medium-grained sand and silt	added 10 gallons of bentonite mud to reduce rotation friction
40	16:30				SP		adding water for dust control
45							
50	16:45				SW	GRAVELLY SAND (SW)	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

(sheet 2 of 35)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55	16:46 16:52				SW	GRAVELLY SAND (SW) brown, moist, fine to coarse grained, angular to rounded sand, with fine to coarse grained, well rounded granitic gravel	
60	17:15 11:59					color change to gray, increasing gravel content, with cobbles, increasing mafics, some mica	
65							stop adding water
70	12:08				SM	SILTY SAND (SM) gray, dry, fine- to coarse-grained sand, trace fine gravel	
75	12:15 12:21						

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	12:25				SM	SILTY SAND (SM)	
85							
							slow tough drilling
90	12:36				SW	GRAVELLY SAND (SW) brown, moist, fine to coarse grained, rounded sand with rounded gravel, granular fraction composed of granitic and gabbroic rock fragments	
							adding 5 gallons bentonite mud to reduce rotation friction
95	12:40 12:46						
							rig chatter, some broken grains
100	12:53					color change to gray, increasing silt content	
105							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW	GRAVELLY SAND (SW)	
110	13:13					increasing gravel content, decreasing silt content	
115	13:17 13:22						added 5 gallons bentonite mud to reduce rotation friction
120	13:55					increasing fine-grained sand	
125							
130	14:03						tough drilling

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	adding water for dust control
135	16:08 16:18						
140	16:20				GP	SANDY GRAVEL (GP) gray-brown, fine grained, angular gravel, with fine to coarse grained angular sand, granular fraction composed of plagioclase and mafics	increasing chatter abundant broken grains
145							
150	16:25				SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, rounded with fine-grained gravel, granular fraction composed of quartz, plagioclase and mica	decreasing chatter
155	16:29					cobble/boulder zone	moderate chatter

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03 (sheet 6 of 35)

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	decreasing chatter
160	16:45						stop adding water
165					SM	SILTY SAND (SM) red-brown, dry, fine- to coarse-grained sand, with 20% fine gravel, 25% silt	little to no chatter
170	16:59				SW	SAND (SW) gray-brown, dry, fine- to coarse-grained sand, with silt	
175					SM	SILTY SAND (SM) red-brown, dry, fine-grained sand	
180	17:25						

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SM	SILTY SAND (SM) gray, fine- to medium-grained sand	
190	17:30					color change to red-brown	
195						some coarse-grained sand and fine gravel	
200						trace of coarse-grained sand and fine gravel	
205							
210							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
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ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	18:00				SM	SILTY SAND (SM)	Perched ground water encountered at 210-220 feet during drilling.
215							
					SC	CLAYEY SAND (SC) brown, moist, fine- to medium-grained sand, with silt, trace of fine gravel	
220						SILTY SAND (SM) brown, dry, fine grained, with minor medium- to coarse-grained sand, trace of fine gravel and clay	
	18:30				SM		
225							
230	18:40				SP	SAND (SP) gray-brown, moist, medium- to coarse-grained sand, trace fine gravel	
235	8:30						

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

(sheet 9 of 35) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
240	8:35				ML	SANDY SILT (ML) brown, moist, micaceous silt with fine to medium grained, well rounded sand (20%)	adding water
245							
250	8:46				SW	SAND (SW) light brown, fine to medium grained, some coarse-grained sand, composed of quartz, with some plagioclase, orthoclase and mafics	
255							
260	9:13					increasing silt content	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
265							
270	9:18					color change to gray-brown, decreasing silt content	smooth drilling
275	9:22 9:33						
							stop adding water
280	9:35				SW	color change to brown, increasing silt and rounded to angular fine gravel	
285							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

00493/D

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	9:47				SP	SAND (SP) gray-brown, saturated, fine to medium grained rounded sand, micaceous, with quartz and plagioclase	
295	9:52 10:37						
300	10:45					increasing fine to coarse gravel (10%)	
305							
310	10:50				SW	GRAVELLY SAND (SW) brown, saturated, fine- to coarse-grained sand, with silt and fine- to coarse-grained, rounded, granitic gravel	
315	10:53						

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	JCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315	11:34				SW	GRAVELLY SAND (SW)	
320	11:39				GP	SANDY GRAVEL (GP) gray, saturated, fine- to coarse-grained gravel, with fine to coarse rounded sand occuring as thin interbeds, granitic amd mafic composition	violent chatter some broken grains
325							
330	11:44					increasing silt content and coarse gravel	
335	11:51 13:08						bail sample at 335 feet
340	13:10				SW		decreasing chatter

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

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PLATE

San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW) brown, saturated, fine to coarse grained, rounded, with minor silt and fine gravel	
345							
350	13:18				GW	SANDY GRAVEL (GW) gray-brown, saturated, fine- to coarse-grained rounded gravel, some rounded sand, trace of silt, granular fraction composed of granitic and mafic rock fragments	moderate to violent chatter, some broken grains
355							NH-C03-TH(1) terminated at 355 feet, 2/16/90. Moved to +/- 50 feet south and resumed drilling on 2/26/90. NH-C03-TH(2) bail sample at 355 feet, 2/26/90.
360	12:12				SM	SILTY SAND (SM) gray-brown, saturated, fine- to coarse-grained subrounded sand, with silt and subrounded gravel, granitic composition	minor broken grains
365							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
370	12:17						
375	12:19 12:29						
						decreasing gravel and silt content	decreasing chatter
380	12:32					becomes red-brown, saturated, fine- to coarse-grained sand, minor fine to coarse subangular to rounded gravel, with silt, trace clay	
385							
						gravel sone	chattery interval
390							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					SM	SILTY SAND (SM) increasing silt content	bail sample at 395 feet
400	13:41				SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand, some gravel, 5-10% silt, granitic composition	adding water
405							
410	13:49				SM	SILTY SAND (SM) red-brown, fine-grained sand, with 30-40% silt, trace (5%) fine gravel, and clay	smooth
415	13:54 14:30						
420							moderate chatter

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	14:38				SW	SAND (SW) brown, fine- to coarse-grained, rounded sand, with fine gravel	
425							some broken grains
430	14:42					increasing coarse-grained sand	adding bentonite mud
435	14:45 14:52						
440	15:27				GW	SANDY GRAVEL (GW) brown, fine to coarse subangular gravel, with 30-40% fine- to coarse-grained sand, trace of silt	moderate chatter
445							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
450	15:31				SM	SAND (SM) brown, fine to coarse grained, with minor rounded gravel, with clay (10-20%)	
455	15:39 16:37						
460	17:42				GW	SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained, subrounded gravel and cobbles, with abundant fine- to coarse-grained sand, trace silt, granitic composition	moderate to violent chatter
465							adding bentonite mud some broken grains
470	12:53					increasing coarse gravel and cobbles	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
475	12:56 13:02						
480	13:14					rounded gravel, increasing mafic composition	
485							
490	13:34					boulder zone	violent chatter
495						increasing fine- to coarse-grained sand	increasing broken grains

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	13:58				SP	SAND (SP) brown, saturated, fine-grained sand, trace of subrounded gravel, minor silt	slight chatter
505							
510	14:00				SW	SAND (SW) brown, saturated, fine to coarse grained, trace of fine gravel, granular fraction composed of quartz and orthoclase	
515	14:01 14:12						
520							
525							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525					SW	SAND (SW)	
	14:31						
					ML	SILT (ML) dark brown, moist, silt with 10-15% clay, trace of rounded, fine- to medium-grained sand, minor subrounded coarse gravel, gravels composed of sandstone rock fragments	smooth
530							slight chatter
535	14:39						
540	14:44				SW	SAND (SW) light brown, saturated, fine- to coarse-grained sand, trace fine gravel, composed of granitic rock fragments, mica, orthoclose and quartz	increasing chatter some broken grains
545							
550							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
555	15:06 15:10						moderate chatter
560	15:17					color change to gray-brown, increase in fine-grained sand and silt	
565							
570	15:19				GW	SANDY GRAVEL (GW) brown, saturated, fine- to coarse-grained, subrounded gravel and cobbles, with fine- to coarse-grained sand, trace of silt, granular fraction composed of granitic and gneissic rock fragments	
575	16:20 16:23						bail sample at 575 feet, 2/27/90

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	moderate chatter
580	16:30					increase in sand content (40-50%)	
585							
590							
595	16:40 16:52						
600							adding bentonite mud

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					GW	SANDY GRAVEL (GW)	
610	16:05				SW	SAND (SW) brown, saturated, fine to coarse grained, subangular sand, trace fine grained, subrounded gravel, 5-10% silt and clay, granular fraction composed of quartz and plagioclase	
615	16:01 16:13					increased gravel content, composed of gneissic rock fragments	chatter with broken grains moderate chatter
620	16:21						
625							
630	16:28					increase roundness of gravels	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630					SW	SAND (SW)	
635	16:30 17:24						bail sample at 636 feet, 2/28/90
640	12:24					increasing gravel content (20-30%), increasing coarse-grained sand	
645	12:44 12:52						
650	13:07				SW	decrease gravel content, predominantly fine- to medium-grained sand	NH-CW-01-TH test hole (dual tube air rotary boring) terminated at 648 feet on 3/1/90. Borehole abandoned and backfilled with bentonite grout. Resume drilling, direct mud rotary at NH-C03-800 boring. slight chatter
655							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST B. Price, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
660	13:26					increasing coarse-grained sand	
665	13:35						
	14:03				ML	CLAYEY SILT (ML) blue-gray, with 10-15% fine-grained sand	chatter with smooth intervals
670	14:16				SW	SAND (SW) light brown, fine to coarse grained, predominantly coarse-grained sand, with minor silt (10-15%), in thin lenses	
675							
680	14:37					thin (<1 foot) blue-gray and brown clayey silt lenses	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

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DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
685	14:48 14:55				SW	SAND (SW)	
690	15:10					color change to gray-brown, well rounded sand, trace silt	some broken grains
695							
700	15:50						
705	16:02 16:10				SM	SILTY SAND (SM) brown, medium-grained rounded, sand, with thin brown clayey silt interbeds, granular fraction composed of quartz, plagioclase and mafics	trace broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando, California

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ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710	16:24				SM	SILTY SAND (SM)	
715							
720	16:55					increase in coarse-grained sand and gravel, minor clay	increasing chatter and broken grains
725	17:09 13:35				SW	SAND (SW) brown, medium to coarse grained, with 5-10% silt and clay, granular fraction composed of quartz, feldspar and mafics	decreasing broken grains
730	13:42						
735							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 976-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
735					SW	SAND (SW)	
740	13:50						
	14:05 14:14						occasional chatter
745							
750	14:30					increase in fine-grained sand	
755							
760	14:50					increasing coarse-grained sand and fine gravel	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
	15:01 15:09						
765							
						SAND (SP) light brown to brown, medium to coarse grained, subangular to subrounded sand, composed of quartz, feldspar and mafics	
770	15:15				SP		
775							
							increasing chatter trace broken grains
780	15:50					angular to subangular grains, minor fine gravel	
	16:10 16:18						
785							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C03

(sheet 30 of 35) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
790	16:30					gravelly interbeds	violent chatter with bouncing drill stem
							decreasing chatter
795							
800	17:10				SW	SAND (SW) brown, medium- to coarse-grained subangular sand, minor fine-grained sand, trace of silt and clay, granular fraction composed of quartz and mafics	
805	17:23 17:30						
					SP	SAND (SP) brown, medium- to coarse-grained sand, predominantly coarse-grained sand, composed of quartz and mafics	slight chatter
810	17:39						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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HK	9372,034.16	SCS	12/90		

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
815					SP	SAND (SP) brown, medium- to coarse-grained, predominantly medium-grained subangular to subrounded sand	
820	17:50						
825	17:58 18:05						
830	18:18						
835							
840	18:35						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C03

(sheet 32 of 35) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
840					SP	SAND (SP) brown, medium grained, subangular to subrounded sand, minor coarse-grained sand	
	18:52 7:20						
845							
850	8:05					trace of silt	increasing chatter
855							occasional chatter
860	8:30						
865	8:55 8:59						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP) brown, medium-grained sand, with 10-15% coarse-grained sand, trace of fine-grained sand and silt	
870	9:18						
875							
880	9:31						
	9:40 9:48						
885							
890	10:01						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
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BORING/WELL NUMBER NH-C03 CLIENT LADWP

DATE STARTED 2/14/90 COMPLETED 3/1/90 PROJECT San Fernando Valley RI

ELEVATION 710 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
895					SP	SAND (SP) brown, medium grained, subangular to subrounded sand with 10-15% coarse-grained sand, trace fine-grained sand and silt	
900	10:35					increase in coarse sand, possible gravel/cobble zones	occasional violent chatter some broken grains
905							Boring terminated at 904 feet. Perched ground water encountered at 210-220 feet during drilling. Boring converted to Monitoring Well NH-CW-03-800 on 3/14/90.
910							
915							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 800 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 904 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
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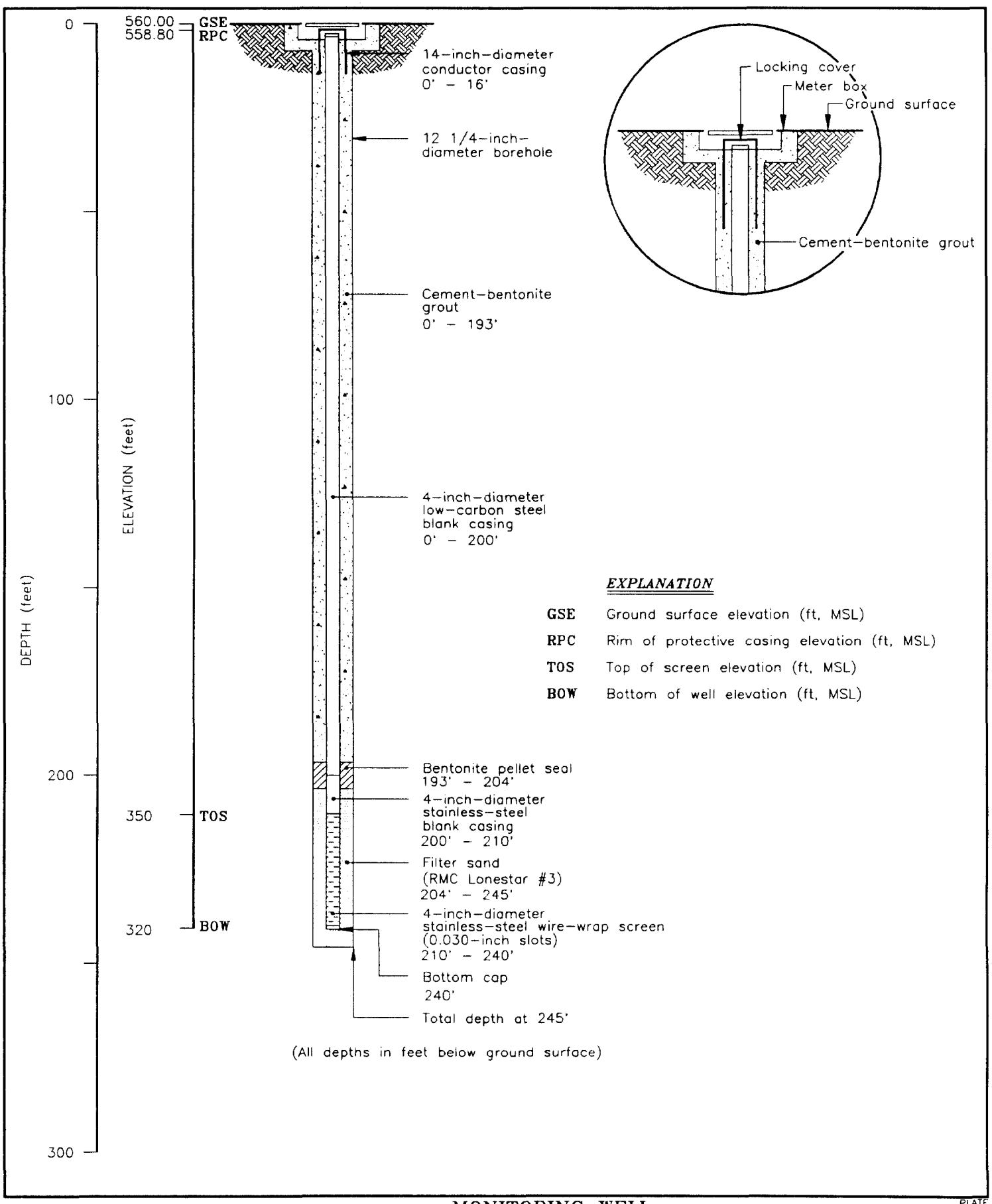

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MONITORING WELL NH-C04-240

San Fernando Valley RI
Los Angeles County, California

PLATE

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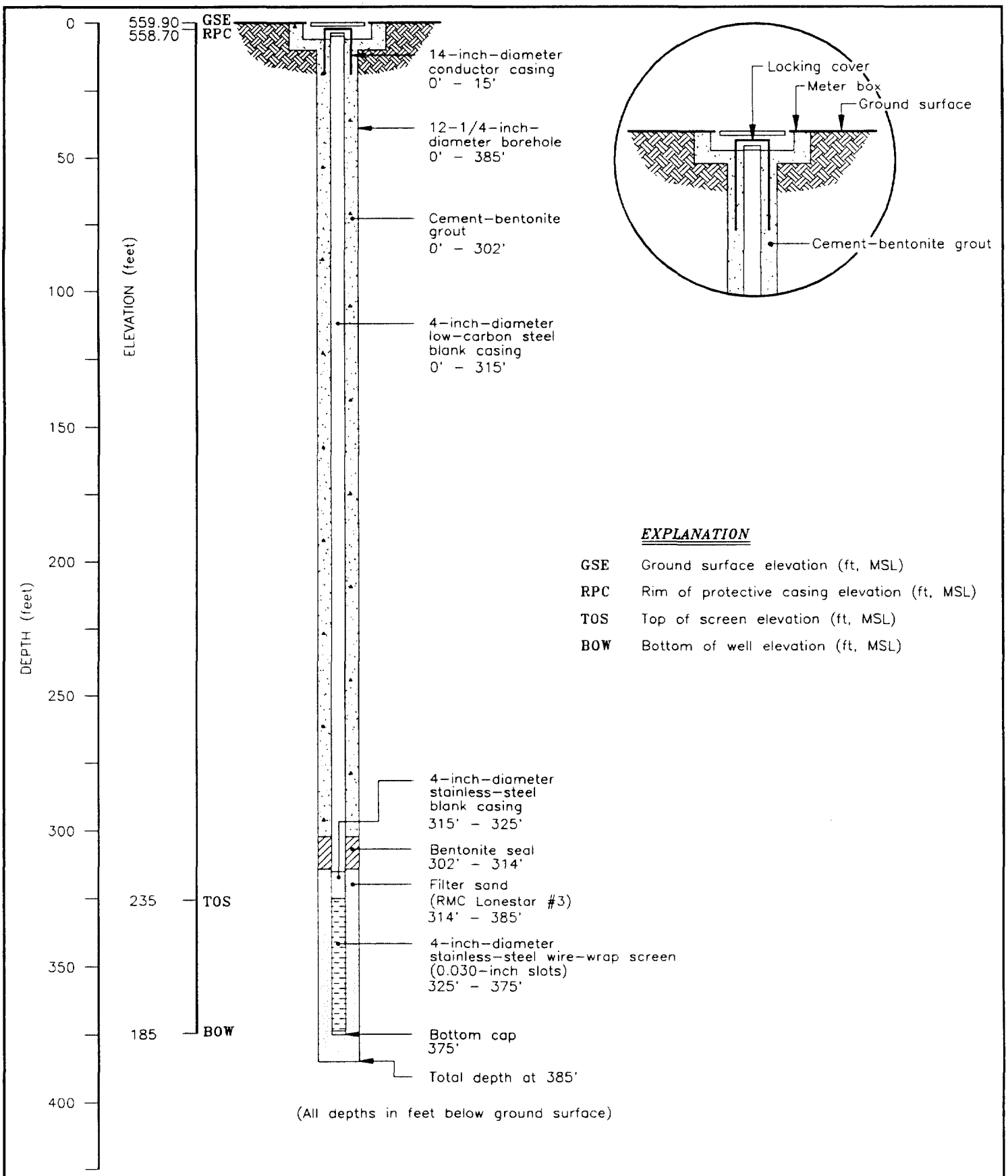
JTL/CATD	09372,034.16		12/90	JMM	7/92



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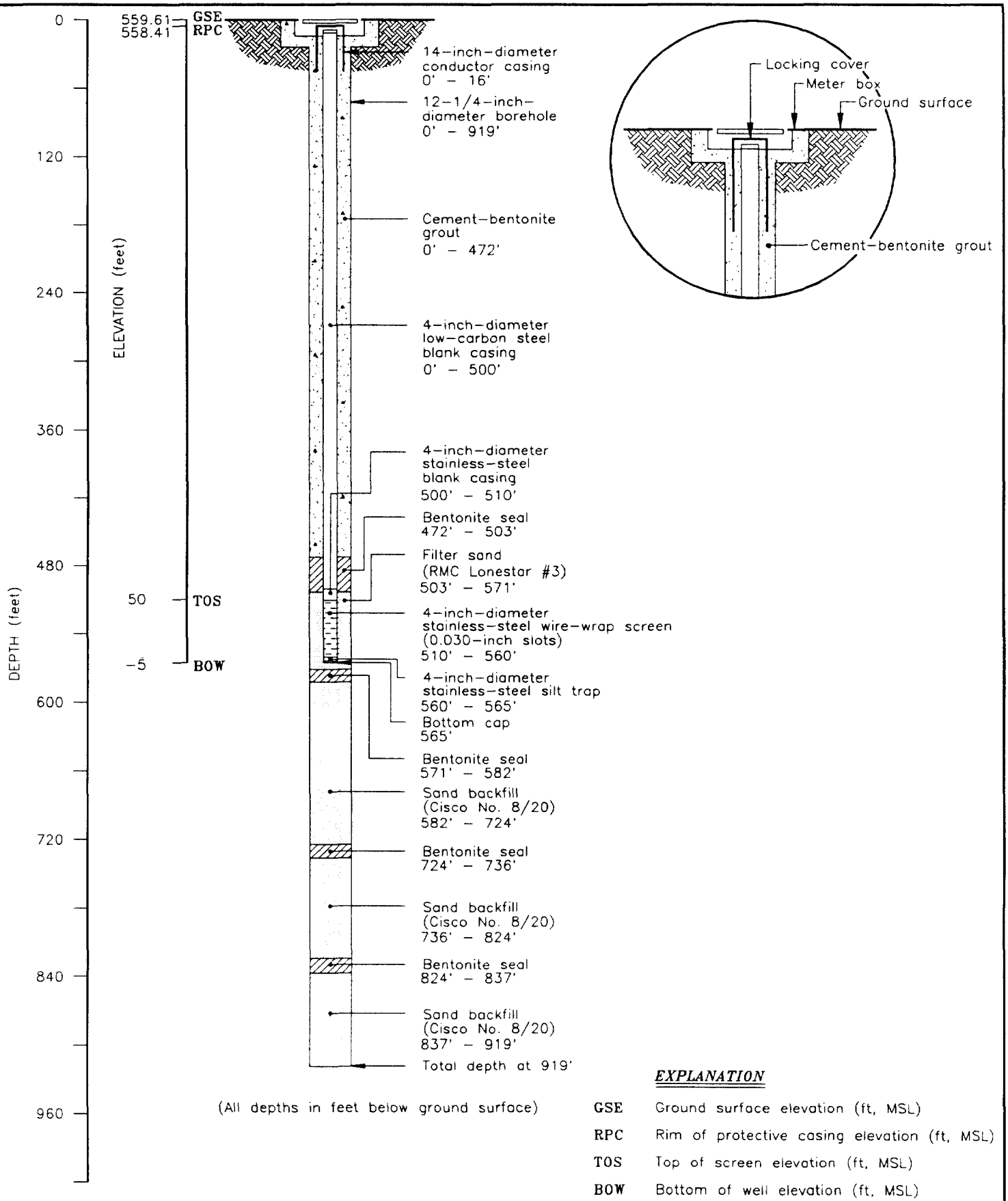
MONITORING WELL NH-C04-375

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372,034.16		12/90	JMM	7/92

HDT\JMM\CW04560



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

MONITORING WELL
NH-C04-560
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.034.16		12/90	JMM	7/92

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						ASPHALTIC CONCRETE AND BASE	Solid stem auger (18-inch-diameter) drilled to 16 feet. Conductor casing (14-inch-diameter) set to 16 feet. 0-16 feet logged from auger cuttings.
					SM	SILTY SAND (SM) [FILL] dark brown, damp, fine-grained sand and silt, with minor clay, contains construction debris (glass, wood, asphaltic concrete fragments)	
5						color change to brown	
10						SILTY SAND (SM) dark brown, moist, fine-grained sand, with silt and clay	
15	16:01				SM		begin mud rotary drilling at 16 feet
						increasing clay content	
20						some medium- to coarse-grained sand	
25							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C04

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San Fernando Valley RI
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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
30							
					SP	SAND (SP) brown-gray, fine- to medium-grained subrounded sand	rig chatter
35					SM	SILTY SAND (SM) brown-gray, fine- to medium-grained sand, with clayey silt, minor gravel	
40	16:30 16:34				SP	SAND (SP) brown-gray, fine- to medium-grained sand	little to no chatter
45					GW	SANDY GRAVEL (GW) brown, 60% fine-grained gravel, with black clay and fine- to coarse-grained sand	minor chatter, minor bouncing drill stem
50							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C04

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					SC	CLAYEY SAND (SC) brown, fine- to medium-grained subangular sand, with 30% micaceous silt and clay, minor fine- to coarse-grained gravel	moderate chatter
60	16:59 17:07						
						decreasing clay content	
65					SW	GRAVELLY SAND (SW) brown, medium-grained rounded to subangular sand, with fine- to medium-grained gravel, 10% silt and clay, granular fraction composed of granitic and gneissic rock fragments	
70							
75						cobble zone	increasing chatter
							decreasing chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C04 (sheet 3 of 36)

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San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	17:29 17:37				SW	GRAVELLY SAND (SW) decreasing silt content	
85					GW	SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained angular gravel with medium- to coarse-grained sand, granular fraction composed of granitic and gabbroic rock fragments	violent chatter, with bouncing drill stem 30-50% broken grains consistent moderate to violent chatter
90							
95						sandy zone	
100	18:07 10:11				SW	GRAVELLY SAND (SW) brown-gray, angular, fine- to medium-grained sand, with medium-grained gravel, minor silt and clay, granular fraction composed of granitic and ultramafic rock fragments	
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C04

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW	GRAVELLY SAND (SW)	
						increasing clay content	
110							
					GC	CLAYEY GRAVEL (GC) light brown, fine- to medium-grained gravel, with 35% fine- to coarse-grained sand, 30% silty clay, granular fraction composed of granitic and ultramafic rock fragments	abundant broken grains
115							occasional moderate chatter
					SP	SAND (SP) brown-gray, medium-grained, minor coarse-grained subrounded sand and fine-grained gravel, trace of clay, granular fraction composed of granitic rock fragments, thin gravel zones	
120	10:39 10:43						moderate chatter
125							
130							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
135					SW	GRAVELLY SAND (SW) brown-gray, medium-grained sand, with 10% fine- to coarse-grained angular gravel, 5-10% silt and clay, granular fraction composed of granitics, and ultramafic rock fragments	
140	10:59 11:09						
145							
150						increasing sphericity	
155							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW) increasing gravel content	
160	11:32 11:38						
					SC	CLAYEY SAND (SC) brown, fine- to coarse-grained rounded to angular sand, minor fine-grained gravel, with cohesive silty clay	smooth drilling with occasional chatter
165							
170							
175							slight chatter
180	12:08 12:11					decreasing gravel content sand becomes finer-grained	slight chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SC	CLAYEY SAND (SC)	smooth drilling
					CL	SANDY CLAY (CL) gray-green, moderately plastic, silty clay, with 20% fine- to medium-grained sand, trace gravel	
190						gravel zone at 191 feet	bouncing drill stem
195							
200	12:48 12:58					color change to brown/gray-green	
205							
210						increasing sand content (30%)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210					CL	SANDY CLAY (CL)	
215					SW	SAND (SW) brown-gray, fine- to medium-grained angular sand, minor gravel, with silty clay interbeds, granular fraction composed of granitic and gabbroic rock fragments	slight chatter
220	13:25 17:17				CL	SILTY CLAY (CL) dark gray-brown and brown, moderately plastic, silty clay, with abundant sandy interbeds	
225							slight chatter
230							slight chatter
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL	SILTY CLAY (CL)	smooth drilling
					CL	SANDY CLAY (CL) light brown, low plasticity clay, with fine- to coarse-grained angular sand, occuring as sandy interbeds	
240	17:56 7:43 7:49 8:02						
245							
	8:07 8:26						
250						minor sand interbeds	smooth, with occasional chatter
255							
260	8:50 9:05					gravel zone	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265					CL	SANDY CLAY (CL)	
					SC	CLAYEY SAND (SC) light brown, medium- to coarse-grained rounded sand, with low to moderately plastic silty clay	moderate chatter some broken grains
270							
275						gravel zone, with ultramafic rock fragments	abundant broken grains
280	9:29 9:47					clayey silt	
							smooth drilling
					ML	SANDY SILT (ML) light brown, low to moderately plastic clayey silt, with medium- to coarse-grained sand, trace of fine-grained gravel	rare broken grains
285							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C04

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San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290						SANDY SILT (ML) increasing sand content (40%)	
295					ML	decreasing sand content (25%)	
300	10:12 11:57						
305	12:04 14:22						
310						gravelly sand interbeds	smooth drilling alternating with chattery intervals
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C04

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315						SANDY SILT (ML)	
	14:38 14:45						
320						decreasing sand content, predominantly fine-grained	
					ML		
							smooth with chattery intervals
325							
						cobble zone	
330							
335						cobble zone	
						increasing clay content (35%)	
340	15:01 15:06						
						cobble zone	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

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San Fernando, California

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DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SANDY SILT (ML)	
						increasing sand content (35%)	
345							
					SW	SAND (SW) brown, fine- to medium-grained angular sand, with silt and clay occuring as thin interbeds, granular fraction composed of granitic rock fragments	consistent chatter with minor smooth intervals
350							
						cobble zones	
355							increasing chatter
360	15:26 15:33						
365							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
370							
							moderate consistent chatter
375							
					SM	SILTY SAND (SM) brown-gray, fine- to coarse-grained angular sand, with clayey silt, minor angular gravel, granular fraction composed of granitic and gabbroic rock fragments	
380	15:51 15:58						
385							
						increasing silt and clay content (20%)	
390							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					SW	SAND (SW) brown, fine- to coarse-grained sand, with fine- to coarse-grained angular gravel, granular fraction composed of granitic rock fragments	
						gravel zone	
400	16:16 16:29						
405						gravel zone	
410					SW	GRAVELLY SAND (SW) brown-gray, subangular fine- to coarse-grained sand, with fine- to coarse-grained gravel, minor silt and clay	increasing chatter, with occasional bouncing drill stem some broken grains
415						SAND (SW) brown, fine- to coarse-grained subangular sand, with minor gravel and clayey silt occuring as thin interbeds, low plasticity	
	16:49 9:07				SW		moderate chatter with occasional smooth interval
420							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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San Fernando, California

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DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420							
					SW	SAND (SW)	
425							
430							
435							
	9:29						
440	9:40						
445							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
450						gravel zone	
455						increasing frequency of silty interbeds	estimate 35% silt in cuttings returns
460	10:03 10:11						
465							
470						gravel zone	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
475					SW	SAND (SW)	
480	10:32 10:41					gravelly zone, decreasing frequency of silty interbeds	increasing chatter
485							
490					SW	gravelly zone little to no silt	
495						increasing silt content (30%) occuring as thin interbeds	chatter with smooth intervals

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 976-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	11:03 11:14				SW	SAND (SW)	
505							
510					SP	SAND (SP) brown-gray, predominantly medium-grained sand, with minor subrounded gravels, minor cohesive silty clay, granitic composition	
515							
520	11:45 11:55				SW	SAND (SW) brown, fine- to coarse-grained sand, with silt as thin interbeds, minor gravel	
525							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525						SAND (SW)	
						decreasing frequency of silt interbeds	estimate 15-20% silt in returns moderate chatter
530						gravel zone	
					SW		
535						increasing silt content (as thin interbeds)	
540	12:31 12:42 12:45 13:05						
545							
550						decreasing silty interbeds	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
555							
560	13:37 14:59				CL	SANDY CLAY (CL) mottled brown-orange, cohesive clay, with thin, well-graded sand interbeds	slight chatter
565							smooth
570							
575							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	15:33 15:43						
580					CL	SANDY CLAY (CL)	
585						increasing sand content	
590					SW	SAND (SW) brown-gray, fine- to coarse-grained, subrounded sand, with minor silt interbeds, granular fraction composed of quartz and granitic rock fragments	
595							
	16:18 16:30						
600						decreasing silt content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					SW	SAND (SW)	
						SAND (SW) brown-orange, medium- to coarse-grained, minor fine-grained sand, with minor subrounded gravel, interbedded with cohesive silty clay	increasing chatter
610	16:45				SW		
615						better grading	
620	17:03 17:09						
625							
	17:18						violent chatter/bouncing drill stem abundant broken grains
630						well cemented sandy zone or larger	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630						boulder	
					SW	SAND (SW)	
635							moderate chatter
	17:47 17:59						
640						increasing sand content, predominantly medium-grained, angular, composed of granitic rock fragments	increasing chatter
645							
	18:20						
650						increasing frequency of silt interbeds	
						siltier zone (up to 50% as interbeds)	
655							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SAND (SW)	
	18:38				SW		
	8:47					decreasing silty clay interbeds	estimate 30% silty clay in returns chatter, minor broken grains
660							
	8:55						
665						sandier zone	
	9:03						
670							
							decreasing chatter
675						increasing silty clay interbeds	estimate 50% silty clay in returns
	9:17						
	9:25						
	9:33						
680							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
685	9:45				SW	SAND (SW) decreasing silty clay interbeds	
	9:54						
690						increasing sand content	increasing chatter occasional violent chatter, with bouncing drill stem some broken grains
					SW	GRAVELLY SAND (SW) brown-gray, fine- to coarse-grained subrounded sand and fine-grained gravel, with minor silt and clay, granular fraction composed of granitic and ultramafic rock fragments	
695							
	10:14 10:23						
700						increasing gravel content	
	10:36 10:42						
705					GP	SANDY GRAVEL (GP) fine- to coarse-grained gravel, with cobbles and boulders, medium- to coarse-grained sand, composed of granitic and ultramafic rock fragments	moderate to violent chatter abundant broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710	11:11				GP	SANDY GRAVEL (GP)	
	11:21						
715	11:26						
	11:40						
	11:45						
720	11:55						
					GP		
725							increasing chatter
	12:08						
730						increasing gravels, cobbles, and boulders	90% broken grains
735							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
735						SANDY GRAVEL (GP)	
	12:45 12:55						
740					GP		
	13:09						
745							
							increasing chatter abundant broken grains
							moderate chatter
750						boulder zone	
	13:25						
755							
	13:42 13:47						
760						boulder zone	violent chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	13:58				GP	SANDY GRAVEL (GP)	
765							
						silty zone, olive-brown	smooth interval
770	14:08						
						increasing silt content	
775							
	14:27 14:34				ML	CLAYEY SILT (ML) mottled brown and blue-green clayey silt, with fine- to coarse-grained sand, trace fine-grained rounded gravel occuring as gravelly sand interbeds	smooth drilling
780	14:46						
785							smooth with occasional chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
790	15:03				ML	CLAYEY SILT (ML) increasing frequency of thin gravelly sand interbeds increase silt content	
795							
800	15:17 15:25						
805							
810	15:45				SW	GRAVELLY SAND (SW) brown-gray, fine- to coarse-grained rounded sand, with silty clay as thin interbeds (up to 40%), granular fraction composed of granitic rock fragments	increasing consistent chatter some broken grains occasional smooth interval

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C04 (sheet 31 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

00493/

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
815					SW	GRAVELLY SAND (SW)	
	14:19 14:22						
820							smooth, with occasional slight chatter
					CL	SILTY CLAY (CL) light brown, slightly cohesive silty clay, with fine- to medium-grained subrounded sand occuring as thin interbeds	
825							
	16:44					brown-orange, little to no sand	
830							
835							
	17:05 17:13 17:15						
840							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C04

(sheet 32 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCJ	12/90		

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BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
840	9:35					SILTY CLAY (CL)	
						becoming moderately cohesive	
845					CL		
	9:51						minor chattery intervals
850						sandy zone	
	10:00						
855							
	10:10						
	10:19					sandy interbed trace of blue-green clay	
860							
865	10:30						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring NH-C04

(sheet 33 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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366 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL	SILTY CLAY (CL)	
					SW	GRAVELLY SAND (SW) brown-gray, fine- to coarse-grained rounded sand, minor silty clay interbeds, granitic composition	slight to moderate, some broken grains
870	10:46						
875							
	11:15 11:20				GP	SANDY GRAVEL (GP) gray, fine- to coarse-grained gravel, with medium- to coarse-grained sand, granular fraction composed of granitic rock fragments, many boulder/cobble zones	increasing chatter abundant broken grains
880	11:32						
885	11:48						
890	11:59					boulder zone	violent chatter, bouncing drill stem

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C04

(sheet 34 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SLS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
895					GP	SANDY GRAVEL (GP)	
					CL	SILTY CLAY (CL) brown-red, low plasticity, cohesive silty clay with fine- to coarse-grained sand as thin interbeds	smooth with slight chatter
	12:15 13:04						
900						sandy zone	
						sandy zone	
905							
	13:54						
910						decrease in sand content	
						color change to brown-green	
915							
						SILTY CLAY (CL)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C04

(sheet 35 of 36) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C04 CLIENT LADWP

DATE STARTED 4/19/90 COMPLETED 5/3/90 PROJECT San Fernando Valley RI

ELEVATION 560 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						~~SILTY CLAY (CL)~~	Boring terminated at 919 feet on 5/3/90. Boring converted to Monitoring Well NH-C04-560 on 5/7/90.
920							
925							
930							
935							
940							
945							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 560 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 919 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C04

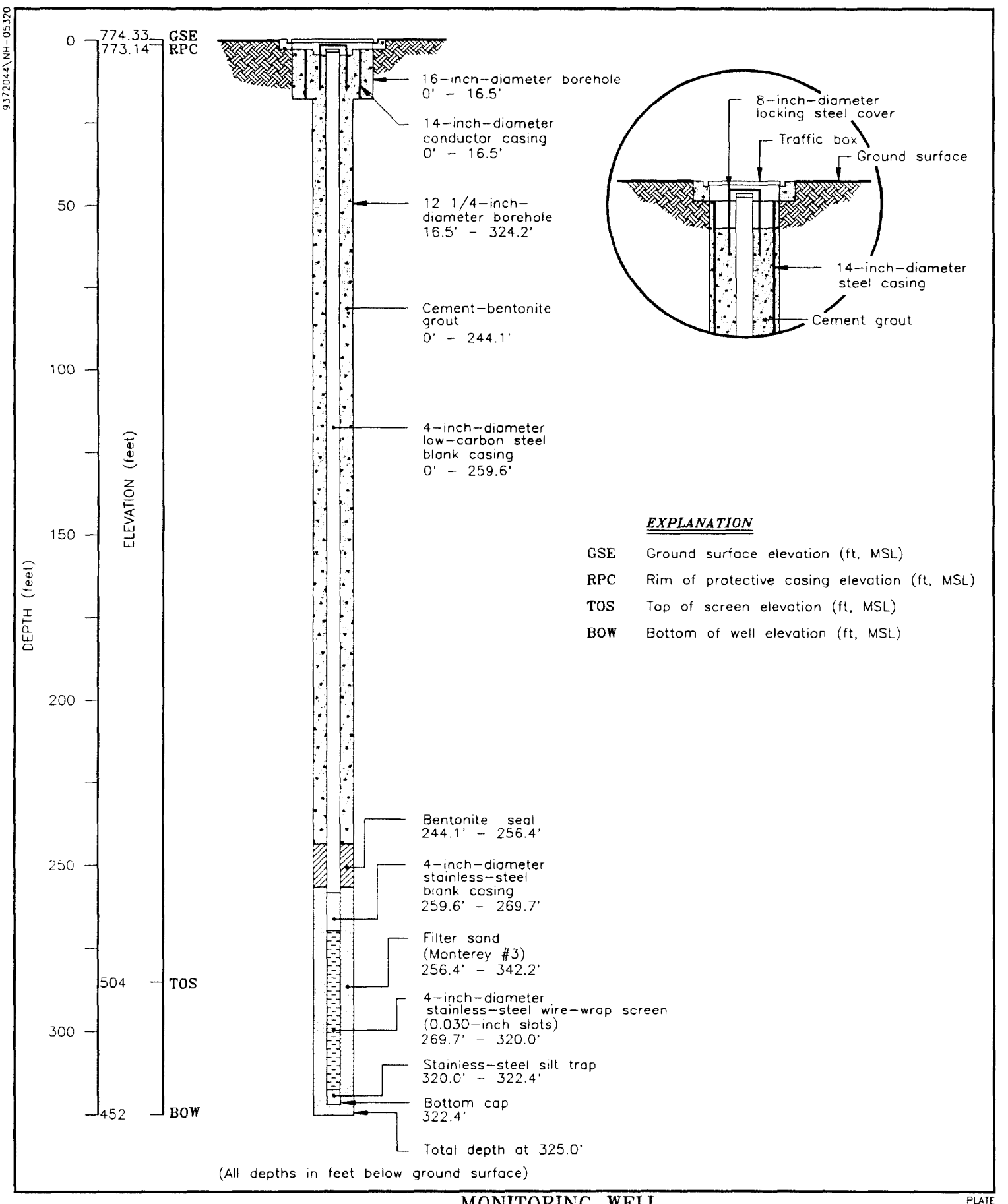
(sheet 36 of 36)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,034.16	SCS	12/90		

9372044\NH-05320



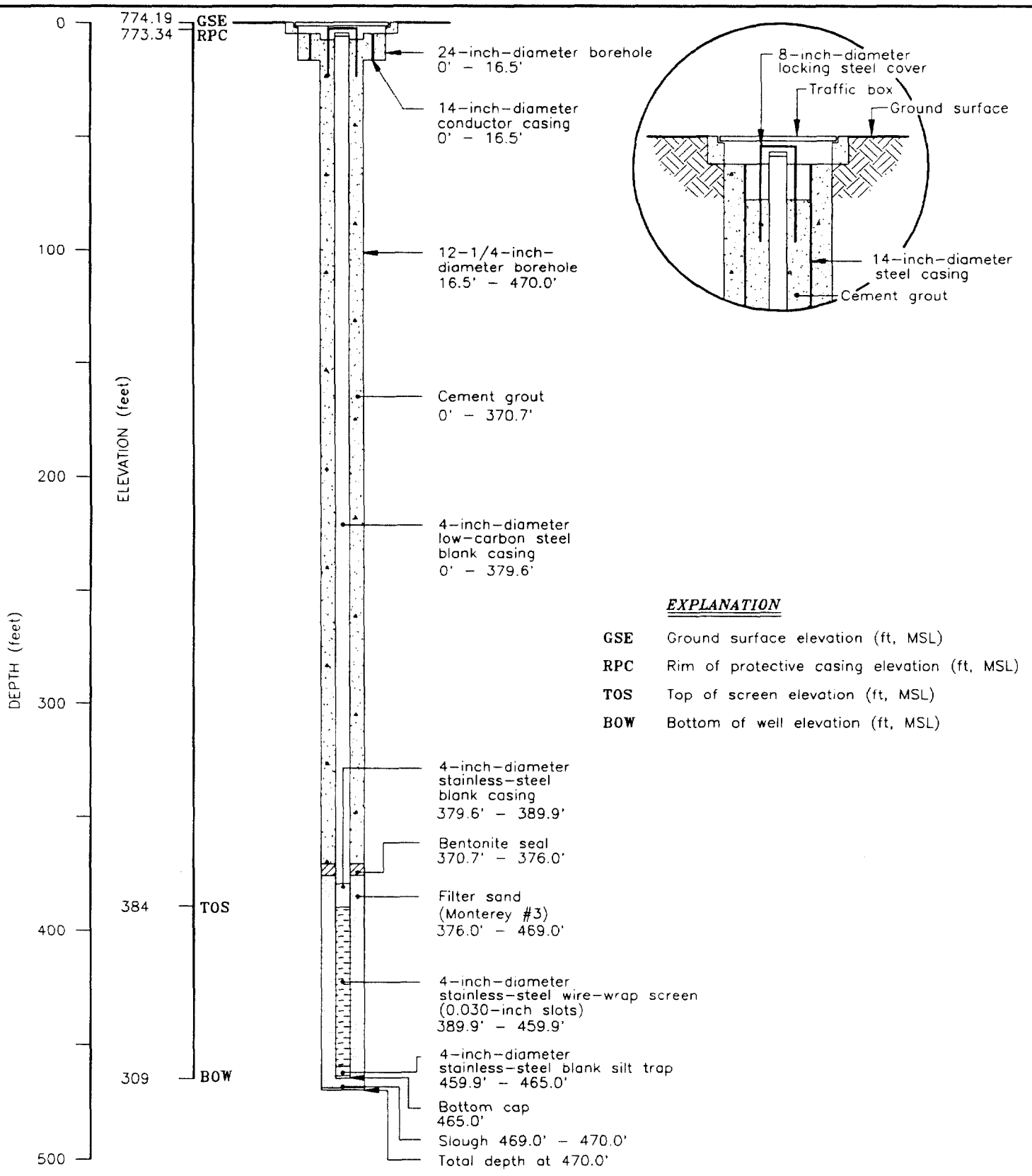
Engineering and
Environmental Services

MONITORING WELL
NH-C05-320
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
JCM	9372.044.16		2/91	JMM 7/92

HDT\JMM\NH5460



(All depths in feet below ground surface)

Harding Lawson Associates
Engineers and Geoscientists

PLATE

MONITORING WELL
NH-C05-460
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.044.16		2/91	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	2:28 (10/1)				SP	SAND (SP) brown, dry, fine- to coarse-grained sand, little silt, trace rounded fine-grained gravel, granular fraction composed of granitic and quartzite rock fragments	Solid stem auger (16-inch-diameter) drilled to 10 feet, Conductor casing (14-inch-diameter) set from 0-10 feet, 0-10 feet logged from auger cuttings.
5							
10	14:45 (10/1) 8:10 (10/3)						Begin mud rotary at 10 feet.
15						medium- to coarse-grained sand, trace silt	
20							
25							slight chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05 (sheet 1 of 31)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30					SW	GRAVELLY SAND (SW) brown, medium- to coarse-grained sand, with rounded fine-grained gravel, trace silt	
35							
40	11:30				SP	GRAVELLY SAND (SP) brown, medium- to coarse-grained sand, some rounded fine-grained gravel, composed of granitic, quartzite, and gabbroic rock fragments	slight chatter
45	11:44					increasing gravel content, fine- to coarse-grained	
50					GP	SANDY GRAVEL (GP)	rig chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05 (sheet 2 of 31)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	SANDY GRAVEL (GP) brown, fine- to coarse-grained rounded gravel, with 40-50% medium- to coarse-grained sand	some broken grains
55							
							bouncing drill stem
60						cobble zone	abundant broken grains
65	14:35 (10/3)						few broken grains
						fine- to coarse-grained subrounded gravel, cobbles and boulders, some medium- to coarse-grained sand	rig chatter, bouncing drill stem
70	11:17 (10/4)						abundant broken grains
75							
						decreasing cobble/boulder zones	some broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05

(sheet 3 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

00709/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80					GP	SANDY GRAVEL (GP)	
							consistent rig chatter
85							
90	12:36						
							rig chatter
95							
						fine- to coarse-grained rounded gravel and cobbles, with coarse-grained sand	
100							some broken grains
							decreasing rig chatter
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05

(sheet 4 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	LGB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05 CLIENT LADWP
DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI
ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					GP	SANDY GRAVEL (GP)	
						increasing coarse-grained gravel, with medium- to coarse-grained sand	increasing rig chatter, slight bounce of drill stem
110	13:47						
115							rig chatter, decreasing broken grains
120	15:37						
						increasing sand content	
125					SP	GRAVELLY SAND (SP) brown, medium- to coarse-grained subangular to subrounded sand, with some fine-grained rounded gravel, composed of granitic and gabbroic rock fragments	smooth with minor chatter little to no broken grains
130							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft
HOLE DIAMETER 6-3/4" WELL DIAMETER 4"
TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring NH-C05 (sheet 5 of 31) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	GRAVELLY SAND (SP)	
135							
140	16:35						
						increasing coarse-grained sand and fine-grained gravel	few broken grains
145							
150						gravelly interbed	rig chatter, slow drilling
155	16:58					medium- to coarse-grained subangular sand, with some fine-grained rounded gravel	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 6 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160					SP	GRAVELL SAND (SP)	
						gravel/cobble interbed	rig chatter, slow drilling, bouncing drill stem
165							decreasing chatter
170	18:25 (10/4)						
175	7:35 (10/5)					medium- to coarse-grained sand, with abundant fine-grained rounded gravel	rig chatter
180					SP	mostly medium-grained sand, some coarse-grained sand, trace fine-grained gravel	slight chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05 (sheet 7 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185	7:57				SP	GRAVELLY SAND (SP)	
190							
195							slight chatter
200							
205							
210							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 8 of 31)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16		3/91		

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BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
~~210~~					SP	GRAVELLY SAND (SP) brown, mostly medium- to coarse-grained subangular sand, with some fine-grained rounded gravel, granitic/gabbroic composition	little broken grains
215							
220	9:07					increasing silt content (10%)	
225							rig chatter
230						increasing silt content (15%)	
						dark gray silt occuring as interbeds	
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

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PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	GRAVELLY SAND (SP)	
240	9:13						
						30% gray silt interbedded with gravelly sand (SP)	
245							smooth, no chatter
250							
255							
260	10:19						smooth, no chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 10 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265					ML	SANDY SILT (ML) brown-gray, silt with medium- to coarse-grained subangular sand, trace fine-grained gravel	
270						increasing coarse-grained sand and fine-grained gravel	rig chatter
275					SP	SAND (SP) brown-gray, medium- to coarse-grained subangular sand, with some gray silt occuring as thin interbeds, trace fine-grained gravel	
280	11:00						rig chatter
285						silty interbed	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 11 of 31) PLATE
San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290					SP	SAND (SP)	rig chatter
295						increasing silty interbeds (30-40%)	rig chatter
300	13:41 (10/5) 7:39 (10/8)						slight rig chatter
305							slight rig chatter
310					ML	SANDY SILT (ML) brown, silt with medium- to coarse-grained subangular sand, trace fine-grained gravel	
315							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 12 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SS	3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					ML	SANDY SILT (ML)	
	8:34 (10/9)					cobble/boulder zone	chatter, abundant broken grains
320							
325							
330							
335						sandy interbed	rig chatter
340						silt with some medium- to coarse-grained sand	attempted hydropunch sample

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

(sheet 13 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	16:35				ML	SANDY SILT (ML)	
345							
	16:40						
350							
	16:45 (10/16)						
355						increasing silt content	consistent rig chatter
					SP	SAND (SP) brown, medium-grained subangular sand, little fine- and coarse-grained sand, trace silt	
360	13:01 (10/18)						
365							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 14 of 31) PLATE

San Fernando Valley RI
San Fernando, California

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
CLIENT LADWP
DATE STARTED 10/1/90 COMPLETED 10/22/90
PROJECT San Fernando Valley RI
ELEVATION 778 feet AMSL
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
370							
						medium- to coarse-grained rounded sand, with little fine- to coarse-grained gravel	rig chatter
375							some broken grains
380	13:21						
							rig chatter bouncing drill stem
385						cobble/boulder sone	abundant broken grains
	13:57						
390							
							little to no broken grains

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 460 ft
HOLE DIAMETER 6-3/4"
WELL DIAMETER 4"
TOTAL DEPTH 800 ft
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 15 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					SP	SAND (SP)	rig chatter
						little silt, occuring as silty interbeds	
400	14:02						
							rig chatter
405							
410						cobble zone	bouncing drill stem some broken grains, slow
415							
420							rig chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 16 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

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BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	14:48				SP	SAND (SP)	slight bouncing of drill stem
425						increasing fine-grained gravel, decreasing silty interbeds	
430						cobble/boulder zone	rig chatter bouncing drill stem some broken grains
435							
440	15:23						decreasing broken grains rig chatter
445							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 17 of 31) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C05 CLIENT LADWP
DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI
ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
450							consistent rig chatter
455							
						mostly medium- to coarse-grained subangular to subrounded sand	
460	16:24						rig chatter
465							
470						trace orange silt	rig chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft
HOLE DIAMETER 6-3/4" WELL DIAMETER 4"
TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 18 of 31) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	few broken grains
						SILTY SAND (SM)	
475					SM	green-gray, fine- to coarse-grained sand, with silt	
480	17:08						
485							
490							
495						increasing silt content	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 19 of 31) PLATE

San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	18:20 (10/18)				ML	SANDY SILT (ML) gray-brown, silt with fine- to medium-grained subangular sand	
505						increasing coarse-grained sand	
					SP	SAND (SP) gray-brown, medium- to coarse-grained sand, with little silt	
510							
515					ML	SANDY SILT (ML) brown, mostly silt with little fine- to coarse-grained sand	smooth drilling
520	11:25 (10/19)						
525							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 20 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

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HK	9372,044.16	SCS	3/91		

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BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525					ML	SANDY SILT (ML)	
530							
535							
540	11:45						
545					SP	SAND (SP) brown, mostly medium- to coarse-grained subrounded sand, with silt	rig chatter
550							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

(sheet 21 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
						increasing silt content, occuring as thin interbeds	
555							
						trace fine-grained gravel	rig chatter
560	12:05					decreasing silt content, mostly medium- to coarse-grained subrounded sand, with fine-grained rounded gravel, granitic and gabbroic composition	
565							rig chatter slight bounce of drill stem
570							
						cobble/boulder zone	rig chatter
575							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05 (sheet 22 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16		3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP) increasing silt content, dark gray	
580	12:43						
					SM	SILTY SAND (SM) brown-gray, fine- to coarse-grained, mostly medium- to coarse-grained subrounded sand, with 30% silt, trace fine-grained gravel, granular fraction composed of granitic and gabbroic rock fragments	consistent rig chatter
585							
590							
							rig chatter
595							
600	13:17						
						decreasing silt content	rig chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05 (sheet 23 of 31) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

00709/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					SM	SILTY SAND (SM)	
							rig chatter
610							
					ML	SILT (ML) brown, silt with little fine- to medium-grained sand	smooth drilling
615							
620	13:22						
625							smooth drilling
630							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

(sheet 24 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

00709/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630						increasing fine- to coarse-grained subangular sand	
635						decreasing sand content (5-10%)	
640	13:32						
645					SP	GRAVELLY SAND (SP) brown-gray, medium- to coarse-grained sand, with little fine-grained gravel, little silt occuring as thin interbeds	slight chatter
650	17:32 (10/19)					boulder zone	bouncing drill stem
655							heavy chatter some broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

(sheet 25 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	GRAVELLY SAND (SP)	
660	8:41 (10/22)						slight chatter
						SILT (ML) brown, mostly silt with little medium- to coarse-grained sand	
665					ML		
							smooth drilling
670						decreasing sand content	
675							smooth drilling
						SILTY SAND (SM) brown, mostly medium-grained subrounded sand, with 30% silt, visible mica flakes, granular fraction, composed of granitic and gabbroic rock fragments	
680	9:18				SM		

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

(sheet 26 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	smooth drilling
685							
690							
							smooth drilling
695							
700	9:41					color change to gray-green	
705						sandy/gravelly interbed	slight chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 27 of 31) PLATE

San Fernando Valley RI
San Fernando, California

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710					SM	SILTY SAND (SM)	
							slight chatter
715							smooth drilling
720	11:10						
							smooth drilling
725						color change to brown, mostly fine- to medium-grained sand, with abundant silt	
730							
735							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 28 of 31) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C05 CLIENT LADWP

DATE STARTED 10/1/90 COMPLETED 10/22/90 PROJECT San Fernando Valley RI

ELEVATION 778 feet AMSL GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
735					SM	SILTY SAND (SM)	
740	11:54						smooth drilling
						mostly medium- to coarse-grained sand, with some silt (30-35%)	
745							
750							
755							smooth drilling
760	12:22						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 460 ft

HOLE DIAMETER 6-3/4" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05

(sheet 29 of 31) PLATE

San Fernando Valley RI
San Fernando, California

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HK	9372,044.16	SCS	3/91		

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DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
765							
770						increasing silt content (40-45%)	
							smooth drilling
775							
						SANDY SILT (ML) brown, mostly silt with some fine- to coarse-grained sand (25-30%)	
780	13:35				ML		
785							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C05 (sheet 30 of 31)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C05
DATE STARTED 10/1/90 COMPLETED 10/22/90
ELEVATION 778 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Tanaka, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SANDY SILT (ML)	
790							
					SM	SILTY SAND (SM) brown, medium- to coarse-grained sand, with some silt (35%)	
795							
800	14:20 (10/22)						Boring terminated at 800 feet. Boring backfilled with cement grout on 10/31/90.
805							
810							

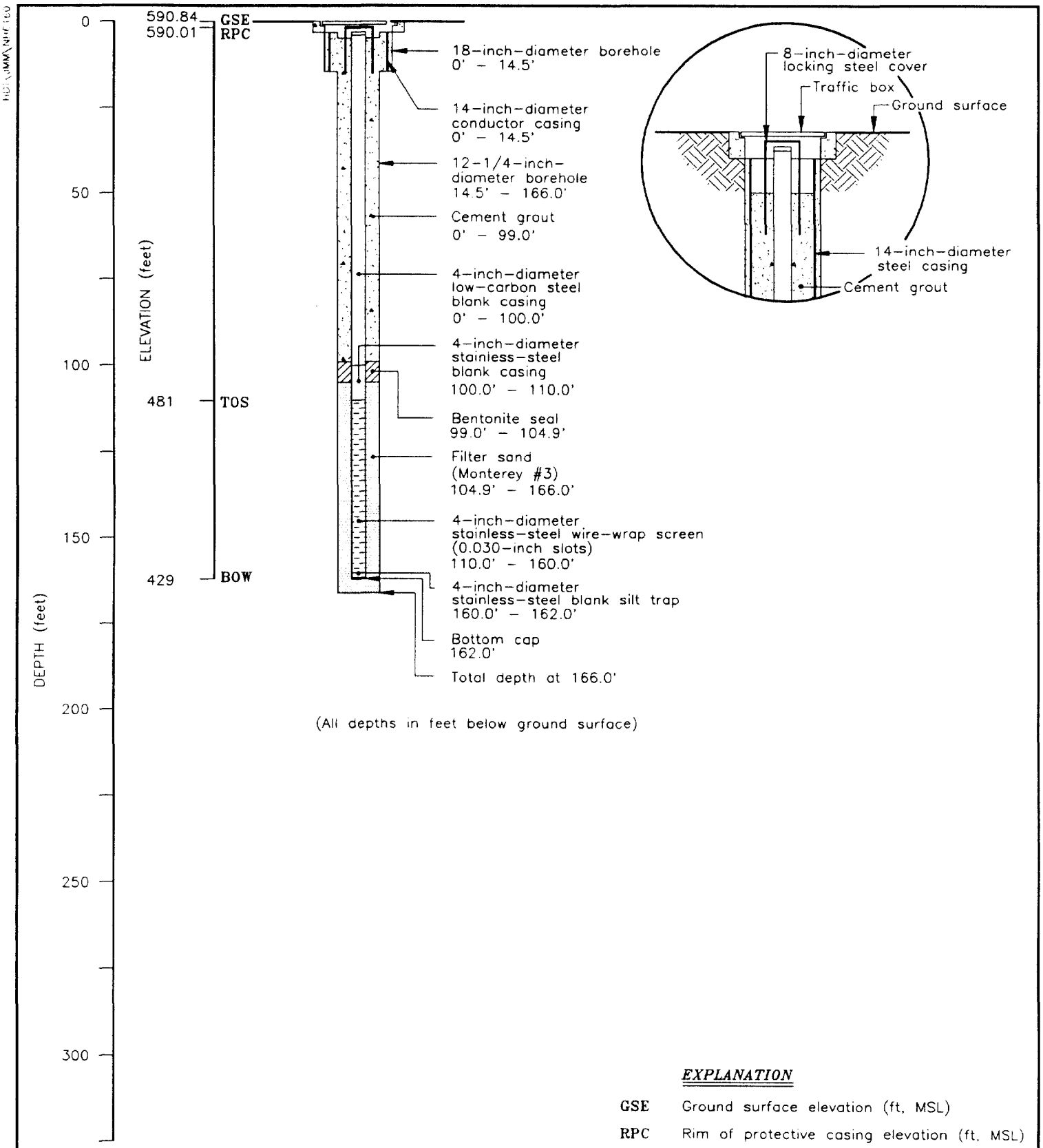
METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-3/4"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 460 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C05 (sheet 31 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		



EXPLANATION

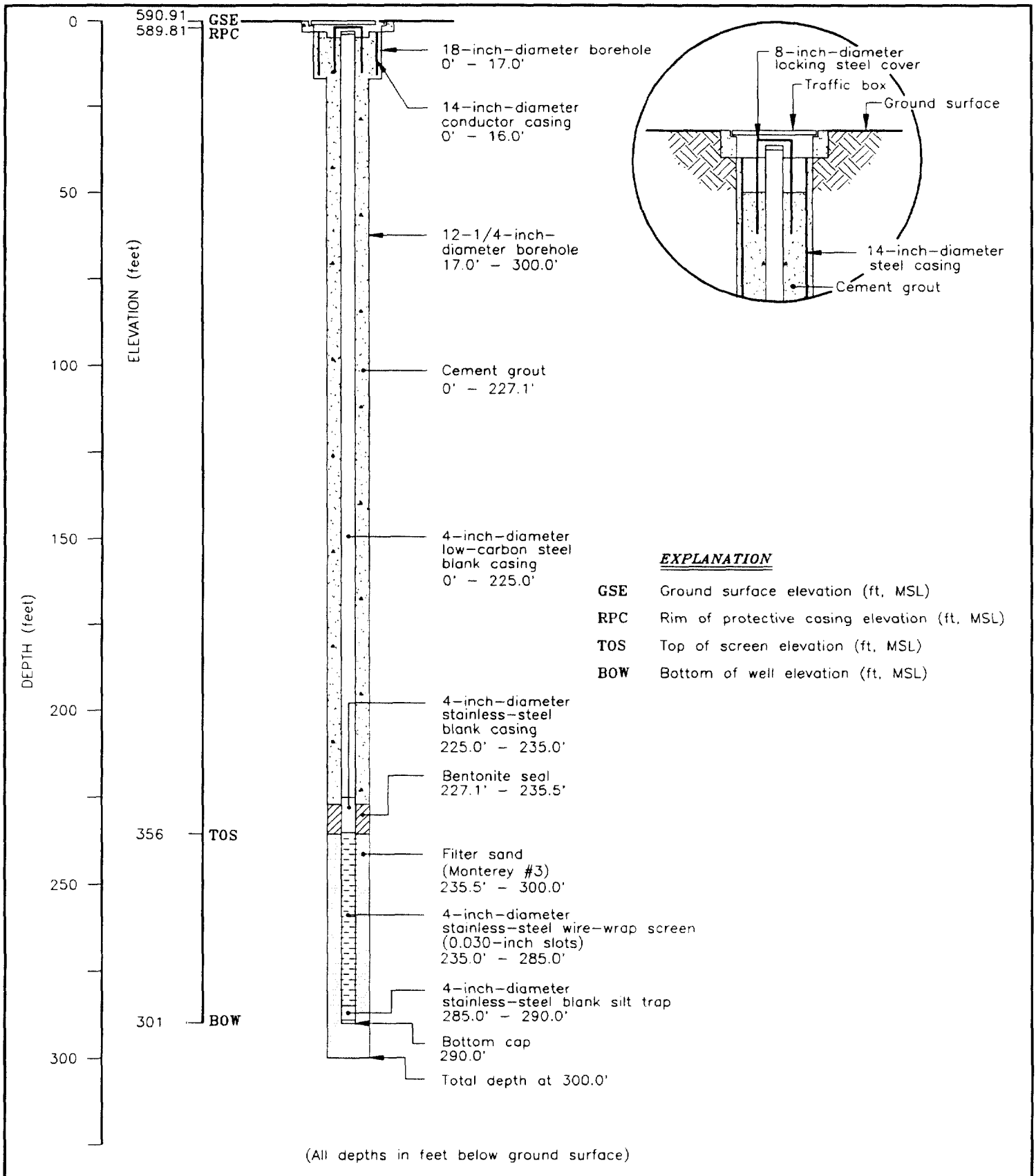
GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
NH-C06-160
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372.044.16		2/91	JMM	7/92



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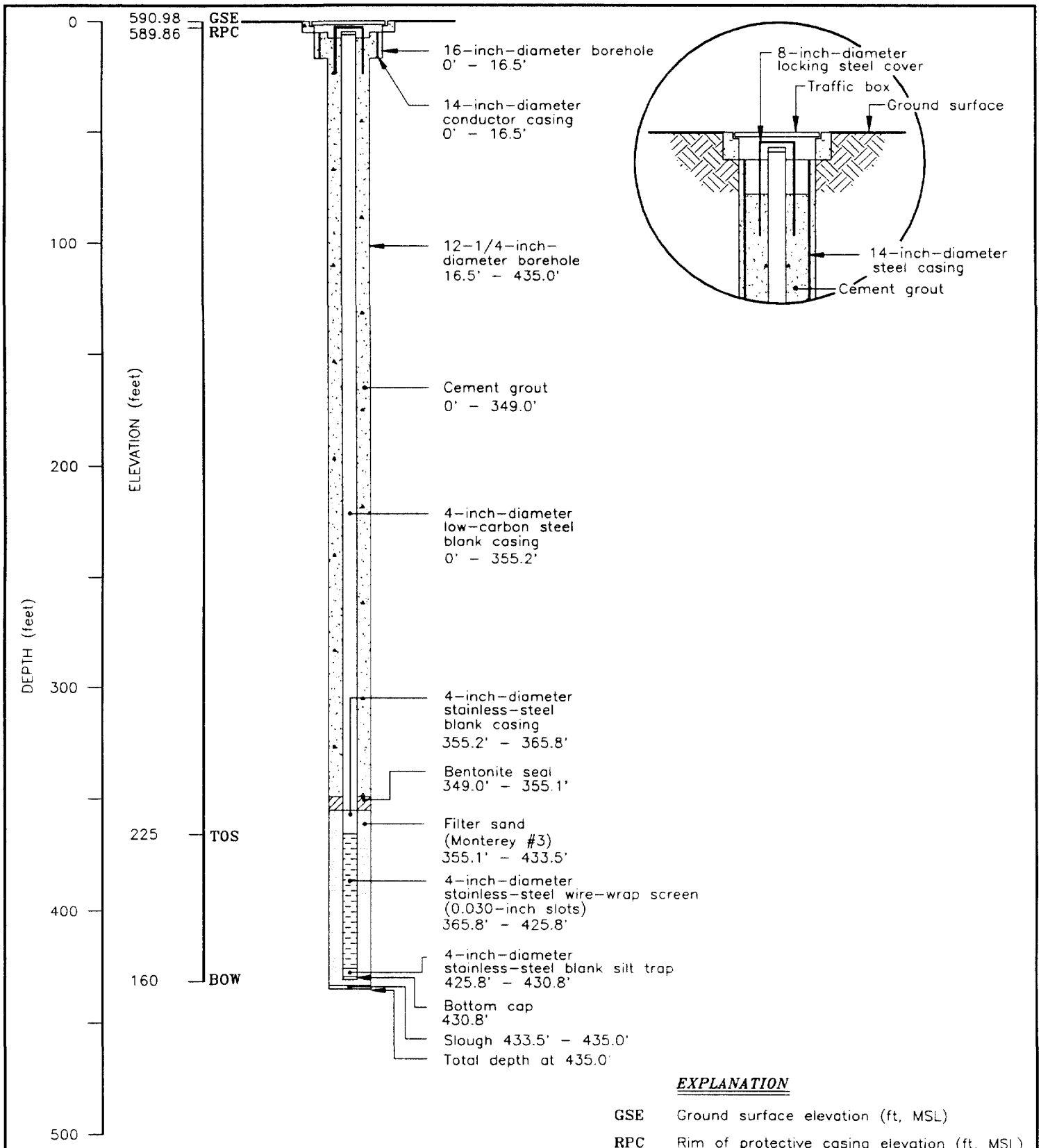
Engineers and Geoscientists

MONITORING WELL
NH-C06-285

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.044.16		2/91	JMM	7/92



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

MONITORING WELL
NH-C06-426

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372 044 16		2/91	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
CLIENT LADWP
DATE STARTED 11/27/90 COMPLETED 11/30/90
PROJECT San Fernando Valley RI
ELEVATION 586 feet AMSL
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	10:15 (11/27)					SILTY SAND (SM) brown, damp, fine- to medium-grained sand, with little silt, trace coarse-grained sand and fine-grained gravel	Solid stem auger (16-inch-diameter) drilled to 14.4 feet, Conductor casing (14-inch-diameter) set from 0-14.4 feet, 0-14.4 feet logged from auger cuttings.
5							
10					SM		
15	10:40 (11/27) 15:50						Begin mud rotary at 14.4 feet.
20	15:56 (11/27) 7:00 (11/28)						
25							

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 425 ft
HOLE DIAMETER 6-5/8"
WELL DIAMETER 4"
TOTAL DEPTH 800 ft
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 1 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCJ	3/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
					GP	SANDY GRAVEL (GP) brown-gray, fine- to coarse-grained subrounded gravel, with some medium- to coarse-grained sand, trace fine-grained sand, composed of granitic gabbroic and ultramafic rock fragments	
30							some broken grains
35							consistent rig chatter
40	7:15						
45							
						increasing gravel content	
50							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 2 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCJ	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					GP	SANDY GRAVEL (GP)	
60	7:44						
65							
70						increasing fine- to medium-grained sand content	some broken grains slight chatter
75							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 3 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	8:08				SP	GRAVELLY SAND (SP) brown, mostly medium-grained sand, little fine- and coarse-grained sand and fine-grained subrounded gravel, granitic gabbroic and ultramafic composition	
85							slight chatter
					ML	SILT (ML) brown, mostly silt with little fine-grained sand	
90							smooth drilling
95							
100	8:31						
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 4 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
~~105~~							
110					SW	SAND (SW) brown, fine- to coarse-grained subangular sand, trace fine-grained gravel and silt	slight chatter
115						SILT (ML) brown, silt with little fine-grained sand, trace clay	smooth drilling
120	9:16				ML		
125							
130							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring NH-C06 (sheet 5 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
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BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SILT (ML)	
135							
140	9:34						
145							
150							
155							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 6 of 31)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16		3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SILT (ML) increasing sand content	
160	10:09						
					SP	GRAVELLY SAND (SP) brown, medium- to coarse-grained subangular sand, with little fine-grained subrounded gravel, granitic composition	moderate chatter some broken grains
165							
170	10:20					mostly coarse-grained sand, with little fine-grained gravel	
175							moderate chatter
180	10:33						slight to moderate chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 7 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

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BORING/WELL NUMBER NH-C06 CLIENT LADWP
DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI
ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SP	GRAVELLY SAND (SP)	increased chatter
190	10:46				SM	SILTY SAND (SM) brown, fine- to medium-grained subangular sand, with abundant silt (45-50%)	smooth drilling
195							
200	10:52						
205							smooth drilling
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft
HOLE DIAMETER 6-5/8" WELL DIAMETER 4"
TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring NH-C06 (sheet 8 of 31) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210						SILTY SAND (SM)	
	10:17				SM		
					ML	SILT (ML) medium brown, silt with little fine-grained sand and clay some gravel, 210 to 215 feet	
215							
							smooth drilling
220	11:22						
225						decreasing sand content (<5%)	
230	11:33						
							smooth drilling
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 9 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SILT (ML)	
240	12:00						smooth drilling
245							
250	12:10					SAND (SW) brown, fine- to coarse-grained sand, with 5-10% silt, trace fine-grained gravel	moderate chatter
255							
260	12:19						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 10 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265					SW	SAND (SW)	moderate chatter
270	13:08						
275					ML	SANDY SILT (ML) brown, little fine- to coarse-grained sand, trace clay	moderate chatter
280	13:34				SW	SAND (SW) brown, fine- to coarse-grained sand, with 5-10% silt, trace fine-grained gravel	moderate chatter moderate chatter
285							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 11 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	13:45				SW	SAND (SW)	moderate chatter
295						cobble zone	violent chatter
300	13:58				ML	CLAYEY SILT (ML) brown, silt with little clay and fine- to coarse-grained sand interbeds	
305							
310	14:09						smooth drilling
315							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 12 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					ML	CLAYEY SILT (ML)	
320	14:19						
						medium- to coarse-grained sand interbed (1-2 feet thick)	slight chatter
325							
330	14:43						
335							
340	14:57						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 13 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	CLAYEY SILT (ML)	
							smooth drilling
345							
350	15:42						
355							smooth drilling
360	16:15						
365							moderate chatter
					SM	SILTY SAND (SM)	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 14 of 31) PLATE

San Fernando Valley RI
San Fernando, California

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HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SILTY SAND (SM) medium brown, fine- to coarse-grained sand, with 15-20% silt	
370	16:27				SM		
375						cobble/boulder zone	violent chatter
						SAND (SP) brown, medium- to coarse-grained sand, with little fine-grained subangular gravel, trace silty interbeds, granular fraction composed of granitic/gabbroic rock fragments	some broken grains
380	16:53				SP		
							slight to moderate chatter
							some broken grains
385							
390	17:15						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 15 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
CLIENT LADWP
DATE STARTED 11/27/90 COMPLETED 11/30/90
PROJECT San Fernando Valley RI
ELEVATION 586 feet AMSL
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					SP	SAND (SP)	
						SILTY SAND (SM) medium brown, fine- to coarse-grained subrounded to subangular sand, with 25-30% silt	slight chatter
400	17:31 (11/28)				SM	color change to gray-green	
405							
410	7:27 (11/29)					color change to brown-gray, increasing silt content (40%)	
							moderate chatter
415							
420							

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 425 ft
HOLE DIAMETER 6-5/8"
WELL DIAMETER 4"
TOTAL DEPTH 800 ft
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 16 of 31) PLATE
San Fernando Valley RI
San Fernando, California

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	7:51					medium brown, decreasing silt content (30%)	
425							
430						decreasing silt content (15-20%)	
435							
440	8:30						slight chatter
445					SW	SAND (SW)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 17 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER NH-C06 CLIENT LADWP
DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI
ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW) medium brown, fine- to coarse-grained sand, with 1-2 feet thick silty interbeds	
450							
455							
460	9:07				ML	SANDY SILT (ML) brown, mostly silt with little fine- to medium-grained sand	
465						SILTY SAND (SM) brown, fine- to coarse-grained subangular sand, with 20-50% silt, trace fine-grained gravel	
470	9:32				SM		

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft
HOLE DIAMETER 6-5/8" WELL DIAMETER 4"
TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 18 of 31) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
475							
480	9:42						
485							
490	10:00				ML	CLAYEY SILT (ML) medium brown, clayey silt with little fine-grained sand	
495							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 19 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	10:08				ML	CLAYEY SILT (ML)	
505							
510	10:28						
515							
520	11:12						slight chatter
525							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft

WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 20 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

00709/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525							
					SM	SILTY SAND (SM) medium brown, fine- to coarse-grained sand, with 30% silt, trace blue clay	
530							harder drilling
535							
540	12:42						
545							
550					ML	SILT (ML)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06

(sheet 21 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	13:03				ML	SILT (ML) medium brown, with blue and yellow-brown mottling, mostly silt with trace clay	
555						increasing yellow-brown silt, decreasing blue silt	
560	13:12				SW	SAND (SW) medium brown, medium- to coarse-grained sand, trace fine-grained gravel	
565							
						SILT (ML) medium brown, silt with little coarse-grained sand, trace blue and yellow-brown clay	
570	13:39				ML		
575	14:02						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06

(sheet 22 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SC>	3/91		

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BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SILT (ML)	
580	17:00						Bit worn out, tripped out and replaced bit.
585							
590	17:10				SM	SILTY SAND (SM) medium brown, fine- to medium-grained sand, with 40% silt, granular fraction composed of granitic, gabbroic and sedimentary rock fragments	
595							
600	17:15						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 23 of 31)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCD	3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					SM	SILTY SAND (SM)	
610	17:25					SILT (ML) medium brown, silt with trace fine- to medium-grained sand	
615					ML		
620							
625							
630					SM	SILTY SAND (SM)	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring NH-C06 (sheet 24 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

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HK	9372,044.16	SCS	3/91		

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BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630	17:45				SM	SILTY SAND (SM) brown, fine- to coarse-grained subangular sand, with 15-20% silt	moderate chatter
635							
640	18:00 (11/29) 7:00 (11/30)						
645							
650	8:03					trace clay	
655							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 25 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCJ	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
660	8:14						
665							
670	8:30					color change to blue-gray	
675						blue-green silty clay interbed, granitic rock fragments are little weathered	
680	8:42						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 26 of 31)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
685					SM	SILTY SAND (SM) medium- to coarse-grained subangular sand, few subrounded to rounded grains with 15-20% silt	
690	8:53					decreasing silt content	
695							
700	9:17					increasing silt content	
705							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 27 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710	9:51				SM	SILTY SAND (SM)	
715							
720	9:58						
725						angular to subangular sand, few rounded grains, with little silt	
730	10:14					trace clay	
735							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring NH-C06 (sheet 28 of 31)
San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
CLIENT LADWP
DATE STARTED 11/27/90 COMPLETED 11/30/90
PROJECT San Fernando Valley RI
ELEVATION 586 feet AMSL
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
735					SM	SILTY SAND (SM)	
740	10:18					CLAYEY SILT (ML) blue-green, slightly cohesive, low plasticity silt, with clay	
745					ML		
750	10:40					SAND (SP) blue-gray, medium- to coarse-grained angular to subangular sand, trace fine-grained sand and silt, granular fraction composed of little weathered granitic rock fragments, few metamorphic rock fragments	
755					SP		
760	10:55						

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 425 ft
HOLE DIAMETER 6-5/8"
WELL DIAMETER 4"
TOTAL DEPTH 800 ft
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06 (sheet 29 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06 CLIENT LADWP

DATE STARTED 11/27/90 COMPLETED 11/30/90 PROJECT San Fernando Valley RI

ELEVATION 586 feet AMSL GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	10:58				SP	SAND (SP)	
765							
770	11:10				SM	SILTY SAND (SM) blue-gray, coarse-grained subangular to subrounded sand, with some fine- to medium-grained sand, little silt, trace clay, granular fraction composed of slightly weathered granitic rock fragments	
775							
780	11:18						
785							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 425 ft

HOLE DIAMETER 6-5/8" WELL DIAMETER 4"

TOTAL DEPTH 800 ft WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 30 of 31) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER NH-C06
DATE STARTED 11/27/90 COMPLETED 11/30/90
ELEVATION 586 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST W.R. Warner, JMM

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
790	11:36				SM	SILTY SAND (SM)	
795						increasing clay content, slightly cohesive	
800	11:55 (11/30)						Boring terminated at 800 feet. Boring backfilled with cement grout on 12/4/90.
805							
810							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 6-5/8"
TOTAL DEPTH 800 ft
WELL COMPLETION DEPTH 425 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring NH-C06

(sheet 31 of 31)

PLATE

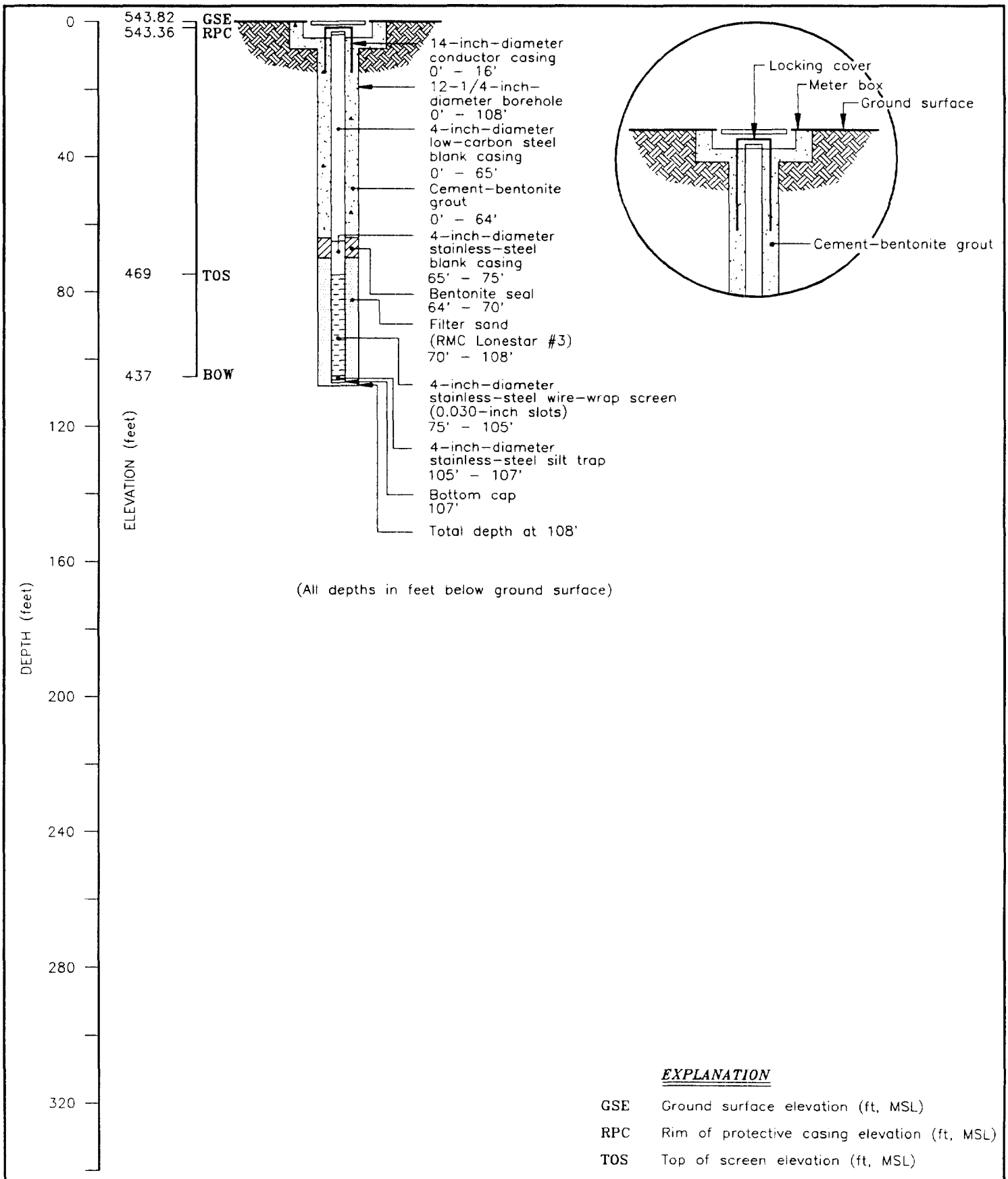
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,044.16	SCS	3/91		

APPENDIX C: BORING LOGS

APPENDIX C.6 CRYSTAL SPRINGS CLUSTER WELLS

HDT\JMM\CW01105



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

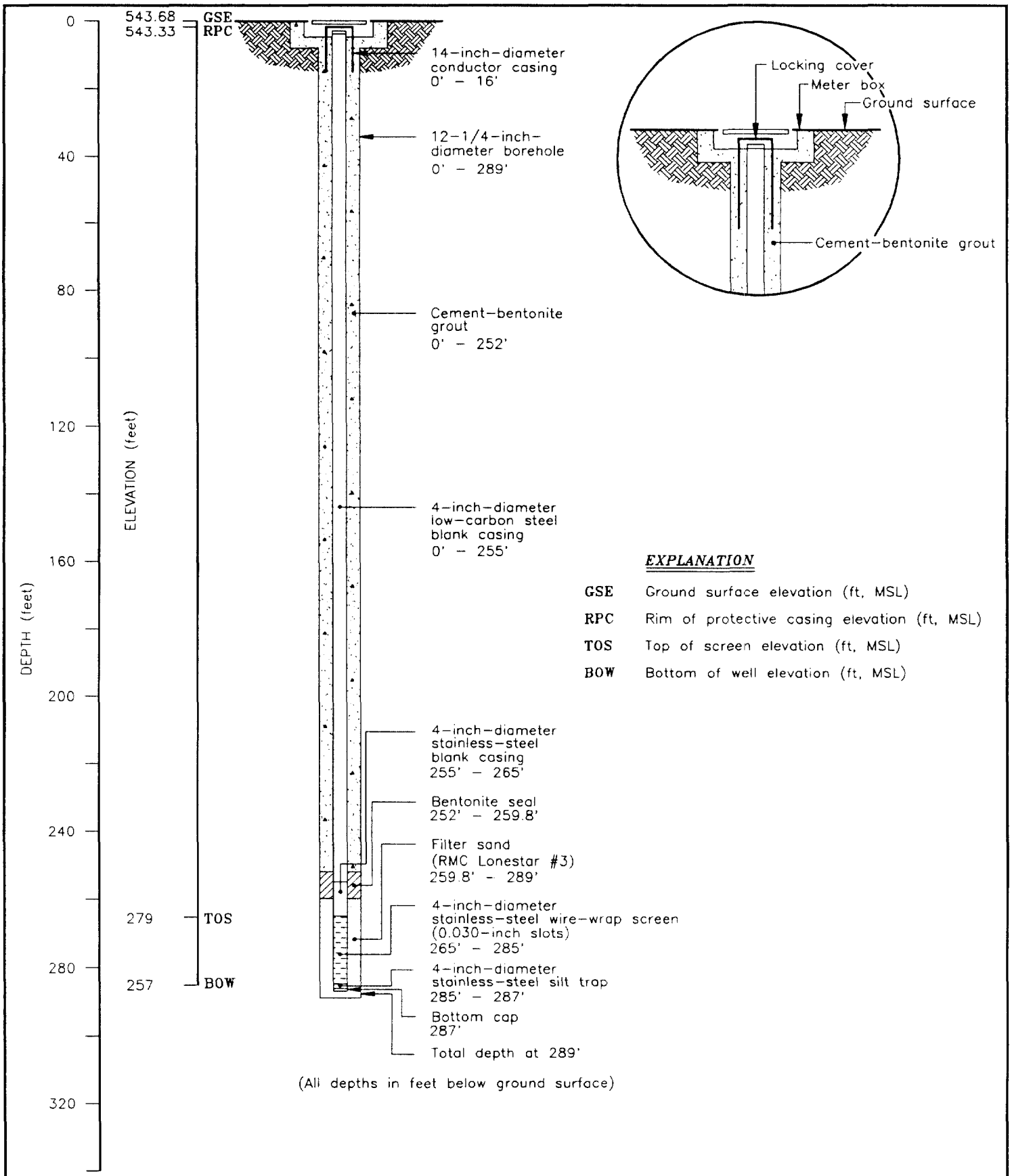
Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-C01-105
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.035.16		12/90	JMM	7/92

HDT\JMM\CW01285



Harding Lawson Associates
Engineers and Geoscientists

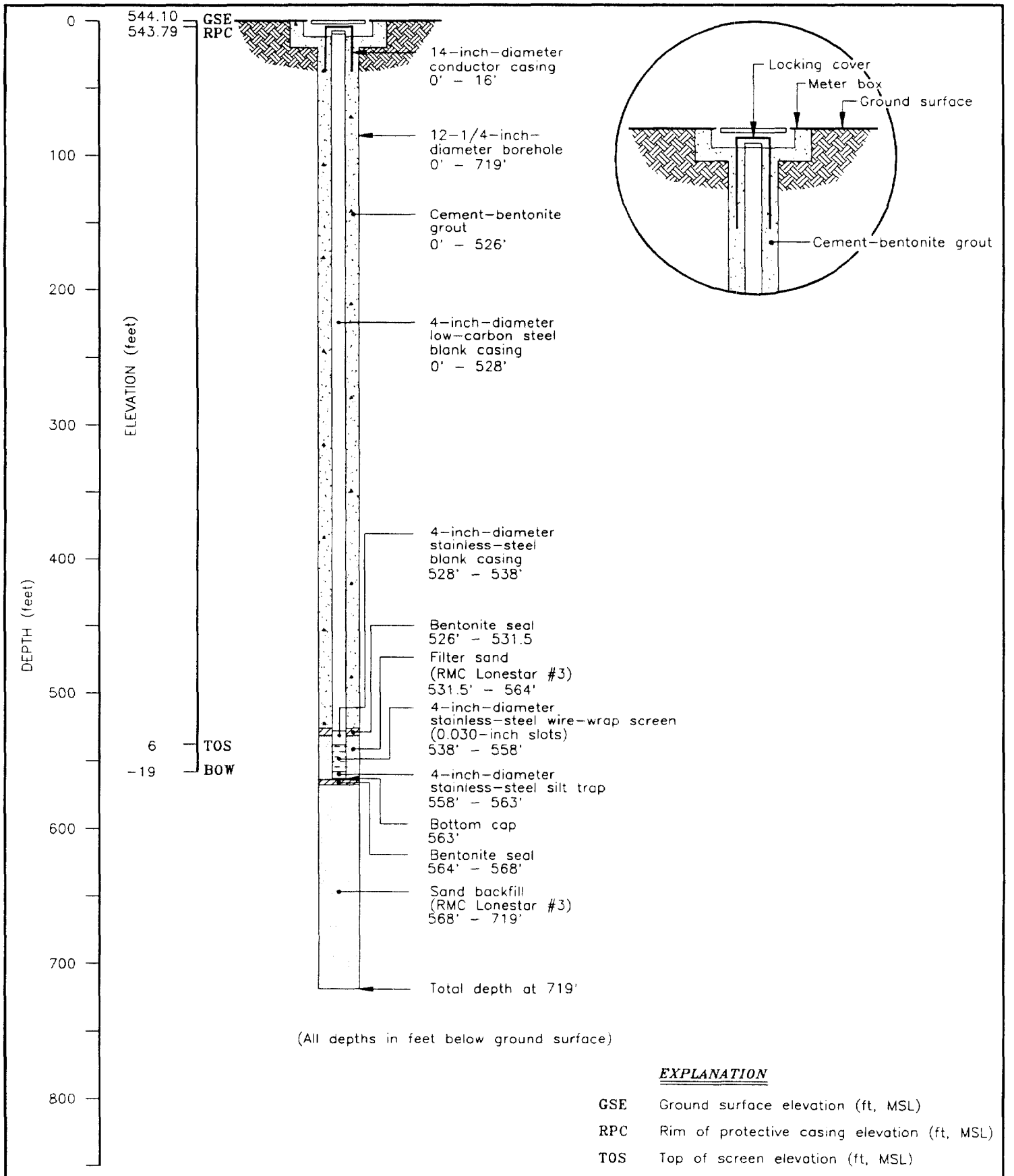
MONITORING WELL CS-C01-285

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ITI	9372.035.16		12/90	JMM	7/92

HDT\JMM\CW01558



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

Harding Lawson Associates
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MONITORING WELL
CS-C01-558
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTI	9372.035.16		12/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL

CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SANDY SILT (ML) brown, silt with fine-grained sand	Solid stem auger (18-inch-diameter) drilled to 16 feet, conductor casing (14-inch-diameter) set from 0-16 feet 0-16 feet logged from cuttings.
5							
					ML		
10							
15	15:28						
							begin mud rotary at 16 feet slight chatter
	15:31 15:34				SM	SILTY SAND (SM) brown, fine- to medium-grained sand with silt and and fine-grained gravel, granitic composition	minor broken grains
20							
25							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft

WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 1 of 28)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL

CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
30					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand with fine-grained subrounded gravel, trace of silt, granular fraction composed of granitic rock fragments	
35						silty interbed	quiet drilling
	15:44 15:49						
40						gravelly interbed	
45							increasing chatter
					GM	SILTY GRAVEL (GM) brown, fine-grained gravel, with silt and minor medium-grained sand	some broken grains
50							rough chatter
							abundant broken grains

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft

WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 2 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP

DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI

ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW) gray, fine to coarse grained, rounded gravel, brown micaceous silt, granular fraction composed of granitic and quartzite rock fragments	
55					GW		
	15:59 16:42						
60							increasing chatter
						GRAVEL (GW) fine- to coarse-grained gravel, with cobbles, granitic composition	abundant broken sand grains
65							
70	16:48						minor broken fine gravel
75						increasing sand content, fine to coarse grained, well rounded	
	16:57						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C01 (sheet 3 of 28)

San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	7:33						
80					GW		
						CLAYEY SILT (ML) brown, silt with trace of fine-grained gravel and fine to medium grained, rounded sand occuring as thin interbeds	smooth drilling
85					ML		
90	7:42						
						increasing sand interbeds	
95						GRAVELLY SAND (SW) brown, fine to coarse grained, well rounded sand, with minor fine gravel, some silt occurring as interbeds	alternating drill chatter and smooth drilling
					SW		
	7:50						
100	7:55						
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C01

(sheet 4 of 28) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP

DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI

ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW		
110	8:05					decreasing silt and gravel content	
115						increasing silt content	increasing chatter
120	8:11 8:26				GW	SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained gravel, with medium- to coarse-grained sand, some silt occuring as interbeds, granitic composition	violent chatter
125							very fast drilling
130	8:35				SW	GRAVELLY SAND (SW)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C01

(sheet 5 of 28)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW) gray, dominantly medium-grained rounded sand, with fine- and coarse-grained sand, some fine gravel, granitic composition	
135							alternating chatter with smooth intervals
	8:40 8:55						
140						gravelly interbed	
145						gravelly interbed	
150	9:03				ML	SANDY SILT (ML) brown, silt with sand and fine gravel	smooth, fast drilling
155						decreasing gravel content, sand is predominantly fine grained	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 6 of 28)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	9:15 9:23					SANDY SILT (ML) brown	smooth, drilling
160							
							increasing chatter
165						GRAVELLY SAND (SW) brown, fine- to coarse-grained rounded sand, with fine gravel, some silt occuring as silty interbeds	
170	9:31				SW		
						decreasing silt content SANDY GRAVEL (GW) gray-brown, gravel with occasional cobble/boulder, abundant fine- to coarse-grained sand, trace of silt	
175					GW		moderate to violent chatter
	9:42 9:46						
180							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 7 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
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385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					GW	SANDY GRAVEL (GW)	drill bit binding
190					SC	CLAYEY SAND (SC) brown, fine to coarse grained, well rounded sand, with minor fine grained gravel, some silt, micaceous, granitic composition	decreasing chatter minor broken grains
195						gravelly zone	
	10:02 10:04						
200							slight drill chatter
205					CL	SANDY CLAY (CL) light brown, silt and clay with fine-grained sand, minor medium- to coarse-grained sand and fine gravel, micaceous	
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 8 of 28)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	10:45				CL	SANDY CLAY (CL)	
215							very fast drilling
	10:50 10:58						
220						increasing clay content, moderately plastic	smooth with occasional chatter
225							
230	11:04					interbedded silt and highly plastic clay	
235					SC	CLAYEY SAND (SC) light brown, fine to coarse grained, rounded sand, with silt and clay	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 9 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						CLAYEY SAND (SC)	
	11:14 11:19				SC		
240							moderate drill chatter
245					SM		
						SILTY SAND (SM) brown, fine to coarse grained, well rounded, some angular sand, with silt and fine grained gravel, granular composed of granitic and anorthosite rock fragments	
250	11:29						
255							increasing chatter
					GW	SANDY GRAVEL (GW) brown, fine grained gravel, with abundant fine to coarse grained angular sand, minor silt	
	11:46 11:50						
260							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft
WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 10 of 28)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
265						clayey interbed	
270	12:05				GP	GRAVEL (GP) gray, coarse-grained gravel, cobbles and boulders, granitic and mafic composition	violent chatter abundant broken grains
						boulder zone	
275							
	12:48 14:05						
280							
	14:14						
285							
	14:22						
	14:30						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft
WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 11 of 28)
San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	14:37				SC	CLAYEY SAND (SC) brown, fine to medium grained, rounded sand with abundant silty clay as thin interbeds	some broken grains alternating smooth and chattery drilling
295							
	14:44 14:51						
300	14:52						
					GW	SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained gravel, with fine- to medium-grained rounded sand, granitic composition	
305							
310	15:25						slow, chattery drilling
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 12 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					GW	SANDY GRAVEL (GW)	
	15:44 15:51						
320							
325							
330	16:10						
					ML	SANDY SILT (ML) brown, clayey silt, with some medium-grained angular sand occurring as thin interbeds, micaceous	smooth, fast drilling
335							
	16:20 16:24						
340							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 13 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C01 CLIENT LADWP

DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI

ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SANDY SILT (ML)	
345					GW	SANDY GRAVEL (GW) brown-gray, fine- to coarse-grained gravel and cobbles, with fine- to coarse-grained rounded sand, granitic compositi with some gabbroic rock fragments	abundant broken grains violent chatter
350	16:48						
355	16:46 8:30					minor thin clay interbeds	
	8:44 8:50						
360						decreasing silt and clay interbeds	
365							moderate chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 14 of 28) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW)	
370	9:15				GW		
375							
	9:44 9:50						
380							smooth, fast drilling
385					CL	SANDY CLAY (CL) light brown, silty clay with minor fine to coarse angular sand	
390	10:02						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C01 (sheet 15 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					CL	SANDY CLAY (CL)	slight drill chatter
					SP	GRAVELLY SAND (SP) gray-brown, medium- to coarse-grained sand, with fine gravel, granitic composition	
	10:14 10:15						
400							
405							
					SC	CLAYEY SAND (SC) brown, medium grained, with minor fine- to coarse-grained sand, some clay, trace of gravel occuring in thin interbeds	
410	10:40						alternating smooth and chattery intervals
415							
							moderate chatter
	11:05 11:16				SW	GRAVELLY SAND (SW)	
420							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 16 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, with fine- to coarse-grained gravel, composed of granitics, mafics, minor iron staining	
425							
430	11:40					increasing gravel content, become more angular	
							trace broken grains
					CL	SANDY CLAY (CL) light brown, clay and silt, with fine- to coarse-grained rounded sand and minor fine gravel	smooth drilling
435							
	11:50 11:53						
440							
445							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft
WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C01 (sheet 17 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL	SANDY CLAY (CL) medium brown, clay with some medium- to coarse-grained sand	
450	12:06						
455					GW	SANDY GRAVEL (GW) gray, coarse-grained gravel, cobbles and boulders, with some medium-grained sand, granitic composition	abundant broken grains violent chatter
	12:36 12:43						
460							
					CL	SANDY CLAY (CL) brown, silty clay with fine-grained sand	fast smooth drilling
465							
					SW	SAND (SW) gray, fine to coarse grained, dominantly fine- to medium-grained sand, with gravelly interbeds, granitic composition	
470	13:15					gravelly interbed	alternating smooth and chattery drilling

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C01 (sheet 18 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3499

BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL

CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
475					SW	SAND (SW)	
	13:35 13:44						
480					ML	SANDY SILT (ML) orange-brown, silt with fine- to medium-grained sand	fast, smooth drilling
485							
490	14:35 15:01				GW	SANDY GRAVEL (GW) gray, fine- to coarse-grained gravel, with rounded fine- to medium-grained sand, granitic composition	moderate chatter many broken grains
495						increasing rock flour content	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft

WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring CS-C01 (sheet 19 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500					GW	SANDY GRAVEL (GW)	
505							
510	15:29						decreasing chatter smooth with chattery zones
515					ML	SANDY SILT (ML) gray, silt with fine-grained sand, trace of angular medium- to coarse-grained sand	
	15:46 15:57						
520							
525							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 20 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525					ML	SANDY SILT (ML)	
530	16:16					increasing sand content (40-50%)	
535							
540	16:30 16:40						moderate chatter, slow abundant broken grains
545					GW	GRAVEL (GW) gray, coarse-grained gravel, cobbles and boulders, composed of granitic gabbroic and meta sedimentary rock fragments	very slow drilling
550	17:20						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft
WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 21 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	17:30 7:33						
555							mud viscosity = 30 seconds sand content = 5.5%
	8:22 8:42				SP	SAND (SP) gray, medium grained, well rounded sand, composed of granitic and meta sedimentary rock fragments	fast drilling with slight chatter
560							
565							
					SW	GRAVELLY SAND (SW) gray, medium- to coarse-grained sand, with gravel, composed of granitic and meta sedimentary rock fragments	
570	9:02						slow noisy drilling
575						clayey silt interbed	fast, smooth quiet drilling

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01 (sheet 22 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCJ	1/91		

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BORING/WELL NUMBER CS-C01 CLIENT LADWP

DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI

ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	9:35 9:40				SW	GRAVELLY SAND (SW)	
580							slow noisy drilling
							moderate to violent chatter abundant broken grains
585					GW	SANDY GRAVEL (GW) gray, fine- to coarse-grained sand and cobbles, with 20% rounded sand, minor silt, granitic composition	
590	10:40						
595							
	11:17 11:25						
600							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 23 of 28) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C01 CLIENT LADWP

DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI

ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605					GW	SANDY GRAVEL (GW)	
610	11:54				CL	SANDY CLAY (CL) gray, silty clay with fine- to medium-grained sand	smooth, fast drilling
615					SW	GRAVELLY SAND (SW) gray, medium grained, well rounded sand, with minor fine-grained gravel, granitic composition	
	12:19 12:24						moderate chatter
620							
625							
					SC	CLAYEY SAND (SC) gray, fine-grained sand, with slightly cohesive clay	
630							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C01

(sheet 24 of 28) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP

DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI

ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630	12:50				SC	CLAYEY SAND (SC)	fast smooth drilling
635					SW	GRAVELLY SAND (SW) gray, medium to coarse grained rounded sand, with fine gravel, some silty clay occuring as thin interbeds	
	13:08 13:15						
640							
645							
						increasing clay content	
650	13:35				SC	CLAYEY SAND (SC) light to dark mottled gray, well rounded fine- to coarse-grained sand, minor fine gravel, granular fraction composed of granitic and metamorphic rock fragments boulder zone	moderate chatter
655							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C01

(sheet 25 of 28) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01
DATE STARTED 8/24/90 COMPLETED 8/30/90
ELEVATION 540 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SC	CLAYEY SAND (SC)	
	14:20 14:25						
660					GW	SANDY GRAVEL (GW) gray, fine- to coarse-grained gravel, cobbles, and boulders, with medium-grained sand, granitic and gneissic composition	moderate to violent chatter
665							
670	15:30						
675							
	16:15 16:22						
680							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 719 ft
WELL COMPLETION DEPTH 558 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C01 (sheet 26 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
685							
690	17:20						
							rough chatter drill bit binding
	17:40 7:30						
695						some rounded coarse-grained sand and fine gravel	
							moderate chatter
	8:07 8:18						
700							alternating chatter with smooth intervals
705							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C01 (sheet 27 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C01 CLIENT LADWP
DATE STARTED 8/24/90 COMPLETED 8/30/90 PROJECT San Fernardino Valley RI
ELEVATION 540 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
710	9:55				GW	SANDY GRAVEL (GW)	decreasing broken grains
715							
	10:50						
720							Boring terminated at 719 feet. Ground water not detected during drilling. Boring converted to Monitoring Well CS-C01-558 on 9/5/90.
725							
730							
735							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 558 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 719 ft WELL MATERIAL LCS & 304-SS

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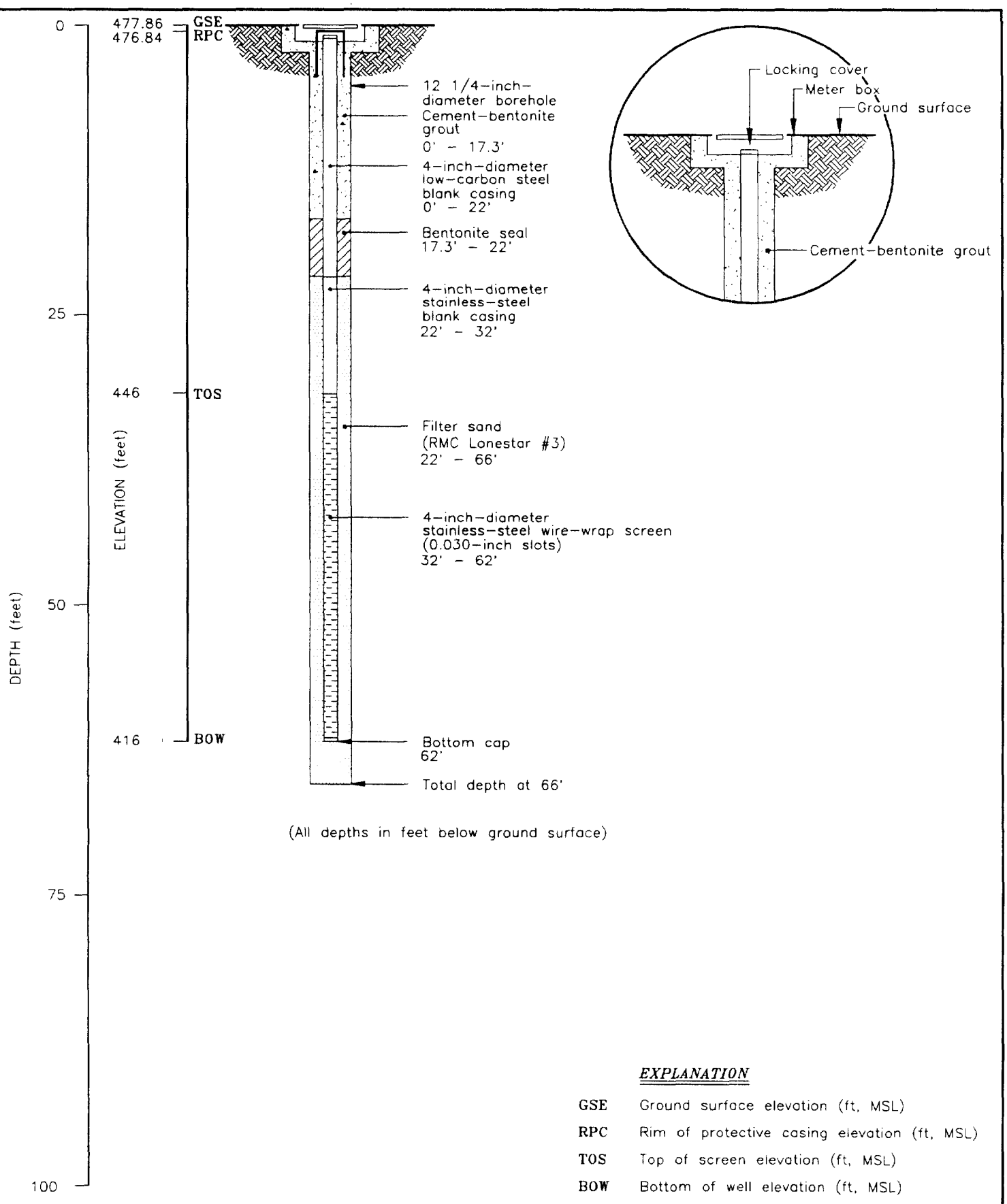
Log of Boring CS-C01 (sheet 28 of 28) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	9372,035.16	SCJ	1/91		

09372038\CS262



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

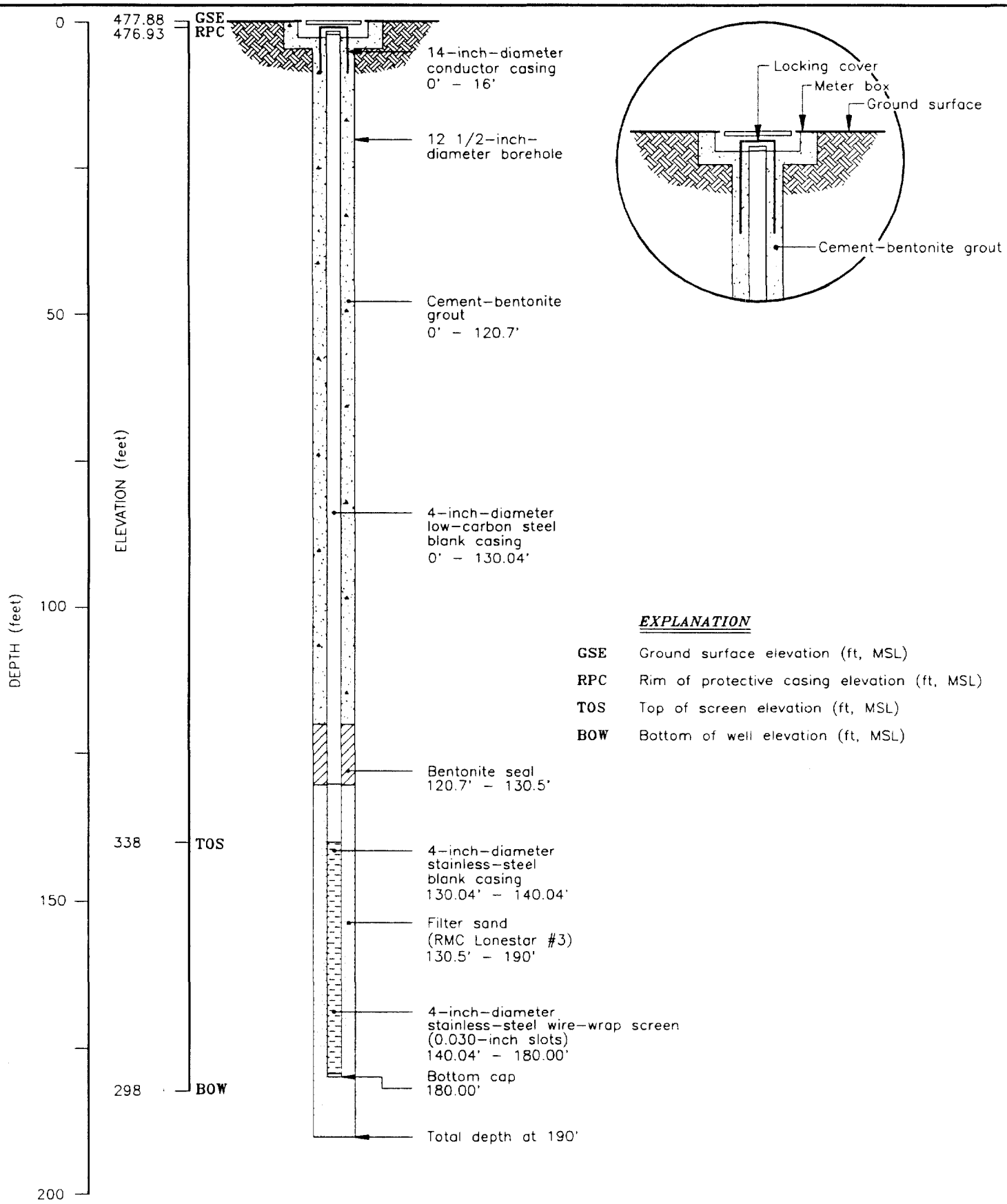
Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-C02-62
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

09372038\CS2180



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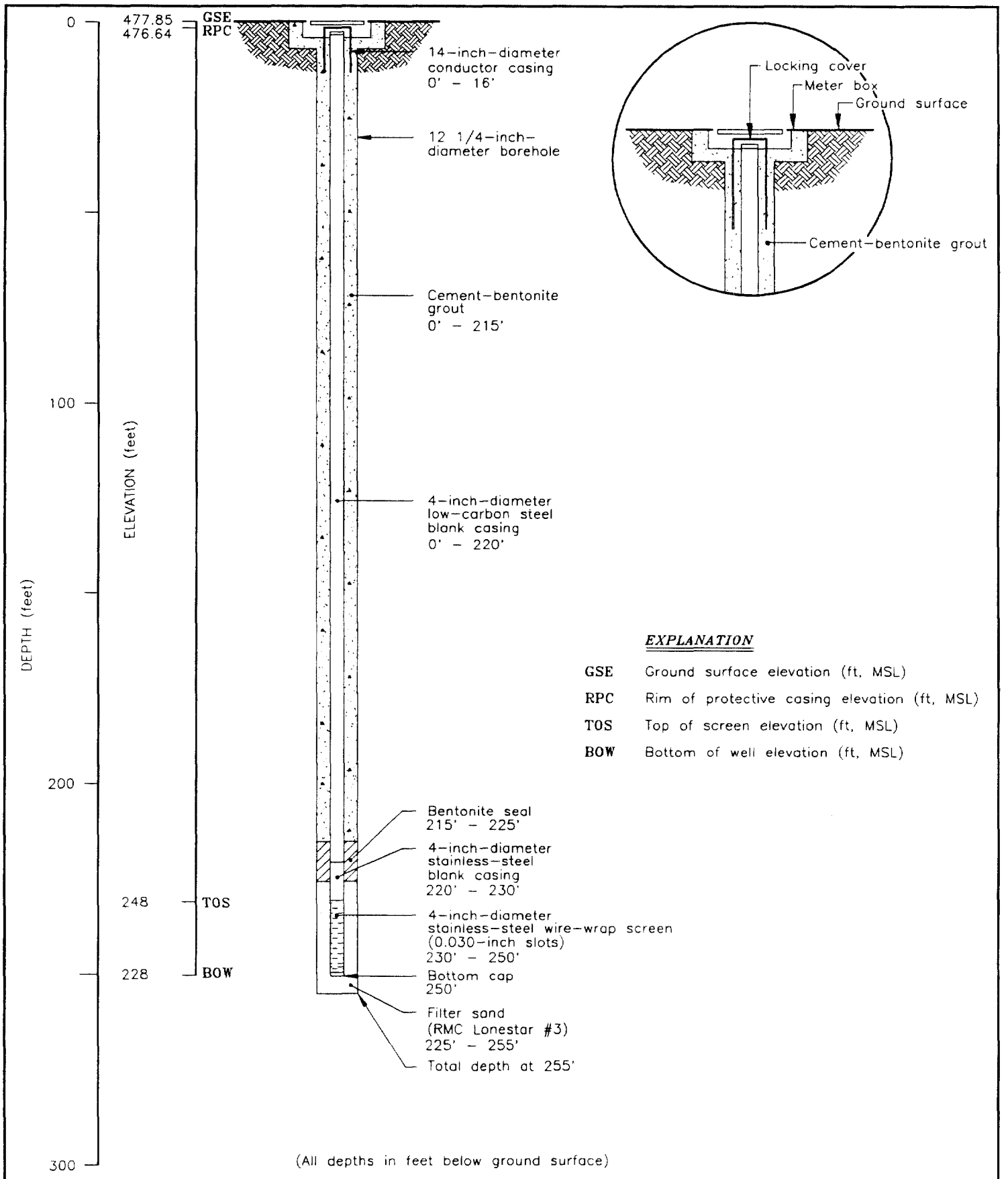
MONITORING WELL
CS-C02-180

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

09372038\CW2250



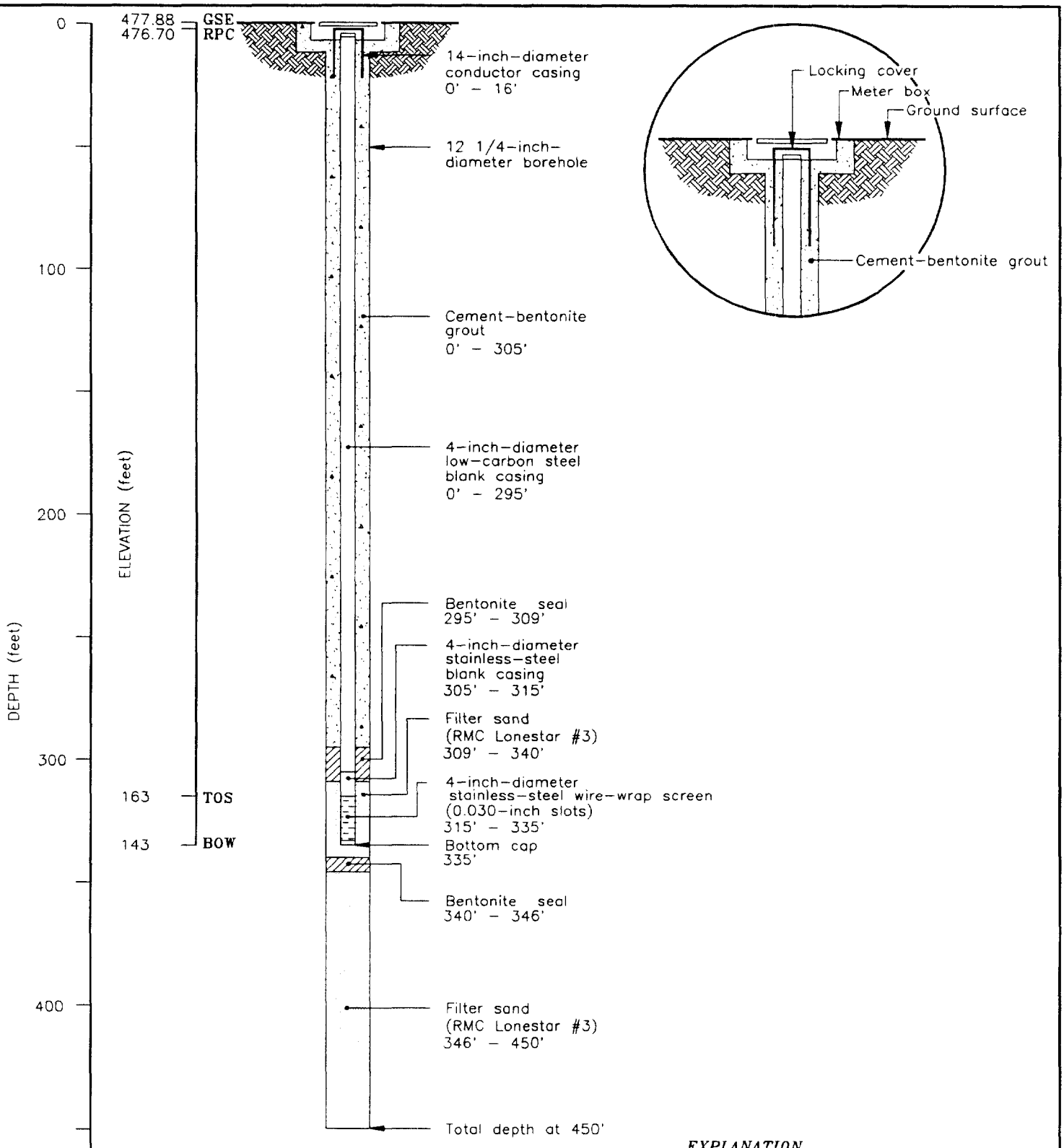
PLATE

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-C02-250
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

09372035\CS2335



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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MONITORING WELL
CS-C02-335

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.035.16		12/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					SM	SILTY SAND (SM) brown, loose, moist, fine- to medium-grained, subrounded to subangular sand, with silt, trace fine to coarse gravel composed of quartz, feldspar, and mafic grains	18-inch-diameter solid-stem auger drilled to 16 feet. Conductor casing (14-inch-diameter) set from 0-16 feet. 0-16 feet logged from cuttings.
5							
10							
15	9:24						Begin mud rotary at 16 feet.
					SW	GRAVELLY SAND (SW) gray-brown, fine to coarse grained, subrounded to angular sand, with 30% fine, subrounded to subangular gravel, minor silt, granular fraction composed of quartz, feldspar, and mafic grains	slight chatter
20	9:27				GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained, subrounded to angular gravel, with fine- to medium-grained sand, composed of quartz, feldspar, mafics, and granitic rock fragments	some broken grains
25							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02

(sheet 1 of 18) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP
DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI
ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
30	9:36						
35							
40	9:40 9:52					predominantly coarse grained, subrounded to subangular gravel increase in sand content	
45							
						slight increase in silt content	violent chatter, bit catching
50	9:58				GW		smooth
						thin orange-brown clay interbed	chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 2 of 18) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02
DATE STARTED 4/13/90 COMPLETED 4/16/90
ELEVATION 495 feet AMSL

CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					GP	SANDY GRAVEL (GP) gray-brown, coarse grained, subrounded to subangular gravel, 5-10% sand, composed of granitic and mafic rock fragments, with feldspar	some broken grains
60	10:05 10:17						violent chatter
65					CL	LEAN CLAY (CL) blue, thin brown lean clay interbeds at infrequent intervals	smooth, quiet drilling
70	10:24						
75					GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained, subrounded to angular gravel, with fine- to coarse-grained sand	chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 450 ft

WELL COMPLETION DEPTH 335 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 3 of 18)
San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP
DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI
ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	10:30 10:33				GW	SANDY GRAVEL (GW)	
							quiet drilling
							chatter
85							
90	10:37						violent chatter
95							
					CL	CLAY (CL) orange	smooth quiet drilling
100	10:42 10:52				CL GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained gravel, with fine- to coarse-grained sand	chatter
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 4 of 18)

San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					GW	SANDY GRAVEL (GW)	
						GRAVEL (GP) gray-brown, fine to coarse grained, subrounded to subangular gravel, minor fine- to coarse-grained sand, composed of granitics, feldspar, and mafics	
110	10:56				GP		increased chatter
115							
120	11:00 11:05					predominantly coarse-grained gravel, with thin clay interbeds at infrequent intervals	total clay percentage estimated at 10%
125					GP	composed of quartzite, feldspar, granitic rock fragments, and mafics	
130	11:08						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C02 (sheet 5 of 18)

San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	GRAVEL (GP)	
135						slight increase in clay content	quiet drilling
							violent chatter
140	11:13 11:19						quiet drilling chatter
					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, with fine gravel, subrounded to angular, trace of clay	
145							quiet drilling chatter
150	11:23						
						decreasing sand content	
155					GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained, subrounded to angular gravel, with fine- to coarse-grained sand, little to no silt, composed of granitics, quartz, feldspar, and mafics	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C02 (sheet 6 of 18)

San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SLS	1/91		

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CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW)	
					GW		
160	11:26 11:33						
							quiet drilling
						SANDY GRAVEL (GP) gray-brown, fine to coarse grained, subrounded to subangular gravel, with fine- to coarse-grained sand, granitic composition	
165					GP		chatter
170	11:38						intermittant chatter
175						trace of clay, possibly thin sand/clay interbeds	
180	11:42 11:46						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C02 (sheet 7 of 18)

San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C02
CLIENT LADWP
DATE STARTED 4/13/90 COMPLETED 4/16/90
PROJECT San Fernardino Valley RI
ELEVATION 495 feet AMSL
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand	quiet, fast drilling
	11:51				GP	SANDY GRAVEL (GP) gray-brown, fine grained, subrounded to angular gravel, some fine- to coarse-grained sand and orange-brown clay as thin interbeds, granitic composition	chatter
190							
195							
						grain size of gravel increasing, predominantly medium to coarse grained, subrounded	
200	11:56 12:01						
						decreasing clay content	
205						increasing grain angularity, subrounded to subangular	
210							

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 335 ft
HOLE DIAMETER 12-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 450 ft
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 8 of 18)
San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

00492/0

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	12:08				GP	SANDY GRAVEL (GP)	
					GW	SANDY GRAVEL (GW) gray-brown, fine grained, subrounded to angular gravel, with fine- to coarse-grained sand, trace orange-brown sandy clay as thin interbeds, granitic composition	
215							violent chatter
220	12:11 12:20				CL	SANDY CLAY (CL) orange-brown, predominantly clay with sandy interbeds	quiet drilling
						increasing clay content	violent chatter
225						decreasing clay content	
					GW	SANDY GRAVEL (GW) gray-brown, coarse-grained gravel, with angular granitic rock fragments, 15-20% sand and clay	violent chatter, slow drilling
230	12:28						
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 9 of 18)

San Fernardino Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SLS	1/91		

00492/D

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
						increasing mafic content	
							quiet
240	12:42 12:49						chatter, slow drilling
						increase in roundness	
245							
						increasing angularity and sand content	increased drill rate
250	13:03						
							less chatter
255							
							violent chatter
260	13:09 14:34					increasing clay content with clay as interbeds	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02

(sheet 10 of 18) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

00492/D

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
265							
						fine-grained gravel	
270	14:39						
275						decreasing gravel content, little to no clay, increase medium- to coarse-grained sand content	decreased chatter
280	14:46 14:51						increased chatter
285							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02

(sheet 11 of 18) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

00492/D

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	14:56				GW	SANDY GRAVEL (GW) boulder zone	violent chatter, slow drilling
295							
							increasing drill rate
300	15:03 15:06					increase in roundness	
305					GP	SANDY GRAVEL (GP) gray-brown, fine- to coarse-grained, subrounded to subangular gravel, with fine- to coarse-grained sand, little to no fines	
310	15:11						
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02

(sheet 12 of 18) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C02 CLIENT LADWP
DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI
ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					GP	SANDY GRAVEL (GP)	
320	15:15 15:19				GW	SANDY GRAVEL (GW) gray-brown, fine grained, subrounded to angular gravel, trace coarse gravel, with abundant fine- to coarse-grained sand, some orange-brown and gray clay occurring as thin interbeds	violent chatter, slow drilling
325						decreasing clay content	intermittant quiet zones of drilling
						cobbles and boulders	
330	15:36						violent chatter
335						abundant granitic rock fragments	
340	15:53 9:41				SW	GRAVELLY SAND (SW)	decreased chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 13 of 18) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

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JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C02 CLIENT LADWP

DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI

ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained, subangular to angular sand, with fine-grained gravel, subangular to angular, orange staining evident on rock fragments	slight chatter increased chatter
345					GW	SANDY GRAVEL (GW) gray-brown, fine grained, subangular to angular gravel, with minor sand, few to no fines, rock fragments composed of quartz, feldspar, mafics, and granitic	
350	9:45						
355						increasing mafic grains content	
360	9:50 10:04						
365							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02

(sheet 14 of 18) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

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BORING/WELL NUMBER CS-C02 CLIENT LADWP
DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI
ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
370	10:09						
375							
380	10:16 10:41					minor clay interbeds	
385							
390	10:46					gravel size increasing, minor clay interbeds	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 15 of 18) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCJ	1/91		

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BORING/WELL NUMBER CS-C02
DATE STARTED 4/13/90 COMPLETED 4/16/90
ELEVATION 495 feet AMSL

CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					CL	LEAN CLAY (CL) olive-brown, with 5-10% sand	
					GW	SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained, subrounded gravel, fine- to coarse-grained sand, minor silt and clay	quiet drilling chatter
400	10:52 10:59				CL	LEAN CLAY (CL) olive-brown, with trace sand	quiet, smooth drilling
					GW	SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained, subrounded to angular gravel, with fine- to coarse-grained sand, some clay interbeds, granular fraction composed of granitic rock fragments	chatter
405							
410	11:05						
					CL	LEAN CLAY (CL) blue-green	quiet drilling
415							
					GW	SANDY GRAVEL (GW)	intermittant chatter
420							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 450 ft

WELL COMPLETION DEPTH 335 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02

(sheet 16 of 18)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C02 CLIENT LADWP
DATE STARTED 4/13/90 COMPLETED 4/16/90 PROJECT San Fernardino Valley RI
ELEVATION 495 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	11:11 11:21				GW	SANDY GRAVEL (GW) gray-brown, fine- to medium-grained, subrounded to angular gravel, with fine- to coarse-grained sand, and blue green clay, micaceous sand interbeds, granitic rock fragments blue-green clay interbed	chatter quiet drilling
425							chatter
						green-blue clay interbed	quiet drilling
430	11:27						chatter
435	11:34					GRANITE BEDROCK (Rx) orange-brown, hard, strong, moderately weathered	violent chatter, slow drilling
440	12:01 12:17						
445							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 335 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 450 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C02 (sheet 17 of 18) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		

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CONSULTING ENGINEERS, INC.
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BORING/WELL NUMBER CS-C02
DATE STARTED 4/13/90 COMPLETED 4/16/90
ELEVATION 495 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	1:30				Rx	GRANITE BEDROCK (Rx)	
450							Boring terminated at 450 feet on 4/16/90. Ground water not detected during drilling. Boring converted to Monitoring Well CS-C02-335 on 4/17/90.
455							
460							
465							
470							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 450 ft
WELL COMPLETION DEPTH 335 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

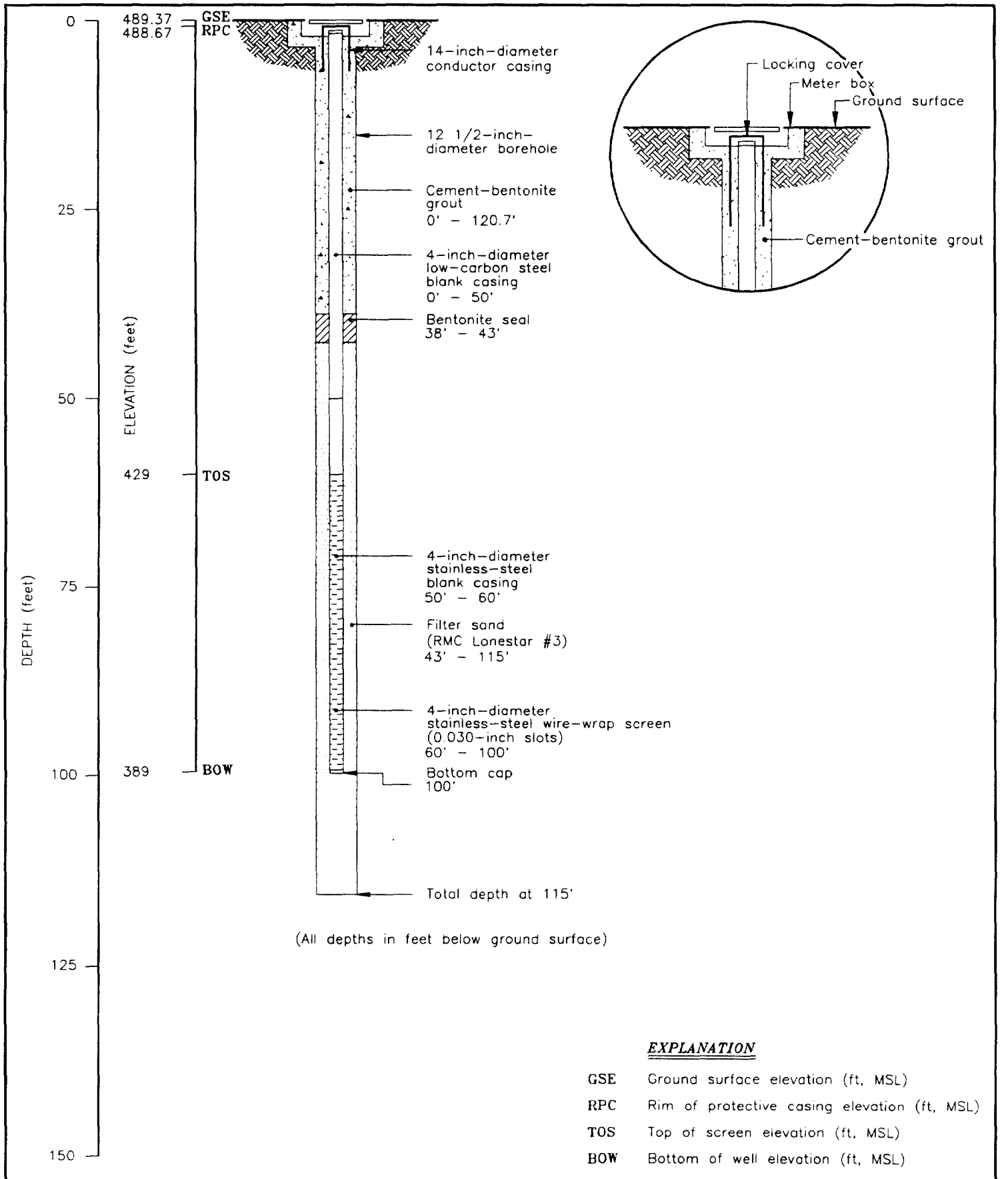
Log of Boring CS-C02

(sheet 18 of 18)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16	SCS	1/91		



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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Engineers and Geoscientists

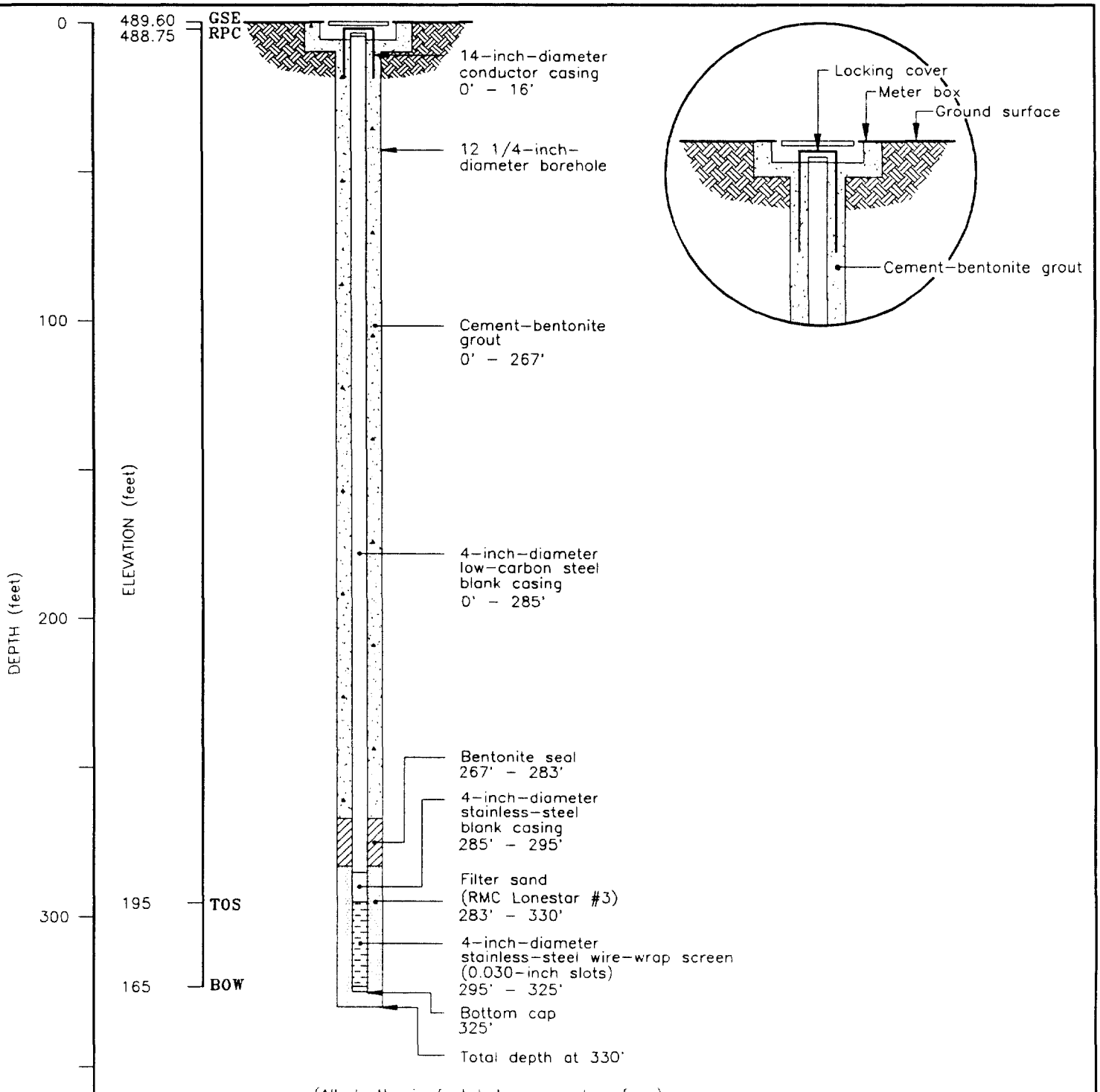
MONITORING WELL
CS-C03-100
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

09372038\CS3100

09372035\CS3325



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

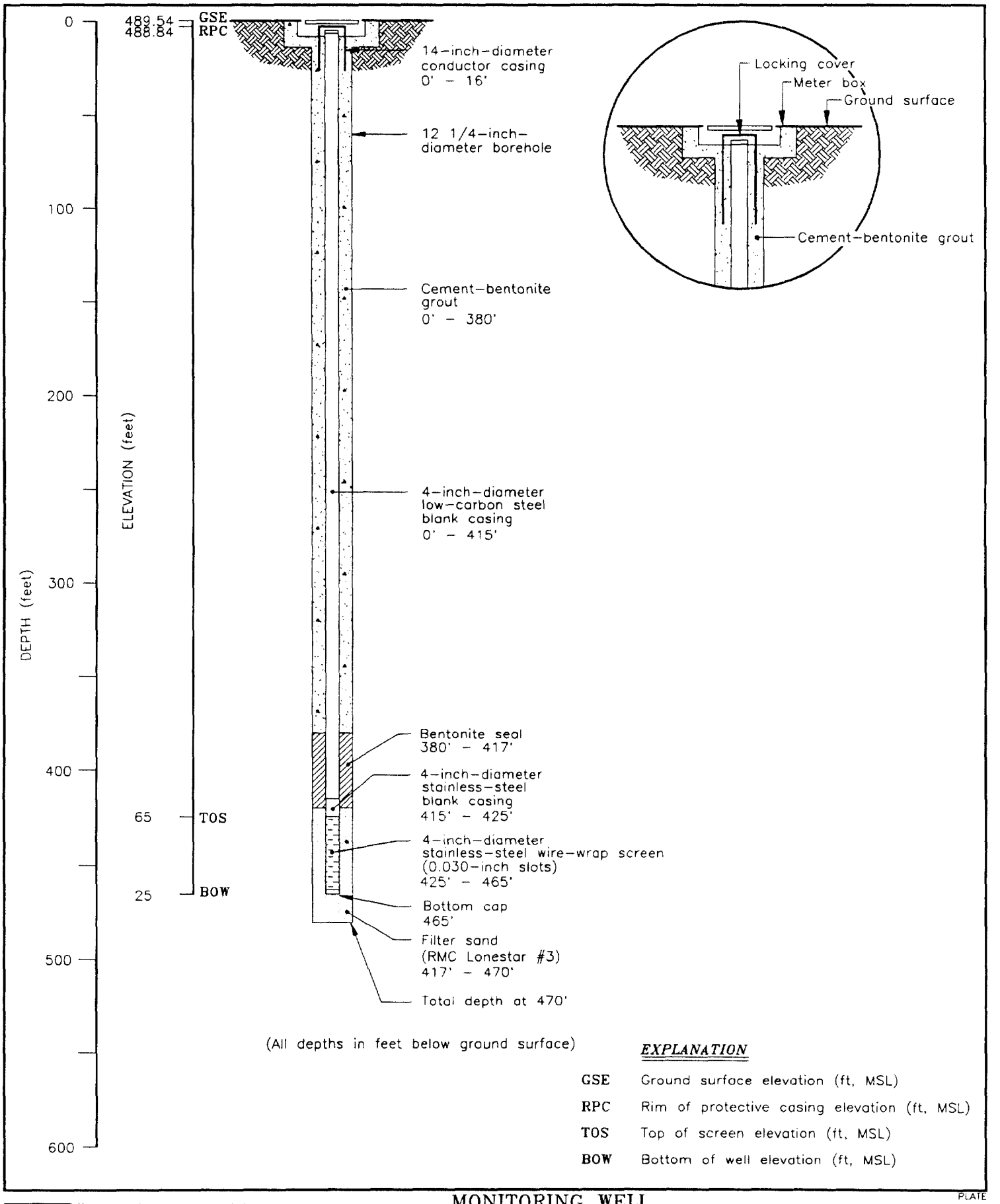
Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-C03-325
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JT	9372.035.16		12/90	JMM	7/92

09372035\CS3465



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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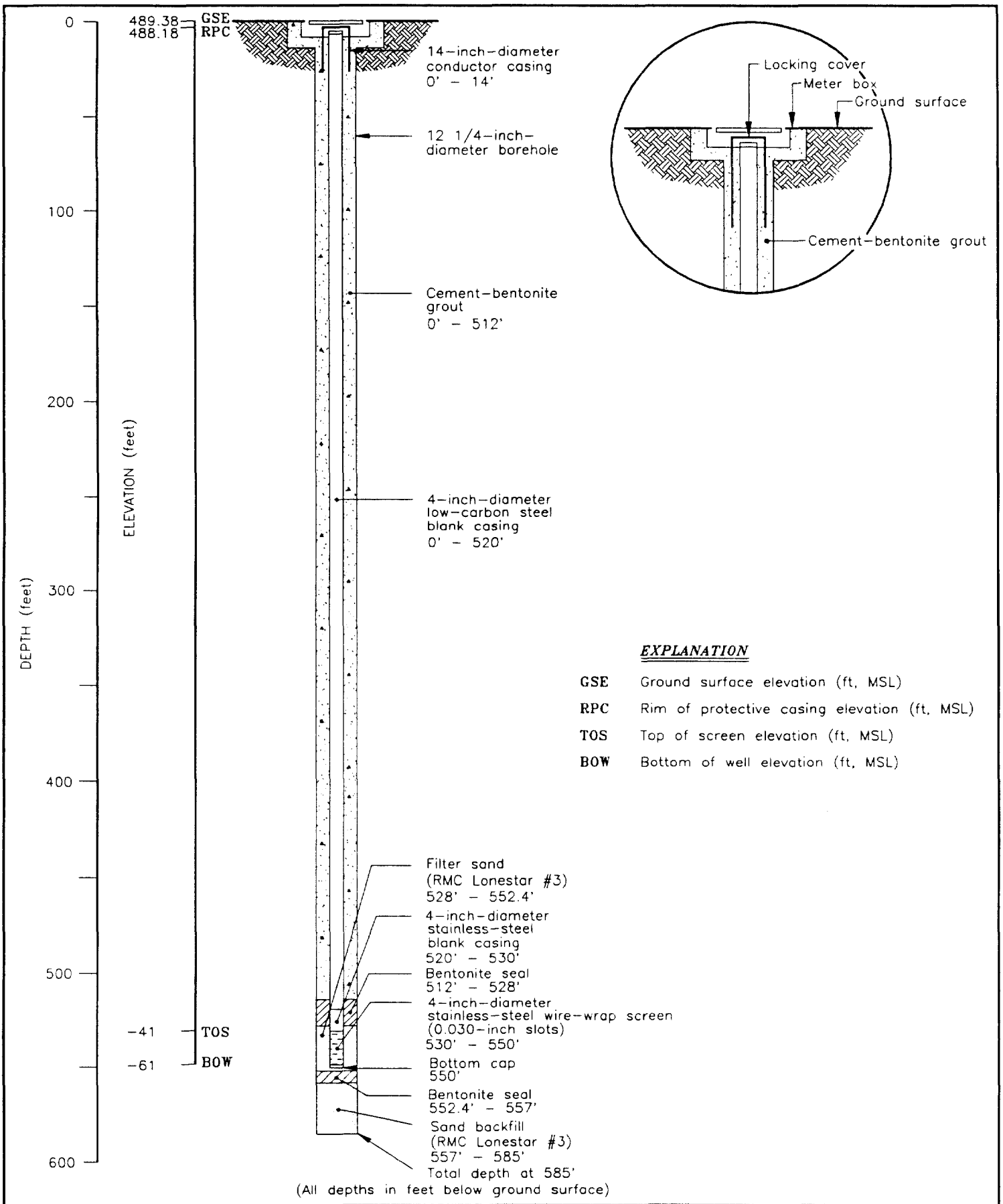
Engineers and Geoscientists

MONITORING WELL
CS-C03-465
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.035.16		12/90	JMM	7/92

09372035\CS3550



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Engineers and Geoscientists

MONITORING WELL
CS-C03-550

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.035.16		12/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	8:45				SM	SILTY SAND (SM) [ARTIFICIAL FILL] light brown, dry, with gravel	
					ML	SANDY SILT (ML) dark brown, damp, fine-grained sand and gravel moist	
5							
10	8:48				SM	SILTY SAND (SM) dark brown, moist, fine- to medium-grained sand, trace fine-grained gravel, with some silt	
15							
						increasing silt content	
20	8:58						
25							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C03

(sheet 1 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM) fine grained, with silt and minor clay, trace of coarse-grained sand and fine-grained gravels, micaceous	
30	9:05						
35						dry, hard, trace of medium-grained sand, possible gravel zone	violent chatter
							smooth, moderate chatter for a thin zone
40						thin soft zones	
45						slightly moist, predominantly silt and fine sand	smooth, moderate chatter for a thin zone
							smooth, moderate chatter for a thin zone
50	10:15					moist	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03

(sheet 2 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	chatter
55							
60	12:00						
						increase in clay content	
65							
70	12:15				SW	GRAVELLY SAND (SW) gray, saturated, fine- to coarse-grained sand, with fine-grained subangular gravels composed of quartz, orthoclase, and granitic rock fragments	
							▼ Ground water encountered at 74 feet during drilling.
75							
							Hydropunch sample taken

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03 (sheet 3 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	15:09				SW	GRAVELLY SAND (SW)	
						predominantly coarse-grained sand	
85							
						CLAYEY SAND (SC) brown, saturated, fine-grained sand, with silt	
90	15:12				SC		
95							
						SAND (SW) gray, fine to coarse grained, with blue-green clay interbeds, predominantly quarts and mafics, trace of mica	
100	15:17				SW		
105							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C03 (sheet 4 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03
CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90
PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL
GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW	SAND (SW)	
110	15:20					predominantly medium- to coarse-grained sand, composed of quarts, mafics, and plagioclase	
115					SM	SILTY SAND (SM) medium brown, saturated, fine-grained sand	Bail sample at 116 feet
120							
125							
130	18:20				SC	CLAYEY SAND (SC) brown, fine-grained sand	

METHOD OF DRILLING Dual Wall - Air Rot.
WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 585 ft
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03

(sheet 5 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM) medium brown, fine-grained sand	
135							
140	18:25						
145							
					SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand, with 20% fine gravel	
150	18:27						
155							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03 (sheet 6 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
160	18:32						
165	19:00 7:37				CL	SILTY CLAY (CL) gray, plastic clay, with interbedded fine- to coarse-grained, 1-2 foot thick beds of sand, granular fraction composed of quarts with lesser mafics, rock fragments, and plagioclase, minor gravel	
170	7:40						
175							
180	7:50				GW	SANDY GRAVEL (GW) gray, medium- to coarse-grained, subrounded gravel, with fine- to coarse-grained sand, composed of granitic fragments, quarts, and minor plagioclase	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03

(sheet 7 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

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HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					CL	SILTY CLAY (CL) brown, highly plastic, with fine-grained sand	
190	7:53				SM	SILTY SAND (SM) brown, predominantly fine- to medium-grained sand, with silt, granular fraction composed of quarts, mafics, rock fragments, minor plagioclase	
195					GP	SANDY GRAVEL (GP) gray, fine- to coarse-grained gravel	
					SP	SAND (SP) brown, predominantly fine to medium grained, minor coarse-grained sand and fine-grained gravel, trace silt	
200	8:57					fine- to coarse-grained sand	
205					ML	CLAYEY SILT (ML) gray, slightly plastic clayey silt, with brown fine-grained sand, interbedded with gray, plastic clay	
210					SW	SAND (SW) brown, fine to coarse grained, minor fine- to medium-grained gravel, micaceous	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C03

(sheet 8 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	9:22				SW	SAND (SW)	
215					SM	SILTY SAND (SM) brown, fine-grained sand, with silt	
220	10:20				SP	SAND (SP) brown, medium- to coarse-grained sand, minor fine-grained gravel composed of meta sedimentary rock fragments, quarts, mica, and plagioclase	
225					SM	SILTY SAND (SM) brown, fine grained, minor medium- to coarse-grained sand, with silt, micaceous	
230	10:24						
235							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03

(sheet 9 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	Bail sample at 236 feet
						SAND (SP) brown, fine to medium grained, with abundant plastic clay interbeds, minor coarse-grained gravel	
240	11:03				SP		
245							
250	11:05						
						decreasing clay content	
						fine- to coarse-grained sand	
255						predominantly medium- to coarse-grained sand	
260	11:17					predominantly fine-grained sand, minor silt	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C03 (sheet 10 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C03
DATE STARTED 3/23/90 COMPLETED 3/26/90
ELEVATION 490 feet AMSL
CLIENT LADWP
PROJECT San Fernardino Valley RI
GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP)	
265						fine- to medium-grained sand	
270	11:24					predominantly medium-grained sand	
						fine- to coarse-grained sand, minor subrounded gravel, composed of granitic rock fragments	
275						clayey zone	
280	11:39						
285					SW	GRAVELLY SAND (SW) gray, fine- to coarse-grained sand, with abundant cobbles and fine- to coarse-grained, subangular to rounded gravel, micaceous	

METHOD OF DRILLING Dual Wall - Air Rot.
HOLE DIAMETER 5-1/4"
TOTAL DEPTH 585 ft
WELL COMPLETION DEPTH 550 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03 (sheet 11 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	12:11				GP	minor metasedimentary rock fragments SANDY GRAVEL (GP) gray, fine- to coarse-grained, subangular to subrounded gravel and cobbles, with fine- to coarse-grained sand, composed of quarts, granitic, and metasedimentary rock fragments	no cuttings return
295							
300							
305							
310	13:20				SM	SILTY SAND (SM) brown, fine- to coarse-grained sand, thin silty clay interbeds, minor fine-grained gravel	
315							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C03

(sheet 12 of 23) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					SM	SILTY SAND (SM)	Bail sample at 316 feet
320	16:05						
325							
330	16:10						
335						CLAY (CL/CH) brown, highly plastic, with minor silt	
340	16:25				CL/CH		

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C03

(sheet 13 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL/CH	CLAY (CL/CH)	
345					SM	SILTY SAND (SM) brown, fine-grained sand, with thin silty clay interbeds	
350	16:33						
355					SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand, with fine to medium, subrounded gravel, composed of quarts, plagioclase, and granitic rock fragments	
360	16:45				GP	SANDY GRAVEL (GP) gray, with fine- to coarse-grained sand	violent chatter
365					SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand, with fine- to medium-grained gravel, some silt, composed of quarts, plagioclase, granitic rock fragments, metasedimentary rock fragments, and rock flour	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C03

(sheet 14 of 23) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
370	18:00						
					SC	CLAYEY SAND (SC) brown, with minor silt and gravel/cobble interbeds	
375							
					SM	SILTY SAND (SM) brown, fine- to medium-grained sand, with silt, granular fraction composed of quartz, mica, minor plagioclase, mafics, and rock fragments	
380	18:30 7:45 7:54						Bit plugged by fine grained materials
385					SP	GRAVELLY SAND (SP) brown, coarse-grained sand and fine-grained gravel	
390	8:08						

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C03

(sheet 15 of 23) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					GP	SANDY GRAVEL (GP) gray, subrounded fine- to medium-grained gravel, with sand and minor silt, composed of metasedimentary and granitic rock fragments and quartz	Bail sample at 396 feet
400	9:25						Boring yielding water
405						increase in cobbles and coarse gravel content	
410	9:34						
415					SM	SILTY SAND (SM) brown, fine-grained sand, with minor clay	
					GP	SANDY GRAVEL (GP) brown, subrounded, fine- to coarse-grained gravel and cobbles, with fine- to coarse-grained sand, composed of granitic and metasedimentary rock fragments	
420							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03

(sheet 16 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03
CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90
PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL
GEOLOGIST S. Shestag, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	10:04				GP	SANDY GRAVEL (GP)	
425							
430	10:08						
435							
440	10:30				SW	GRAVELLY SAND (SW) gray, fine- to medium-grained slightly weathered gravel, with fine- to coarse-grained sand, composed of granitic and metasedimentary rock fragments	
445							

METHOD OF DRILLING Dual Wall - Air Rot.
WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 585 ft
WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring CS-C03

(sheet 17 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
450	10:33						
455							
460	10:50					increase coarse gravel (40-45%)	
465							
					CL	SILTY CLAY (CL) brown, low plasticity, minor fine-grained sand	
470	10:58				SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand, with gravel	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring CS-C03 (sheet 18 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
					CL	SILTY CLAY (CL) brown, moderately plastic, with fine-grained sand	
475							
480	12:38						
					SP	SAND (SP) brown, with trace of gravel and silt	
						CLAY (CL) brown, with minor silt	
485					CL		
						color change to dark green-gray, moist, highly plastic	
490	12:44						
495							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 5-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03

(sheet 19 of 23) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	13:06				CL	CLAY (CL) color change to mottled orange-gray	
					SP	GRAVELLY SAND (SP) gray-brown, medium-grained sand, minor gravel SAND (SP) brown, fine-to medium-grained, minor gravel, with thin interbeds of minor gray-green clay, gravel composed of plagioclase, quartz	
505							
510	13:13				SP		Boring yielding less water
515							
						SILTY SAND (SM) brown, medium- to coarse-grained sand, with silt, with minor thin clay interbeds	
520	13:32				SM	lesser occurance of clay interbeds	
525							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C03

(sheet 20 of 23) PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST S. Shestag, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525					SM	SILTY SAND (SM)	
						clay interbed	
530	11:46						
						increase in fine-grained sand, with silt	
535					SW	GRAVELLY SAND (SW) brown to gray-brown, fine- to coarse-grained sand, with cobbles, fine- to coarse-grained gravel, minor silt	Bail sample at 536 feet
540							
545							
550							

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C03 (sheet 21 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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BORING/WELL NUMBER CS-C03 CLIENT LADWP
DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI
ELEVATION 490 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
555					SM	SILTY SAND (SM) brown, medium- to coarse-grained sand, minor silt, granitic composition, micaceous	Boring terminated at 556 feet on 3/12/90. Ground water encountered at 74 feet during drilling. Boring backfilled with bentonite.
560							556-585 feet: Log from CS-C03-D
565							
570					SP	SAND (SP) gray, medium-grained, angular, with minor silt, composed of quarts and plagioclase minor coarse-grained sand	quiet, slow drilling
575					GP	GRAVEL (GP) gray, coarse-grained gravel	

METHOD OF DRILLING Dual Wall - Air Rot. WELL COMPLETION DEPTH 550 ft
HOLE DIAMETER 5-1/4" WELL DIAMETER 4"
TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C03 (sheet 22 of 23) PLATE
San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

00492/D

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BORING/WELL NUMBER CS-C03 CLIENT LADWP

DATE STARTED 3/23/90 COMPLETED 3/26/90 PROJECT San Fernardino Valley RI

ELEVATION 490 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	GRAVEL (GP)	
580							
585							CS-C03-D terminated at 585 feet on 3/26/90. Ground water not detected during drilling. Boring converted to Monitoring Well CS-C03-550 on 3/28/90.
590							
595							
600							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 550 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 585 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C03

(sheet 23 of 23)

PLATE

San Fernardino Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,035.16		1/91		

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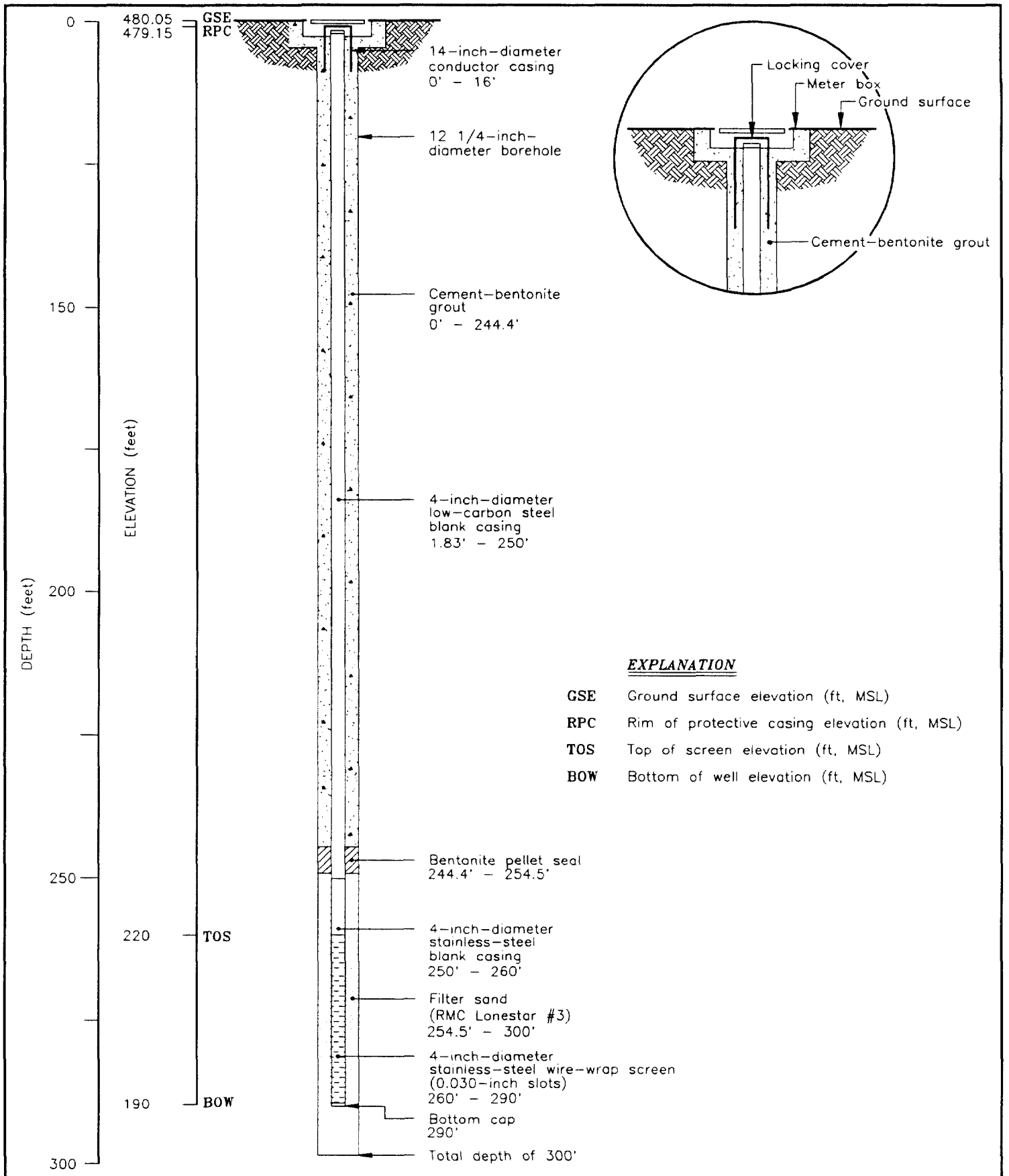

(All depths in feet below ground surface)

Harding Lawson Associates
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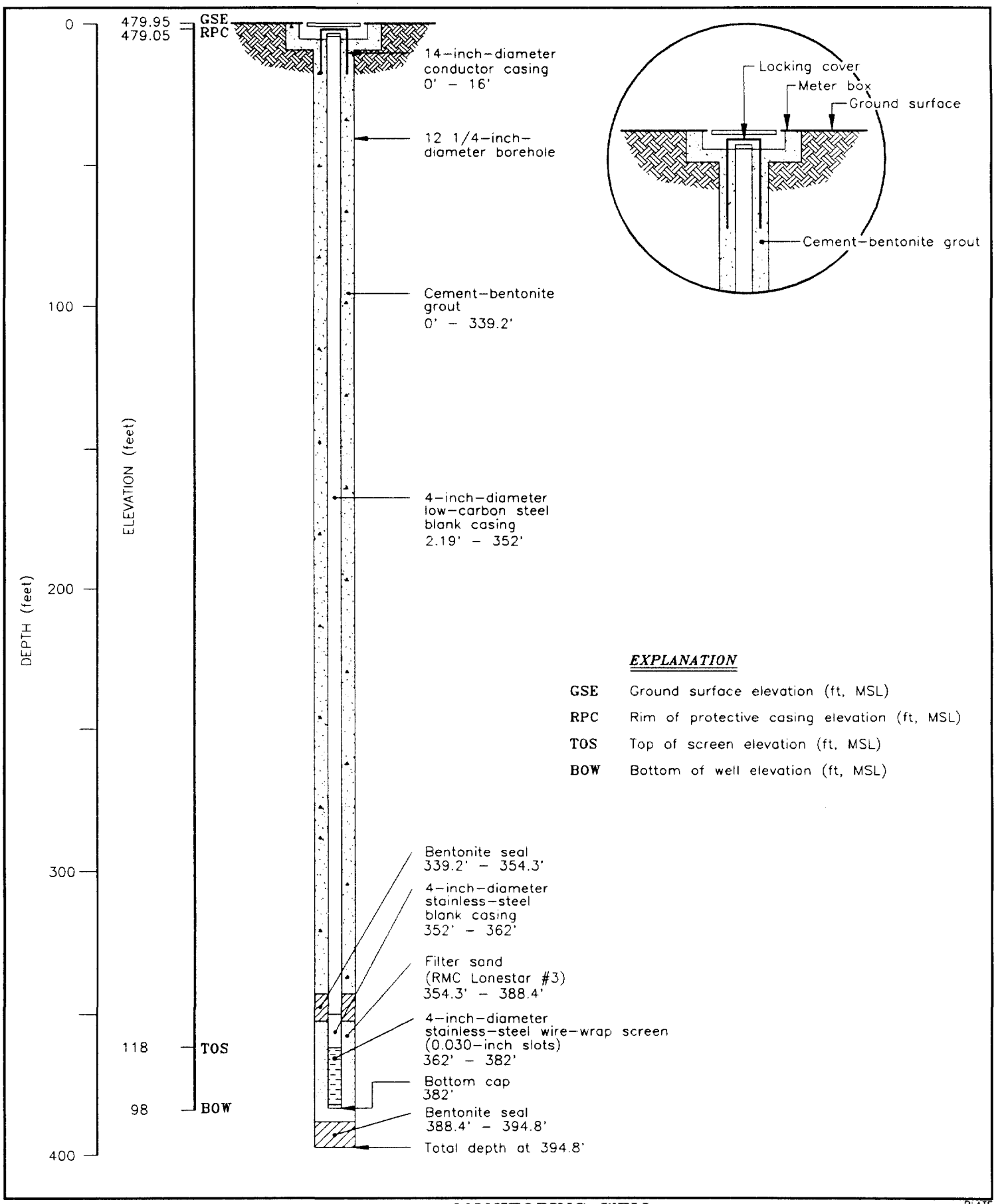
MONITORING WELL
CS-C04-290

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92



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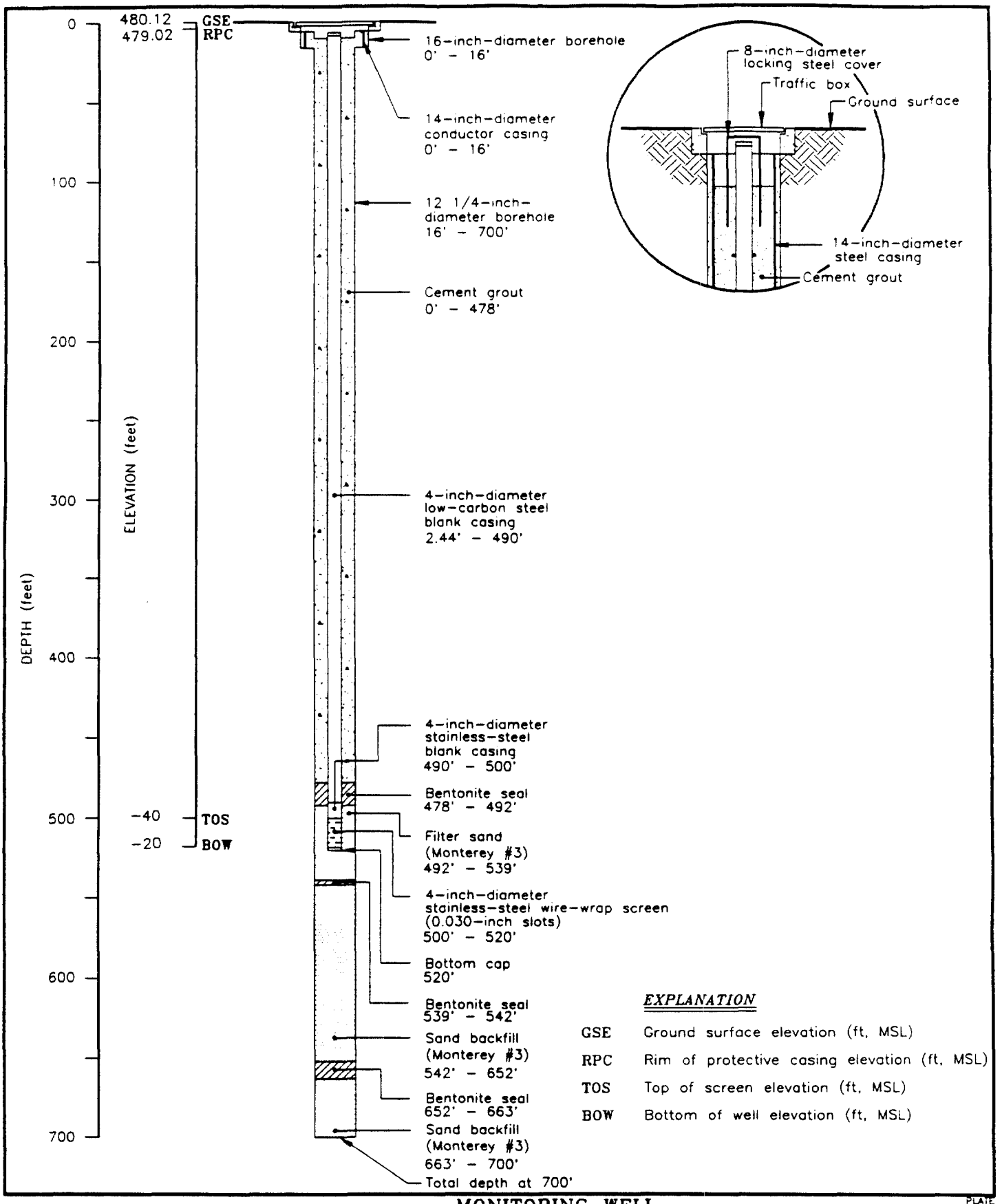
MONITORING WELL
CS-C04-382
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92



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Engineers and Geoscientists

PLATE

MONITORING WELL
CS-C04-520
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	09372,038.16	SCS	1/91	JMM	7/92

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					SM	SILTY SAND (SM) brown, moist, fine grained, subrounded to subangular sand, with silt and clay, trace of angular coarse-grained sand, composed of quartz, feldspar, mica and mafics	Solid stem auger (18-inch-diameter) drilled to 16 feet. Conductor casing set from 0-15 feet. 0-15 feet logged from cuttings.
5							
10							
15	13:11						Begin mud rotary at 15 feet
20	13:14 13:17				SC	CLAYEY SAND (SC) orange-brown, fine- to coarse-grained sand with silty clay and minor fine gravel, granular fraction composed of quarts and granitic rock fragments	
25						increasing clay content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 1 of 27) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SC	CLAYEY SAND (SC)	moderate chatter, some broken grains
30					GW	SANDY GRAVEL (GW) gray-brown, fine to coarse, subangular gravel, with medium- to coarse-grained sand, silt and clay, granular fraction composed of quartz, feldspar, and granitic grains	
35					CL	GRAVELLY CLAY (CL) orange-brown, clay with some fine grained angular gravel	decreased chatter
40	13:33 13:42				GW	SANDY GRAVEL (GW) gray-brown, very fine- to fine-grained sand, fine subangular to angular gravel, with fine-grained sand, minor clay, granular fraction composed of quartz, feldspar, granitics, and mafics	slight chatter
45					GP	GRAVEL (GP) gray, fine to coarse grained, subrounded gravel, with 10% sand, 10% silt and clay, granular fraction composed of mafics, quartz, feldspar, and granitics	violent chatter
50							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C04 (sheet 2 of 27)

San Fernando Valley RI
San Fernando, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55					GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained, subangular to subrounded gravel, with 20% fine- to medium-grained sand, granular fraction composed of granitic rock fragments, quarts, feldspar, and mafic grains	increasing chatter, broken grains
60	13:55 14:10						
65							
70							decreasing chatter
75					GC	CLAYEY GRAVEL (GC) orange-brown, fine to coarse subangular gravel, with 15-20% clay	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 3 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	14:27 14:50				SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand with 15% fine angular gravel, granular fraction composed of granitic, rock fragments, quartz, feldspar, and mafics	increasing chatter
85					SP	GRAVELLY SAND (SP) gray-brown, coarse-grained, subrounded to subangular sand, trace of fine gravel, granular fraction composed of quartz, plagioclase, granitic, and mafic grains	some broken grains
90	15:03						
95					SW	GRAVELLY SAND (SW) gray-brown, 50% fine- to coarse-grained sand, with 40% fine to medium grained gravel, 10% clay	
100	15:11 15:39 15:43				GW	SANDY GRAVEL (GW) gray-brown, fine grained, subrounded to subangular gravel, with coarse-grained sand, 10-15% clay, granular fraction composed of granitic, mafics, quartz, and orthoclase	increasing chatter some broken grains
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 4 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C04
DATE STARTED 3/31/90 COMPLETED 4/6/90
ELEVATION 480 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	15:43				GW	SANDY GRAVEL (GW)	
	15:49						
						increasing in clay content	
110	15:52						
					SW	SAND (SW) gray-brown, fine- to coarse-grained sand with minor fine grained, subrounded to subangular gravel occuring in gravelly interbeds, granular fraction composed of quartz, feldspar, mafics, and granitics	violent chatter some broken grains
115							
120	16:01 16:12					5-10% clay and silt occuring as thin interbeds	
						increasing clay content	alternating chatter with smooth intervals
125							
						increasing sand content	
							decreasing chatter
130	16:21						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 701 ft

WELL COMPLETION DEPTH 520 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP

DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH Feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
							decreasing chatter
135							
					SW	GRAVELLY SAND (SW) gray-brown, 70% fine- to coarse-grained, subrounded to subangular sand, 20% fine to medium subrounded gravel, granular fraction composed of quarts, feldspar, and granitics	increasing chatter minor broken grains
140	16:28 7:43						
							alternating moderate and slight chatter, some broken grains
					SW	SAND (SW) orange-brown, fine- to coarse-grained, subrounded to subangular sand, with fine gravel occuring in gravelly interbeds, minor clay occuring as thin clay interbeds	
145							
150	7:59						
155							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 6 of 27)

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
160	8:12 8:22					decreasing clay content	
165							
170	8:33						
175						increasing silt and clay contents	
180	8:46 9:37 9:39 9:46				SM	SILTY SAND (SM) brown, 50% fine- to coarse-grained sand, with 40% silt and clay, 10% fine subrounded to subangular gravel, granular fraction composed of quarts, granitics, and mafics	minor broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 7 of 27)

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San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP

DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SM	SILTY SAND (SM)	
						decreasing silt content	
190	9:59				GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained gravel and cobbles, 40% fine- to medium-grained sand, trace of silt and clay, granular fraction composed of quartz, feldspar, granitics, and mafics	violent consistent chatter abundant broken grains
195							
						fine grained subrounded to subangular gravel, slight increase in fine-grained sand and silt	decreasing chatter few to broken grains
200	10:16 10:25						
205					SW	GRAVELLY SAND (SW) gray-brown, sand with fine grained gravel	some broken grains
210	10:40				ML		little to no chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 8 of 27)

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP

DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210					ML	SANDY SILT (ML) gray-blue with 15% fine gravel and 15% medium- to coarse-grained sand, with minor clay, granitic composition	
215					CL	GRAVELLY CLAY (CL) orange-brown, 70% silt and clay with fine grained gravel, and medium- to coarse-grained sand gravelly interbed	
220	11:01 11:04					gray-blue, moderately plastic clay with 10% fine subangular gravel	minor chatter
225					SW	GRAVELLY SAND (SW) brown, fine- to coarse-grained sand with fine grained subrounded to subangular gravel	
230	11:25				CL	GRAVELLY CLAY (CL) mottled brown and blue, 80% moderately plastic clay, with fine grained subangular and angular gravel, trace of fine- to medium-grained sand, granitic composition	
235						brown with minor blue mottling	minor chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 9 of 27)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					CL	GRAVELLY CLAY (CL)	
240	11:37 11:41						
						increasing sand content	
245							
	11:49 12:18						
250	12:20					decreasing clay content	moderate consistent chatter
					SC	CLAYEY SAND (SC) brown, 60% fine-grained sand, 40% clay occuring as thin interbeds, trace of fine grained, subangular to angular gravel, granitic composition	
255							
260	12:33 13:03						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 10 of 27) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04
DATE STARTED 3/31/90 COMPLETED 4/6/90
ELEVATION 480 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265					SC	CLAYEY SAND (SC)	decreasing chatter
					SW	GRAVELLY SAND (SW) gray-brown, 55% fine- to coarse-grained, subrounded and subangular sand, 40% gravel, trace of clay, granular fraction composed of quarts and mafics	some broken fine gravel
270	13:25						
					GW	SANDY GRAVEL (GW) gray-brown, 60% fine to coarse grained, subangular to angular gravel, with occasional cobble and boulder, 40% medium- to coarse-grained sand, granitic composition	violent chatter with broken grains
275							
280	13:59 14:03						
285							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 701 ft
WELL COMPLETION DEPTH 520 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 11 of 27) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	14:23				GW	SANDY GRAVEL (GW) increasing sand content occuring as sandy interbeds	violent chatter with intervals of moderate chatter
295						boulder sone	abundant broken grains
300	14:38 14:45						
305							
					SW	GRAVELLY SAND (SW) brown-gray, 30% fine- to medium-grained sand, with subrounded to angular gravel, trace of clay, granitic composition	little to no broken grains
310	14:57				SC	CLAYEY SAND (SC) orange-brown, fine- to coarse-grained sand, with clay and minor subangular gravel	
315	15:04						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 12 of 27) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					SC	CLAYEY SAND (SC)	
					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, with 15% fine grained, subrounded to angular orange stained gravel, trace of clay, granular fraction composed of granitic fragments, mafics, quartz, and plagioclase	moderate chatter
320	15:13 15:21						
325							violent chatter
					GW	SANDY GRAVEL (GW) gray-brown, fine grained, subrounded to angular gravel, with abundant fine- to coarse-grained sand, minor silt and clay, occuring as sandy and gravelly beds	
330	15:45						
						increase in silt and clay content	
335							
340	16:12 16:19						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 13 of 27) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, with fine grained, subrounded to subangular gravel, minor silt and clay	moderate chatter, some broken grains
345							
350	16:40					slight increase in clay content, 20% possibly interbedded with sand (SW)	violent consistent chatter
					GW	SANDY GRAVEL (GW) gray-brown, fine to medium, subrounded to subangular gravel, with fine- to coarse-grained sand, 5-10% clay, granitic composition	
355							
360	16:56 17:06				SC	CLAYEY SAND (SC) brown-gray, 40% fine- to coarse-grained sand, 10% fine gravel, 50% orange-brown clay	moderate chatter
					GW	GRAVEL (GW) gray-brown, fine grained subangular gravel, cobbles, and boulders, with fine- to coarse-grained sand as interbeds, granular fraction composed of quartz, plag, and mafics	increasing chatter 40% broken grains
365							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 14 of 27) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP

DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	GRAVEL (GW)	
370	17:27					cobble/boulder zone	increasing rock flour
375	17:47 7:59					increasing silt and clay occuring in clay interbeds increasing mafic grains, abundant weathered granitic rock fragments clay interbed at 378 feet	moderate chatter with occasional smooth interval
380	8:07 8:13				GP	SANDY GRAVEL (GP) coarse grained subrounded gravel, with 10-25% fine- to coarse-grained sand, little or no silt and clay, granular fraction composed of quarts, feldspar, mafics, and granitic rock fragments	minor rock flour in cuttings
385						increasing sand content	
390	8:23				GW	SANDY GRAVEL (GW) fine grained, subrounded to angular gravel, with angular coarse-grained sand, trace of silt and clay, occuring as interbeds	moderate chatter with smooth intervals

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 15 of 27) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
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ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					GW	SANDY GRAVEL (GW)	
					GP	SANDY GRAVEL (GP) gray-brown, fine to coarse grained, subrounded to subangular gravel and cobbles, with 10% coarse-grained sand, trace of silt and clay, occuring as thin interbeds, granular fraction composed of quartz, mafics, granitics, and feldspar	20% broken rock fragments
400	8:32 8:36						
405					SW	GRAVELLY SAND (SW) gray-brown, 30% fine grained, subrounded gravel, with fine- to coarse-grained sand, <10% silt, granular fraction composed of quartz and granitic rock fragments	slight chatter with occasional moderate chatter minor broken grains
410	8:45						
415	8:50				GW	SANDY GRAVEL (GW) gray-brown, fine to coarse grained, subrounded to subangular gravel, with 45% medium- to coarse-grained sand, trace of silt, granular fraction composed of granitic rock fragments, and quartz	
420	8:56						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 16 of 27) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420	9:02				GW	SANDY GRAVEL (GW)	
425						decreasing silt content	increasing percentage of broken grains
430	9:16 10:37						
					GP	SANDY GRAVEL (GP) gray-brown, fine grained subrounded to subangular gravel, with 10% fine- to coarse-grained sand, 5-10% silt, granular fraction composed of quartz, feldspar, and granitic rock fragments	moderate chatter with occasional smooth intervals
435							
440	10:47 10:55						
445						fine to coarse grained, subrounded to subangular gravel, little to no silt	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 17 of 27) PLATE
San Fernando Valley RI
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BORING/WELL NUMBER CS-C04 CLIENT LADWP

DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	SANDY GRAVEL (GP)	
450	11:05						
455					GW	SANDY GRAVEL (GW) gray-brown, 60% fine to coarse, rounded to subrounded gravel, with 25% fine- to coarse-grained sand, trace of clay occuring as interbeds	moderate chatter with smooth intervals
460	11:18 11:24					increasing clay interbeds	
465						predominantly fine grained gravel with sand and clay	
470	11:35					decreasing clay content	moderate chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C04

(sheet 18 of 27) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
475					GW	SANDY GRAVEL (GW) color change to brown-gray, predominantly fine grained, subrounded to subangular gravel, with fine- to coarse-grained sand, 10% silt and clay	
480	11:46 11:50						
						increasing clay content occuring as clay interbeds	
485							
						decreasing clay interbeds	
490	12:16						
495						increasing clay interbeds	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 19 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
500	12:24 12:29				SW	GRAVELLY SAND (SW) brown-gray, fine- to coarse-grained sand, with abundant fine grained, subrounded to angular gravel, occuring as gravelly interbeds, granular fraction composed of quarts, granitics, and mafics	
505						decreasing fines	moderate consistent chatter
510	12:42						
515					GW	SANDY GRAVEL (GW) gray-brown, fine to coarse subrounded gravel, with fine- to coarse-grained sand, minor silt, granular fraction composed of granitic rock fragments, quarts, plagioclase, and mafics	
520	13:03 13:18						20% broken grains
525							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 20 of 27) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04
DATE STARTED 3/31/90 COMPLETED 4/6/90
ELEVATION 480 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
525					GW	SANDY GRAVEL (GW)	
						decrease in average grain size	
530	13:30						
535							
540	13:45 14:04					boulder zones	moderate to violent chatter, increase percentage of broken grains
545							
550	14:17						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 701 ft
WELL COMPLETION DEPTH 520 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 21 of 27) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
555							
						increase in silt and clay content	
560	14:27 14:32						
565						blue-gray, with granitic rock fragments	
570	14:45						
						increase in average grain size, fine to coarse grained gravel, with blue silt/clay interbeds	
575							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 22 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCJ	1/91		

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BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
580	14:57 15:07					decrease in clay content	
585							
590	15:18						
595						increasing sand content, decreasing gravel content	
600	15:33 16:07					blue-gray, 60% fine to coarse gravel, with 40% fine-grained sand and silt, granular fraction composed of granitic rock fragments, feldspar, and quartz	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 23 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	S.S	1/91		

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BORING/WELL NUMBER CS-C04 CLIENT LADWP

DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI

ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
605	16:10				GW	SANDY GRAVEL (GW)	
610	16:18					silt occuring as thin interbeds	moderate chatter with smooth intervals
						decreasing silty interbeds, increasing gravelly/bouldery zones	many broken grains
615							
620	16:33 16:41					decreasing silt (<10%)	
625	16:47						
630	17:03						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 24 of 27) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C04 CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90 PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
630					GW	SANDY GRAVEL (GW)	
						little to no silt or clay	80% broken grains
635							
	17:18						
640	17:32						
	17:54						
645	17:59					increasing gravel/boulder zone	
	18:08						
	18:15						violent chatter, 90% broken grains,
650	18:19					boulder zone	Granitic bedrock possibly encountered at 650 feet based on color change, cuttings returns, and electric logs. No significant change in drilling rate.
	18:21						
655	18:26						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 701 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04 (sheet 25 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C04
CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90
PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	18:33				GW	SANDY GRAVEL (GW)	
	7:25						slight to moderate chatter
660	7:32 7:46				GC	CLAYEY GRAVEL (GC) blue, 40% fine grained, subrounded gravel, with 30% fine- to coarse-grained sand, and 30% blue clayey silt, abundant orange weathered granitic rock fragments, with quarts and feldspar	smooth drilling
						decreasing gravel content	
665	7:53						
					CL	SANDY CLAY (CL) blue, silty clay with 25% fine-grained sand, trace of fine grained, subangular to angular gravel, with orange weathered, granitic rock fragments	
670	8:04						
675	8:18					blue and orange-brown, with thin gravel interbeds	
680	8:29 8:33 8:50						

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 701 ft
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C04

(sheet 26 of 27)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C04
CLIENT LADWP
DATE STARTED 3/31/90 COMPLETED 4/6/90
PROJECT San Fernando Valley RI
ELEVATION 480 feet AMSL
GEOLOGIST TM Drinkard, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY CLAY (CL)	
					CL	increasing sand and gravel content	
685						orange-brown, with minor blue clay	
690	9:08						
695						blue, 10% gravel, trace of fine-grained sand	
700	9:22						
							Boring terminated at 701 feet on 4/6/90. Ground water not detected during drilling. Boring converted to Monitoring Well CS-C04-520 on 4/6/90.
705							

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 520 ft
HOLE DIAMETER 12-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 701 ft
WELL MATERIAL LCS & 304-SS

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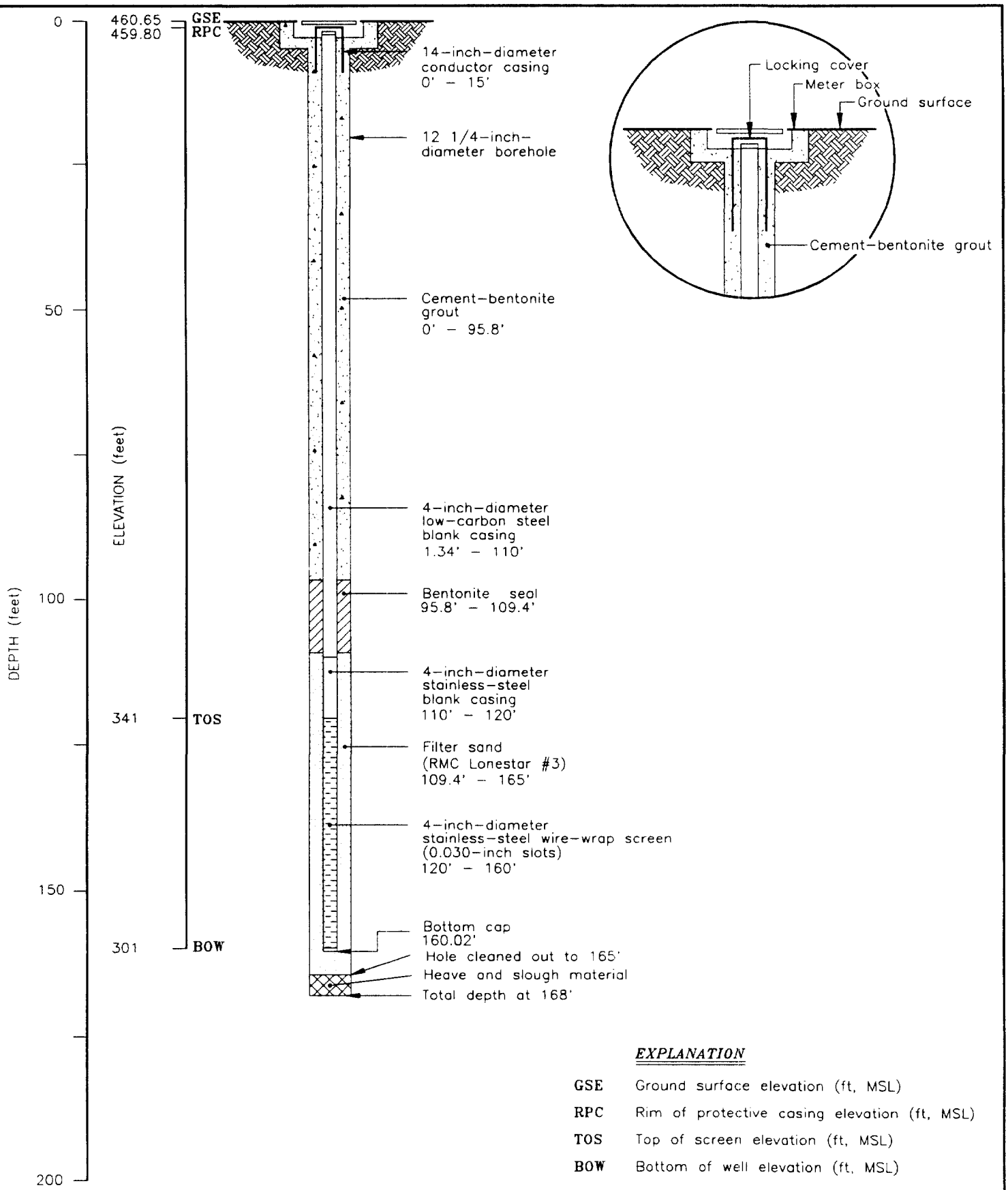
Engineering and Environmental Services

Log of Boring CS-C04 (sheet 27 of 27) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

09372035\CS5160



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

(All depths in feet below ground surface)

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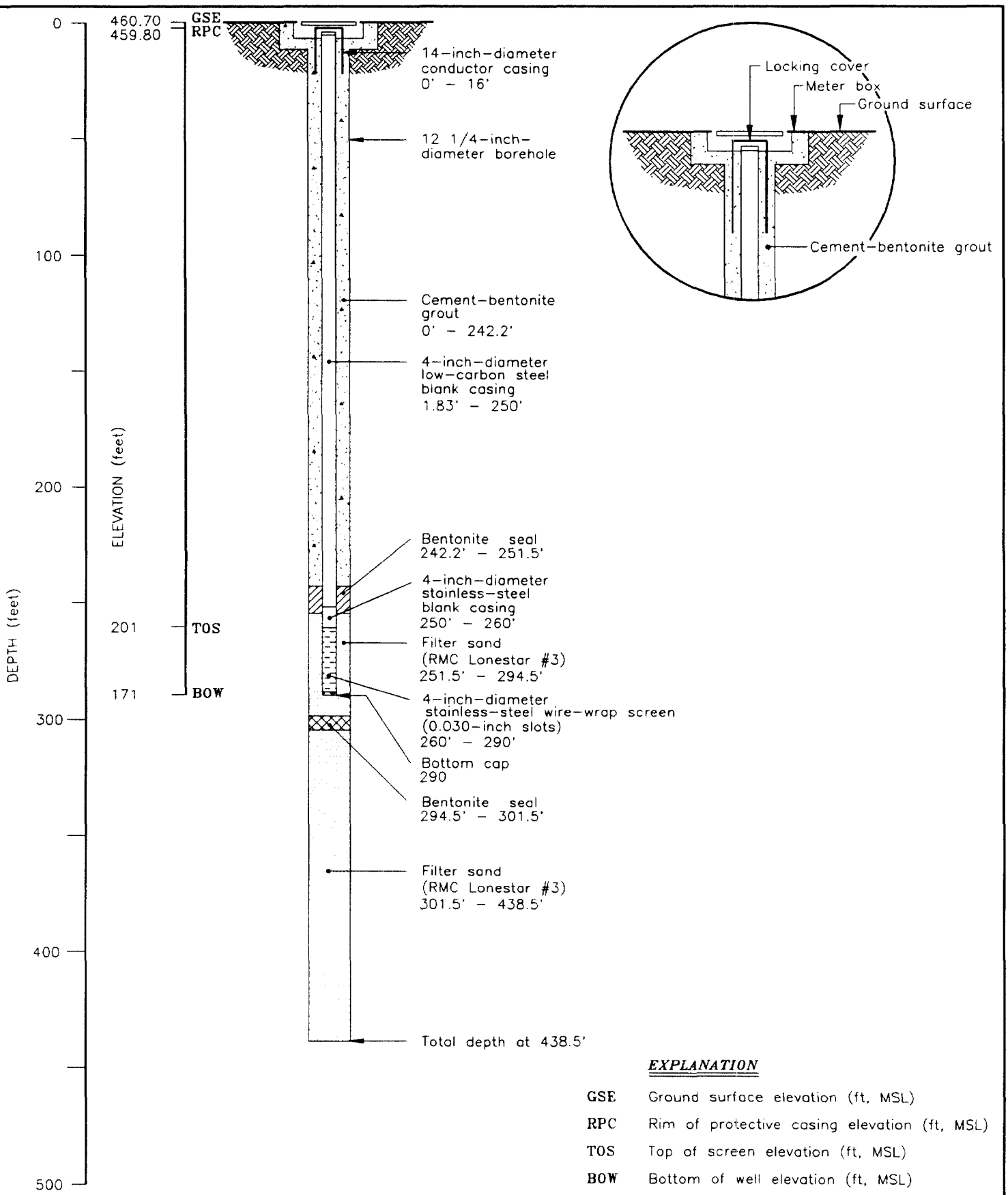
MONITORING WELL CS-C05-160

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

09372035\CS5290



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

(All depths in feet below ground surface)

PLATE

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-C05-290
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

JAMES M. MONTGOMERY
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						ASPHALTIC CONCRETE AND BASE	Solid stem auger (18-inch-diameter) drilled to 16 feet. Conductor casing set from 0-16 feet. 0-16 feet logged from cuttings.
					ML	SANDY SILT (ML) medium brown, damp, well sorted, some fine-grained sand, minor clay	
5							
10							
15							Begin mud rotary at 16 feet.
					SP	SAND (SP) brown, medium grained, subrounded to rounded sand, with minor fine-grained sand and silt	smooth drilling
20							
25	10:47 11:52						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C05 (sheet 1 of 17) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94596 / (415) 975-3466

BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP) fine- to coarse-grained sand	
30							
					ML	SANDY SILT (ML) brown, with some fine- to medium-grained sand	
35							
					SC	CLAYEY SAND (SC) brown, subrounded fine- to coarse-grained sand with clay of low to medium plasticity	slight chatter
40							
	12:29 13:19				SP	SAND (SP) light brown, medium-to coarse-grained, subrounded sand, minor silt and clay with granitic rock fragments	increasing chatter
45							
					GP	SANDY GRAVEL (GP) gray-brown, fine-to coarse-grained gravel, with minor coarse-grained sand, granular fraction composed of granitic and meta-sedimentary rock fragments	violent rig chatter with bouncing drill stem, abundant broken grains
50							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05

(sheet 2 of 17)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCJ	1/91		

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BORING/WELL NUMBER CS-C05
DATE STARTED 4/11/90 COMPLETED 4/12/90
ELEVATION 460 feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	SANDY GRAVEL (GP) gravelly sand interbeds	
55							
60						zones of better grading	
65	14:05 15:41						
70					GC	CLAYEY GRAVEL (GC) mottled green and brown, fine to medium gravel, with plastic clay cobble zone at 72 feet cobble zone at 74 feet	violent chatter moderate consistent chatter
75							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 440 ft

WELL COMPLETION DEPTH 290 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 3 of 17) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80					GC	CLAYEY GRAVEL (GC)	
					GP	SANDY GRAVEL (GP) gray-brown, well rounded, fine-to coarse-grained gravel, with some fine- to medium-grained sand, granular fraction composed of granitic and sediment rock fragments	
85	16:14 16:43						
90						increase sand content (30%)	
95						increase in sand content (40%)	moderate chatter
100					SW	GRAVELLY SAND (SW) brown, fine- to medium-grained sand with fine grained, well rounded gravel, minor silt and clay, granular composed of quartz, plag, orthoclase, minor granitic and metasedimentary rock fragments	25% broken grains
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 4 of 17) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105	17:00 17:33				SW	GRAVELLY SAND (SW)	
110							slight chatter
						increasing gravel content	
115						GRAVEL (GP) gray, medium-to coarse-grained, rounded gravel composed of granitic and metamorphic rock fragments	slight increase in chatter
120					GP		
125	17:40 8:04					increase in coarse-grained sand and fine gravel	
130							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 5 of 17) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	GRAVEL (GP)	
135							
						increasing sand content, becomes well graded	
140							
					GW	SANDY GRAVEL (GW) brown-gray, 60% fine to coarse grained, rounded gravel, with 30% fine- to coarse-grained rounded sand, quartzite and granitic composition	
145	8:14 8:39						
150							
155							violent chatter with

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 6 of 17) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCJ	1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C05
DATE STARTED 4/11/90 COMPLETED 4/12/90
ELEVATION 460 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	bouncing drill stem, abundant broken grains
						cobble zone	
160							
165						decreasing gravel content	
	8:45 9:05						
170							decreased chatter
					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, with fine to medium rounded gravel, granular fraction composed of quartz, mafics, granitics, and metamorphics	
175							
180					SP	GRAVELLY SAND (SP) brown, fine- to medium-grained sand with minor coarse-grained sand and fine to coarse subrounded gravel	slight chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 440 ft
WELL COMPLETION DEPTH 290 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 7 of 17)
San Fernando Valley RI
San Fernando, California

PLATE

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HK	9372,038.11	SCS	1/91		

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CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SP	GRAVELLY SAND (SP)	
	9:21 9:34					color change to mottled brown and gray-green, 5-10% clay, occuring as thin clay interbeds	
190							
195							
					SW	GRAVELLY SAND (SW) gray-brown, fine- to coarse-grained sand, with 15% subrounded fine grained gravel, minor silt and clay, granular fraction composed of granitic and metamorphic rock fragments	
200							
205	9:45 10:04					increasing gravel content	
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C05 (sheet 8 of 17) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210					SW	GRAVELLY SAND (SW)	
					GM	SILTY GRAVEL (GM) brown, fine to coarse grained gravel, with fine to coarse grained, subangular to subrounded sand, minor slightly plastic clayey silt	
215							
						thin interbeds of clayey silt	
220						decrease sand content	moderate rig chatter
					SW	GRAVELLY SAND (SW) brown, fine- to medium-grained sand, with fine grained rounded gravel, minor silt and clay, granular fraction composed of granitic and gabbroic rock fragments	
225							
	10:17 10:29						
230							
						cobble/boulder zone	violent chatter, bouncing drill stem
						increasing gravel content	40% broken grains
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05

(sheet 9 of 17)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
						gravel zone	
240							
						decreasing silt and clay content, fine- to coarse-grained sand, with 10% fine grained gravel	
245							slight to moderate chatter
	10:53 11:05						
250							
255							
260							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 10 of 17) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C05
DATE STARTED 4/11/90 COMPLETED 4/12/90
ELEVATION 460 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
265							
	11:17 11:45						
270							
						color change to gray-brown	
275							
280						medium-grained sand, with little to no silt or clay	
						gravelly zone	moderate chatter
285							
							smooth drilling
	11:58						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 440 ft
WELL COMPLETION DEPTH 290 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05

(sheet 11 of 17)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C05
CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90
PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	12:12						
290					SW	GRAVELLY SAND (SW)	
295							
300						increasing gravel content color change to gray, fine- to coarse-grained sand, with fine grained rounded gravel, granitic and gabbroic composition	increasing chatter some broken grains
305					GW	SANDY GRAVEL (GW) gray, fine to coarse grained rounded gravel, with fine- to coarse-grained sand, granitic, gabbroic, and quartzite composition	moderate chatter 80% broken grains
	12:22 13:41						
310						increase in gravel content	
315							

METHOD OF DRILLING Direct Mud Rotary
WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4"
WELL DIAMETER 4"
TOTAL DEPTH 440 ft
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05 (sheet 12 of 17) PLATE
San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C05 CLIENT LADWP

DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI

ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315					GW	SANDY GRAVEL (GW)	
320					GP	GRAVEL (GP) gray, fine-grained rounded gravel with minor sand, granitic/gabbroic composition	
325							moderate consistent chatter
330	13:54 14:10				SW	GRAVELLY SAND (SW) gray, 50% fine- to coarse-grained sand, with medium-grained rounded gravel, granular fraction composed of granitic rock fragments, minor silt and clay	
335						cobble zone	increase in chatter
340							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C05 (sheet 13 of 17) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
345							
	14:22 15:32						
350							
355						gravels becoming coarser grained, trace of clay	
360						cobble zone granitic and gabbroic rock fragments	
365					GP	SANDY GRAVEL (GP) gray, medium to coarse grained rounded gravel, with fine- to coarse-grained sand, granular fraction composed of granitic, gabbroic, rock fragments	slight chatter minor broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05

(sheet 14 of 17) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C05
DATE STARTED 4/11/90 COMPLETED 4/12/90
ELEVATION 460 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GP	SANDY GRAVEL (GP)	
370	15:41 15:57						
						GRAVELLY SAND (SW) gray, fine- to coarse-grained sand with medium-grained well rounded gravel, granular fraction composed of quartzite and mafic rock fragments	moderate consistent chatter trace broken grains
375					SW		
380							
						trace of green clay decreasing gravel content	
385							
						gravel zone	
	16:11 16:24						
390						sand with 40% fine-grained gravel	increase percentage of broken grains
						gravelly zone	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 440 ft
WELL COMPLETION DEPTH 290 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C05

(sheet 15 of 17)

PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C05 CLIENT LADWP

DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI

ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
395					SW	GRAVELLY SAND (SW)	
400						cobble zone	
405							
	15:42 16:58					granitic and meta sedimentary rock fragments color change to green-gray	increasing percentage of broken grains
410							
415						cobble zone	
					GW	GRAVEL (GW)	violent chatter with bouncing drill stem abundant broken grains
420							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring CS-C05

(sheet 16 of 17) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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BORING/WELL NUMBER CS-C05 CLIENT LADWP
DATE STARTED 4/11/90 COMPLETED 4/12/90 PROJECT San Fernando Valley RI
ELEVATION 460 feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
420						GRAVEL (GW) gray, coarse grained, well rounded gravel with cobbles and boulders, some medium- to coarse-grained sand, granular fraction composed of granitic and metasedimentary rock fragments color change to blue-gray, with pieces of blue schist cobbles and boulders with some sand	violent consistent chatter
425					GW		
	17:24 17:51						minor rock flour
430							Mud viscosity = 49 seconds
	17:58 18:04						
435						GRANITE BEDROCK (Rx) gneissic and schistose rock fragments	
	18:12						
	18:19 18:25						
440							Boring terminated at 440 feet on 4/12/90. Ground water not detected during drilling. Boring converted to Monitoring Well CS-C05-290 on 4/16/90 and 4/17/90.
445							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 290 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 440 ft WELL MATERIAL LCS & 304-SS

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Engineering and Environmental Services

Log of Boring CS-C05

(sheet 17 of 17) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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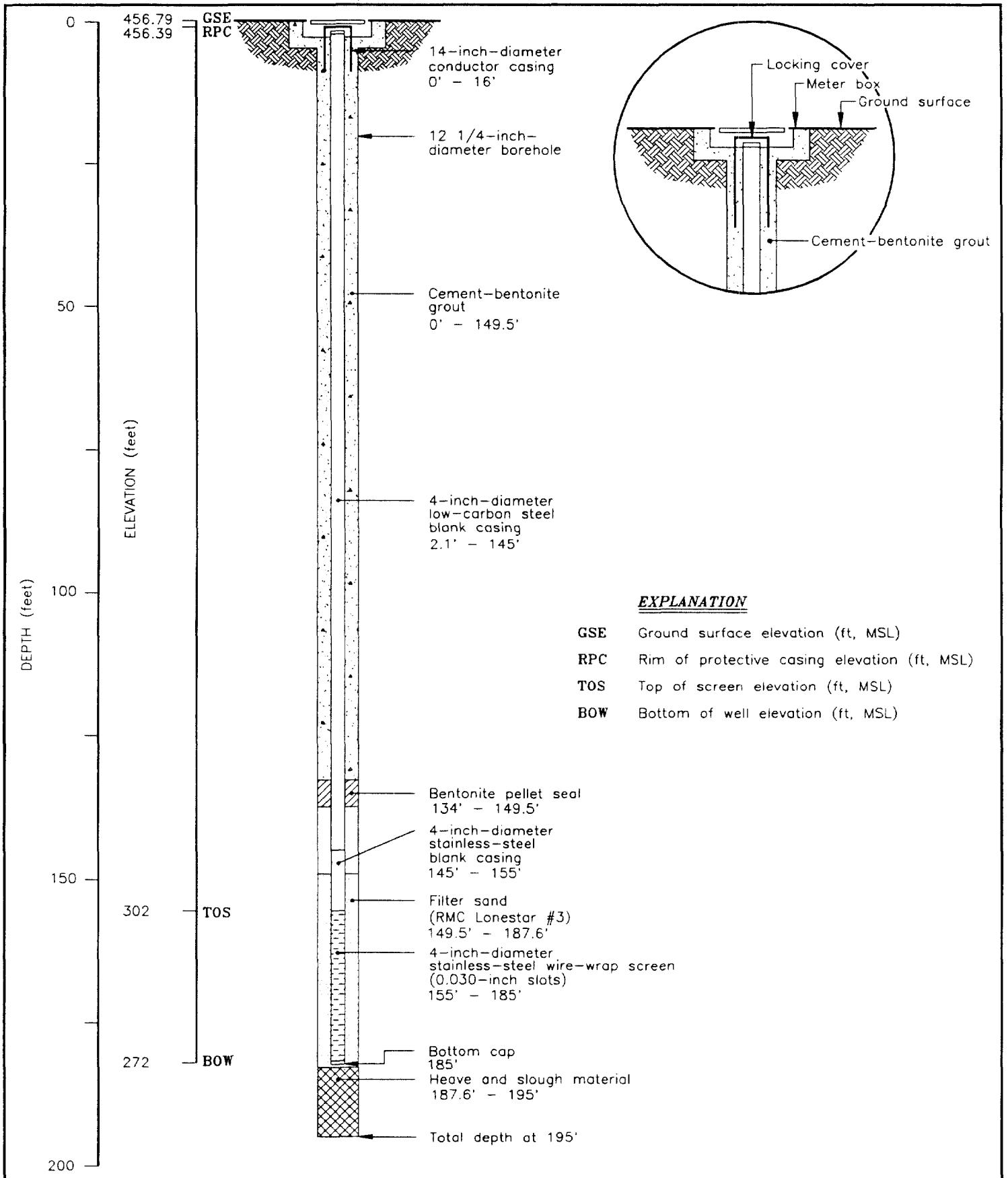


(All depths in feet below ground surface)

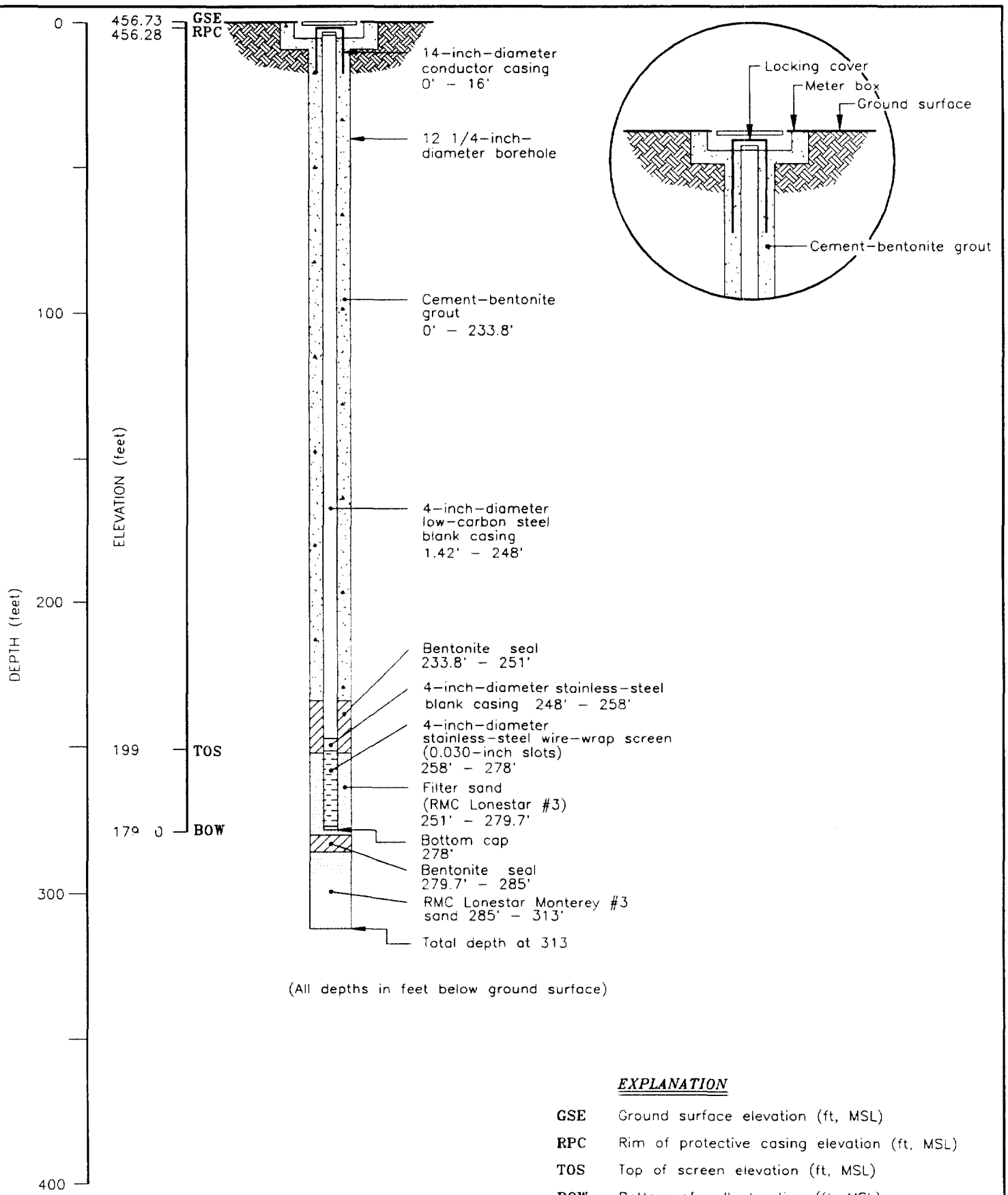
Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
CS-C06-185
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

09372035\CS627R



(All depths in feet below ground surface)

EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

PLATE

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Engineers and Geoscientists

MONITORING WELL
CS-C06-278
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CATD	09372.038.16		12/90	JMM	7/92

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3488

BORING/WELL NUMBER CS-C06 CLIENT LADWP

DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI

ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0	16:00					ASPHALTIC CONCRETE AND BASE	Solid stem auger (18-inch-diameter) drilled to 17 feet. Conductor casing set from 0-17 feet. 0-17 feet logged from cuttings.
					SW	SAND (SW) brown, moist, fine-to coarse-grained rounded sand, with 10-20% silt (in layers)	
	16:53						
5	16:58						
10	17:00				SP	SAND (SP) light brown, moist, fine-to medium-grained, trace of coarse-grained rounded sand, minor silt	
						increasing silt content	
15	17:12					trace medium to coarse rounded gravel	Begin mud rotary at 17 feet
20	7:35				SM	SILTY SAND (SM) dark brown, medium-grained angular sand, with micaceous silt	
25							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06 (sheet 1 of 12) PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C06 CLIENT LADWP

DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI

ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SM	SILTY SAND (SM)	
30	7:40					increasing silt content	
35							
40	7:44 7:45					fine- to coarse-grained subangular sand, predominantly medium grained with minor clay	
45					SW	SAND (SW) gray-brown, medium-to coarse-grained, well rounded sand with trace of silt, granular fraction composed of quartz, plagioclase, granitics, and mafics, minor orthoclase, micaceous	
50	7:48						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06

(sheet 2 of 12)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C06 CLIENT LADWP

DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI

ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	SAND (SW)	
55					SM	SILTY SAND (SM) brown, fine-to coarse-grained, rounded to fresh angular sand, and clayey silt, micaceous	
60	7:51 7:53				SW	GRAVELLY SAND (SW) brown-gray, medium-to coarse-grained, angular to rounded sand, with 20% fine-to coarse-grained gravel, minor silty clay, granular fraction composed of granitic, gabbroic and mafic rock fragments	rig chatter, minor broken grains
65							
70	7:55						
75							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06

(sheet 3 of 12)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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BORING/WELL NUMBER CS-C06
DATE STARTED 3/15/90 COMPLETED 3/19/90
ELEVATION 455 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
80	7:58 8:02				SW	GRAVELLY SAND (SW) increase fine-grained sand	
85					GW	SANDY GRAVEL (GW) gray, fine-to coarse-rounded gravel, with fine- to coarse-grained sand, minor silt layers, granular fraction composed of granitic rock fragments	
90	8:04						
95							
100	8:09 8:12				SW	GRAVELLY SAND (SW) gray-brown, medium- to coarse-grained sand, with well rounded gravel, minor clayey silt, granular fraction composed of granitic rock fragments	
105							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 314 ft
WELL COMPLETION DEPTH 278 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06 (sheet 4 of 12)
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C06 CLIENT LADWP
DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI
ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105					SW	GRAVELLY SAND (SW)	
110	8:10					increase fine-grained sand content	
115							
120	8:21 8:54					decrease gravel size, predominantly fine grained, well rounded gravel	violent rig chatter
125						gravel/cobble interbed	bouncing drill stem
130	8:57					increase silt content	some broken grains

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06 (sheet 5 of 12)

San Fernando Valley RI
San Fernando, California

PLATE

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BORING/WELL NUMBER CS-C06 CLIENT LADWP
DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI
ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW)	
135					SM	SILTY SAND (SM) dark brown, medium-grained rounded sand, with micaceous clayey silt, granular fraction composed of granitics, gabbroic rock fragments, rare ultramafics	decreasing rig chatter some broken grains
140	9:00 9:07						
145							
150	9:11				GC	CLAYEY GRAVEL (GC) brown, fine-to coarse-grained subrounded and angular gravel, with coarse-grained sand and silty clay occuring as interbeds, granular fraction composed of granitics and gabbroic rock fragments	alternating rig chatter and smooth intervals
155							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06 (sheet 6 of 12) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C06
DATE STARTED 3/15/90 COMPLETED 3/19/90
ELEVATION 455 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GC	CLAYEY GRAVEL (GC)	
160	9:16 9:26				GP	SANDY GRAVEL (GP) gray, fine-to coarse-grained, well rounded gravel with some sand, granitic and gabbroic composition, minor ultramafics	
165							
170	9:30				SC	CLAYEY SAND (SC) brown, fine-to coarse sand, with 15-20% silty clay, 10% fine rounded to angular gravel, granular fraction composed of granitic and gabbroic rock fragments	
175							
180	9:34 9:44				SM	SILTY SAND (SM) brown, medium- to coarse-grained rounded sand, with fine-to coarse-grained gravel, trace silt, granular fraction composed of quartz, plagioclase, minor granitic, and gabbroic, rock fragments	some broken grains

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 314 ft
WELL COMPLETION DEPTH 278 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring CS-C06

(sheet 7 of 12)

PLATE

San Fernando Valley RI
San Fernando, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,038.11	SCS	1/91		

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER CS-C06 CLIENT LADWP
DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI
ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185					SM	SILTY SAND (SM)	
190	9:47					increase clayey silt content (40-50%)	
195					SW	SAND (SW) brown-gray, medium to coarse grained rounded sand, with silt and gravel, granitic and gabbroic composition	some broken grains
200							
205							
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06 (sheet 8 of 12) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C06 CLIENT LADWP
DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI
ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	10:05				SW	SAND (SW)	increasing rig chatter
						increase in sand and fine- to coarse-grained gravel content	
					GW	SANDY GRAVEL (GW) gray, fine-to coarse-grained subangular to well rounded gravel, with fine- to coarse-grained sand, granitic composition, some ultramafics bouldery interbed	
215							violent chatter
							decreasing chatter
220	10:13 10:20						alternating chatter with smooth intervals
225							
230						increase sand content	
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06 (sheet 9 of 12) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C06 CLIENT LADWP

DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI

ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW)	
240	10:31 11:15					large boulder	bouncing drill stem abundant broken grains
245							
							minor broken grains
					SW	GRAVELLY SAND (SW) gray, fine- to coarse-grained well rounded sand, with fine gravel, little to no silt, granitic composition	decreased rig chatter with smooth intervals
250	11:22						
255							
260	11:32 11:41					minor thin (<1 ft) interbeds of blue silty clay	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06

(sheet 10 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C06
DATE STARTED 3/15/90 COMPLETED 3/19/90
ELEVATION 455 feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SW	GRAVELLY SAND (SW) increasing gravel (20%)	
265					GW	SANDY GRAVEL (GW) gray to dark gray, fine to coarse well rounded gravel and cobbles, with medium- to coarse-grained sand, minor gray clay, granular fraction composed of anorthosite and gabbroic rock fragments	increasing rig chatter, abundant broken grains
270	11:48						
275						cobble/boulder interbed	bouncing drill stem
280	12:10 12:18						
285						increase weathered feldspar, decrease gray clay, little to no fine-grained sand or silt	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 314 ft
WELL COMPLETION DEPTH 278 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
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Log of Boring CS-C06 (sheet 11 of 12) PLATE
San Fernando Valley RI
San Fernando, California

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BORING/WELL NUMBER CS-C06 CLIENT LADWP
DATE STARTED 3/15/90 COMPLETED 3/19/90 PROJECT San Fernando Valley RI
ELEVATION 455 feet AMSL GEOLOGIST M. Rickertsen, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	12:30				GW	SANDY GRAVEL (GW) predominantly fine to coarse grained gravel with medium-grained sand	abundant broken grains (95%)
295							
300	12:43 13:10				Rx	GRANITE/ANORTHOSITE BEDROCK (Rx)	consistent rig chatter 100% broken grains
305							
310	14:10						Boring terminated at 314 feet on 3/19/90. Ground water not detected during drilling. Boring converted to Monitoring Well CS-C06-278 on 3/20/90 and 3/21/90.
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 278 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 314 ft WELL MATERIAL LCS & 304-SS

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Log of Boring CS-C06

(sheet 12 of 12) PLATE

San Fernando Valley RI
San Fernando, California

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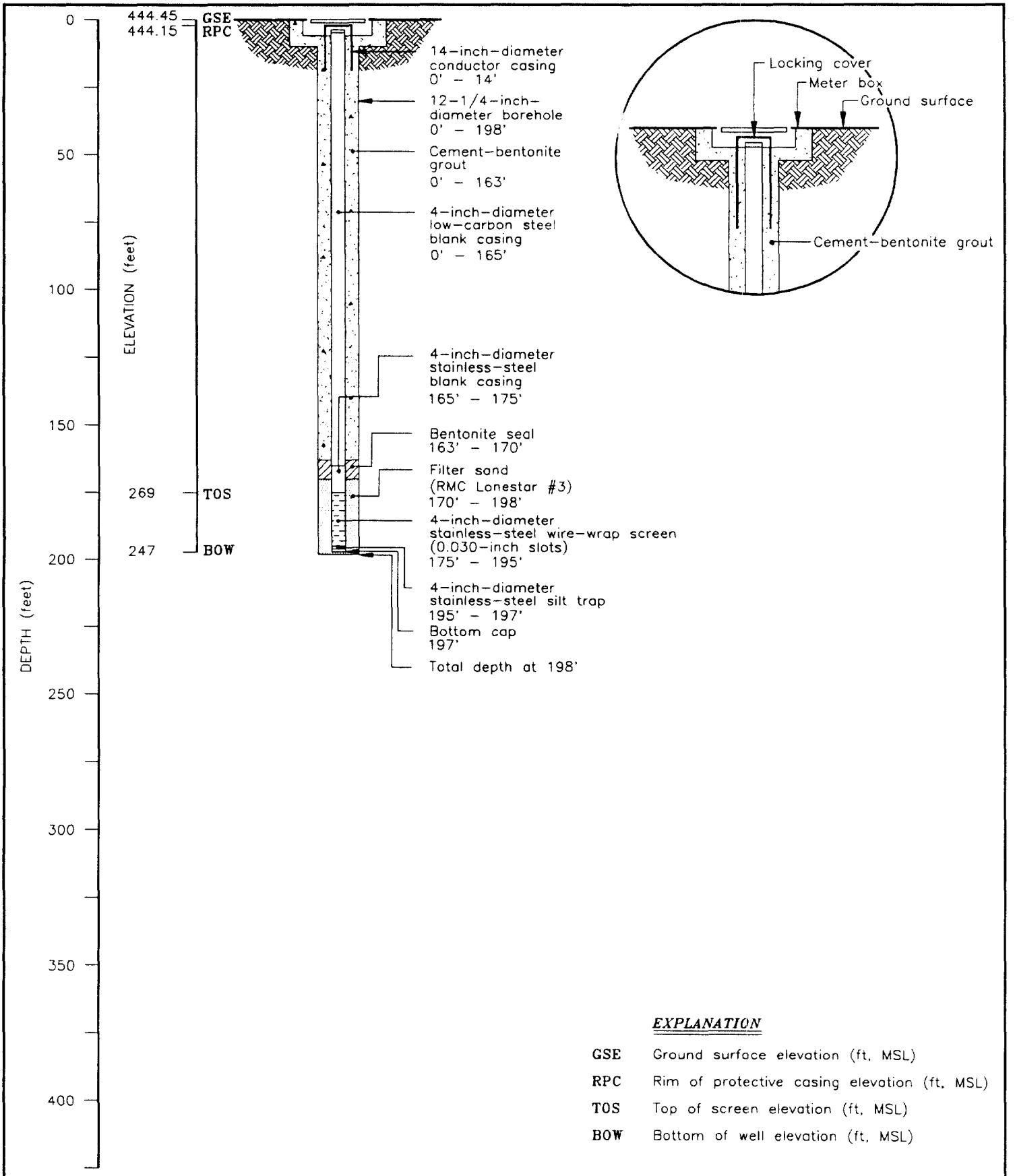
HK	9372,038.11	SCS	1/91		

APPENDIX C: BORING LOGS

APPENDIX C.7 POLLOCK CLUSTER WELLS

HDT\JMM\CW01195



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

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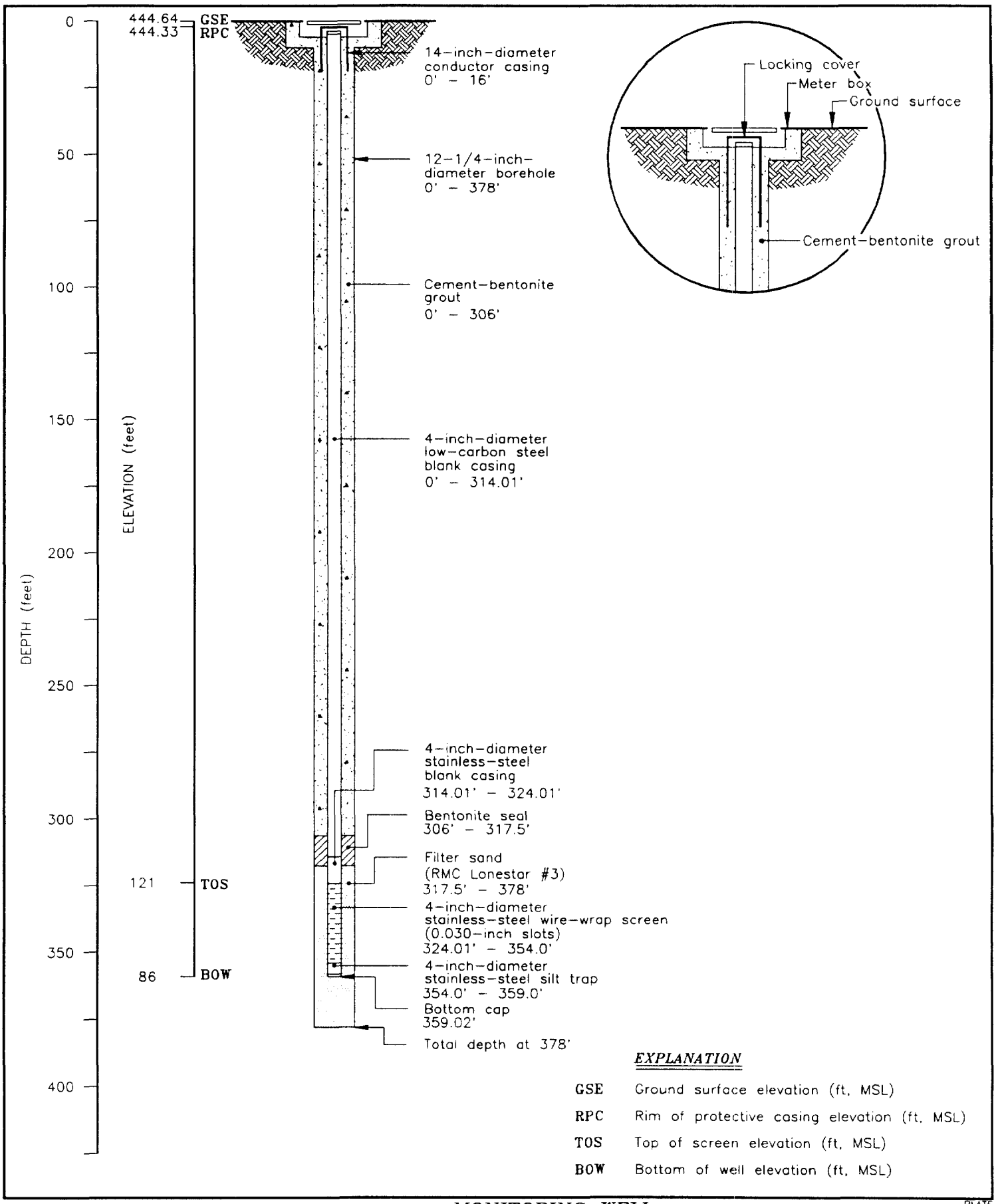
MONITORING WELL
PO-CW-01-195

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.041.16		11/90	JMM	7/92



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MONITORING WELL
PO-CW-01-354
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
CTI	9372.041.16		11/90	JMM	7/92

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365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0					ML	SANDY SILT (ML) orange-brown, silt with fine- to medium-grained sand, trace of fine to coarse rounded gravel	Solid stem auger (16-inch-diameter) drilled to 16 feet conductor casing (14-inch-diameter) set from 0-16 feet 0-16 feet logged from cuttings.
5							
10							
15	11:06				SP	GRAVELLY SAND (SP) gray, medium- to coarse-grained sand with 10-15% fine grained subrounded gravel, minor silt occuring as interbeds granitic composition	begin mud rotary at 16 feet trace broken grains
	11:08 11:20						smooth
20							
25						cobble zone	violent chatter, with minor smooth intervals

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01

(sheet 1 of 15) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

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BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SP)	
30						increasing gravel content	some broken grains
35					SP		
						silty interbed	
	11:30 11:36						moderate chatter
40							
45							
							increased chatter
							smooth, faster drilling
50						silty interbed, micaceous	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 2 of 15) PLATE

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BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
55						SANDY GRAVEL (GW) gray, fine to coarse grained subrounded gravel with fine- to medium-grained sand, minor silt, granular fraction, composed of weathered gneiss, quartzite, and granitics	moderate chatter some broken grains
	11:46 11:51				GW		
60							
65							
70						cobble/boulder zone	violent chatter increasing broken grains
75							moderate chatter
	11:59						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 3 of 15) PLATE

San Fernando Valley RI
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BORING/WELL NUMBER PO-C01 CLIENT LADWP
DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	12:11						
80						SANDY GRAVEL (GW) silty zone	
					GW		
85							
90						increasing sand content	
						SAND (SP) brown-gray, coarse grained, with minor fine- to medium-grained sand, variable gravel content, gravel in thin distinct zones, composed of granitic and meta-sedimentary rock fragments	
95							
	12:23 12:41				SP		
100						boulder zone	moderate chatter some broken grains
						cobble/boulder zone	consistent rough chatter with bouncing drill stem
105							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01

(sheet 4 of 15)

PLATE

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BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105						SAND (SP)	
	12:46				SP		smooth with minor chatter
110						boulder zone	
							violent chatter, then moderate
							increasing broken grains
115							
	12:54						
	13:22						
120	13:23					increase percentage of fine- to medium-grained sand	violent chatter
	13:33						moderate chatter
125							
130						SANDY GRAVEL (GW)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 5 of 15) PLATE

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BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					GW	SANDY GRAVEL (GW) gray-brown, fine-grained, subrounded gravel with 20-30% medium- to coarse-grained sand, composed of mafics and granitic rock fragments	
135							
	13:10						
	13:41 14:07						
140						increase sand content	
145							
150	14:11						minor chatter, very fast drilling
155						decreasing sand content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 6 of 15) PLATE

San Fernando Valley RI

Los Angeles County, California

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BORING/WELL NUMBER PO-C01 CLIENT LADWP
DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	14:14					SANDY GRAVEL (GW)	
	9:21					cobble/boulder zone	violent chatter with bouncing drill stem
160					GW		
							increasing broken grains
165							
						silty zone	
170							
175							moderate chatter
	15:48						
180						increasing gravel content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 7 of 15) PLATE
San Fernando Valley RI
Los Angeles County, California

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BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185						SANDY GRAVEL (GW)	
	16:03						
190							
195							chatter with bouncing drill stem
	16:11 17:26						
200						increasing sand content	consistent rough chatter
205					GW	better rounding, minor meta sedimentary rock fragments	
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 8 of 15) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
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385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C01
DATE STARTED 7/12/90 COMPLETED 7/17/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	17:32					SANDY GRAVEL (GW)	
215							
	17:38 17:49				GW		rough chatter, slow drilling
220							
						increasing fine-grained gravel content	
							decreasing chatter
225							
	17:57						rough chatter with bouncing drill stem
230	18:04						
	18:07						slight chatter only
						minor gray-brown silt	
235	18:09						increasing chatter

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 378 ft

WELL COMPLETION DEPTH 354 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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BORING/WELL NUMBER PO-C01
DATE STARTED 7/12/90 COMPLETED 7/17/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SANDY GRAVEL (GW)	
	18:15						violent chatter with bouncing drill stem
	8:48						
240	8:99				GW	increasing sand content	consistent rough chatter
245							
250							
						GRAVELLY SAND (SP) gray-brown, medium- to coarse-grained sand with 15-20% subrounded fine gravel, trace of silt, granitic composition	decreasing chatter
255					SP		
	9:07						minor chatter
260	9:23						moderate chatter, with smooth intervals

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 378 ft

WELL COMPLETION DEPTH 354 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

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Log of Boring PO-C01 (sheet 10 of 15) PLATE

San Fernando Valley RI
Los Angeles County, California

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BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SP)	
265						SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained gravel with variable sand content, some cobble sones, granitic composition	chatter with bouncing drill stem
	9:30				GW		
270	9:34						
							moderate chatter
							violent chatter
275							moderate chatter
	9:36						
280	9:38						slight chatter
	9:40						
							chatter with bouncing drill stem
285							
							moderate chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

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San Fernando Valley RI
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BORING/WELL NUMBER PO-C01 CLIENT LADWP
DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
290	9:50					SANDY GRAVEL (GW)	moderate to violent chatter
							moderate to slight chatter
295							smooth with minor chatter
	9:56				GM	SILTY GRAVEL (GM) gray-green, fine-grained subrounded gravel, with micaceous silt, minor medium- to coarse-grained rounded sand occuring as interbeds	
	10:36						
300	10:37						
	10:38						
305	10:42						
310	10:46						moderate chatter with bouncing drill stem
							smooth with minor chatter
	10:50						
315							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C01 (sheet 12 of 15) PLATE
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C01
DATE STARTED 7/12/90 COMPLETED 7/17/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
315						SILTY GRAVEL (GW)	
						SAND (SP) gray, medium-grained sand with minor coarse-grained, subrounded to subangular sand and fine-grained sand, granitic composition	
	10:54				SP		
	11:14						
320	11:16						moderate chatter, occasional bouncing drill stem
325							
	11:21						
330							
335							
						GRAVEL (GW) gray, cobbles with some sand, rock fragments of gabbroic, granitic, and minor schist fragments	
	11:27						moderate chatter slower
	11:46						90% broken grains
340	11:50				GW		violent chatter with bouncing drill stem
	11:58						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 378 ft

WELL COMPLETION DEPTH 354 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C01 (sheet 13 of 15) PLATE
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C01 CLIENT LADWP
DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVEL (GW)	
	12:08						moderate chatter
345							
	12:13						
350	12:16				SW	GRAVELLY SAND (SW) gray, medium- to coarse-grained, rounded sand with fine- to coarse-grained gravel, composed of quartzite, granitics, and anorthosite fragments	violent chatter with bounce slight to moderate chatter
355						increase in rounded fine-grained gravel	
	12:22 13:15						smooth with minor chatter
360	13:17 13:19					SLATE (BEDROCK) gray-green, moderately hard, deeply weathered, weak	moderate chatter
	13:20						
365	13:24						minor chatter with smooth soft bouncing drill stem

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C01 (sheet 14 of 15) PLATE
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		2/91		

00673/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C01 CLIENT LADWP

DATE STARTED 7/12/90 COMPLETED 7/17/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	13:36					SLATE (BEDROCK)	moderate consistent chatter bit catching, minor bouncing drill stem
370	13:46 13:52 13:59					dark brown, moderately strong, hard, fresh	increased chatter with bouncing drill stem
375	14:25						
	14:33						Boring terminated at 378 feet. Boring converted to Monitoring Well PO-C01-354 on 7/19/90.
380							
385							
390							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 354 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

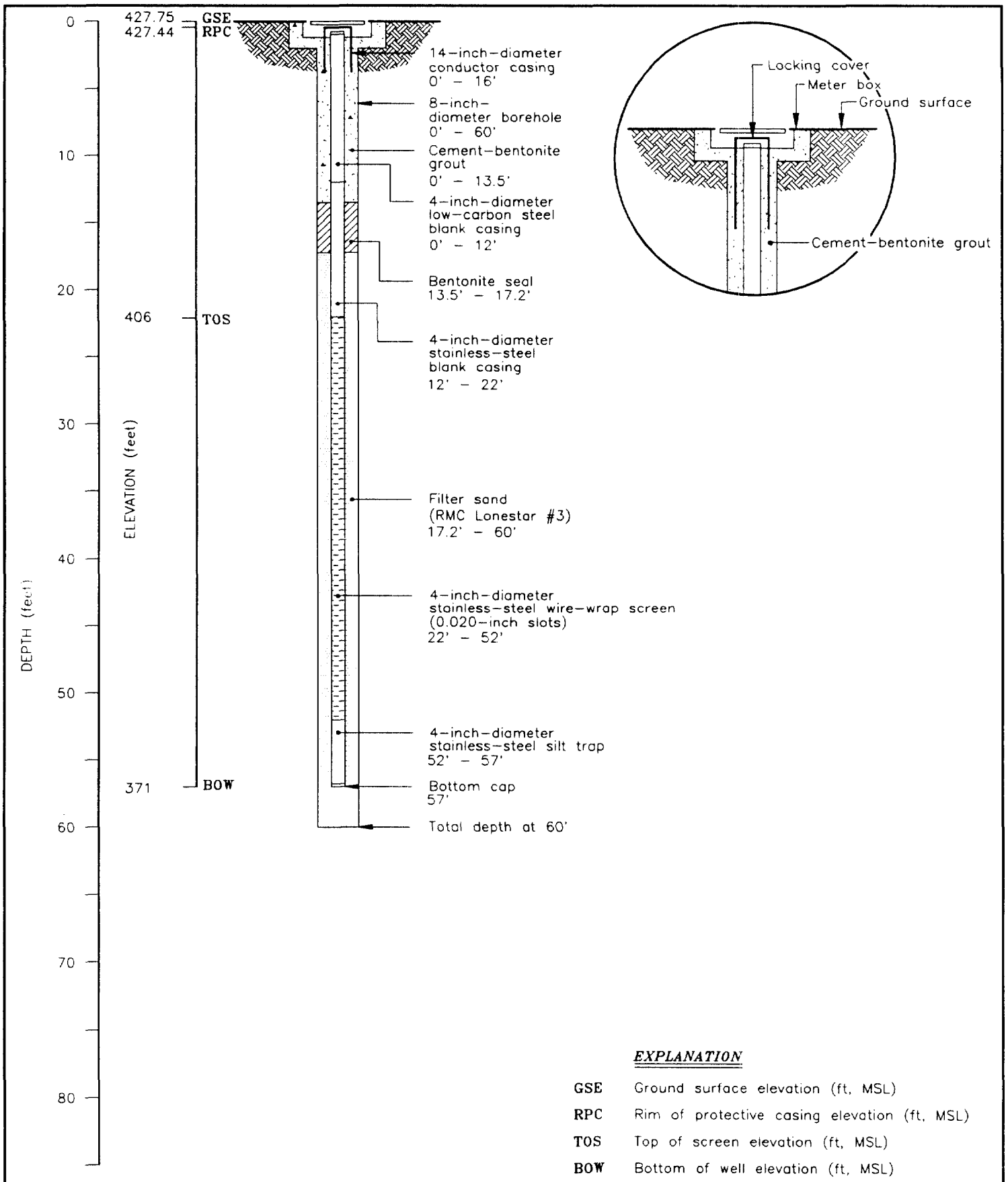
TOTAL DEPTH 378 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C01 (sheet 15 of 15) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		2/91		



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

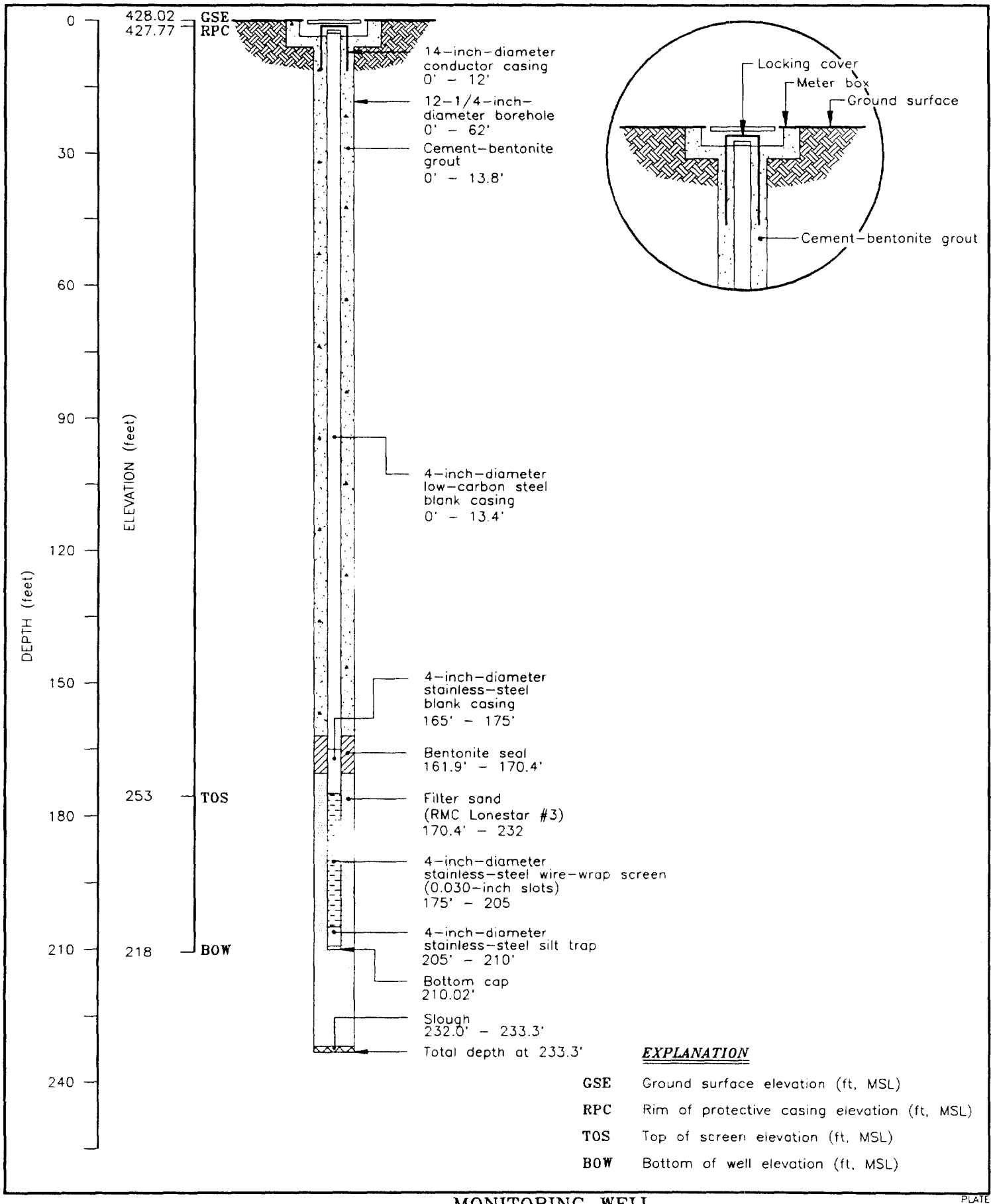
MONITORING WELL
PO-CW-02-52

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.041.16		11/90	JMM	7/92

HDT\JMM\CW02205



EXPLANATION

GSE	Ground surface elevation (ft, MSL)
RPC	Rim of protective casing elevation (ft, MSL)
TOS	Top of screen elevation (ft, MSL)
BOW	Bottom of well elevation (ft, MSL)

Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
PO-CW-02-205
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.041.16		11/90	JMM	7/92

00873/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP

DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						GRAVELLY SAND (SW) brown, dry, fine- to coarse-grained sand with fine- to coarse-grained gravel and cobbles up to 8-inch-diameter, 20-30% silt	Solid stem auger (16-inch-diameter) drilled to 12 feet conductor casing (14-inch-diameter) set from 0-12 feet 0-12 feet logged from cuttings.
5					SW		
10							begin mud rotary at 12 feet. slight chatter, minor bouncing drill stem
	11:18						
15	11:21						
	11:25					decreasing gravel content	
	11:28						
20	11:33						
							moderate chatter
					SW	gray, medium- to coarse-grained sand with fine- to coarse-grained gravel, granitic composition	slight chatter only some broken grains
25							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates Engineering and Environmental Services

Log of Boring PO-C02 (sheet 1 of 9)

PLATE

San Fernando Valley RI

Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

00673/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP

DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SW)	
							chatter with bounce
30							slight to moderate chatter
						SILTY SAND (SM) brown, medium-grained sand, minor coarse-grained sand, with 20-30% silt	
					SM		smooth
35							
	11:48 11:54					increasing silt content, minor clay	
40							
						GRAVELLY SAND (SW) brown-gray, well rounded to medium- to coarse-grained subangular sand, with 40% fine- to coarse-grained gravel, minor silt, frequent cobble zones	chatter with bouncing drill stem
					SW		
45						granitic composition	
						variable gravel content with frequent granitic composition	
							increasing chatter
50	12:06					cobble zone	
						increasing gravel content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 2 of 9) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		2/91		

00673/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP

DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SW)	
							many broken grains
55							
	12:15					decrease gravel content, minor silt	slight to moderate chatter
	12:28						
60							
							moderate chatter with bouncing drill stem
65							
						cobble zone	
	12:37						moderate consistent chatter
70							slight to moderate chatter
75							
	12:44						

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 3 of 9)

PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		2/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02
DATE STARTED 8/8/90 COMPLETED 8/13/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SW)	
80	12:50						
	12:53						moderate chatter with bouncing drill stem
85						decreasing cobble zone frequency	
	12:59						
	13:01					decreasing gravel content	smooth for 1 foot
90	13:02						slight to moderate chatter
							decreasing broken grains
95							
	13:06						
	13:07					cobble zone	
	14:52						
100	14:53						moderate chatter
						SILTY SAND (SM) brown, fine- to coarse-grained subrounded sand, with clayey silt as thin interbeds	smooth with slight chatter
					SM		
105							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 233 ft

WELL COMPLETION DEPTH 205 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 4 of 9)

San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

00673/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP

DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105						SILTY SAND (SM)	
110							
	15:00					increasing silt content (approximately 40%)	
115					SM		
	15:05 15:11						
120						silty interbeds becoming thicker (2 to 5 feet)	
125							
130							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 5 of 9) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02
DATE STARTED 8/8/90 COMPLETED 8/13/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						SILTY SAND (SM)	
135	15:18						
	15:21 15:26						
140						gravelly sone, fine grained, rounded	increasing chatter
	15:29						
145							moderate chatter
150	15:36					silty interbed	
						increasing gravel content	
155							increasing chatter some broken grains

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 233 ft

WELL COMPLETION DEPTH 205 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 6 of 9)
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		2/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP

DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	15:40					SANDY GRAVEL (GW) gray-brown, fine- to coarse-grained gravel with cobble zones, variable sand content, sand occuring as interbeds, granitic composition	
160	15:46						
	15:48						
	15:51						
165						silty zone	
	15:56						moderate and rough consistent chatter
							violent chatter with bouncing drill stem
170	15:59					cobble/boulder zone	abundant broken grains
							consistent rough chatter
175							
	16:09				GW		
	16:15						
180							slight to moderate chatter, with zones of violent chatter

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 7 of 9) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP

DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185						SANDY GRAVEL (GW)	
	16:21						
190	16:25					increasing cobble/boulder zones	nearly 100% broken grains
195							
	16:33						
	16:37						
200	16:38						
	16:45						
	16:48				GW		
205							
	16:53						
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 8 of 9)

PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C02 CLIENT LADWP
DATE STARTED 8/8/90 COMPLETED 8/13/90 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST T. Lindros, HLA

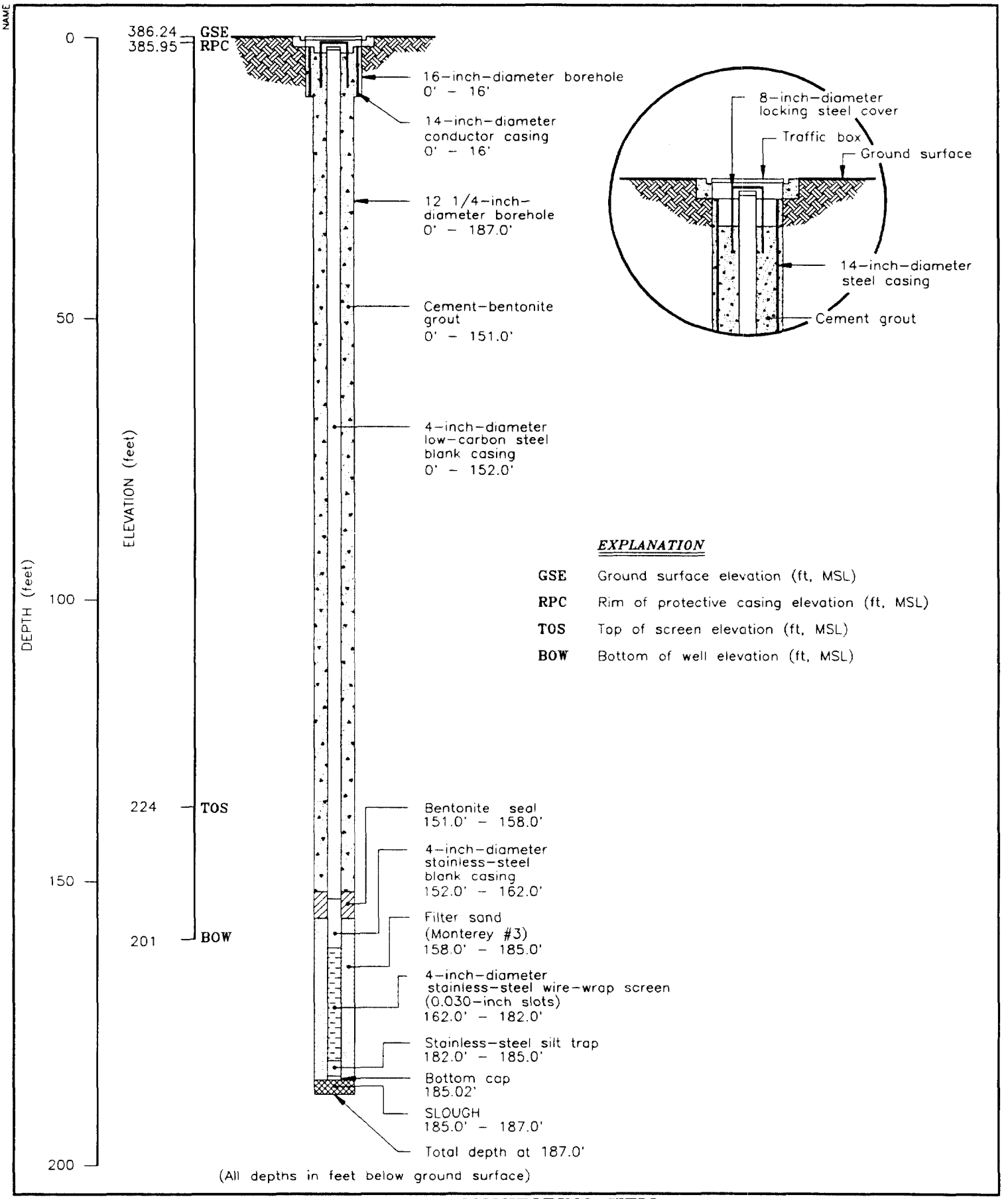
DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210	16:55						
215						SLATE (BEDROCK) dark gray-brown, deeply weathered, weak, moderately hard	consistent chatter
	17:10						
220	11:41						
	11:49						
	11:57						
225							
	12:10						
230	12:16					dark brown, fresh, moderately strong, hard	consistent slight chatter
	12:27						Boring terminated at 233.3 feet. Boring converted to Monitoring Well PO-C02-205 on 8/15/90.
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 205 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 233 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C02 (sheet 9 of 9) PLATE
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,041.16		2/91		

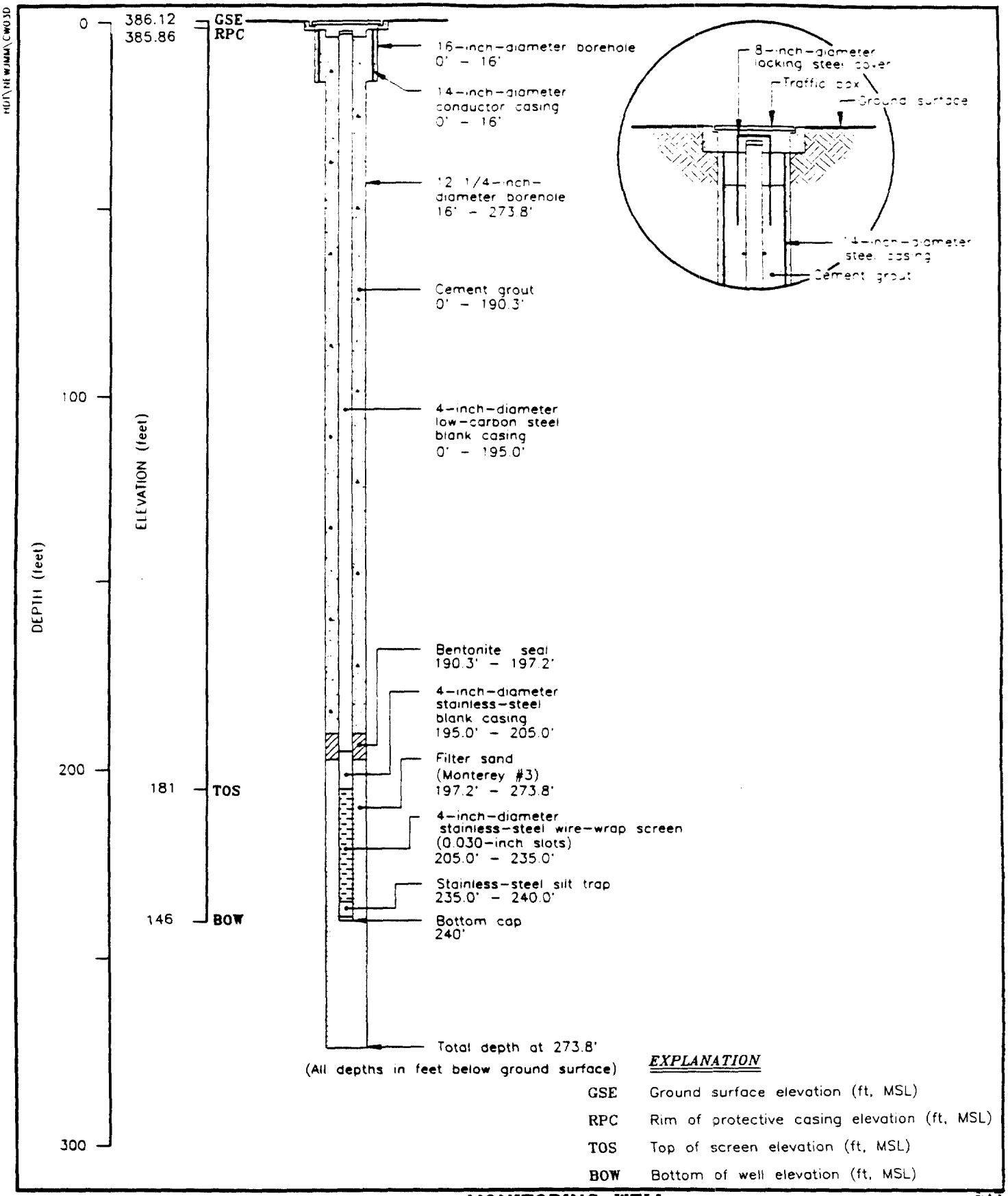


PLATE

Engineering and
Environmental Services

MONITORING WELL
PO-C03-182
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
JCM	9372,043.16		2/91	JMM 7/92



Harding Lawson Associates
Engineers and Geoscientists

MONITORING WELL
PO-C03-235
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
JTL	9372.043.16	SLS	1/91	JMM	7/92

00688/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP

DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
0						SILTY SAND (SM) brown, dry, fine grained, with silt	Solid stem auger (16-inch-diameter) drilled to 16.5 feet Conductor casing (14-inch-diameter) set from 0-16.5 feet 0-16.5 feet logged from cuttings.
5							
					SM		
10							
15							
	13:22 13:30 13:36					increasing silt content, fine- to coarse-grained sand, subangular to rounded, granitic composition with mafic rock fragments	Begin mud rotary at 16.5 feet
20							
25						decrease in silt content (approximately 20%)	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 1 of 11) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		2/91		

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP

DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					SP	SAND (SP) brown, predominantly coarse-grained sand, little to no silt	rig chatter
					SM	SILTY SAND (SM) brown, fine- to medium-grained, with silt	
30							
							chatter
35							
	13:50 13:57				SP	GRAVELLY SAND (SP) brown, medium- to coarse-grained, subangular, with fine- to medium-grained, rounded gravel as interbeds, minor fine-grained sand and silt, granitic composition	some broken grains
40							intermittent chatter
45						gravelly interbeds	
							chatter
50							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 2 of 11) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		2/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03
DATE STARTED 7/28/90 COMPLETED 7/31/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SP)	
55							
	14:09 14:19				SP	increasing gravel content and grain angularity	lots of chatter and heavy chatter with some intermittent smooth spots
60							
65							
70						minor silt	
75							
	14:30						

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 274 ft

WELL COMPLETION DEPTH 234 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 3 of 11)
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
385 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03
DATE STARTED 7/28/90 COMPLETED 7/31/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	14:38					GRAVELLY SAND (SP)	
80							
85							
90							
						increasing gravel content (approximately 40%), fine- to medium-grained, rounded	
95							
	14:50 15:01						
100						occasional gravelly intervals	
					SP		
105							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 274 ft

WELL COMPLETION DEPTH 234 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 4 of 11)
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		2/91		

00688/D:

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP

DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
105						GRAVELLY SAND (SP)	chatter with intermittent heavy chatter and some small smooth intervals
110							
115							
	15:15 15:21						
120							
125							
130						increasing silt content	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 5 of 11) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		1/91		

00888/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP

DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
					ML	SANDY SILT (ML) brown, silt with fine- to medium-grained sand	
135							
	15:32 15:43				SP	GRAVELLY SAND (SP) brown, fine- to coarse-grained, with fine-grained rounded gravel	smooth drilling
140							
145							chatter
150						gravelly interval	heavy chatter
						SANDY SILT (ML) orange-brown, clayey silt, with some fine- to coarse-grained sand	
155							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03

(sheet 6 of 11)

PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP
DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI
ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
	16:46 16:25				ML	SANDY SILT (ML)	smooth, slow drilling
160							
						increasing clayey silt content	
						SAND (SP) brown, predominantly medium- to coarse-grained sand, with minor fine-grained gravel, trace of fine-grained sand and silt, occasional gravelly interval	
165					SP		
170							fairly constant chatter
175							
180							
						increasing silt content, brown-orange	

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft
HOLE DIAMETER 12-1/4" WELL DIAMETER 4"
TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 7 of 11) PLATE
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		1/91		

00688/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP

DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
185						SAND (SP)	
190					ML	SILT (ML) orange-brown, with fine- to medium-grained sandy intervals	smooth, slow drilling
195							
	17:50 7:30						
200							chatter with intermittent heavy chatter
205					SP	GRAVELLY SAND (SP) brown-orange, medium- to coarse-grained, with fine-grained gravel, some silt	
210							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 8 of 11) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		1/91		

00688/D:

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03 CLIENT LADWP

DATE STARTED 7/28/90 COMPLETED 7/31/90 PROJECT San Fernando Valley RI

ELEVATION feet AMSL GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
210						GRAVELLY SAND (SP)	
						decreasing silt content	
						bouldery zone	heavy chatter
215							
							fairly smooth
						clayey silt interbed	
	7:41 7:52						
220							consistent chatter
						decrease in clayey silt, brown-orange	
225							
230							
235							

METHOD OF DRILLING Direct Mud Rotary WELL COMPLETION DEPTH 234 ft

HOLE DIAMETER 12-1/4" WELL DIAMETER 4"

TOTAL DEPTH 274 ft WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 9 of 11) PLATE

San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		1/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03
DATE STARTED 7/28/90 COMPLETED 7/31/90
ELEVATION feet AMSL
CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						GRAVELLY SAND (SP)	
240						SLATE (BEDROCK) dark gray-brown, deeply weathered, weak, moderately hard	smooth drilling bedrock inferred from decrease in drilling rate
245							
250							slow, smooth drilling, with minor chatter
255							
260	11:04 13:00					increasing shale fragments	

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 274 ft
WELL COMPLETION DEPTH 234 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 10 of 11) PLATE
San Fernando Valley RI
Los Angeles County, California

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		2/91		

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA 94598 / (415) 975-3400

BORING/WELL NUMBER PO-C03
DATE STARTED 7/28/90 COMPLETED 7/31/90
ELEVATION feet AMSL

CLIENT LADWP
PROJECT San Fernando Valley RI
GEOLOGIST B. Mossman, HLA

DEPTH feet	TIME	SAMP. NO.	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
265						SLATE (BEDROCK)	
270							slow drilling some chatter
	13:35						Boring terminated at 273.75 feet. Boring converted to Monitoring Well PO-C03-235 on 8/2/90.
275							
280							
285							

METHOD OF DRILLING Direct Mud Rotary
HOLE DIAMETER 12-1/4"
TOTAL DEPTH 274 ft

WELL COMPLETION DEPTH 234 ft
WELL DIAMETER 4"
WELL MATERIAL LCS & 304-SS

HLA Harding Lawson Associates
Engineering and Environmental Services

Log of Boring PO-C03 (sheet 11 of 11)
San Fernando Valley RI
Los Angeles County, California

PLATE

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
HK	9372,043.16		2/91		

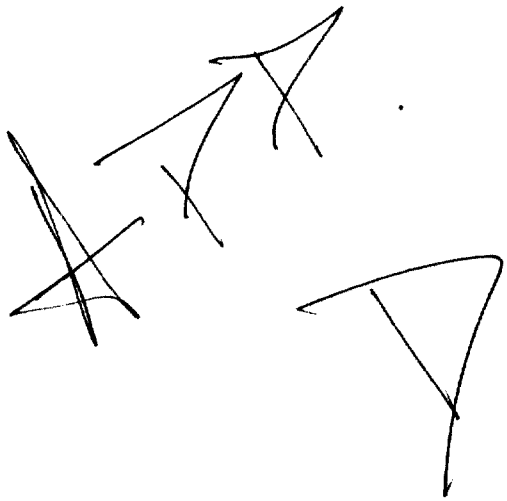


TABLE D-1

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
GUARD RESISTIVITY LOG SCALES

Well Name	Scale (ohm m)	Depth of Investigation (ft bgs)
NH-C01	0-1000	0-100
	0-400	100-900
NH-C02	0-500	0-170
	0-100	170-900
NH-C03	0-1000	0-375
	0-200	375-900
NH-C04	0-200	0-900
NH-C05	0-400	0-800
	[0-2000]	
NH-C06	0-200	0-800
	[0-1000]	
CS-C01	0-500	0-80
	0-100	80-700
CS-C02	0-200	0-550
CS-C03	0-200	0-450
CS-C04	0-200	0-700
CS-C05	0-200	0-430
CS-C06	0-200	0-310
PO-C01	0-200	0-370
PO-C02	0-200	0-220
PO-C03	0-100	0-260

Appendix E

Groundwater Elevation Data

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C01-105	10/04/90	92.4	NR	NR		JMM
	01/15/91	90.0	453.4	543.4		DWP-SF
	03/25/91	91.8	451.6	543.4		JMM
	04/17/91	90.7	452.7	543.4		DWP-SF
	05/17/91	91.8	451.6	543.4		DWP-SF
	06/13/91	93.6	449.8	543.4		DWP-SF
	07/16/91	96.1	447.3	543.4		DWP-SF
	08/14/91	97.7	445.7	543.4		DWP-SF
	09/11/91	93.8	449.6	543.4		DWP-SF
	10/10/91	95.6	447.8	543.4		DWP-SF
	11/14/91	96.0	447.4	543.4		DWP-SF
	12/05/91	96.6	446.8	543.4		DWP-SF
	01/24/92	96.8	446.6	543.4		DWP-SF
	02/21/92	96.9	446.5	543.4		DWP-SF
	03/11/92	96.5	446.9	543.4		DWP-SF
CS-C01-285	10/04/90	91.7	451.6	543.3		JMM
	01/15/91	91.3	452.0	543.3		DWP-SF
	03/25/91	91.3	452.0	543.3		JMM
	04/17/91	91.7	451.6	543.3		DWP-SF
	05/17/91	93.0	450.3	543.3		DWP-SF
	06/13/91	92.4	450.9	543.3		DWP-SF
	07/16/91	93.2	450.1	543.3		DWP-SF
	08/14/91	94.1	449.2	543.3		DWP-SF
	09/11/91	98.3	445.0	543.3		DWP-SF
	10/10/91	98.7	444.6	543.3		DWP-SF
	11/14/91	99.0	444.3	543.3		DWP-SF
	12/05/91	98.8	444.5	543.3		DWP-SF
	01/24/92	98.0	445.3	543.3		DWP-SF
	02/21/92	97.8	445.5	543.3		DWP-SF
	03/11/92	98.0	445.3	543.3		DWP-SF
CS-C01-558	10/04/90	95.6	NR	NR		JMM
	01/15/91	92.5	451.3	543.8		DWP-SF
	03/25/91	94.1	449.7	543.8		JMM
	04/17/91	93.5	450.3	543.8		DWP-SF
	05/17/91	96.7	447.1	543.8		DWP-SF
	06/13/91	97.9	445.9	543.8		DWP-SF
	07/16/91	99.0	444.8	543.8		DWP-SF
	08/14/91	101.6	442.2	543.8		DWP-SF
	09/11/91	101.2	442.6	543.8		DWP-SF
	10/10/91	104.0	439.8	543.8		DWP-SF
	11/14/91	104.1	439.7	543.8		DWP-SF
	12/05/91	103.7	440.1	543.8		DWP-SF
	01/24/92	102.6	441.2	543.8		DWP-SF
	02/21/92	102.4	441.4	543.8		DWP-SF
	03/11/92	102.9	440.9	543.8		DWP-SF
CS-C02-062	05/22/90	35.8	NR	NR		JMM

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C02-062	08/16/90	NR	NR	475.6		DWP-SF
	09/11/90	NR	NR	475.6		DWP-SF
	10/19/90	36.9	440.0	476.9		DWP-SF
	11/21/90	37.8	439.1	476.9		DWP-SF
	12/18/90	37.3	439.6	476.8		DWP-SF
	01/15/91	36.6	440.2	476.8		DWP-SF
	03/27/91	39.3	437.5	476.8		JMM
	04/17/91	38.0	438.8	476.8		DWP-SF
	05/17/91	38.8	438.0	476.8		DWP-SF
	06/13/91	39.4	437.4	476.8		DWP-SF
	07/16/91	40.0	436.8	476.8		DWP-SF
	08/14/91	40.7	436.1	476.8		DWP-SF
	09/11/91	41.2	435.6	476.8		DWP-SF
	10/11/91	41.5	435.3	476.8		DWP-SF
	11/14/91	42.3	434.5	476.8		DWP-SF
	12/04/91	42.1	434.7	476.8		DWP-SF
	01/24/92	41.8	435.0	476.8		DWP-SF
	02/21/92	40.7	436.1	476.8		DWP-SF
	03/12/92	40.5	436.3	476.8		DWP-SF
CS-C02-180	05/21/90	35.5	440.1	475.6		JMM
	07/24/90	35.4	440.2	475.6		DWP-SF
	08/13/90	35.8	439.8	475.6		DWP-SF
	09/11/90	36.2	439.4	475.6		DWP-SF
	10/19/90	37.5	439.4	476.9		DWP-SF
	11/21/90	37.7	439.2	476.9		DWP-SF
	12/18/90	37.0	439.9	476.9		DWP-SF
	01/15/91	36.3	440.6	476.9		DWP-SF
	03/27/91	39.8	437.1	476.9		JMM
	04/17/91	37.9	439.0	476.9		DWP-SF
	05/20/91	38.6	438.3	476.9		DWP-SF
	06/13/91	39.4	437.5	476.9		DWP-SF
	07/16/91	40.0	436.9	476.9		DWP-SF
	08/14/91	40.4	436.5	476.9		DWP-SF
	09/11/91	41.2	435.7	476.9		DWP-SF
	10/11/91	41.6	435.3	476.9		DWP-SF
	11/14/91	42.1	434.8	476.9		DWP-SF
	12/04/91	42.2	434.7	476.9		DWP-SF
	01/24/92	41.5	435.4	476.9		DWP-SF
	02/21/92	40.4	436.5	476.9		DWP-SF
	03/12/92	40.7	436.2	476.9		DWP-SF
CS-C02-250	05/21/90	35.4	440.2	475.6		JMM
	07/24/90	35.4	440.2	475.6		DWP-SF
	08/13/90	35.9	439.7	475.6		DWP-SF
	09/11/90	36.2	439.4	475.6		DWP-SF
	10/19/90	37.4	439.3	476.7		DWP-SF
	11/21/90	37.4	439.3	476.7		DWP-SF
	12/18/90	36.4	440.2	476.6		DWP-SF
	01/15/91	36.0	440.6	476.6		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C02-250	03/27/91	38.8	437.8	476.6		JMM
	04/17/91	37.6	439.0	476.6		DWP-SF
	05/20/91	38.6	438.0	476.6		DWP-SF
	06/13/91	39.1	437.5	476.6		DWP-SF
	07/16/91	39.7	436.9	476.6		DWP-SF
	08/14/91	40.7	435.9	476.6		DWP-SF
	09/11/91	40.9	435.7	476.6		DWP-SF
	10/11/91	41.3	435.3	476.6		DWP-SF
	11/14/91	41.8	434.8	476.6		DWP-SF
	12/04/91	41.9	434.7	476.6		DWP-SF
	01/24/92	41.3	435.3	476.6		DWP-SF
	02/21/92	40.2	436.4	476.6		DWP-SF
	03/12/92	40.4	436.2	476.6		DWP-SF
CS-C02-335	05/21/90	35.6	440.3	475.9		JMM
	07/24/90	35.6	440.2	475.9		DWP-SF
	08/13/90	36.1	439.7	475.9		DWP-SF
	09/11/90	36.5	439.4	475.9		DWP-SF
	10/19/90	36.6	440.2	476.8		DWP-SF
	11/21/90	37.5	439.4	476.8		DWP-SF
	12/18/90	36.8	440.0	476.8		DWP-SF
	01/15/91	36.1	440.7	476.8		DWP-SF
	03/27/91	38.5	438.2	476.7		JMM
	04/17/91	37.7	439.2	476.8		DWP-SF
	05/20/91	39.0	437.8	476.8		DWP-SF
	06/13/91	39.2	437.6	476.8		DWP-SF
	07/16/91	39.7	437.1	476.8		DWP-SF
	08/14/91	40.5	436.3	476.8		DWP-SF
	09/11/91	41.0	435.8	476.8		DWP-SF
	10/11/91	41.4	435.4	476.8		DWP-SF
	11/14/91	41.9	434.9	476.8		DWP-SF
	12/04/91	42.0	434.8	476.8		DWP-SF
	01/24/92	41.5	435.3	476.8		DWP-SF
	02/21/92	40.4	436.4	476.8		DWP-SF
	03/12/92	40.4	436.4	476.8		DWP-SF
CS-C03-100	05/17/90	51.6	438.0	489.6		JMM
	06/19/90	49.5	437.9	487.4		DWP-SF
	06/29/90	49.7	437.7	487.4		DWP-SF
	07/24/90	50.0	437.4	487.4		DWP-SF
	08/13/90	50.5	436.9	487.4		DWP-SF
	09/11/90	50.7	436.7	487.4		DWP-SF
	10/11/90	52.9	435.8	488.7		DWP-SF
	11/21/90	52.4	436.3	488.7		DWP-SF
	12/18/90	52.2	436.5	488.7		DWP-SF
	01/15/91	51.7	437.0	488.7		DWP-SF
	04/02/91	54.6	434.1	488.7		JMM
	04/17/91	53.7	435.0	488.7		DWP-SF
	05/17/91	53.4	435.3	488.7		DWP-SF
	06/13/91	54.2	434.5	488.7		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C03-100	07/16/91	54.5	434.2	488.7		DWP-SF
	08/14/91	55.0	433.7	488.7		DWP-SF
	09/11/91	55.3	433.4	488.7		DWP-SF
	10/11/91	55.2	433.5	488.7		DWP-SF
	11/14/91	55.5	433.2	488.7		DWP-SF
	12/04/91	55.5	433.2	488.7		DWP-SF
	01/23/92	55.7	433.0	488.7		DWP-SF
	02/20/92	55.0	433.7	488.7		DWP-SF
	03/12/92	54.8	433.9	488.7		DWP-SF
CS-C03-325	05/17/90	52.6	436.9	489.5		JMM
	06/19/90	50.9	436.7	487.5		DWP-SF
	06/29/90	55.7	431.9	487.5	*MEASURED DURING PUMP TEST (CHECKED BY DWP)	DWP-SF
	07/24/90	52.2	435.3	487.5		DWP-SF
	08/13/90	52.3	435.2	487.5		DWP-SF
	09/11/90	52.7	434.9	487.5		DWP-SF
	10/11/90	54.0	434.8	488.8		DWP-SF
	11/21/90	54.1	434.7	488.8		DWP-SF
	12/18/90	53.8	435.0	488.8		DWP-SF
	01/15/91	53.0	435.8	488.8		DWP-SF
	04/03/91	55.2	433.6	488.8		JMM
	04/17/91	55.4	433.4	488.8		DWP-SF
	05/17/91	55.7	433.1	488.8		DWP-SF
	06/13/91	56.2	432.6	488.8		DWP-SF
	07/16/91	57.0	431.8	488.8		DWP-SF
	08/14/91	57.7	431.1	488.8		DWP-SF
	09/11/91	57.4	431.4	488.8		DWP-SF
	10/11/91	57.6	431.2	488.8		DWP-SF
	11/14/91	57.2	431.6	488.8		DWP-SF
	12/04/91	62.7	426.1	488.8		DWP-SF
	01/23/92	56.8	432.0	488.8		DWP-SF
	02/20/92	55.8	433.0	488.8		DWP-SF
	03/12/92	56.4	432.4	488.8		DWP-SF
CS-C03-465	05/17/90	53.2	436.2	489.4		JMM
	06/19/90	52.1	436.0	488.1		DWP-SF
	07/24/90	53.3	434.9	488.1		DWP-SF
	08/13/90	53.5	434.7	488.1		DWP-SF
	09/11/90	53.7	434.4	488.1		DWP-SF
	10/11/90	54.5	434.3	488.8		DWP-SF
	11/21/90	54.6	434.2	488.8		DWP-SF
	12/18/90	54.3	434.5	488.8		DWP-SF
	01/15/91	53.6	435.2	488.8		DWP-SF
	04/03/91	55.5	433.3	488.8		JMM
	04/17/91	55.9	432.9	488.8		DWP-SF
	05/17/91	56.1	432.7	488.8		DWP-SF
	06/13/91	56.7	432.1	488.8		DWP-SF
	07/16/91	57.4	431.4	488.8		DWP-SF
	08/14/91	58.3	430.5	488.8		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C03-465	09/11/91	57.8	431.0	488.8		DWP-SF
	10/11/91	58.2	430.6	488.8		DWP-SF
	11/14/91	57.6	431.2	488.8		DWP-SF
	12/04/91	74.8	414.0	488.8		DWP-SF
	01/23/92	57.2	431.6	488.8		DWP-SF
	02/20/92	55.2	433.6	488.8		DWP-SF
	03/12/92	56.6	432.2	488.8		DWP-SF
CS-C03-550	05/17/90	53.6	433.8	487.4		JMM
	06/19/90	51.5	435.8	487.3		DWP-SF
	06/29/90	54.4	432.9	487.3	*MEASURED DURING PUMP TEST (CHECKED BY DWP)	DWP-SF
	07/24/90	52.8	434.4	487.3		DWP-SF
	08/13/90	53.1	434.2	487.3		DWP-SF
	09/11/90	53.3	434.0	487.3		DWP-SF
	10/11/90	54.4	433.8	488.2		DWP-SF
	11/21/90	54.4	433.8	488.2		DWP-SF
	12/18/90	54.1	434.1	488.2		DWP-SF
	01/15/91	53.3	434.9	488.2		DWP-SF
	04/02/91	55.5	432.7	488.2		JMM
	04/17/91	55.7	432.5	488.2		DWP-SF
	05/17/91	56.0	432.2	488.2		DWP-SF
	06/13/91	56.6	431.6	488.2		DWP-SF
	07/16/91	57.2	431.0	488.2		DWP-SF
	08/14/91	58.0	430.2	488.2		DWP-SF
	09/11/91	57.7	430.5	488.2		DWP-SF
	10/11/91	58.0	430.2	488.2		DWP-SF
	11/14/91	57.3	430.9	488.2		DWP-SF
	12/04/91	60.6	427.6	488.2		DWP-SF
	01/23/92	57.0	431.2	488.2		DWP-SF
	02/20/92	55.0	433.2	488.2		DWP-SF
	03/12/92	56.4	431.8	488.2		DWP-SF
CS-C04-290	05/24/90	44.3	433.9	478.2		JMM
	06/29/90	44.9	433.3	478.2		DWP-SF
	07/24/90	43.9	434.4	478.2		DWP-SF
	08/13/90	44.0	434.2	478.2		DWP-SF
	09/11/90	44.2	434.1	478.2		DWP-SF
	10/11/90	45.4	433.8	479.2		DWP-SF
	11/21/90	45.5	433.7	479.2		DWP-SF
	12/18/90	45.2	434.0	479.2		DWP-SF
	01/15/91	44.4	434.8	479.2		DWP-SF
	03/26/91	48.5	430.7	479.2		JMM
	04/17/91	46.7	432.5	479.2		DWP-SF
	05/17/91	47.0	432.2	479.2		DWP-SF
	06/14/91	49.9	429.3	479.2		DWP-SF
	07/16/91	48.2	431.0	479.2		DWP-SF
	08/14/91	49.2	430.0	479.2		DWP-SF
	09/11/91	48.7	430.5	479.2		DWP-SF
	10/11/91	48.9	430.3	479.2		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C04-290	11/14/91	48.4	430.8	479.2		DWP-SF
	12/04/91	49.8	429.4	479.2		DWP-SF
	01/24/92	48.0	431.2	479.2		DWP-SF
	02/20/92	47.1	432.1	479.2		DWP-SF
	03/12/92	47.5	431.7	479.2		DWP-SF
CS-C04-382	05/25/90	44.3	433.5	477.8		JMM
	06/29/90	45.2	432.6	477.8		DWP-SF
	07/24/90	43.3	434.4	477.8		DWP-SF
	08/13/90	43.9	433.9	477.8		DWP-SF
	09/11/90	44.1	433.7	477.8		DWP-SF
	10/11/90	45.6	433.5	479.1		DWP-SF
	11/21/90	45.7	433.4	479.1		DWP-SF
	12/18/90	45.3	433.8	479.1		DWP-SF
	01/15/91	44.5	434.6	479.1		DWP-SF
	03/26/91	48.5	430.6	479.1		JMM
	04/17/91	46.9	432.2	479.1		DWP-SF
	05/17/91	47.1	432.0	479.1		DWP-SF
	06/14/91	50.2	428.9	479.1		DWP-SF
	07/16/91	48.2	430.9	479.1		DWP-SF
	08/14/91	49.5	429.6	479.1		DWP-SF
	09/11/91	48.8	430.3	479.1		DWP-SF
	10/11/91	49.1	430.0	479.1		DWP-SF
	11/14/91	48.2	430.9	479.1		DWP-SF
	12/04/91	50.0	429.1	479.1		DWP-SF
	01/24/92	48.0	431.1	479.1		DWP-SF
	02/20/92	47.1	432.0	479.1		DWP-SF
	03/12/92	47.5	431.6	479.1		DWP-SF
CS-C04-520	05/25/90	44.8	433.1	477.9		JMM
	06/29/90	45.6	432.3	477.9		DWP-SF
	07/24/90	43.8	434.1	477.9		DWP-SF
	08/13/90	44.1	433.8	477.9		DWP-SF
	09/11/90	44.3	433.6	477.9		DWP-SF
	10/11/90	45.5	433.5	479.0		DWP-SF
	11/21/90	45.6	433.4	479.0		DWP-SF
	12/18/90	45.3	433.7	479.0		DWP-SF
	01/15/91	44.3	434.7	479.0		DWP-SF
	03/26/91	48.5	430.5	479.0		JMM
	04/17/91	46.9	432.1	479.0		DWP-SF
	05/17/91	47.2	431.8	479.0		DWP-SF
	06/14/91	50.2	428.8	479.0		DWP-SF
	07/16/91	48.3	430.7	479.0		DWP-SF
	08/14/91	49.4	429.6	479.0		DWP-SF
	09/11/91	48.8	430.2	479.0		DWP-SF
	10/11/91	49.1	429.9	479.0		DWP-SF
	11/14/91	48.4	430.6	479.0		DWP-SF
	12/04/91	49.9	429.1	479.0		DWP-SF
	01/24/92	48.0	431.0	479.0		DWP-SF
	02/20/92	47.2	431.8	479.0		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C04-520	03/12/92	47.7	431.3	479.0		DWP-SF
CS-C05-160	05/16/90	29.6	431.1	460.7		JMM
	07/24/90	28.7	430.6	459.3		DWP-SF
	08/13/90	29.0	430.3	459.3		DWP-SF
	09/11/90	29.6	429.7	459.3		DWP-SF
	10/11/90	30.3	429.5	459.8		DWP-SF
	11/19/90	30.2	429.6	459.8		DWP-SF
	12/18/90	30.2	429.6	459.8		DWP-SF
	01/15/91	29.0	430.8	459.8		DWP-SF
	03/28/91	37.0	422.8	459.8		JMM
	04/17/91	31.2	428.6	459.8		DWP-SF
	05/17/91	31.6	428.2	459.8		DWP-SF
	06/14/91	33.0	426.8	459.8		DWP-SF
	07/16/91	32.4	427.4	459.8		DWP-SF
	08/14/91	32.9	426.9	459.8		DWP-SF
	09/11/91	32.6	427.2	459.8		DWP-SF
	10/11/91	33.4	426.4	459.8		DWP-SF
	11/14/91	32.0	427.8	459.8		DWP-SF
	12/04/91	32.4	427.4	459.8		DWP-SF
	01/24/92	31.6	428.2	459.8		DWP-SF
	02/20/92	30.2	429.6	459.8		DWP-SF
	03/13/92	31.2	428.6	459.8		DWP-SF
CS-C05-290	05/16/90	29.9	430.8	460.7		JMM
	07/24/90	28.4	430.5	458.9		DWP-SF
	08/13/90	28.7	430.2	458.9		DWP-SF
	09/11/90	28.8	430.0	458.9		DWP-SF
	10/11/90	30.1	429.8	459.9		DWP-SF
	11/21/90	30.1	429.8	459.9		DWP-SF
	12/18/90	29.9	430.0	459.9		DWP-SF
	01/15/91	29.4	430.5	459.9		DWP-SF
	03/28/91	34.0	425.9	459.9		JMM
	04/17/91	31.1	428.8	459.9		DWP-SF
	05/17/91	31.0	428.9	459.9		DWP-SF
	06/14/91	32.5	427.4	459.9		DWP-SF
	07/16/91	32.6	427.3	459.9		DWP-SF
	08/14/91	32.9	427.0	459.9		DWP-SF
	09/11/91	32.6	427.3	459.9		DWP-SF
	10/11/91	32.7	427.2	459.9		DWP-SF
	11/14/91	32.5	427.4	459.9		DWP-SF
	12/04/91	32.4	427.5	459.9		DWP-SF
	01/24/92	32.2	427.7	459.9		DWP-SF
	02/20/92	31.5	428.4	459.9		DWP-SF
	03/13/92	31.8	428.1	459.9		DWP-SF
CS-C06-185	05/15/90	35.5	421.3	456.8		JMM
	07/24/90	33.8	420.9	454.7		DWP-SF
	08/13/90	33.9	420.8	454.7		DWP-SF
	09/11/90	34.0	420.7	454.7		DWP-SF

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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-C06-185	10/11/90	35.4	421.0	456.4		DWP-SF
	11/21/90	35.5	420.9	456.4		DWP-SF
	12/18/90	35.3	421.1	456.4		DWP-SF
	01/15/91	35.0	421.4	456.4		DWP-SF
	03/11/91	36.8	419.6	456.4		JMM
	04/17/91	35.9	420.5	456.4		DWP-SF
	05/17/91	36.2	420.2	456.4		DWP-SF
	06/14/91	36.5	419.9	456.4		DWP-SF
	07/16/91	36.9	419.5	456.4		DWP-SF
	08/14/91	37.0	419.4	456.4		DWP-SF
	09/11/91	36.9	419.5	456.4		DWP-SF
	10/11/91	36.8	419.6	456.4		DWP-SF
	11/14/91	36.7	419.7	456.4		DWP-SF
	12/04/91	36.5	419.9	456.4		DWP-SF
	01/27/92	36.4	420.0	456.4		DWP-SF
	02/19/92	35.9	420.5	456.4		DWP-SF
	03/13/92	35.9	420.5	456.4		DWP-SF
CS-C06-278	05/14/90	35.0	421.7	456.7		JMM
	07/24/90	34.0	421.4	455.3		DWP-SF
	08/13/90	34.1	421.2	455.3		DWP-SF
	09/11/90	34.2	421.1	455.3		DWP-SF
	10/11/90	35.1	421.2	456.3		DWP-SF
	11/21/90	35.2	421.1	456.3		DWP-SF
	12/18/90	35.0	421.3	456.3		DWP-SF
	01/15/91	34.7	421.6	456.3		DWP-SF
	03/11/91	36.6	419.7	456.3		JMM
	04/17/91	35.7	420.6	456.3		DWP-SF
	05/17/91	35.8	420.5	456.3		DWP-SF
	06/14/91	36.5	419.8	456.3		DWP-SF
	07/16/91	36.6	419.7	456.3		DWP-SF
	08/14/91	36.9	419.4	456.3		DWP-SF
	09/11/91	36.8	419.5	456.3		DWP-SF
	10/11/91	36.7	419.6	456.3		DWP-SF
	11/14/91	36.4	419.9	456.3		DWP-SF
	12/04/91	36.4	419.9	456.3		DWP-SF
	01/27/92	36.2	420.1	456.3		DWP-SF
	02/19/92	35.4	420.9	456.3		DWP-SF
	03/13/92	35.9	420.4	456.3		DWP-SF
CS-VPB-01	09/12/89	56.4	442.4	498.8		JMM
	05/02/90	53.0	445.5	498.5		DWP-SF
	06/13/90	54.2	444.3	498.5		DWP-SF
	07/19/90	55.6	442.9	498.5		DWP-SF
	08/08/90	56.3	442.2	498.5		DWP-SF
	09/11/90	56.7	441.8	498.5		DWP-SF
	09/28/90	57.7	441.7	499.4		JMM
	10/11/90	57.9	441.5	499.4		DWP-SF
	11/19/90	57.7	441.7	499.4		DWP-SF
	12/18/90	57.4	442.0	499.4		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-VPB-01	01/15/91	56.8	442.6	499.4		DWP-SF
	02/05/91	56.8	442.6	499.4		JMM
	04/18/91	57.9	441.5	499.4		DWP-SF
	05/16/91	58.4	441.0	499.4		DWP-SF
	06/12/91	59.0	440.4	499.4		DWP-SF
	07/15/91	59.6	439.8	499.4		DWP-SF
	08/13/91	60.4	439.0	499.4		DWP-SF
	09/10/91	61.1	438.3	499.4		DWP-SF
	10/07/91	61.4	438.0	499.4		DWP-SF
	11/12/91	62.3	437.1	499.4		DWP-SF
	12/03/91	62.3	437.1	499.4		DWP-SF
	01/22/92	62.4	437.0	499.4		DWP-SF
	02/18/92	61.8	437.6	499.4		DWP-SF
	03/11/92	61.2	438.2	499.4		DWP-SF
CS-VPB-02	09/11/89	65.8	441.7	507.5		JMM
	05/02/90	61.6	445.9	507.5		DWP-SF
	06/13/90	62.8	444.7	507.5		DWP-SF
	07/19/90	64.7	442.8	507.5		DWP-SF
	08/08/90	65.2	442.3	507.5		DWP-SF
	09/11/90	65.3	442.1	507.5		DWP-SF
	10/11/90	66.6	441.6	508.2		DWP-SF
	11/19/90	66.5	441.7	508.2		DWP-SF
	12/18/90	65.5	442.8	508.2		DWP-SF
	01/15/91	64.5	443.7	508.2		DWP-SF
	04/18/91	65.2	443.0	508.2		DWP-SF
	05/16/91	66.6	441.6	508.2		DWP-SF
	06/12/91	67.6	440.6	508.2		DWP-SF
	07/15/91	68.4	439.8	508.2		DWP-SF
	08/13/91	69.6	438.6	508.2		DWP-SF
	09/10/91	70.0	438.2	508.2		DWP-SF
	10/07/91	70.6	437.6	508.2		DWP-SF
	11/12/91	71.7	436.5	508.2		DWP-SF
	12/03/91	71.4	436.8	508.2		DWP-SF
	01/22/92	71.0	437.2	508.2		DWP-SF
	02/18/92	69.7	438.5	508.2		DWP-SF
	03/11/92	69.8	438.4	508.2		DWP-SF
CS-VPB-03	01/15/91	57.0	461.0	518.0		DWP-SF
	04/18/91	57.2	460.8	518.0		DWP-SF
	05/16/91	57.4	460.6	518.0		DWP-SF
	06/12/91	57.4	460.6	518.0		DWP-SF
	07/15/91	57.6	460.4	518.0		DWP-SF
	08/13/91	58.3	459.7	518.0		DWP-SF
	09/10/91	58.4	459.6	518.0		DWP-SF
	10/07/91	58.5	459.5	518.0		DWP-SF
	11/13/91	58.7	459.3	518.0		DWP-SF
	12/04/91	59.1	458.9	518.0		DWP-SF
	01/22/92	59.6	458.4	518.0		DWP-SF
	02/18/92	59.4	458.6	518.0		DWP-SF

Notes: NR = No reading or measurement
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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-VPB-03	03/19/92	59.4	458.6	518.0		DWP-SF
CS-VPB-04	09/07/89	45.6	432.9	478.5		JMM
	05/03/90	42.9	435.5	478.5		DWP-SF
	05/25/90	44.2	434.3	478.5		JMM
	06/13/90	42.7	435.8	478.5		DWP-SF
	06/29/90	42.7	435.8	478.5		DWP-SF
	07/19/90	43.4	435.1	478.5		DWP-SF
	07/24/90	43.3	435.1	478.5		DWP-SF
	08/08/90	43.8	434.7	478.5		DWP-SF
	08/13/90	43.8	434.7	478.5		DWP-SF
	09/11/90	44.1	434.3	478.5		DWP-SF
	09/25/90	45.3	434.2	479.5		JMM
	10/11/90	45.5	434.0	479.5		DWP-SF
	11/19/90	45.5	434.1	479.5		DWP-SF
	12/18/90	45.4	434.2	479.5		DWP-SF
	01/15/91	45.0	434.5	479.5		DWP-SF
	04/02/91	48.0	431.5	479.5		JMM
	04/17/91	46.8	432.7	479.5		DWP-SF
	05/17/91	47.1	432.4	479.5		DWP-SF
	06/14/91	47.8	431.7	479.5		DWP-SF
	07/16/91	48.1	431.4	479.5		DWP-SF
	08/14/91	47.5	432.0	479.5		DWP-SF
	09/11/91	48.6	430.9	479.5		DWP-SF
	10/11/91	48.5	431.0	479.5		DWP-SF
	11/14/91	48.9	430.6	479.5		DWP-SF
	12/04/91	48.5	431.0	479.5		DWP-SF
	01/24/92	48.7	430.8	479.5		DWP-SF
	02/20/92	48.0	431.5	479.5		DWP-SF
	03/12/92	47.7	431.8	479.5		DWP-SF
CS-VPB-05	09/12/89	29.9	429.7	459.6		JMM
	05/03/90	27.2	432.0	459.3		DWP-SF
	05/16/90	29.6	431.1	460.7		JMM
	06/13/90	28.2	431.1	459.3		DWP-SF
	07/19/90	28.7	430.6	459.3		DWP-SF
	07/24/90	28.8	430.5	459.3		DWP-SF
	08/08/90	29.1	430.2	459.3		DWP-SF
	09/11/90	29.2	430.0	459.3		DWP-SF
	09/25/90	29.7	430.7	460.4		JMM
	10/11/90	30.5	429.9	460.4		DWP-SF
	11/19/90	30.5	429.9	460.4		DWP-SF
	12/18/90	30.4	430.0	460.4		DWP-SF
	01/15/91	30.0	430.4	460.4		DWP-SF
	04/17/91	31.7	428.7	460.4		DWP-SF
	05/17/91	32.2	428.2	460.4		DWP-SF
	06/14/91	33.0	427.4	460.4		DWP-SF
	07/16/91	33.1	427.3	460.4		DWP-SF
	08/14/91	33.4	427.0	460.4		DWP-SF
	09/11/91	32.7	427.7	460.4		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-VPB-05	10/11/91	33.2	427.2	460.4		DWP-SF
	11/14/91	33.1	427.3	460.4		DWP-SF
	12/04/91	32.9	427.5	460.4		DWP-SF
	01/24/92	32.6	427.8	460.4		DWP-SF
	02/20/92	32.0	428.4	460.4		DWP-SF
	03/13/92	32.2	428.2	460.4		DWP-SF
CS-VPB-06	09/13/89	35.2	420.2	455.4		JMM
	05/03/90	NR	NR	456.8		DWP-SF
	05/15/90	36.1	420.7	456.8		JMM
	06/13/90	34.8	420.7	455.4		DWP-SF
	06/24/90	34.8	420.7	455.4		DWP-SF
	07/19/90	35.1	420.3	455.4		DWP-SF
	07/24/90	35.1	420.3	455.4		DWP-SF
	08/08/90	35.2	420.2	455.4		DWP-SF
	08/13/90	35.2	420.2	455.4		DWP-SF
	09/11/90	35.3	420.1	455.4		DWP-SF
	09/25/90	36.2	420.1	456.3		JMM
	10/11/90	36.1	420.2	456.3		DWP-SF
	11/19/90	36.1	420.2	456.3		DWP-SF
	12/18/90	36.1	420.2	456.3		DWP-SF
	01/15/91	35.8	420.5	456.3		DWP-SF
	04/17/91	36.6	419.7	456.3		DWP-SF
	05/17/91	36.7	419.6	456.3		DWP-SF
	06/12/91	36.1	420.2	456.3		DWP-SF
	07/16/91	37.4	418.9	456.3		DWP-SF
	08/14/91	37.7	418.6	456.3		DWP-SF
	09/11/91	37.5	418.8	456.3		DWP-SF
	10/11/91	36.5	419.8	456.3		DWP-SF
	11/14/91	37.4	418.9	456.3		DWP-SF
	12/03/91	37.2	419.1	456.3		DWP-SF
	01/27/92	37.2	419.1	456.3		DWP-SF
	02/19/92	36.7	419.6	456.3		DWP-SF
	03/13/92	36.7	419.6	456.3		DWP-SF
CS-VPB-07	09/14/89	56.7	437.7	494.4		JMM
	05/02/90	55.3	438.6	493.9		DWP-SF
	06/13/90	53.9	440.1	493.9		DWP-SF
	07/19/90	55.7	438.3	493.9		DWP-SF
	08/16/90	56.2	437.7	493.9		DWP-SF
	09/11/90	56.4	437.5	493.9		DWP-SF
	09/26/90	57.3	437.9	495.2		JMM
	10/11/90	57.5	437.7	495.2		DWP-SF
	11/19/90	57.5	437.7	495.2		DWP-SF
	12/18/90	57.8	437.4	495.2		DWP-SF
	01/15/91	57.2	438.0	495.2		DWP-SF
	02/06/91	57.6	437.6	495.2		JMM
	04/18/91	59.0	436.2	495.2		DWP-SF
	05/16/91	59.0	436.2	495.2		DWP-SF
	06/12/91	59.7	435.5	495.2		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-VPB-07	07/15/91	60.0	435.2	495.2		DWP-SF
	08/13/91	60.3	434.9	495.2		DWP-SF
	09/10/91	60.8	434.4	495.2		DWP-SF
	10/07/91	60.7	434.5	495.2		DWP-SF
	11/13/91	61.2	434.0	495.2		DWP-SF
	12/03/91	61.5	433.7	495.2		DWP-SF
	01/24/92	61.2	434.0	495.2		DWP-SF
	02/18/92	61.2	434.0	495.2		DWP-SF
	03/11/92	60.5	434.7	495.2		DWP-SF
CS-VPB-08	09/13/89	47.7	435.4	483.1		JMM
	05/03/90	45.5	437.6	483.1		DWP-SF
	06/13/90	45.8	437.3	483.1		DWP-SF
	07/19/90	46.5	436.6	483.1		DWP-SF
	08/08/90	46.9	436.2	483.1		DWP-SF
	09/11/90	47.3	435.8	483.1		DWP-SF
	09/28/90	48.4	435.4	483.8		JMM
	10/11/90	48.4	435.4	483.8		DWP-SF
	11/19/90	48.3	435.5	483.8		DWP-SF
	12/18/90	48.1	435.7	483.8		DWP-SF
	01/15/91	47.6	436.2	483.8		DWP-SF
	02/05/91	48.6	435.2	483.8		JMM
	04/18/91	49.3	434.5	483.8		DWP-SF
	05/16/91	50.0	433.8	483.8		DWP-SF
	06/12/91	50.6	433.2	483.8		DWP-SF
	07/15/91	50.0	433.8	483.8		DWP-SF
	08/13/91	51.3	432.5	483.8		DWP-SF
	09/10/91	51.6	432.2	483.8		DWP-SF
	10/07/91	51.6	432.2	483.8		DWP-SF
	11/13/91	52.2	431.6	483.8		DWP-SF
	12/03/91	52.0	431.8	483.8		DWP-SF
	01/22/92	51.8	432.0	483.8		DWP-SF
	02/18/92	51.2	432.6	483.8		DWP-SF
	03/11/92	50.8	433.0	483.8		DWP-SF
CS-VPB-09	09/14/89	48.5	437.2	485.7		JMM
	05/03/90	48.0	434.7	482.7		DWP-SF
	06/13/90	47.8	434.9	482.7		DWP-SF
	07/19/90	49.1	433.6	482.7		DWP-SF
	08/08/90	48.5	434.3	482.7		DWP-SF
	09/11/90	48.5	434.3	482.7		DWP-SF
	09/27/90	49.4	434.0	483.4		JMM
	10/11/90	40.4	443.0	483.4		DWP-SF
	11/19/90	40.3	443.1	483.4		DWP-SF
	12/18/90	39.5	444.0	483.4		DWP-SF
	01/15/91	54.2	429.2	483.4		DWP-SF
	04/18/91	50.5	432.9	483.4		DWP-SF
	05/16/91	50.4	433.0	483.4		DWP-SF
	06/12/91	51.0	432.4	483.4		DWP-SF
	07/15/91	51.4	432.0	483.4		DWP-SF

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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-VPB-09	08/13/91	51.6	431.8	483.4		DWP-SF
	09/11/91	51.6	431.8	483.4		DWP-SF
	10/07/91	51.6	431.8	483.4		DWP-SF
	11/13/91	51.7	431.7	483.4		DWP-SF
	12/03/91	51.8	431.6	483.4		DWP-SF
	01/22/92	51.7	431.7	483.4		DWP-SF
	02/19/92	51.4	432.0	483.4		DWP-SF
	03/10/92	51.2	432.2	483.4		DWP-SF
CS-VPB-10	09/15/89	60.1	419.6	479.7		JMM
	05/03/90	60.1	419.6	479.7		DWP-SF
	06/13/90	60.1	419.6	479.7		DWP-SF
	07/19/90	60.2	419.5	479.7		DWP-SF
	07/24/90	60.2	419.5	479.7		DWP-SF
	08/08/90	60.4	419.3	479.7		DWP-SF
	09/11/90	60.4	419.3	479.7		DWP-SF
	10/11/90	61.2	419.2	480.4		DWP-SF
	11/19/90	61.0	419.4	480.4		DWP-SF
	12/18/90	61.1	419.3	480.4		DWP-SF
	01/15/91	60.4	420.0	480.4		DWP-SF
	04/18/91	61.5	418.9	480.4		DWP-SF
	05/16/91	61.6	418.8	480.4		DWP-SF
	06/12/91	62.0	418.4	480.4		DWP-SF
	07/15/91	62.8	417.6	480.4		DWP-SF
	08/14/91	62.4	418.0	480.4		DWP-SF
	09/11/91	62.3	418.1	480.4		DWP-SF
	10/07/91	62.0	418.4	480.4		DWP-SF
	11/13/91	62.2	418.2	480.4		DWP-SF
	12/03/91	62.4	418.0	480.4		DWP-SF
	01/22/92	62.2	418.2	480.4		DWP-SF
	02/19/92	61.8	418.6	480.4		DWP-SF
	03/11/92	61.6	418.8	480.4		DWP-SF
CS-VPB-11	09/15/89	79.1	427.0	506.1		JMM
	05/03/90	79.7	426.4	506.0		DWP-SF
	06/13/90	79.5	426.6	506.0		DWP-SF
	06/24/90	79.5	426.6	506.0		DWP-SF
	07/19/90	79.4	426.7	506.0		DWP-SF
	08/08/90	79.9	426.1	506.0		DWP-SF
	09/11/90	79.7	426.4	506.0		DWP-SF
	09/27/90	80.7	426.2	506.9		JMM
	10/11/90	80.6	426.3	506.9		DWP-SF
	11/19/90	80.5	426.5	506.9		DWP-SF
	12/18/90	80.7	426.2	506.9		DWP-SF
	01/15/91	80.5	426.4	506.9		DWP-SF
	04/18/91	81.1	425.8	506.9		DWP-SF
	05/16/91	81.2	425.7	506.9		DWP-SF
	06/12/91	81.5	425.4	506.9		DWP-SF
	07/15/91	81.8	425.1	506.9		DWP-SF
	08/13/91	82.0	424.9	506.9		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
CS-VPB-11	09/11/91	82.0	424.9	506.9		DWP-SF
	10/07/91	82.0	424.9	506.9		DWP-SF
	11/13/91	82.1	424.8	506.9		DWP-SF
	12/03/91	82.0	424.9	506.9		DWP-SF
	01/22/92	82.3	424.6	506.9		DWP-SF
	02/19/92	82.2	424.7	506.9		DWP-SF
	03/10/92	82.2	424.7	506.9		DWP-SF
NH-C01-325	08/16/90	299.0	482.4	781.4		JMM
	10/10/90	303.7	NR	NR		DWP-SF
	11/16/90	299.7	482.2	781.9		DWP-SF
	12/18/90	297.1	484.8	781.9		DWP-SF
	01/14/91	294.3	487.6	781.9		DWP-SF
	03/20/91	294.6	487.3	781.9		JMM
	04/18/91	294.5	486.7	781.2		DWP-SF
	05/17/91	296.4	484.8	781.2		DWP-SF
	06/13/91	298.6	482.6	781.2		DWP-SF
	07/16/91	301.1	480.1	781.2		DWP-SF
	08/14/91	303.1	478.1	781.2		DWP-SF
	09/11/91	304.7	476.5	781.2		DWP-SF
	10/10/91	305.5	475.7	781.2		DWP-SF
	11/14/91	305.8	475.4	781.2		DWP-SF
	12/05/91	305.5	475.7	781.2		DWP-SF
	01/27/92	301.2	480.0	781.2		DWP-SF
	02/20/92	299.6	481.6	781.2		DWP-SF
	03/12/92	300.3	480.9	781.2		DWP-SF
NH-C01-450	08/16/90	298.7	482.8	781.5		JMM
	10/10/90	303.2	NR	NR		DWP-SF
	11/16/90	299.3	482.7	782.0		DWP-SF
	12/18/90	296.5	485.5	782.0		DWP-SF
	01/14/91	293.6	488.4	782.0		DWP-SF
	03/19/91	295.1	486.8	781.9		JMM
	04/18/91	294.3	487.2	781.5		DWP-SF
	05/17/91	296.5	485.0	781.5		DWP-SF
	06/13/91	298.7	482.8	781.5		DWP-SF
	07/16/91	301.1	480.4	781.5		DWP-SF
	08/14/91	303.2	478.3	781.5		DWP-SF
	09/11/91	304.7	476.8	781.5		DWP-SF
	10/10/91	305.3	476.2	781.5		DWP-SF
	11/14/91	305.8	475.7	781.5		DWP-SF
	12/05/91	305.3	476.2	781.5		DWP-SF
	01/27/92	300.7	480.8	781.5		DWP-SF
	02/20/92	299.3	482.2	781.5		DWP-SF
	03/12/92	300.3	481.2	781.5		DWP-SF
NH-C01-660	08/17/90	304.1	477.2	781.3		JMM
	10/10/90	302.0	NR	NR		DWP-SF
	11/16/90	297.4	484.2	781.6		DWP-SF
	12/18/90	293.1	488.5	781.6		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C01-660	01/14/91	290.4	491.2	781.6		DWP-SF
	03/19/91	296.4	485.5	781.9		JMM
	04/18/91	293.4	488.0	781.4		DWP-SF
	05/17/91	300.0	481.4	781.4		DWP-SF
	06/13/91	302.7	478.7	781.4		DWP-SF
	07/16/91	304.9	476.5	781.4		DWP-SF
	08/14/91	306.7	474.7	781.4		DWP-SF
	09/11/91	308.4	473.0	781.4		DWP-SF
	10/10/91	305.5	475.9	781.4		DWP-SF
	11/14/91	308.6	472.8	781.4		DWP-SF
	12/05/91	304.4	477.0	781.4		DWP-SF
	01/27/92	297.9	483.5	781.4		DWP-SF
	02/20/92	299.0	482.4	781.4		DWP-SF
	03/12/92	302.5	478.9	781.4		DWP-SF
NH-C01-780	08/15/90	306.5	475.0	781.5		JMM
	10/10/90	301.2	NR	NR		DWP-SF
	11/16/90	296.0	486.1	782.1		DWP-SF
	12/18/90	291.8	490.3	782.1		DWP-SF
	01/14/91	289.2	492.9	782.1		DWP-SF
	04/18/91	292.6	488.7	781.3		DWP-SF
	05/17/91	301.3	480.0	781.3		DWP-SF
	06/13/91	304.1	477.2	781.3		DWP-SF
	07/16/91	306.6	474.7	781.3		DWP-SF
	08/14/91	308.2	473.1	781.3		DWP-SF
	09/11/91	309.8	471.5	781.3		DWP-SF
	10/10/91	305.2	476.1	781.3		DWP-SF
	11/14/91	309.7	471.6	781.3		DWP-SF
	12/05/91	303.8	477.5	781.3		DWP-SF
	01/27/92	296.6	484.7	781.3		DWP-SF
	02/20/92	288.8	492.5	781.3		DWP-SF
	03/12/92	303.5	477.8	781.3		DWP-SF
NH-C02-220	08/15/90	181.4	NR	NR		JMM
	10/10/90	183.2	NR	NR		DWP-SF
	03/07/91	178.8	NR	NR		JMM
	04/17/91	178.1	479.8	657.9		DWP-SF
	05/17/91	178.6	479.3	657.9		DWP-SF
	06/13/91	179.9	478.0	657.9		DWP-SF
	07/16/91	181.0	476.9	657.9		DWP-SF
	08/14/91	182.0	475.9	657.9		DWP-SF
	09/11/91	183.3	474.6	657.9		DWP-SF
	10/10/91	184.3	473.6	657.9		DWP-SF
	11/14/91	185.3	472.6	657.9		DWP-SF
	12/05/91	185.9	472.0	657.9		DWP-SF
	01/24/92	185.6	472.3	657.9		DWP-SF
	02/21/92	185.2	472.7	657.9		DWP-SF
	03/18/92	185.2	472.7	657.9		DWP-SF
NH-C02-325	07/20/90	186.2	470.5	656.7		JMM

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C02-325	08/14/90	187.2	469.5	656.7		JMM
	10/10/90	182.9	NR	NR		DWP-SF
	11/16/90	184.2	473.6	657.8		DWP-SF
	01/14/91	177.7	480.1	657.8		DWP-SF
	03/07/91	178.7	479.0	657.7		JMM
	04/17/91	177.3	480.5	657.8		DWP-SF
	05/17/91	180.5	477.3	657.8		DWP-SF
	06/13/91	182.1	475.7	657.8		DWP-SF
	07/16/91	183.3	474.5	657.8		DWP-SF
	08/14/91	184.5	473.3	657.8		DWP-SF
	09/11/91	185.8	472.0	657.8		DWP-SF
	10/10/91	187.8	470.0	657.8		DWP-SF
	11/14/91	188.8	469.0	657.8		DWP-SF
	12/05/91	188.6	469.2	657.8		DWP-SF
	01/24/92	186.2	471.6	657.8		DWP-SF
	02/21/92	185.9	471.9	657.8		DWP-SF
	03/18/92	186.8	471.0	657.8		DWP-SF
NH-C02-520	07/20/90	194.6	462.4	657.0		JMM
	08/14/90	194.5	462.5	657.0		JMM
	10/10/90	179.7	478.3	658.0		DWP-SF
	11/16/90	189.7	468.3	658.0		DWP-SF
	01/14/91	175.8	482.2	658.0		DWP-SF
	03/07/91	181.0	476.9	657.9		JMM
	04/17/91	178.2	479.8	658.0		DWP-SF
	05/17/91	187.3	470.7	658.0		DWP-SF
	06/13/91	191.2	466.8	658.0		DWP-SF
	07/16/91	190.9	467.1	658.0		DWP-SF
	08/14/91	193.1	464.9	658.0		DWP-SF
	09/11/91	193.8	464.2	658.0		DWP-SF
	10/10/91	196.4	461.6	658.0		DWP-SF
	11/14/91	197.6	460.4	658.0		DWP-SF
	12/05/91	195.9	462.1	658.0		DWP-SF
	01/24/92	188.2	469.8	658.0		DWP-SF
	02/20/92	188.0	470.0	658.0		DWP-SF
	03/18/92	189.8	468.2	658.0		DWP-SF
NH-C02-681	08/13/90	188.6	470.4	659.0		JMM
	11/16/90	183.2	474.6	657.8		DWP-SF
	01/14/91	171.6	486.2	657.8		DWP-SF
	03/06/91	185.3	472.5	657.8		JMM
	04/17/91	179.8	478.0	657.8		DWP-SF
	05/17/91	187.7	470.1	657.8		DWP-SF
	06/13/91	191.6	466.2	657.8		DWP-SF
	07/16/91	186.1	471.7	657.8		DWP-SF
	08/14/91	189.6	468.2	657.8		DWP-SF
	09/11/91	188.8	469.0	657.8		DWP-SF
	10/10/91	189.8	468.0	657.8		DWP-SF
	11/14/91	191.5	466.3	657.8		DWP-SF
	12/05/91	189.5	468.3	657.8		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C02-681	01/24/92	184.3	473.5	657.8		DWP-SF
	02/20/92	184.5	473.3	657.8		DWP-SF
	03/18/92	186.6	471.2	657.8		DWP-SF
NH-C03-380	04/24/90	215.5	492.6	708.2		DWP-SF
	04/27/90	218.9	489.2	708.2		DWP-SF
	05/23/90	228.2	480.5	708.7		JMM
	05/24/90	227.5	480.6	708.1		JMM
	07/24/90	235.9	472.3	708.2		DWP-SF
	08/13/90	238.7	469.4	708.2		DWP-SF
	09/11/90	241.6	466.5	708.2		DWP-SF
	10/10/90	236.2	472.9	709.1		DWP-SF
	11/16/90	231.8	477.3	709.1		DWP-SF
	12/18/90	222.2	486.9	709.1		DWP-SF
	01/14/91	224.8	484.3	709.1		DWP-SF
	03/20/91	246.8	462.3	709.1		JMM
	04/17/91	225.6	483.5	709.1		DWP-SF
	05/17/91	230.5	478.6	709.1		DWP-SF
	06/13/91	233.0	476.1	709.1		DWP-SF
	07/16/91	239.1	470.0	709.1		DWP-SF
	08/14/91	241.0	468.1	709.1		DWP-SF
	09/11/91	242.8	466.3	709.1		DWP-SF
	10/10/91	246.6	462.5	709.1		DWP-SF
	11/14/91	243.5	465.6	709.1		DWP-SF
	12/05/91	241.5	467.6	709.1		DWP-SF
	01/24/92	232.8	476.3	709.1		DWP-SF
	02/19/92	232.4	476.7	709.1		DWP-SF
	03/12/92	234.0	475.1	709.1		DWP-SF
NH-C03-580	04/24/90	213.0	495.7	708.7		DWP-SF
	04/27/90	214.8	493.9	708.7		DWP-SF
	07/24/90	239.6	469.1	708.7		DWP-SF
	08/13/90	240.4	468.3	708.7		DWP-SF
	09/11/90	243.2	465.5	708.7		DWP-SF
	10/10/90	233.1	476.1	709.2		DWP-SF
	11/16/90	230.1	479.1	709.2		DWP-SF
	12/18/90	224.0	485.2	709.2		DWP-SF
	01/14/91	221.6	487.6	709.2		DWP-SF
	03/14/91	229.3	479.9	709.2		JMM
	04/17/91	223.9	485.3	709.2		DWP-SF
	05/17/91	232.2	477.0	709.2		DWP-SF
	06/13/91	235.0	474.2	709.2		DWP-SF
	07/16/91	239.6	469.6	709.2		DWP-SF
	08/14/91	240.6	468.6	709.2		DWP-SF
	09/11/91	242.2	467.0	709.2		DWP-SF
	10/10/91	241.6	467.6	709.2		DWP-SF
	11/14/91	243.5	465.7	709.2		DWP-SF
	12/05/91	241.6	467.6	709.2		DWP-SF
	01/24/92	231.3	477.9	709.2		DWP-SF
	02/19/92	231.5	477.7	709.2		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C03-580	03/12/92	235.0	474.2	709.2		DWP-SF
NH-C03-680	04/24/90	211.5	496.5	708.0		DWP-SF
	04/27/90	212.9	495.1	708.0		DWP-SF
	05/22/90	227.4	481.2	708.6		JMM
	07/24/90	238.4	469.6	708.0		DWP-SF
	08/13/90	239.4	468.7	708.0		DWP-SF
	09/11/90	242.2	465.8	708.0		DWP-SF
	10/10/90	232.1	476.9	709.0		DWP-SF
	11/16/90	229.3	479.7	709.0		DWP-SF
	12/18/90	223.1	485.9	709.0		DWP-SF
	01/14/91	220.6	488.4	709.0		DWP-SF
	03/14/91	229.3	479.7	709.0		JMM
	04/17/91	223.2	485.8	709.0		DWP-SF
	05/17/91	231.8	477.2	709.0		DWP-SF
	06/13/91	234.7	474.3	709.0		DWP-SF
	07/16/91	238.1	470.9	709.0		DWP-SF
	08/14/91	239.7	469.3	709.0		DWP-SF
	09/11/91	241.1	467.9	709.0		DWP-SF
	10/10/91	240.0	469.0	709.0		DWP-SF
	11/14/91	242.2	466.8	709.0		DWP-SF
	12/05/91	238.2	470.8	709.0		DWP-SF
	01/24/92	230.5	478.5	709.0		DWP-SF
	02/19/92	231.0	478.0	709.0		DWP-SF
	03/12/92	234.6	474.4	709.0		DWP-SF
NH-C03-800	04/24/90	209.1	499.5	708.6		DWP-SF
	04/27/90	209.9	498.7	708.6		DWP-SF
	05/22/90	225.0	483.5	708.5		JMM
	07/24/90	236.7	471.8	708.6		DWP-SF
	08/13/90	237.7	470.9	708.6		DWP-SF
	09/11/90	240.4	468.2	708.6		DWP-SF
	10/10/90	229.0	480.4	709.4		DWP-SF
	11/16/90	227.7	481.7	709.4		DWP-SF
	12/18/90	220.4	489.0	709.4		DWP-SF
	01/14/91	218.3	491.1	709.4		DWP-SF
	03/13/91	227.8	481.6	709.4		JMM
	03/18/91	249.9	459.5	709.4		JMM
	04/17/91	221.2	488.2	709.4		DWP-SF
	05/17/91	231.7	477.7	709.4		DWP-SF
	06/13/91	234.0	475.4	709.4		DWP-SF
	07/16/91	236.6	472.8	709.4		DWP-SF
	08/14/91	237.6	471.8	709.4		DWP-SF
	09/11/91	239.4	470.0	709.4		DWP-SF
	10/10/91	238.0	471.4	709.4		DWP-SF
	11/14/91	240.1	469.3	709.4		DWP-SF
	12/05/91	236.2	473.2	709.4		DWP-SF
	01/24/92	229.1	480.3	709.4		DWP-SF
	02/19/92	230.0	479.4	709.4		DWP-SF
	03/12/92	233.0	476.4	709.4		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C04-240	07/18/90	88.1	469.7	557.8		JMM
	07/24/90	86.0	471.9	557.9		DWP-SF
	08/13/90	86.3	471.6	557.9		DWP-SF
	09/11/90	86.8	471.1	557.9		DWP-SF
	10/11/90	88.0	470.8	558.8		DWP-SF
	11/16/90	88.4	470.4	558.8		DWP-SF
	12/18/90	88.4	470.4	558.8		DWP-SF
	01/14/91	88.1	470.7	558.8		DWP-SF
	03/21/91	94.0	464.8	558.8		JMM
	04/17/91	88.4	470.4	558.8		DWP-SF
	05/17/91	88.8	470.0	558.8		DWP-SF
	06/13/91	89.1	469.7	558.8		DWP-SF
	07/16/91	90.0	468.8	558.8		DWP-SF
	08/14/91	90.0	468.8	558.8		DWP-SF
	09/11/91	90.2	468.6	558.8		DWP-SF
	10/10/91	90.4	468.4	558.8		DWP-SF
	11/14/91	90.7	468.1	558.8		DWP-SF
	12/04/91	91.1	467.7	558.8		DWP-SF
	01/24/92	91.7	467.1	558.8		DWP-SF
	02/21/92	91.8	467.0	558.8		DWP-SF
	03/11/92	91.9	466.9	558.8		DWP-SF
NH-C04-375	07/17/90	85.7	472.0	557.7		JMM
	07/24/90	83.6	474.2	557.8		DWP-SF
	08/13/90	83.9	473.9	557.8		DWP-SF
	09/11/90	84.4	473.3	557.8		DWP-SF
	10/11/90	85.5	473.2	558.7		DWP-SF
	11/16/90	85.8	473.0	558.7		DWP-SF
	12/18/90	85.5	473.2	558.7		DWP-SF
	01/14/91	85.2	473.5	558.7		DWP-SF
	03/21/91	114.6	444.1	558.7		JMM
	04/17/91	85.6	473.1	558.7		DWP-SF
	05/17/91	86.2	472.5	558.7		DWP-SF
	06/13/91	86.0	472.7	558.7		DWP-SF
	07/16/91	88.4	470.3	558.7		DWP-SF
	08/14/91	87.3	471.4	558.7		DWP-SF
	09/11/91	87.7	471.0	558.7		DWP-SF
	10/10/91	88.6	470.1	558.7		DWP-SF
	11/14/91	88.2	470.5	558.7		DWP-SF
	12/04/91	88.5	470.2	558.7		DWP-SF
	01/24/92	88.4	470.3	558.7		DWP-SF
	02/21/92	88.4	470.3	558.7		DWP-SF
	03/11/92	88.9	469.8	558.7		DWP-SF
NH-C04-560	07/17/90	84.1	473.2	557.3		JMM
	07/24/90	82.0	475.4	557.3		DWP-SF
	08/13/90	82.2	475.2	557.3		DWP-SF
	09/11/90	82.8	474.5	557.3		DWP-SF
	10/11/90	83.6	474.8	558.4		DWP-SF

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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C04-560	11/16/90	84.1	474.3	558.4		DWP-SF
	12/18/90	83.6	474.8	558.4		DWP-SF
	01/14/91	83.2	475.2	558.4		DWP-SF
	03/21/91	86.0	472.4	558.4		JMM
	04/17/91	83.7	474.7	558.4		DWP-SF
	05/17/91	84.6	473.8	558.4		DWP-SF
	06/13/91	85.0	473.4	558.4		DWP-SF
	07/16/91	NR	NR	558.4		DWP-SF
	08/14/91	85.8	472.6	558.4		DWP-SF
	09/11/91	86.2	472.2	558.4		DWP-SF
	10/10/91	86.6	471.8	558.4		DWP-SF
	11/14/91	86.8	471.6	558.4		DWP-SF
	12/04/91	87.2	471.2	558.4		DWP-SF
	01/24/92	86.8	471.6	558.4		DWP-SF
	02/21/92	87.5	470.9	558.4		DWP-SF
	03/11/92	87.4	471.0	558.4		DWP-SF
NH-C05-320	01/14/91	283.8	489.3	773.1		DWP-SF
	04/18/91	291.6	481.5	773.1		DWP-SF
	05/17/91	304.9	468.2	773.1		DWP-SF
	06/13/91	309.5	463.6	773.1		DWP-SF
	07/16/91	313.2	459.9	773.1		DWP-SF
	08/14/91	315.5	457.6	773.1		DWP-SF
	09/11/91	317.5	455.6	773.1		DWP-SF
	10/10/91	312.1	461.0	773.1		DWP-SF
	11/14/91	315.1	458.0	773.1		DWP-SF
	12/05/91	306.7	466.4	773.1		DWP-SF
	01/23/92	293.4	479.7	773.1		DWP-SF
	02/20/92	294.8	478.3	773.1		DWP-SF
	03/18/92	304.2	468.9	773.1		DWP-SF
NH-C05-460	01/14/91	283.1	490.2	773.3		DWP-SF
	04/18/91	291.0	482.3	773.3		DWP-SF
	05/17/91	302.6	470.7	773.3		DWP-SF
	06/13/91	307.7	465.6	773.3		DWP-SF
	07/16/91	312.0	461.3	773.3		DWP-SF
	08/14/91	314.3	459.0	773.3		DWP-SF
	09/11/91	316.0	457.3	773.3		DWP-SF
	10/10/91	308.8	464.5	773.3		DWP-SF
	11/14/91	313.5	459.8	773.3		DWP-SF
	12/05/91	304.4	468.9	773.3		DWP-SF
	01/23/92	292.0	481.3	773.3		DWP-SF
	02/20/92	293.5	479.8	773.3		DWP-SF
	03/12/92	305.6	467.7	773.3		DWP-SF
NH-C06-160	04/17/91	119.2	470.8	590.0		DWP-SF
	05/20/91	120.0	470.0	590.0		DWP-SF
	06/13/91	120.5	469.5	590.0		DWP-SF
	07/16/91	121.7	468.3	590.0		DWP-SF
	08/14/91	122.7	467.3	590.0		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-C06-160	09/11/91	123.3	466.7	590.0		DWP-SF
	10/10/91	123.4	466.6	590.0		DWP-SF
	11/14/91	124.2	465.8	590.0		DWP-SF
	12/05/91	124.9	465.1	590.0		DWP-SF
	01/27/92	125.6	464.4	590.0		DWP-SF
	02/20/92	129.8	460.2	590.0		DWP-SF
	03/12/92	126.0	464.0	590.0		DWP-SF
NH-C06-285	04/17/91	120.6	469.2	589.8		DWP-SF
	05/17/91	124.3	465.5	589.8		DWP-SF
	06/13/91	125.8	464.0	589.8		DWP-SF
	07/16/91	128.2	461.6	589.8		DWP-SF
	08/14/91	129.5	460.3	589.8		DWP-SF
	09/11/91	130.3	459.5	589.8		DWP-SF
	10/10/91	130.9	458.9	589.8		DWP-SF
	11/14/91	131.5	458.3	589.8		DWP-SF
	12/05/91	131.7	458.1	589.8		DWP-SF
	01/27/92	128.7	461.1	589.8		DWP-SF
	02/20/92	130.0	459.8	589.8		DWP-SF
	03/12/92	131.0	458.8	589.8		DWP-SF
NH-C06-425	04/17/91	122.7	467.2	589.9		DWP-SF
	05/17/91	129.0	460.9	589.9		DWP-SF
	06/13/91	131.3	458.6	589.9		DWP-SF
	07/16/91	132.8	457.1	589.9		DWP-SF
	08/14/91	134.3	455.6	589.9		DWP-SF
	09/11/91	135.1	454.8	589.9		DWP-SF
	10/10/91	136.7	453.2	589.9		DWP-SF
	11/14/91	137.3	452.6	589.9		DWP-SF
	12/05/91	137.0	452.9	589.9		DWP-SF
	01/27/92	131.7	458.2	589.9		DWP-SF
	02/20/92	135.0	454.9	589.9		DWP-SF
	03/12/92	135.4	454.5	589.9		DWP-SF
NH-VPB-01	09/06/89	101.2	457.9	559.1		JMM
	05/02/90	99.1	459.5	558.6		DWP-SF
	06/11/90	94.5	464.1	558.6		DWP-SF
	07/16/90	102.2	456.4	558.6		DWP-SF
	08/07/90	101.7	456.9	558.6		DWP-SF
	09/10/90	102.2	456.4	558.6		DWP-SF
	09/26/90	103.1	456.4	559.5		JMM
	10/10/90	103.1	456.0	559.1		DWP-SF
	11/16/90	103.3	455.8	559.1		DWP-SF
	12/17/90	102.9	456.2	559.1		DWP-SF
	01/14/91	102.2	456.9	559.1		DWP-SF
	04/18/91	103.4	455.7	559.1		DWP-SF
	05/15/91	103.0	456.1	559.1		DWP-SF
	06/12/91	103.3	455.8	559.1		DWP-SF
	07/15/91	103.1	456.0	559.1		DWP-SF
	08/13/91	102.3	456.8	559.1		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-01	09/10/91	106.0	453.1	559.1		DWP-SF
	10/07/91	106.5	452.6	559.1		DWP-SF
	11/12/91	107.2	451.9	559.1		DWP-SF
	12/03/91	107.6	451.5	559.1		DWP-SF
	01/22/92	108.0	451.1	559.1		DWP-SF
	02/18/92	108.0	451.1	559.1		DWP-SF
	03/11/92	107.7	451.4	559.1		DWP-SF
NH-VPB-02	07/26/89	232.1	477.9	710.0		JMM
	05/02/90	215.0	494.5	709.5		DWP-SF
	06/11/90	225.3	484.2	709.5		DWP-SF
	07/16/90	229.2	480.3	709.5		DWP-SF
	08/07/90	238.4	471.1	709.5		DWP-SF
	09/07/90	242.4	468.1	710.5		JMM
	09/10/90	241.8	467.7	709.5		DWP-SF
	10/10/90	242.8	467.2	710.0		DWP-SF
	11/16/90	233.6	476.4	710.0		DWP-SF
	12/17/90	228.4	481.6	710.0		DWP-SF
	01/14/91	224.4	485.6	710.0		DWP-SF
	04/18/91	227.0	483.0	710.0		DWP-SF
	05/15/91	230.0	480.0	710.0		DWP-SF
	06/11/91	235.5	474.5	710.0		DWP-SF
	07/12/91	240.0	470.0	710.0		DWP-SF
	08/12/91	243.4	466.6	710.0		DWP-SF
	09/10/91	245.7	464.3	710.0		DWP-SF
	10/07/91	244.8	465.2	710.0		DWP-SF
	11/12/91	241.5	468.5	710.0		DWP-SF
	12/03/91	240.4	469.6	710.0		DWP-SF
	01/22/92	233.6	476.4	710.0		DWP-SF
	02/18/92	231.0	479.0	710.0		DWP-SF
	03/10/92	232.0	478.0	710.0		DWP-SF
NH-VPB-03	07/25/89	199.7	476.5	676.2		JMM
	04/30/90	187.1	488.3	675.4		DWP-SF
	06/11/90	190.4	485.0	675.4		DWP-SF
	07/16/90	123.6	551.8	675.4		DWP-SF
	08/07/90	195.1	480.3	675.4		DWP-SF
	09/05/90	198.4	478.2	676.6		JMM
	09/10/90	197.6	477.9	675.4		DWP-SF
	10/10/90	199.1	477.1	676.2		DWP-SF
	11/16/90	199.8	476.4	676.2		DWP-SF
	12/17/90	195.8	480.4	676.2		DWP-SF
	01/14/91	196.3	479.9	676.2		DWP-SF
	04/18/91	193.4	482.8	676.2		DWP-SF
	05/15/91	193.8	482.4	676.2		DWP-SF
	06/12/91	195.3	480.9	676.2		DWP-SF
	07/12/91	197.0	479.2	676.2		DWP-SF
	08/12/91	198.5	477.7	676.2		DWP-SF
	09/10/91	199.9	476.3	676.2		DWP-SF
	10/07/91	201.0	475.2	676.2		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-03	11/12/91	202.4	473.8	676.2		DWP-SF
	12/03/91	203.2	473.0	676.2		DWP-SF
	01/22/92	203.3	472.9	676.2		DWP-SF
	02/18/92	202.7	473.5	676.2		DWP-SF
	03/10/92	202.2	474.0	676.2		DWP-SF
NH-VPB-04	08/01/89	151.2	480.3	631.5		JMM
	04/30/90	149.3	482.0	631.3		DWP-SF
	06/11/90	151.2	480.1	631.3		DWP-SF
	07/16/90	152.9	478.4	631.3		DWP-SF
	08/07/90	153.8	477.6	631.3		DWP-SF
	09/10/90	154.6	476.7	631.3		DWP-SF
	09/18/90	155.1	476.9	632.0		JMM
	10/10/90	154.8	476.7	631.5		DWP-SF
	11/16/90	155.0	476.5	631.5		DWP-SF
	12/18/90	154.2	477.4	631.5		DWP-SF
	01/14/91	153.6	477.9	631.5		DWP-SF
	04/19/91	153.0	478.5	631.5		DWP-SF
	05/15/91	153.2	478.3	631.5		DWP-SF
	06/12/91	153.8	477.7	631.5		DWP-SF
	07/16/91	154.6	476.9	631.5		DWP-SF
	08/14/91	155.3	476.2	631.5		DWP-SF
	09/10/91	156.0	475.5	631.5		DWP-SF
	10/07/91	156.4	475.1	631.5		DWP-SF
	11/14/91	157.4	474.1	631.5		DWP-SF
	12/03/91	157.9	473.6	631.5		DWP-SF
	01/22/92	158.3	473.2	631.5		DWP-SF
	02/18/92	158.4	473.1	631.5		DWP-SF
	03/10/92	158.7	472.8	631.5		DWP-SF
NH-VPB-05	07/13/89	173.5	483.2	656.7		JMM
	04/30/90	171.1	484.9	656.0		DWP-SF
	06/11/90	175.1	480.9	656.0		DWP-SF
	07/16/90	178.5	477.5	656.0		DWP-SF
	08/07/90	179.2	476.8	656.0		DWP-SF
	09/10/90	181.1	474.9	656.0		DWP-SF
	09/12/90	182.6	474.7	657.3		JMM
	10/10/90	181.8	474.9	656.7		DWP-SF
	11/16/90	180.9	475.8	656.7		DWP-SF
	12/17/90	179.2	477.5	656.7		DWP-SF
	01/14/91	178.2	478.5	656.7		DWP-SF
	04/18/91	176.4	480.3	656.7		DWP-SF
	05/15/91	177.0	479.7	656.7		DWP-SF
	06/12/91	178.5	478.2	656.7		DWP-SF
	07/12/91	179.5	477.2	656.7		DWP-SF
	08/12/91	180.4	476.3	656.7		DWP-SF
	09/10/91	181.7	475.0	656.7		DWP-SF
	10/07/91	182.8	473.9	656.7		DWP-SF
	11/12/91	183.4	473.3	656.7		DWP-SF
	12/03/91	184.3	472.4	656.7		DWP-SF

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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-05	01/22/92	183.8	472.9	656.7		DWP-SF
	02/18/92	183.4	473.3	656.7		DWP-SF
	03/10/92	182.2	474.5	656.7		DWP-SF
NH-VPB-06	07/11/89	273.5	472.9	746.4		JMM
	04/30/90	249.2	496.5	745.7		DWP-SF
	06/11/90	269.2	476.5	745.7		DWP-SF
	07/16/90	279.4	466.3	745.7		DWP-SF
	08/07/90	281.2	464.5	745.7		DWP-SF
	09/10/90	286.6	459.1	745.7		DWP-SF
	09/11/90	287.3	459.6	746.9		JMM
	10/10/90	279.9	466.5	746.4		DWP-SF
	11/16/90	268.3	478.1	746.4		DWP-SF
	12/17/90	262.9	483.5	746.4		DWP-SF
	01/14/91	259.2	487.2	746.4	*PROBABLY INVALID (CHECKED BY DWP)	DWP-SF
	01/29/91	282.2	464.2	746.4		JMM
	09/10/91	271.8	474.6	746.4		DWP-SF
	10/07/91	278.3	468.1	746.4		DWP-SF
	11/12/91	283.7	462.7	746.4		DWP-SF
	12/03/91	279.5	466.9	746.4		DWP-SF
	01/22/92	268.8	477.6	746.4		DWP-SF
	02/18/92	268.0	478.4	746.4		DWP-SF
	03/10/92	279.0	467.4	746.4		DWP-SF
NH-VPB-07	07/31/89	266.4	489.4	755.8		JMM
	04/30/90	260.3	494.7	755.0		DWP-SF
	06/11/90	267.0	488.0	755.0		DWP-SF
	07/16/90	272.6	482.4	755.0		DWP-SF
	08/07/90	274.6	480.4	755.0		DWP-SF
	09/10/90	278.8	476.2	755.0		DWP-SF
	09/11/90	279.6	476.7	756.3		JMM
	10/10/90	279.8	476.1	755.8		DWP-SF
	11/16/90	275.8	480.1	755.8		DWP-SF
	12/17/90	272.3	483.5	755.8		DWP-SF
	01/14/91	269.6	486.2	755.8		DWP-SF
	02/04/91	268.4	487.4	755.8		JMM
	04/18/91	270.0	485.8	755.8		DWP-SF
	05/15/91	272.2	483.6	755.8		DWP-SF
	06/12/91	274.8	481.0	755.8		DWP-SF
	07/12/91	277.0	478.8	755.8		DWP-SF
	08/13/91	276.0	479.8	755.8		DWP-SF
	09/10/91	281.0	474.8	755.8		DWP-SF
	10/07/91	281.5	474.3	755.8		DWP-SF
	11/12/91	282.0	473.8	755.8		DWP-SF
	12/03/91	281.5	474.3	755.8		DWP-SF
	01/22/92	277.3	478.5	755.8		DWP-SF
	02/18/92	275.6	480.2	755.8		DWP-SF
	03/10/92	276.5	479.3	755.8		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-08	07/12/89	188.2	480.5	668.7		JMM
	04/30/90	181.3	486.5	667.8		DWP-SF
	06/11/90	189.4	478.4	667.8		DWP-SF
	07/16/90	193.7	474.1	667.8		DWP-SF
	08/07/90	194.8	473.0	667.8		DWP-SF
	09/10/90	196.6	471.2	667.8		DWP-SF
	09/13/90	198.1	470.6	668.7		JMM
	11/16/90	195.4	473.3	668.7		DWP-SF
	12/17/90	192.0	476.7	668.7		DWP-SF
	01/14/91	195.3	473.4	668.7		DWP-SF
	02/12/91	186.5	482.2	668.7		JMM
	04/18/91	193.5	475.2	668.7		DWP-SF
	05/15/91	189.3	479.4	668.7		DWP-SF
	06/12/91	191.2	477.5	668.7		DWP-SF
	07/12/91	193.0	475.7	668.7		DWP-SF
	08/12/91	194.4	474.3	668.7		DWP-SF
	09/10/91	195.8	472.9	668.7		DWP-SF
	10/07/91	197.3	471.4	668.7		DWP-SF
	11/12/91	199.4	469.3	668.7		DWP-SF
	12/03/91	200.1	468.6	668.7		DWP-SF
	01/22/92	199.5	469.2	668.7		DWP-SF
	02/18/92	198.8	469.9	668.7		DWP-SF
	03/10/92	198.6	470.1	668.7		DWP-SF
NH-VPB-09	07/20/89	259.1	535.7	794.8		JMM
	05/02/90	270.3	523.8	794.0		DWP-SF
	06/11/90	271.3	522.7	794.0		DWP-SF
	07/16/90	273.2	520.8	794.0		DWP-SF
	08/07/90	273.6	520.4	794.0		DWP-SF
	09/10/90	276.4	517.6	794.0		DWP-SF
	10/10/90	278.5	516.3	794.8		DWP-SF
	11/16/90	279.9	514.9	794.8		DWP-SF
	12/17/90	280.5	514.3	794.8		DWP-SF
	01/14/91	290.5	504.3	794.8	*PROBABLY INVALID (CHECKED BY DWP)	DWP-SF
	04/18/91	281.6	513.2	794.8		DWP-SF
	05/15/91	281.9	512.9	794.8		DWP-SF
	06/12/91	282.5	512.3	794.8		DWP-SF
	07/12/91	283.0	511.8	794.8		DWP-SF
	08/13/91	282.6	512.2	794.8		DWP-SF
	09/10/91	288.7	506.1	794.8		DWP-SF
	10/07/91	287.8	507.0	794.8		DWP-SF
	11/12/91	282.8	512.0	794.8		DWP-SF
	12/03/91	282.9	511.9	794.8		DWP-SF
	01/27/92	283.1	511.7	794.8		DWP-SF
	02/18/92	282.8	512.0	794.8		DWP-SF
	03/10/92	282.6	512.2	794.8		DWP-SF
NH-VPB-10	07/19/89	233.7	529.6	763.3		JMM

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JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-10	05/02/90	239.9	523.4	763.3		DWP-SF
	06/11/90	240.2	523.1	763.3		DWP-SF
	07/16/90	237.5	525.8	763.3		DWP-SF
	08/07/90	241.0	522.3	763.3		DWP-SF
	09/10/90	240.7	522.6	763.3		DWP-SF
	09/13/90	240.1	524.0	764.1		JMM
	10/10/90	240.6	522.8	763.4		DWP-SF
	11/16/90	241.6	521.9	763.4		DWP-SF
	12/17/90	242.0	521.4	763.4		DWP-SF
	01/14/91	242.2	521.2	763.4		DWP-SF
	04/18/91	242.4	521.0	763.4		DWP-SF
	05/15/91	242.3	521.1	763.4		DWP-SF
	06/12/91	242.5	520.9	763.4		DWP-SF
	07/12/91	243.0	520.4	763.4		DWP-SF
	08/13/91	243.2	520.2	763.4		DWP-SF
	09/10/91	243.5	519.9	763.4		DWP-SF
	10/07/91	243.8	519.6	763.4		DWP-SF
	11/12/91	244.0	519.4	763.4		DWP-SF
	12/03/91	244.4	519.0	763.4		DWP-SF
	01/22/92	244.7	518.7	763.4		DWP-SF
	02/18/92	244.8	518.6	763.4		DWP-SF
	03/10/92	244.7	518.7	763.4		DWP-SF
NH-VPB-11	08/05/89	303.9	486.0	789.9		JMM
	04/30/90	283.0	506.5	789.6		DWP-SF
	06/11/90	301.1	488.5	789.6		DWP-SF
	07/16/90	309.2	480.4	789.6		DWP-SF
	08/07/90	312.1	477.5	789.6		DWP-SF
	09/06/90	316.3	474.3	790.6		JMM
	09/10/90	315.7	473.9	789.6		DWP-SF
	10/10/90	312.0	477.9	789.9		DWP-SF
	11/16/90	301.6	488.3	789.9		DWP-SF
	12/17/90	296.8	493.1	789.9		DWP-SF
	01/14/91	293.6	496.3	789.9		DWP-SF
	01/31/91	291.4	498.5	789.9		JMM
	04/18/91	302.3	487.6	789.9		DWP-SF
	05/15/91	302.0	487.9	789.9		DWP-SF
	06/11/91	302.0	487.9	789.9		DWP-SF
	07/12/91	320.0	469.9	789.9	DRY	DWP-SF
	08/12/91	321.0	468.9	789.9	DRY	DWP-SF
	09/10/91	321.0	468.9	789.9	DRY	DWP-SF
	10/07/91	NR	NR	789.9	DRY	DWP-SF
	11/12/91	NR	NR	789.9	DRY	DWP-SF
	12/03/91	314.3	475.6	789.9		DWP-SF
	01/22/92	303.0	486.9	789.9		DWP-SF
	02/18/92	307.5	482.4	789.9		DWP-SF
	03/11/92	312.6	477.3	789.9		DWP-SF
NH-VPB-12	07/18/89	128.0	485.6	613.6		JMM
	05/02/90	132.0	481.6	613.6		DWP-SF

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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-12	06/11/90	132.2	481.4	613.6		DWP-SF
	07/16/90	132.9	479.9	612.7		DWP-SF
	08/07/90	133.3	480.3	613.6		DWP-SF
	09/10/90	NR	NR	613.6		DWP-SF
	09/18/90	134.4	479.2	613.6		JMM
	10/10/90	134.8	478.8	613.6		DWP-SF
	11/16/90	135.2	478.4	613.6		DWP-SF
	12/18/90	135.4	478.2	613.6		DWP-SF
	01/14/91	135.3	478.3	613.6		DWP-SF
	04/18/91	135.8	477.8	613.6		DWP-SF
	05/15/91	135.6	478.0	613.6		DWP-SF
	06/12/91	86.6	527.0	613.6		DWP-SF
	07/15/91	136.5	477.1	613.6		DWP-SF
	08/13/91	136.8	476.8	613.6		DWP-SF
	09/10/91	137.0	476.6	613.6		DWP-SF
	10/07/91	137.3	476.3	613.6		DWP-SF
	11/12/91	137.5	476.1	613.6		DWP-SF
	12/03/91	137.9	475.7	613.6		DWP-SF
	01/22/92	138.5	475.1	613.6		DWP-SF
	02/18/92	138.7	474.9	613.6		DWP-SF
	03/11/92	138.6	475.0	613.6		DWP-SF
NH-VPB-13	07/18/89	334.4	520.7	855.1		JMM
	04/30/90	342.0	513.1	855.1		DWP-SF
	06/11/90	344.8	510.3	855.1		DWP-SF
	07/16/90	348.4	506.0	854.4		DWP-SF
	08/07/90	350.1	505.0	855.1		DWP-SF
	09/06/90	353.2	502.4	855.6		JMM
	09/10/90	353.2	501.2	854.4		DWP-SF
	10/10/90	355.9	499.2	855.1		DWP-SF
	11/16/90	355.6	499.5	855.1		DWP-SF
	12/17/90	354.2	500.9	855.1		DWP-SF
	01/14/91	352.2	502.9	855.1		DWP-SF
	02/01/91	350.0	505.1	855.1		JMM
	04/18/91	353.4	501.7	855.1		DWP-SF
	05/15/91	353.0	502.1	855.1		DWP-SF
	06/11/91	353.8	501.3	855.1		DWP-SF
	07/12/91	354.5	500.6	855.1		DWP-SF
	08/12/91	356.6	498.5	855.1		DWP-SF
	09/10/91	358.3	496.8	855.1		DWP-SF
	10/07/91	360.0	495.1	855.1		DWP-SF
	11/12/91	360.8	494.3	855.1		DWP-SF
	12/03/91	361.2	493.9	855.1		DWP-SF
	01/22/92	359.0	496.1	855.1		DWP-SF
	02/18/92	358.0	497.1	855.1		DWP-SF
	03/11/92	358.5	496.6	855.1		DWP-SF
NH-VPB-14	07/17/89	87.9	477.0	564.9		JMM
	05/03/90	NR	NR	564.9		DWP-SF
	06/11/90	91.2	473.7	564.9		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
NH-VPB-14	07/16/90	91.2	473.2	564.4		DWP-SF
	07/18/90	92.5	472.9	565.4		JMM
	08/07/90	91.8	473.1	564.9		DWP-SF
	09/11/90	92.1	472.4	564.4		DWP-SF
	09/26/90	92.3	472.6	564.9		JMM
	10/10/90	93.0	471.9	564.9		DWP-SF
	11/16/90	93.3	471.7	564.9		DWP-SF
	12/18/90	93.5	471.4	564.9		DWP-SF
	01/14/91	93.3	471.6	564.9		DWP-SF
	02/04/91	93.1	471.8	564.9		JMM
	04/17/91	94.0	470.9	564.9		DWP-SF
	04/18/91	94.0	470.9	564.9		DWP-SF
	05/15/91	94.0	470.9	564.9		DWP-SF
	06/12/91	94.2	470.7	564.9		DWP-SF
	07/15/91	94.3	470.6	564.9		DWP-SF
	08/13/91	94.6	470.3	564.9		DWP-SF
	09/10/91	95.0	469.9	564.9		DWP-SF
	10/07/91	95.2	469.7	564.9		DWP-SF
	11/12/91	95.5	469.4	564.9		DWP-SF
	12/03/91	95.8	469.1	564.9		DWP-SF
	01/22/92	96.2	468.7	564.9		DWP-SF
	02/18/92	96.5	468.4	564.9		DWP-SF
	03/11/92	96.5	468.4	564.9		DWP-SF
PO-C01-195	08/28/90	41.2	402.5	443.7		JMM
	12/27/90	NR	NR	444.2		DWP-SF
	03/12/91	41.8	402.4	444.2		JMM
	04/17/91	40.8	403.4	444.2		DWP-SF
	05/17/91	40.9	403.3	444.2		DWP-SF
	06/14/91	40.1	404.1	444.2		DWP-SF
	07/16/91	41.2	403.0	444.2		DWP-SF
	08/14/91	41.3	402.9	444.2		DWP-SF
	09/11/91	41.3	402.9	444.2		DWP-SF
	10/11/91	41.4	402.8	444.2		DWP-SF
	11/14/91	41.6	402.6	444.2		DWP-SF
	12/04/91	41.4	402.8	444.2		DWP-SF
	01/27/92	41.2	403.0	444.2		DWP-SF
	02/19/92	40.4	403.8	444.2		DWP-SF
	03/19/92	40.6	403.6	444.2		DWP-SF
PO-C01-354	08/27/90	41.3	403.5	444.8		JMM
	12/27/90	34.0	410.3	444.3		DWP-SF
	03/12/91	40.9	403.4	444.3		JMM
	04/17/91	40.8	403.5	444.3		DWP-SF
	05/17/91	40.9	403.4	444.3		DWP-SF
	06/14/91	40.1	404.2	444.3		DWP-SF
	07/16/91	41.3	403.0	444.3		DWP-SF
	08/14/91	41.4	402.9	444.3		DWP-SF
	09/11/91	41.4	402.9	444.3		DWP-SF
	10/11/91	41.3	403.0	444.3		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-C01-354	11/14/91	41.4	402.9	444.3		DWP-SF
	12/04/91	41.2	403.1	444.3		DWP-SF
	01/27/92	41.2	403.1	444.3		DWP-SF
	02/19/92	40.4	403.9	444.3		DWP-SF
	03/13/92	40.5	403.8	444.3		DWP-SF
PO-C02-052	10/23/90	36.6	390.3	426.9		JMM
	12/27/90	36.3	391.4	427.7		DWP-SF
	04/01/91	35.4	392.3	427.7		JMM
	04/17/91	35.7	391.7	427.4		DWP-SF
	05/17/91	35.6	391.8	427.4		DWP-SF
	06/14/91	36.0	391.4	427.4		DWP-SF
	07/16/91	36.0	391.4	427.4		DWP-SF
	08/14/91	36.2	391.2	427.4		DWP-SF
	09/11/91	36.4	391.0	427.4		DWP-SF
	10/11/91	36.4	391.0	427.4		DWP-SF
	11/14/91	36.3	391.1	427.4		DWP-SF
	12/04/91	36.3	391.1	427.4		DWP-SF
	01/23/92	35.8	391.6	427.4		DWP-SF
	02/19/92	35.3	392.1	427.4		DWP-SF
	03/11/92	35.0	392.4	427.4		DWP-SF
PO-C02-205	08/29/90	35.4	391.6	427.0		JMM
	12/27/90	34.5	393.2	427.7		DWP-SF
	04/01/91	33.9	393.8	427.7		JMM
	04/17/91	34.0	393.8	427.8		DWP-SF
	05/17/91	34.3	393.5	427.8		DWP-SF
	06/14/91	34.8	393.0	427.8		DWP-SF
	07/16/91	34.6	393.2	427.8		DWP-SF
	08/14/91	34.7	393.1	427.8		DWP-SF
	09/11/91	34.8	393.0	427.8		DWP-SF
	10/11/91	35.0	392.8	427.8		DWP-SF
	11/14/91	34.8	393.0	427.8		DWP-SF
	12/04/91	34.8	393.0	427.8		DWP-SF
	01/23/92	34.4	393.4	427.8		DWP-SF
	02/19/92	33.7	394.1	427.8		DWP-SF
	03/11/92	33.8	394.0	427.8		DWP-SF
PO-C03-182	08/28/90	44.0	341.2	385.2		JMM
	12/27/90	43.9	342.1	386.0		DWP-SF
	03/11/91	43.6	342.4	386.0		JMM
	04/17/91	43.2	342.8	386.0		DWP-SF
	05/17/91	43.3	342.7	386.0		DWP-SF
	06/14/91	43.5	342.5	386.0		DWP-SF
	07/16/91	43.5	342.5	386.0		DWP-SF
	08/14/91	43.7	342.3	386.0		DWP-SF
	09/11/91	43.7	342.3	386.0		DWP-SF
	10/11/91	43.6	342.4	386.0		DWP-SF
	11/14/91	43.8	342.2	386.0		DWP-SF
	12/04/91	43.8	342.2	386.0		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-C03-182	01/27/92	43.7	342.3	386.0		DWP-SF
	02/19/92	42.8	343.2	386.0		DWP-SF
	03/13/92	42.2	343.8	386.0		DWP-SF
PO-C03-235	08/27/90	43.9	342.3	386.2		JMM
	12/27/90	44.8	341.1	385.9		DWP-SF
	03/12/91	43.5	342.4	385.9		JMM
	04/17/91	43.1	342.8	385.9		DWP-SF
	05/17/91	43.3	342.6	385.9		DWP-SF
	06/14/91	43.5	342.4	385.9		DWP-SF
	07/16/91	43.4	342.5	385.9		DWP-SF
	08/14/91	43.6	342.3	385.9		DWP-SF
	09/11/91	43.6	342.3	385.9		DWP-SF
	10/11/91	43.5	342.4	385.9		DWP-SF
	11/14/91	43.7	342.2	385.9		DWP-SF
	12/04/91	43.7	342.2	385.9		DWP-SF
	01/27/92	43.7	342.2	385.9		DWP-SF
	02/19/92	42.7	343.2	385.9		DWP-SF
	03/13/92	42.2	343.7	385.9		DWP-SF
PO-VPB-01	11/08/89	24.3	387.0	411.3		JMM
	05/21/90	24.1	387.2	411.3		DWP-SF
	06/14/90	24.3	387.0	411.3		DWP-SF
	07/23/90	24.5	386.8	411.3		DWP-SF
	08/10/90	24.8	386.6	411.3		DWP-SF
	09/12/90	24.9	386.4	411.3		DWP-SF
	10/03/90	25.8	386.2	412.0		JMM
	10/16/90	25.8	386.3	412.0		DWP-SF
	11/19/90	25.6	386.4	412.0		DWP-SF
	12/27/90	25.3	386.7	412.0		DWP-SF
	01/16/91	24.1	387.9	412.0		DWP-SF
	04/18/91	24.7	387.3	412.0		DWP-SF
	05/16/91	24.5	387.5	412.0		DWP-SF
	06/11/91	24.8	387.2	412.0		DWP-SF
	07/15/91	25.4	386.6	412.0		DWP-SF
	08/12/91	25.3	386.7	412.0		DWP-SF
	09/09/91	25.4	386.6	412.0		DWP-SF
	10/10/91	25.5	386.5	412.0		DWP-SF
	11/13/91	25.4	386.6	412.0		DWP-SF
	12/04/91	25.5	386.5	412.0		DWP-SF
	01/27/92	24.9	387.1	412.0		DWP-SF
	02/19/92	24.4	387.6	412.0		DWP-SF
	03/10/92	24.0	388.0	412.0		DWP-SF
PO-VPB-02	11/08/89	40.2	403.2	443.4		JMM
	05/21/90	40.0	403.4	443.4		DWP-SF
	06/14/90	40.2	403.2	443.4		DWP-SF
	07/23/90	NR	NR	443.4		DWP-SF
	08/10/90	40.2	403.2	443.4		DWP-SF
	08/27/90	41.1	402.3	443.4		JMM

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-VPB-02	09/12/90	40.2	403.2	443.4		DWP-SF
	10/16/90	40.7	403.1	443.8		DWP-SF
	11/19/90	40.5	403.3	443.8		DWP-SF
	12/27/90	40.6	403.2	443.8		DWP-SF
	01/17/91	39.9	403.9	443.8		DWP-SF
	02/07/91	40.6	403.2	443.8		JMM
	04/17/91	40.4	403.4	443.8		DWP-SF
	04/18/91	40.4	403.4	443.8		DWP-SF
	05/16/91	40.4	403.4	443.8		DWP-SF
	06/14/91	40.5	403.3	443.8		DWP-SF
	07/16/91	41.0	402.8	443.8		DWP-SF
	08/14/91	41.0	402.8	443.8		DWP-SF
	09/11/91	40.6	403.2	443.8		DWP-SF
	10/11/91	41.0	402.8	443.8		DWP-SF
	11/13/91	41.1	402.7	443.8		DWP-SF
	12/04/91	40.9	402.9	443.8		DWP-SF
	01/27/92	39.8	404.0	443.8		DWP-SF
	02/19/92	40.1	403.7	443.8		DWP-SF
	03/13/92	40.0	403.8	443.8		DWP-SF
PO-VPB-03	11/14/89	40.5	345.6	386.1		JMM
	05/21/90	37.0	349.1	386.1		DWP-SF
	06/14/90	37.0	349.1	386.1		DWP-SF
	07/23/90	36.9	349.2	386.1		DWP-SF
	08/10/90	37.0	349.1	386.1		DWP-SF
	08/28/90	38.1	348.0	386.1		JMM
	09/12/90	37.0	349.1	386.1		DWP-SF
	10/16/90	37.6	349.0	386.5		DWP-SF
	11/19/90	37.5	349.0	386.5		DWP-SF
	12/27/90	37.6	348.9	386.5		DWP-SF
	01/17/91	37.2	349.3	386.5		DWP-SF
	02/12/91	37.6	348.9	386.5		JMM
	04/17/91	36.6	349.9	386.5		DWP-SF
	04/18/91	36.6	349.9	386.5		DWP-SF
	05/16/91	36.7	349.8	386.5		DWP-SF
	06/14/91	37.0	349.5	386.5		DWP-SF
	07/16/91	37.1	349.4	386.5		DWP-SF
	08/14/91	37.3	349.2	386.5		DWP-SF
	09/11/91	37.4	349.1	386.5		DWP-SF
	10/11/91	37.4	349.1	386.5		DWP-SF
	11/13/91	37.5	349.0	386.5		DWP-SF
	12/04/91	37.6	348.9	386.5		DWP-SF
	01/27/92	37.6	348.9	386.5		DWP-SF
	02/19/92	36.1	350.4	386.5		DWP-SF
	03/13/92	35.6	350.9	386.5		DWP-SF
PO-VPB-04	11/14/89	27.8	352.3	380.1		JMM
	05/21/90	27.6	352.6	380.1		DWP-SF
	06/14/90	27.7	352.5	380.1		DWP-SF
	07/23/90	27.7	352.4	380.1		DWP-SF

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DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-VPB-04	08/10/90	27.8	352.3	380.1		DWP-SF
	09/12/90	27.9	352.2	380.1		DWP-SF
	09/20/90	90.5	290.3	380.8		JMM
	10/16/90	28.7	352.1	380.8		DWP-SF
	11/20/90	28.8	352.0	380.8		DWP-SF
	12/27/90	28.7	352.1	380.8		DWP-SF
	01/17/91	29.4	351.4	380.8		DWP-SF
	04/18/91	27.7	353.1	380.8		DWP-SF
	05/16/91	27.5	353.3	380.8		DWP-SF
	06/11/91	27.5	353.3	380.8		DWP-SF
	07/15/91	27.5	353.3	380.8		DWP-SF
	08/12/91	28.5	352.3	380.8		DWP-SF
	09/09/91	27.8	353.0	380.8		DWP-SF
	10/08/91	28.0	352.8	380.8		DWP-SF
	11/13/91	27.4	353.4	380.8		DWP-SF
	12/04/91	28.4	352.4	380.8		DWP-SF
	01/23/92	28.2	352.6	380.8		DWP-SF
	02/19/92	27.4	353.4	380.8		DWP-SF
	03/10/92	26.6	354.2	380.8		DWP-SF
PO-VPB-05	11/09/89	34.6	332.0	366.6		JMM
	05/21/90	30.1	336.5	366.6		DWP-SF
	06/14/90	30.1	336.5	366.6		DWP-SF
	07/23/90	29.8	336.8	366.6		DWP-SF
	08/10/90	29.9	336.7	366.6		DWP-SF
	09/12/90	29.7	336.9	366.6		DWP-SF
	09/21/90	38.6	328.7	367.3		JMM
	10/16/90	30.5	336.8	367.3		DWP-SF
	11/19/90	30.4	336.9	367.3		DWP-SF
	12/27/90	30.6	336.7	367.3		DWP-SF
	01/25/91	30.6	336.7	367.3		DWP-SF
	04/18/91	30.1	337.2	367.3		DWP-SF
	05/16/91	30.0	337.3	367.3		DWP-SF
	06/11/91	30.3	337.0	367.3		DWP-SF
	07/15/91	30.4	336.9	367.3		DWP-SF
	08/12/91	30.3	337.0	367.3		DWP-SF
	09/09/91	30.4	336.9	367.3		DWP-SF
	10/08/91	30.3	337.0	367.3		DWP-SF
	11/13/91	30.4	336.9	367.3		DWP-SF
	12/04/91	30.6	336.7	367.3		DWP-SF
	01/23/92	30.4	336.9	367.3		DWP-SF
	02/19/92	29.4	337.9	367.3		DWP-SF
	03/10/92	29.2	338.1	367.3		DWP-SF
PO-VPB-06	11/28/89	22.4	324.1	346.5		JMM
	05/21/90	21.4	325.1	346.5		DWP-SF
	06/14/90	21.4	325.1	346.5		DWP-SF
	07/23/90	21.3	325.1	346.5		DWP-SF
	08/10/90	21.3	325.2	346.5		DWP-SF
	09/12/90	21.2	325.3	346.5		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-VPB-06	09/21/90	32.8	314.7	347.5		JMM
	10/16/90	22.2	325.3	347.5		DWP-SF
	11/19/90	22.1	325.4	347.5		DWP-SF
	12/27/90	22.4	325.1	347.5		DWP-SF
	01/16/91	22.3	325.2	347.5		DWP-SF
	04/18/91	22.2	325.3	347.5		DWP-SF
	05/16/91	22.2	325.3	347.5		DWP-SF
	06/11/91	22.4	325.1	347.5		DWP-SF
	07/15/91	22.5	325.0	347.5		DWP-SF
	08/12/91	21.3	326.2	347.5		DWP-SF
	09/09/91	22.2	325.3	347.5		DWP-SF
	10/08/91	22.2	325.3	347.5		DWP-SF
	11/13/91	22.3	325.2	347.5		DWP-SF
	12/04/91	22.4	325.1	347.5		DWP-SF
	01/23/92	22.4	325.1	347.5		DWP-SF
	02/19/92	21.6	325.9	347.5		DWP-SF
	03/10/92	22.2	325.3	347.5		DWP-SF
PO-VPB-07	11/15/89	59.5	334.7	394.2		JMM
	05/21/90	55.2	339.0	394.2		DWP-SF
	06/14/90	55.1	339.1	394.2		DWP-SF
	07/23/90	54.9	339.4	394.2		DWP-SF
	08/10/90	54.9	339.3	394.2		DWP-SF
	09/12/90	54.8	339.4	394.2		DWP-SF
	10/16/90	55.5	339.4	394.8		DWP-SF
	11/19/90	55.5	339.3	394.8		DWP-SF
	12/27/90	55.5	339.3	394.8		DWP-SF
	01/16/91	55.5	339.3	394.8		DWP-SF
	02/07/91	55.8	339.0	394.8		JMM
	04/18/91	55.0	339.8	394.8		DWP-SF
	05/16/91	55.0	339.8	394.8		DWP-SF
	06/11/91	55.2	339.6	394.8		DWP-SF
	07/15/91	55.3	339.5	394.8		DWP-SF
	08/12/91	55.4	339.4	394.8		DWP-SF
	09/09/91	55.3	339.5	394.8		DWP-SF
	10/08/91	55.5	339.3	394.8		DWP-SF
	11/13/91	55.3	339.5	394.8		DWP-SF
	12/04/91	55.6	339.2	394.8		DWP-SF
	01/23/92	55.5	339.3	394.8		DWP-SF
	02/19/92	55.5	339.3	394.8		DWP-SF
	03/10/92	54.5	340.3	394.8		DWP-SF
PO-VPB-08	11/15/89	17.7	313.6	331.3		JMM
	05/21/90	8.8	322.5	331.3		DWP-SF
	06/14/90	18.0	313.3	331.3		DWP-SF
	07/23/90	17.8	313.5	331.3		DWP-SF
	08/10/90	17.8	313.5	331.3		DWP-SF
	09/12/90	17.7	313.6	331.3		DWP-SF
	10/16/90	18.0	313.7	331.7		DWP-SF
	11/19/90	18.1	313.6	331.7		DWP-SF

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SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-VPB-08	12/27/90	18.2	313.5	331.7		DWP-SF
	01/16/91	18.0	313.7	331.7		DWP-SF
	04/18/91	18.0	313.7	331.7		DWP-SF
	05/16/91	18.0	313.7	331.7		DWP-SF
	06/11/91	18.1	313.6	331.7		DWP-SF
	07/15/91	18.2	313.5	331.7		DWP-SF
	08/12/91	18.0	313.7	331.7		DWP-SF
	09/09/91	17.9	313.8	331.7		DWP-SF
	10/08/91	17.8	313.9	331.7		DWP-SF
	11/13/91	18.0	313.7	331.7		DWP-SF
	12/04/91	18.1	313.6	331.7		DWP-SF
	01/23/92	18.0	313.7	331.7		DWP-SF
	02/19/92	17.2	314.5	331.7		DWP-SF
	03/10/92	17.4	314.3	331.7		DWP-SF
PO-VPB-09	11/15/89	20.8	347.3	368.1		JMM
	05/23/90	17.9	350.1	368.1		DWP-SF
	06/14/90	20.9	347.2	368.1		DWP-SF
	07/23/90	19.9	348.2	368.1		DWP-SF
	08/10/90	20.0	348.1	368.1		DWP-SF
	09/12/90	21.0	347.0	368.1		DWP-SF
	09/20/90	35.2	333.7	368.9		JMM
	10/16/90	22.0	347.0	368.9		DWP-SF
	11/19/90	22.0	347.0	368.9		DWP-SF
	12/27/90	22.0	346.9	368.9		DWP-SF
	01/16/91	21.8	347.1	368.9		DWP-SF
	04/18/91	21.1	347.8	368.9		DWP-SF
	05/16/91	20.5	348.4	368.9		DWP-SF
	06/11/91	21.0	347.9	368.9		DWP-SF
	07/15/91	20.7	348.2	368.9		DWP-SF
	08/12/91	21.2	347.7	368.9		DWP-SF
	09/11/91	21.5	347.4	368.9		DWP-SF
	10/08/91	21.3	347.6	368.9		DWP-SF
	11/13/91	21.8	347.1	368.9		DWP-SF
	12/04/91	22.0	346.9	368.9		DWP-SF
	01/23/92	21.8	347.1	368.9		DWP-SF
	02/19/92	21.8	347.1	368.9		DWP-SF
	03/10/92	20.6	348.3	368.9		DWP-SF
PO-VPB-10	11/16/89	54.3	418.5	472.8		JMM
	05/31/90	57.9	415.7	473.6		DWP-SF
	06/15/90	60.3	413.3	473.6		DWP-SF
	07/23/90	60.5	413.1	473.6		DWP-SF
	08/10/90	60.6	413.0	473.6		DWP-SF
	09/12/90	60.8	412.8	473.6		DWP-SF
	09/19/90	61.4	412.9	474.3		JMM
	10/23/90	63.6	410.7	474.3		DWP-SF
	11/19/90	61.9	412.4	474.3		DWP-SF
	12/27/90	NR	NR	474.3		DWP-SF
	01/25/91	62.2	412.1	474.3		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
PO-VPB-10	04/18/91	NR	NR	474.3		DWP-SF
	05/16/91	63.4	410.9	474.3		DWP-SF
	06/13/91	62.8	411.5	474.3		DWP-SF
	07/18/91	63.0	411.3	474.3		DWP-SF
	08/14/91	62.9	411.4	474.3		DWP-SF
	09/09/91	62.9	411.4	474.3		DWP-SF
	10/08/91	63.1	411.2	474.3		DWP-SF
	11/13/91	63.2	411.1	474.3		DWP-SF
	12/04/91	NR	NR	474.3	NO MEASUREMENT	DWP-SF
	01/23/92	63.5	410.8	474.3		DWP-SF
	02/20/92	63.6	410.7	474.3		DWP-SF
	03/13/92	63.8	410.5	474.3		DWP-SF
PO-VPB-11	11/16/89	46.0	368.7	414.7		JMM
	05/21/90	37.0	377.6	414.6		DWP-SF
	06/14/90	37.4	377.3	414.6		DWP-SF
	07/23/90	37.9	376.8	414.6		DWP-SF
	08/10/90	38.2	376.5	414.6		DWP-SF
	09/12/90	38.7	375.9	414.6		DWP-SF
	09/20/90	39.3	375.8	415.1		JMM
	10/16/90	38.2	376.9	415.1		DWP-SF
	11/19/90	39.5	375.6	415.1		DWP-SF
	12/27/90	39.6	375.5	415.1		DWP-SF
	01/16/91	40.2	374.9	415.1		DWP-SF
	04/18/91	39.7	375.4	415.1		DWP-SF
	05/16/91	40.0	375.1	415.1		DWP-SF
	06/11/91	40.0	375.1	415.1		DWP-SF
	07/15/91	39.5	375.6	415.1		DWP-SF
	08/12/91	39.8	375.3	415.1		DWP-SF
	09/09/91	40.3	374.8	415.1		DWP-SF
	10/08/91	40.8	374.3	415.1		DWP-SF
	11/13/91	41.4	373.7	415.1		DWP-SF
	12/04/91	41.7	373.4	415.1		DWP-SF
	01/23/92	42.1	373.0	415.1		DWP-SF
	02/19/92	41.8	373.3	415.1		DWP-SF
	03/10/92	41.5	373.6	415.1		DWP-SF
VD-VPB-01	01/15/90	183.0	1214.4	1397.4		JMM
	05/21/90	184.7	1211.4	1396.1		DWP-SF
	06/14/90	185.6	1210.5	1396.1		DWP-SF
	07/23/90	187.3	1208.8	1396.1		DWP-SF
	08/10/90	188.3	1207.8	1396.1		DWP-SF
	09/10/90	191.8	1205.6	1397.4		JMM
	09/12/90	190.6	1205.5	1396.1		DWP-SF
	10/15/90	193.5	1203.2	1396.7		DWP-SF
	11/20/90	195.5	1201.2	1396.7		DWP-SF
	12/27/90	197.5	1199.2	1396.7		DWP-SF
	01/16/91	199.5	1197.2	1396.7		DWP-SF
	02/26/91	200.0	1196.7	1396.7		JMM
	04/18/91	201.5	1195.2	1396.7		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
VD-VPB-01	05/15/91	202.0	1194.7	1396.7		DWP-SF
	06/11/91	202.6	1194.1	1396.7		DWP-SF
	07/12/91	203.3	1193.4	1396.7		DWP-SF
	08/12/91	203.6	1193.1	1396.7		DWP-SF
	09/10/91	204.2	1192.5	1396.7		DWP-SF
	10/08/91	204.8	1191.9	1396.7		DWP-SF
	11/13/91	205.9	1190.8	1396.7		DWP-SF
	12/03/91	206.6	1190.1	1396.7		DWP-SF
	01/23/92	NR	NR	1396.7	DRY	DWP-SF
	02/19/92	NR	NR	1396.7	DRY	DWP-SF
	03/10/92	NR	NR	1396.7	DRY	DWP-SF
VD-VPB-02	12/20/89	108.4	1060.6	1169.0		JMM
	05/31/90	107.8	1061.9	1169.7		DWP-SF
	06/20/90	109.0	1060.7	1169.7		DWP-SF
	07/23/90	109.4	1060.3	1169.7		DWP-SF
	08/10/90	109.6	1060.1	1169.7		DWP-SF
	09/12/90	110.0	1059.7	1169.7		DWP-SF
	09/18/90	110.6	1059.5	1170.1		JMM
	10/15/90	111.0	1059.1	1170.1		DWP-SF
	11/20/90	111.5	1058.6	1170.1		DWP-SF
	12/27/90	NR	NR	1170.1		DWP-SF
	01/25/91	112.2	1057.9	1170.1		DWP-SF
	02/28/91	112.6	1057.5	1170.1		JMM
	03/15/91	115.1	1055.0	1170.1		JMM
	04/18/91	115.3	1054.8	1170.1		DWP-SF
	05/16/91	124.0	1046.1	1170.1		DWP-SF
	06/14/91	113.3	1056.8	1170.1		DWP-SF
	07/12/91	113.5	1056.6	1170.1		DWP-SF
	08/12/91	113.5	1056.6	1170.1		DWP-SF
	09/10/91	114.2	1055.9	1170.1		DWP-SF
	10/08/91	114.4	1055.7	1170.1		DWP-SF
	11/15/91	115.0	1055.1	1170.1		DWP-SF
	12/03/91	NR	NR	1170.1	NO MEASUREMENT	DWP-SF
	01/23/92	NR	NR	1170.1	NO MEASUREMENT	DWP-SF
	02/19/92	NR	NR	1170.1	NO MEASUREMENT	DWP-SF
	03/11/92	116.0	1054.1	1170.1		DWP-SF
VD-VPB-03	12/20/89	18.3	797.8	816.1		JMM
	05/21/90	19.0	797.4	816.4		DWP-SF
	06/14/90	19.3	797.1	816.4		DWP-SF
	07/23/90	19.7	796.7	816.4		DWP-SF
	08/10/90	19.9	796.5	816.4		DWP-SF
	09/12/90	20.2	796.2	816.4		DWP-SF
	09/21/90	19.4	797.4	816.8		JMM
	10/15/90	20.9	795.9	816.8		DWP-SF
	11/20/90	21.1	795.8	816.8		DWP-SF
	12/27/90	21.0	795.8	816.8		DWP-SF
	01/16/91	20.9	795.9	816.8		DWP-SF
	02/27/91	20.9	795.9	816.8		JMM

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
VD-VPB-03	04/18/91	19.8	797.0	816.8		DWP-SF
	05/15/91	20.3	796.5	816.8		DWP-SF
	06/11/91	20.7	796.1	816.8		DWP-SF
	07/12/91	20.6	796.2	816.8		DWP-SF
	08/12/91	21.2	795.6	816.8		DWP-SF
	09/10/91	21.5	795.3	816.8		DWP-SF
	10/08/91	21.0	795.8	816.8		DWP-SF
	11/13/91	22.3	794.5	816.8		DWP-SF
	12/03/91	22.5	794.3	816.8		DWP-SF
	01/23/92	22.5	794.3	816.8		DWP-SF
	02/19/92	21.0	795.8	816.8		DWP-SF
	03/10/92	20.5	796.3	816.8		DWP-SF
VD-VPB-04	12/21/89	82.3	903.7	986.0		JMM
	05/21/90	76.6	910.4	987.0		DWP-SF
	06/14/90	79.4	907.6	987.0		DWP-SF
	07/23/90	72.7	914.3	987.0		DWP-SF
	08/10/90	69.8	917.2	987.0		DWP-SF
	09/12/90	73.3	913.7	987.0		DWP-SF
	09/19/90	72.5	915.2	987.7		JMM
	10/15/90	75.4	912.3	987.7		DWP-SF
	11/20/90	75.0	912.7	987.7		DWP-SF
	12/27/90	80.0	907.7	987.7		DWP-SF
	01/16/91	82.9	904.8	987.7		DWP-SF
	02/27/91	82.5	905.2	987.7		JMM
	04/18/91	87.0	900.7	987.7		DWP-SF
	05/15/91	88.0	899.7	987.7		DWP-SF
	06/11/91	89.1	898.6	987.7		DWP-SF
	07/12/91	88.5	899.2	987.7		DWP-SF
	08/12/91	89.1	898.6	987.7		DWP-SF
	09/10/91	89.2	898.5	987.7		DWP-SF
	10/08/91	90.2	897.5	987.7		DWP-SF
	11/13/91	86.0	901.7	987.7		DWP-SF
	12/03/91	81.5	906.2	987.7		DWP-SF
	01/23/92	76.3	911.4	987.7		DWP-SF
	01/23/92	NR	NR	1217.0	DRY	DWP-SF
	02/19/92	73.5	914.2	987.7		DWP-SF
	03/10/92	76.5	911.2	987.7		DWP-SF
VD-VPB-05	01/11/90	136.2	1079.9	1216.1		JMM
	05/21/90	147.7	1068.8	1216.6	*PROBABLY INVALID DATA (CHECKED BY DWP)	DWP-SF
	06/14/90	139.1	1077.4	1216.6		DWP-SF
	07/23/90	139.4	1077.1	1216.6		DWP-SF
	08/10/90	139.6	1077.0	1216.6		DWP-SF
	09/12/90	140.1	1076.4	1216.6		DWP-SF
	09/19/90	140.7	1076.3	1217.0		JMM
	10/15/90	144.0	1073.0	1217.0		DWP-SF
	11/20/90	141.5	1075.5	1217.0		DWP-SF
	12/27/90	142.6	1074.4	1217.0		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
VD-VPB-05	01/16/91	124.2	1092.8	1217.0		DWP-SF
	02/28/91	142.6	1074.4	1217.0		JMM
	04/18/91	143.2	1073.8	1217.0		DWP-SF
	05/15/91	143.8	1073.2	1217.0		DWP-SF
	06/11/91	154.0	1063.0	1217.0	DRY	DWP-SF
	07/12/91	154.0	1063.0	1217.0	DRY	DWP-SF
	08/12/91	154.0	1063.0	1217.0	DRY	DWP-SF
	09/10/91	154.0	1063.0	1217.0	DRY	DWP-SF
	10/08/91	NR	NR	1217.0	DRY	DWP-SF
	11/13/91	NR	NR	1217.0	DRY	DWP-SF
	12/03/91	NR	NR	1217.0	DRY	DWP-SF
	02/19/92	NR	NR	1217.0	DRY	DWP-SF
	03/10/92	NR	NR	1217.0	DRY	DWP-SF
VD-VPB-06	01/11/90	72.8	1575.0	1647.8		JMM
	05/21/90	72.5	1576.1	1648.6		DWP-SF
	06/14/90	72.5	1576.1	1648.6		DWP-SF
	07/23/90	72.7	1575.9	1648.6		DWP-SF
	08/10/90	72.8	1575.7	1648.6		DWP-SF
	09/12/90	73.0	1575.6	1648.6		DWP-SF
	09/19/90	73.0	1576.2	1649.2		JMM
	10/15/90	73.7	1575.5	1649.2		DWP-SF
	11/20/90	74.0	1575.2	1649.2		DWP-SF
	12/27/90	74.1	1575.1	1649.2		DWP-SF
	01/16/91	74.2	1575.0	1649.2		DWP-SF
	03/06/91	74.7	1574.5	1649.2		JMM
	04/18/91	74.3	1574.9	1649.2		DWP-SF
	05/15/91	74.3	1574.9	1649.2		DWP-SF
	06/11/91	74.3	1574.9	1649.2		DWP-SF
	07/12/91	75.0	1574.2	1649.2		DWP-SF
	08/12/91	74.4	1574.8	1649.2		DWP-SF
	09/10/91	75.5	1573.7	1649.2		DWP-SF
	10/08/91	75.5	1573.7	1649.2		DWP-SF
	11/13/91	75.5	1573.7	1649.2		DWP-SF
	12/03/91	75.6	1573.6	1649.2		DWP-SF
	01/23/92	77.8	1571.4	1649.2		DWP-SF
	02/19/92	75.6	1573.6	1649.2		DWP-SF
	03/10/92	75.0	1574.2	1649.2		DWP-SF
VD-VPB-07	12/19/89	193.3	1651.5	1844.8		JMM
	05/21/90	196.2	1649.8	1846.0		DWP-SF
	06/14/90	196.5	1649.5	1846.0		DWP-SF
	07/23/90	196.7	1649.3	1846.0		DWP-SF
	08/10/90	196.6	1649.4	1846.0		DWP-SF
	09/10/90	198.0	1649.2	1847.2		JMM
	09/12/90	196.7	1649.3	1846.0		DWP-SF
	10/15/90	197.5	1649.0	1846.5		DWP-SF
	11/20/90	198.0	1648.5	1846.5		DWP-SF
	12/27/90	196.7	1649.8	1846.5		DWP-SF
	01/16/91	199.0	1647.5	1846.5		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

SAN FERNANDO VALLEY REMEDIAL INVESTIGATION
*** GROUNDWATER ELEVATION DATA ***

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft MSL)	Reference Point Elev. (ft MSL)	Remarks	Data Source
VD-VPB-07	03/04/91	200.0	1646.5	1846.5		JMM
	04/18/91	201.0	1645.5	1846.5		DWP-SF
	05/15/91	201.4	1645.1	1846.5		DWP-SF
	06/11/91	202.5	1644.0	1846.5		DWP-SF
	07/12/91	203.2	1643.3	1846.5		DWP-SF
	08/12/91	202.6	1643.9	1846.5		DWP-SF
	09/10/91	200.4	1646.1	1846.5		DWP-SF
	10/08/91	199.3	1647.2	1846.5		DWP-SF
	11/13/91	198.4	1648.1	1846.5		DWP-SF
	12/03/91	198.1	1648.4	1846.5		DWP-SF
	01/23/92	199.3	1647.2	1846.5		DWP-SF
	02/19/92	200.0	1646.5	1846.5		DWP-SF
	03/10/92	200.3	1646.2	1846.5		DWP-SF

Notes: NR = No reading or measurement
JMM = James M. Montgomery, Inc.
DWP-SF = LADWP Superfund Group

Appendix F

Soil Sample Summary Tables

APPENDIX F: SOIL SAMPLE SUMMARY TABLES

APPENDIX F.1 NORTH HOLLYWOOD VPBS

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

03/09/90

DATES AND LABORATORY NOS. FOR SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
NH-VPB-01	VOC	VPB	90	07/20/89	07/25/89	N/A	07/25/89	J77027	JMM
	VOC	VPB-DUP	90	07/20/89	07/25/89	N/A	07/25/89	J77028	JMM
	BNA	VPB	90	07/20/89	07/25/89	07/25/89	08/09/89	J77027	JMM
	PSTPCB	VPB	90	07/20/89	07/25/89	07/25/89	08/01/89	J77027	JMM
	METAL	VPB	90	07/20/89	07/25/89	N/A	08/02/89	J77027	JMM
NH-VPB-02	VOC	VPB	230	06/27/89	06/30/89	N/A	07/06/89	J65241	JMM
	BNA	VPB	230	06/27/89	06/30/89	06/30/89	07/10/89	J65241	JMM
	BNA	VPB-DUP	230	06/27/89	06/30/89	06/30/89	07/10/89	J65242	JMM
	PSTPCB	VPB	230	06/27/89	06/30/89	06/30/89	07/06/89	J65241	JMM
	METAL	VPB	230	06/27/89	06/30/89	N/A	07/19/89	J65241	JMM
NH-VPB-03	VOC	VPB-BS	80	05/30/89	06/06/89	N/A	06/08/89	J62952	JMM
	VOC	VPB	170	05/31/89	06/06/89	N/A	06/08/89	J62953	JMM
	BNA	VPB	80	05/30/89	06/06/89	06/12/89	06/15/89	J62951	JMM
	BNA	VPB	170	05/31/89	06/06/89	06/12/89	06/15/89	J62953	JMM
	PSTPCB	VPB	80	05/30/89	06/06/89	06/08/89	06/20/89	J62951	JMM
	PSTPCB	VPB	170	05/31/89	06/06/89	06/08/89	06/20/89	J62953	JMM
	PSTPCB	VPB-DUP	170	05/31/89	06/06/89	06/08/89	06/20/89	J62954	JMM
	METAL	VPB	80	05/30/89	06/06/89	N/A	06/30/89	J62951	JMM
	METAL	VPB	170	05/31/89	06/06/89	N/A	06/30/89	J62953	JMM
NH-VPB-04	VOC	VPB	150	07/25/89	07/27/89	N/A	08/03/89	J77280	JMM
	BNA	VPB	150	07/25/89	07/27/89	07/28/89	08/01/89	J77280	JMM
	PSTPCB	VPB	150	07/25/89	07/27/89	07/28/89	08/01/89	J77280	JMM
	METAL	VPB	150	07/25/89	07/27/89	N/A	08/01/89	J77280	JMM
	METAL	VPB-DUP	150	07/25/89	07/27/89	N/A	08/01/89	J77281	JMM
NH-VPB-05	VOC	VPB	150	05/25/89	05/31/89	N/A	06/06/89	J52417	JMM
	VOC	VPB-BS	150	05/25/89	05/31/89	N/A	06/06/89	J52420	JMM
	BNA	VPB	150	05/25/89	05/31/89	06/01/89	06/05/89	J52416	JMM
	PSTPCB	VPB	150	05/25/89	05/31/89	06/01/89	06/08/89	J52416	JMM
	METAL	VPB	150	05/25/89	05/31/89	N/A	06/16/89	J52416	JMM
NH-VPB-06	VOC	VPB	250	05/22/89	05/30/89	N/A	05/31/89	J52067	JMM
	BNA	VPB	250	05/22/89	05/30/89	05/31/89	06/02/89	J52068	JMM
	PSTPCB	VPB	250	05/22/89	05/30/89	05/31/89	06/08/89	J52067	JMM
	METAL	VPB	250	05/22/89	05/30/89	N/A	06/15/89	J52067	JMM
NH-VPB-07	VOC	VPB	180	06/17/89	06/23/89	N/A	06/28/89	J64652	JMM
	VOC	VPB	240	06/19/89	06/23/89	N/A	06/28/89	J64650	JMM
	BNA	VPB	180	06/17/89	06/23/89	06/26/89	07/01/89	J64652	JMM
	BNA	VPB	240	06/19/89	06/23/89	06/26/89	07/01/89	J64650	JMM
	PSTPCB	VPB	180	06/17/89	06/23/89	06/26/89	07/05/89	J64652	JMM
	PSTPCB	VPB	240	06/19/89	06/23/89	06/26/89	07/05/89	J64650	JMM
	PSTPCB	VPB-DUP	240	06/19/89	06/23/89	06/26/89	07/05/89	J64651	JMM
	METAL	VPB	180	06/17/89	06/23/89	N/A	07/03/89	J64652	JMM
	METAL	VPB	240	06/19/89	06/23/89	N/A	07/10/89	J64650	JMM
NH-VPB-08	VOC	VPB	180	05/16/89	05/22/89	N/A	05/22/89	J51500	JMM
	BNA	VPB	180	05/16/89	05/22/89	05/25/89	05/31/89	J51500	JMM
	PSTPCB	VPB	180	05/16/89	05/22/89	05/25/89	06/08/89	J51500	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

03/09/90

DATES AND LABORATORY NOS. FOR SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
NH-VPB-08	METAL	VPB	180	05/16/89	05/22/89	N/A	06/20/89	J51501	JMM
NH-VPB-09	VOC	VPB	210	06/13/89	06/15/89	N/A	06/21/89	J63876	JMM
	VOC	VPB-DUP	210	06/13/89	06/15/89	N/A	06/21/89	J63877	JMM
	VOC	VPB	266	06/15/89	06/16/89	N/A	06/21/89	J63960	JMM
	BNA	VPB	210	06/13/89	06/15/89	06/20/89	06/26/89	J63876	JMM
	BNA	VPB	266	06/15/89	06/16/89	06/22/89	06/30/89	J63960	JMM
	PSTPCB	VPB	210	06/13/89	06/15/89	06/19/89	06/28/89	J63876	JMM
	METAL	VPB	210	06/13/89	06/15/89	N/A	07/03/89	J63876	JMM
	HYDROC	VPB	266	06/15/89	06/16/89	N/A	06/27/89	J63960	JMM
NH-VPB-10	VOC	VPB-BS	230	06/01/89	06/06/89	N/A	06/08/89	J62955	JMM
	VOC	VPB	290	06/02/89	06/13/89	N/A	06/14/89	J63530	JMM
	BNA	VPB	230	06/01/89	06/06/89	06/12/89	06/27/89	J62956	JMM
	BNA	VPB-DUP	230	06/01/89	06/06/89	06/12/89	06/16/89	J62957	JMM
	BNA	VPB	290	06/02/89	06/13/89	06/20/89	06/26/89	J63530	JMM
	BNA	VPB-DUP	290	06/02/89	06/13/89	06/20/89	06/26/89	J63531	JMM
	PSTPCB	VPB	230	06/01/89	06/06/89	06/08/89	06/20/89	J62956	JMM
	PSTPCB	VPB	290	06/02/89	06/13/89	06/14/89	06/20/89	J63530	JMM
	METAL	VPB	230	06/01/89	06/06/89	N/A	06/30/89	J62956	JMM
	METAL	VPB	290	06/02/89	06/13/89	N/A	06/30/89	J63530	JMM
NH-VPB-11	VOC	VPB	250	07/31/89	08/04/89	N/A	08/14/89	J87834	JMM
	BNA	VPB	250	07/31/89	08/04/89	08/07/89	08/10/89	J87834	JMM
	PSTPCB	VPB	250	07/31/89	08/04/89	08/07/89	08/10/89	J87834	JMM
	METAL	VPB	250	07/31/89	08/04/89	N/A	08/14/89	J87834	JMM
NH-VPB-12	VOC	VPB	140	06/06/89	06/15/89	N/A	06/17/89	J63878	JMM
	BNA	VPB	140	06/06/89	06/15/89	06/20/89	06/27/89	J63878	JMM
	PSTPCB	VPB	140	06/06/89	06/15/89	06/19/89	06/28/89	J63878	JMM
	METAL	VPB	140	06/06/89	06/15/89	N/A	06/30/89	J63878	JMM
	METAL	VPB-DUP	140	06/06/89	06/15/89	N/A	06/30/89	J63879	JMM
NH-VPB-13	VOC	VPB	290	07/07/89	07/11/89	N/A	07/13/89	J75983	JMM
	BNA	VPB	290	07/07/89	07/11/89	07/11/89	07/14/89	J75983	JMM
	PSTPCB	VPB	290	07/07/89	07/11/89	07/11/89	07/18/89	J75983	JMM
	METAL	VPB	290	07/07/89	07/11/89	N/A	07/25/89	J75983	JMM
NH-VPB-14	VOC	VPB	60	06/22/89	06/26/89	N/A	06/28/89	J64883	JMM
	VOC	VPB	90	06/22/89	06/26/89	N/A	06/28/89	J64884	JMM
	BNA	VPB	60	06/22/89	06/26/89	06/28/89	07/01/89	J64883	JMM
	BNA	VPB	90	06/22/89	06/26/89	06/28/89	07/01/89	J64884	JMM
	PSTPCB	VPB	60	06/22/89	06/26/89	06/27/89	07/05/89	J64883	JMM
	PSTPCB	VPB	90	06/22/89	06/26/89	06/27/89	07/05/89	J64884	JMM
	METAL	VPB	60	06/22/89	06/26/89	N/A	07/19/89	J64883	JMM
	METAL	VPB	90	06/22/89	06/26/89	N/A	07/19/89	J64884	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acetone Value	Acetone DL	Methylene Chloride Value	Methylene Chloride DL	Tetrahydrofuran Value	Tetrahydrofuran DL	Toluene Value	Toluene DL	1,1,1-Trichloroethane Value	1,1,1-Trichloroethane DL
NH-VPB-01	VPB	90	07/20/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
	VPB-DUP	90	07/20/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-02	VPB	230	06/27/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-03	VPB-BS	80	05/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
	VPB	170	05/31/89	JMM	0.62	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-04	VPB	150	07/25/89	JMM	ND	0.05	0.09	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-05	VPB	150	05/25/89	JMM	0.08	0.05	ND	0.05	ND	0.05	ND	0.05	0.005	0.005
	VPB-BS	150	05/25/89	JMM	0.21	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-06	VPB	250	05/22/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-07	VPB	180	06/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.05	0.05	ND	0.005
	VPB	240	06/19/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.06	0.05	ND	0.005
NH-VPB-08	VPB	180	05/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-09	VPB	210	06/13/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
	VPB-DUP	210	06/13/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
	VPB	266	06/15/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-10	VPB-BS	230	06/01/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
	VPB	290	06/02/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-11	VPB	250	07/31/89	JMM	ND	0.05	ND	0.05	0.1	0.05	ND	0.05	ND	0.005
NH-VPB-12	VPB	140	06/06/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.05	0.05	ND	0.005
NH-VPB-13	VPB	290	07/07/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005
NH-VPB-14	VPB	60	06/22/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.08	0.05	ND	0.005
	VPB	90	06/22/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample, BS=Sample collected with a brass sleeve.
Soil samples are analyzed according to method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	o-Xylene Value	o-Xylene DL
NH-VPB-01	VPB	90	07/20/89	JMM	ND	0.005
	VPB-DUP	90	07/20/89	JMM	ND	0.005
NH-VPB-02	VPB	230	06/27/89	JMM	ND	0.005
NH-VPB-03	VPB-BS	80	05/30/89	JMM	ND	0.005
	VPB	170	05/31/89	JMM	ND	0.005
NH-VPB-04	VPB	150	07/25/89	JMM	ND	0.005
NH-VPB-05	VPB	150	05/25/89	JMM	ND	0.005
	VPB-BS	150	05/25/89	JMM	ND	0.005
NH-VPB-06	VPB	250	05/22/89	JMM	ND	0.005
NH-VPB-07	VPB	180	06/17/89	JMM	ND	0.005
	VPB	240	06/19/89	JMM	ND	0.005
NH-VPB-08	VPB	180	05/16/89	JMM	ND	0.005
NH-VPB-09	VPB	210	06/13/89	JMM	ND	0.005
	VPB-DUP	210	06/13/89	JMM	ND	0.005
	VPB	266	06/15/89	JMM	ND	0.005
NH-VPB-10	VPB-BS	230	06/01/89	JMM	ND	0.005
	VPB	290	06/02/89	JMM	ND	0.005
NH-VPB-11	VPB	250	07/31/89	JMM	ND	0.005
NH-VPB-12	VPB	140	06/06/89	JMM	0.006	0.005
NH-VPB-13	VPB	290	07/07/89	JMM	ND	0.005
NH-VPB-14	VPB	60	06/22/89	JMM	ND	0.005
	VPB	90	06/22/89	JMM	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample, BS=Sample collected with a brass sleeve.
Soil samples are analyzed according to method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Di-n-butylphthalate Value	Di-n-butylphthalate DL	Pentachlorophenol Value	Pentachlorophenol DL	Pyrene Value	Pyrene DL
NH-VPB-01	VPB	90	07/20/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-02	VPB	230	06/27/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB-DUP	230	06/27/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-03	VPB	80	05/30/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB	170	05/31/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-04	VPB	150	07/25/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-05	VPB	150	05/25/89	JMM	1.6	0.50	1.2	2.0	0.2	0.50
NH-VPB-06	VPB	250	05/22/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-07	VPB	180	06/17/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB	240	06/19/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-08	VPB	180	05/16/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-09	VPB	210	06/13/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB	266	06/15/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-10	VPB	230	06/01/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB-DUP	230	06/01/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB	290	06/02/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB-DUP	290	06/02/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-11	VPB	250	07/31/89	JMM	4.6	0.50	ND	2.0	ND	0.50
NH-VPB-12	VPB	140	06/06/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-13	VPB	290	07/07/89	JMM	ND	0.50	ND	2.0	ND	0.50
NH-VPB-14	VPB	60	06/22/89	JMM	ND	0.50	ND	2.0	ND	0.50
	VPB	90	06/22/89	JMM	ND	0.50	ND	2.0	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample, BS=Sample collected with a brass sleeve.
Soil samples are anaylzed according to method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony	Total Arsenic	Total Beryllium	Total Cadmium	Total Chromium	Total Copper	Total Lead	Total Mercury	Total Nickel	Total Selenium
NH-VPB-01	VPB	90	07/20/89	JMM	<0.5	1.4	<0.4	<0.3	4.1	17	<4.1	0.02	<1.5	<0.5
NH-VPB-02	VPB	230	06/27/89	JMM	<0.2	0.30	<0.4	<0.3	1.4	7.1	<0.2	0.05	<1.5	<0.1
NH-VPB-03	VPB	80	05/30/89	JMM	<4.1	0.5	<0.4	<0.3	2.4	86	<0.2	0.06	<1.5	<0.1
	VPB	170	05/31/89	JMM	<0.2	0.3	<0.4	<0.3	3.7	40	<4.1	0.05	<1.5	<0.1
NH-VPB-04	VPB	150	07/25/89	JMM	<0.5	<5.0	<0.4	<0.3	3.2	12	<4.1	0.03	<1.5	<5.0
	VPB-DUP	150	07/25/89	JMM	<0.5	<5.0	<0.4	<0.3	3.9	16	<4.1	0.02	<1.5	<5.0
NH-VPB-05	VPB	150	05/25/89	JMM	<0.2	<1.0	<0.4	<0.3	6.5	19	<4.1	0.40	2.0	<1.0
NH-VPB-06	VPB	250	05/22/89	JMM	<0.2	1.0	<0.4	<0.3	5.6	13	<4.1	0.52	<1.5	<1.0
NH-VPB-07	VPB	180	06/17/89	JMM	<0.2	0.2	<0.4	0.3	9.4	39	<4.1	<0.02	3.9	<0.1
	VPB	240	06/19/89	JMM	<0.2	<0.1	<0.4	<0.3	6.0	36	<4.1	<0.02	2.2	<0.1
NH-VPB-08	VPB	180	05/16/89	JMM	<0.2	<1.0	1.1	<0.3	15	8.0	<4.1	0.14	6.5	<1.0
NH-VPB-09	VPB	210	06/13/89	JMM	<0.2	0.4	<0.4	1.1	3.3	21	<4.1	0.04	<1.5	<0.1
NH-VPB-10	VPB	230	06/01/89	JMM	<4.1	<1.0	0.4	<0.3	27	34	<0.2	<0.02	39	<0.1
	VPB	290	06/02/89	JMM	<0.2	0.2	<0.4	<0.3	13	30	<4.1	<0.02	14	<0.1
NH-VPB-11	VPB	250	07/31/89	JMM	<5.0	<0.5	<2.0	<0.3	<5.0	42	4.0	<0.02	<5.0	<0.5
NH-VPB-12	VPB	140	06/06/89	JMM	<0.2	2.6	<0.4	1.7	16	30	<4.1	<0.02	4.6	<0.1
	VPB-DUP	140	06/06/89	JMM	<0.2	2.7	<0.4	1.3	16	31	<4.1	<0.02	5.0	0.1
NH-VPB-13	VPB	290	07/07/89	JMM	<0.5	0.8	<0.4	<0.3	9.3	27	<0.2	<0.02	2.8	<0.5
NH-VPB-14	VPB	60	06/22/89	JMM	0.2	6.2	<0.4	<0.3	25	65	<4.1	0.04	18	0.30
	VPB	90	06/22/89	JMM	<0.2	0.70	<0.4	<0.3	<1.4	22	<4.1	0.03	2.1	<0.1

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample, BS=Sample collected with a brass sleeve.
Soil samples were analyzed according to the individual method for each metal as listed in the Analytical Methods Reference tables in the text.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver	Total Thallium	Total Zinc
NH-VPB-01	VPB	90	07/20/89	JMM	<0.5	<1.0	23
NH-VPB-02	VPB	230	06/27/89	JMM	<0.5	<0.5	14
NH-VPB-03	VPB	80	05/30/89	JMM	<0.5	<0.5	19
	VPB	170	05/31/89	JMM	<0.5	<0.5	18
NH-VPB-04	VPB	150	07/25/89	JMM	0.8	<1.0	19
	VPB-DUP	150	07/25/89	JMM	<0.05	<1.0	21
NH-VPB-05	VPB	150	05/25/89	JMM	2.2	<0.5	26
NH-VPB-06	VPB	250	05/22/89	JMM	8.6	<0.5	21
NH-VPB-07	VPB	180	06/17/89	JMM	<0.5	<0.5	54
	VPB	240	06/19/89	JMM	<0.5	<0.5	45
NH-VPB-08	VPB	180	05/16/89	JMM	1.6	<0.5	31
NH-VPB-09	VPB	210	06/13/89	JMM	<0.5	<0.5	23
NH-VPB-10	VPB	230	06/01/89	JMM	<0.5	0.5	54
	VPB	290	06/02/89	JMM	<0.5	<0.5	53
NH-VPB-11	VPB	250	07/31/89	JMM	<2.0	<10	38
NH-VPB-12	VPB	140	06/06/89	JMM	<0.5	<0.5	42
	VPB-DUP	140	06/06/89	JMM	<0.5	<0.5	42
NH-VPB-13	VPB	290	07/07/89	JMM	<0.5	<1.0	34
NH-VPB-14	VPB	60	06/22/89	JMM	0.8	<0.5	78
	VPB	90	06/22/89	JMM	<0.5	<0.5	20

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample, BS=Sample collected with a brass sleeve.
Soil samples were analyzed according to the individual method for each metal as listed in the Analytical Methods Reference tables in the text.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

03/09/90

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
NH-VPB-01	VOC	WASTE SOIL		07/20/89	07/21/89	N/A	07/24/89	J76760	JMM
	BNA	WASTE SOIL		07/20/89	07/21/89	07/24/89	07/27/89	J76760	JMM
	PSTPCB	WASTE SOIL		07/20/89	07/21/89	07/24/89	07/26/89	J76760	JMM
	METAL	WASTE SOIL		07/20/89	07/21/89	N/A	08/01/89	J76760	JMM
NH-VPB-02	VOC	WASTE SOIL		06/28/89	06/29/89	N/A	07/06/89	J65204	JMM
	BNA	WASTE SOIL		06/28/89	06/29/89	06/30/89	07/10/89	J65204	JMM
	PSTPCB	WASTE SOIL		06/28/89	06/29/89	06/30/89	07/06/89	J65204	JMM
	METAL	WASTE SOIL		06/28/89	06/29/89	N/A	07/19/89	J65204	JMM
NH-VPB-03	VOC	WASTE SOIL		06/02/89	06/05/89	N/A	06/08/89	J62768	JMM
	BNA	WASTE SOIL		06/02/89	06/05/89	06/12/89	06/16/89	J62768	JMM
	PSTPCB	WASTE SOIL		06/02/89	06/05/89	06/08/89	06/20/89	J62768	JMM
	METAL	WASTE SOIL		06/02/89	06/05/89	N/A	06/30/89	J62768	JMM
NH-VPB-04	VOC	WASTE SOIL		07/26/89	07/26/89	N/A	07/27/89	J77194	JMM
	VOC	WASTE SOIL		08/17/89	08/17/89	N/A	08/22/89	J88923	JMM
	BNA	WASTE SOIL		07/26/89	07/26/89	07/26/89	08/01/89	J77194	JMM
	PSTPCB	WASTE SOIL		07/26/89	07/26/89	07/26/89	07/26/89	J77194	JMM
	METAL	WASTE SOIL		07/26/89	07/26/89	N/A	08/01/89	J77194	JMM
NH-VPB-05	VOC	WASTE SOIL		06/21/89	06/22/89	N/A	06/23/89	J64443	JMM
	BNA	WASTE SOIL		06/21/89	06/22/89	06/22/89	06/27/89	J64447	JMM
	PSTPCB	WASTE SOIL		06/21/89	06/22/89	06/22/89	06/28/89	J64447	JMM
	METAL	WASTE SOIL		06/21/89	06/22/89	N/A	07/05/89	J64445	JMM
NH-VPB-06	VOC	WASTE SOIL		05/24/89	05/25/89	N/A	05/30/89	J51929	JMM
	BNA	WASTE SOIL		05/24/89	05/25/89	05/30/89	06/01/89	J51929	JMM
	PSTPCB	WASTE SOIL		05/24/89	05/25/89	05/30/89	06/08/89	J51929	JMM
	METAL	WASTE SOIL		05/24/89	05/25/89	N/A	06/14/89	J51929	JMM
	METAL	WASTE SOIL		07/12/89	07/13/89	N/A	07/19/89	J76181	JMM
	METAL	WASTE STLC		07/12/89	07/13/89	N/A	07/20/89	J76182	JMM
NH-VPB-07	VOC	WASTE SOIL		06/21/89	06/22/89	N/A	06/23/89	J64442	JMM
	BNA	WASTE SOIL		06/21/89	06/22/89	06/22/89	06/27/89	J64446	JMM
	PSTPCB	WASTE SOIL		06/21/89	06/22/89	06/22/89	06/28/89	J64446	JMM
	METAL	WASTE SOIL		06/21/89	06/22/89	N/A	07/05/89	J64444	JMM
NH-VPB-08	VOC	ROLLOFF BOX		05/18/89	05/19/89	N/A	05/22/89	J51419	JMM
	BNA	ROLLOFF BOX		05/18/89	05/19/89	05/19/89	05/23/89	J51419	JMM
	PSTPCB	ROLLOFF BOX		05/18/89	05/19/89	05/19/89	05/27/89	J51419	JMM
	METAL	ROLLOFF BOX		05/18/89	05/19/89	N/A	06/02/89	J51419	JMM
NH-VPB-09	VOC	WASTE SOIL		06/14/89	06/15/89	N/A	06/15/89	J63818	JMM
	BNA	WASTE SOIL		06/14/89	06/15/89	06/19/89	06/26/89	J63818	JMM
	PSTPCB	WASTE SOIL		06/14/89	06/15/89	06/19/89	06/28/89	J63818	JMM
	METAL	WASTE SOIL		06/14/89	06/15/89	N/A	06/30/89	J63818	JMM
NH-VPB-10	VOC	WASTE SOIL		06/06/89	06/07/89	N/A	06/08/89	J63015	JMM
	BNA	WASTE SOIL		06/06/89	06/07/89	06/19/89	06/26/89	J63015	JMM
	PSTPCB	WASTE SOIL		06/06/89	06/07/89	06/14/89	06/20/89	J63015	JMM
	METAL	WASTE SOIL		06/06/89	06/07/89	N/A	06/30/89	J63015	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

03/09/90

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
NH-VPB-11	VOC	WASTE SOIL		08/01/89	08/02/89	N/A	08/03/89	J87634	JMM
	BNA	WASTE SOIL		08/01/89	08/02/89	08/02/89	08/03/89	J87634	JMM
	PSTPCB	WASTE SOIL		08/01/89	08/02/89	08/02/89	08/04/89	J87634	JMM
	METAL	WASTE SOIL		08/01/89	08/02/89	N/A	08/10/89	J87634	JMM
NH-VPB-12	VOC	WASTE SOIL		06/07/89	06/08/89	N/A	06/09/89	J63227	JMM
	BNA	WASTE SOIL		06/07/89	06/08/89	06/19/89	06/26/89	J63227	JMM
	PSTPCB	WASTE SOIL		06/07/89	06/08/89	06/14/89	06/20/89	J63227	JMM
	METAL	WASTE SOIL		06/07/89	06/08/89	N/A	06/30/89	J63227	JMM
NH-VPB-13	VOC	WASTE SOIL		07/10/89	07/11/89	N/A	07/13/89	J75982	JMM
	BNA	WASTE SOIL		07/10/89	07/11/89	07/11/89	07/14/89	J75982	JMM
	PSTPCB	WASTE SOIL		07/10/89	07/11/89	07/11/89	07/18/89	J75982	JMM
	METAL	WASTE SOIL		07/10/89	07/11/89	N/A	07/25/89	J75982	JMM
NH-VPB-14	VOC	WASTE SOIL		06/22/89	06/23/89	N/A	06/28/89	J64686	JMM
	BNA	WASTE SOIL		06/22/89	06/23/89	06/26/89	07/01/89	J64686	JMM
	PSTPCB	WASTE SOIL		06/22/89	06/23/89	06/26/89	07/05/89	J64686	JMM
	METAL	WASTE SOIL		06/22/89	06/23/89	N/A	07/19/89	J64686	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acetone Value	Acetone DL	Carbon Disulfide Value	Carbon Disulfide DL
NH-VPB-01	WASTE SOIL		07/20/89	JMM	ND	0.05	ND	ND
NH-VPB-02	WASTE SOIL		06/28/89	JMM	ND	0.05	ND	ND
NH-VPB-03	WASTE SOIL		06/02/89	JMM	0.45	0.05	ND	ND
NH-VPB-04	WASTE SOIL		07/26/89	JMM	ND	0.05	0.04	0.04
	WASTE SOIL		08/17/89	JMM	ND	0.05	ND	ND
NH-VPB-05	WASTE SOIL		06/21/89	JMM	ND	0.05	ND	ND
NH-VPB-06	WASTE SOIL		05/24/89	JMM	0.1	0.05	ND	ND
NH-VPB-07	WASTE SOIL		06/21/89	JMM	ND	0.05	ND	ND
NH-VPB-08	ROLLOFF BOX		05/18/89	JMM	ND	0.05	ND	ND
NH-VPB-09	WASTE SOIL		06/14/89	JMM	ND	0.05	ND	ND
NH-VPB-10	WASTE SOIL		06/06/89	JMM	ND	0.05	ND	ND
NH-VPB-11	WASTE SOIL		08/01/89	JMM	ND	0.05	ND	ND
NH-VPB-12	WASTE SOIL		06/07/89	JMM	1.5	0.05	ND	ND
NH-VPB-13	WASTE SOIL		07/10/89	JMM	ND	0.05	ND	ND
NH-VPB-14	WASTE SOIL		06/22/89	JMM	ND	0.05	ND	ND

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample.
Soil samples are analyzed according to method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony	Total Arsenic	Total Beryllium	Total Cadmium	Total Chromium	Total Copper	Total Lead	Total Mercury	Total Nickel	Total Selenium
NH-VPB-01	WASTE SOIL		07/20/89	JMM	<5.0	1.1	0.8	0.3	6.4	8.3	<4.1	0.04	4.0	<0.5
NH-VPB-02	WASTE SOIL		06/28/89	JMM	<0.2	0.60	<0.4	<0.3	4.5	14	<0.2	0.04	2.8	<0.1
NH-VPB-03	WASTE SOIL		06/02/89	JMM	0.03	0.6	<0.4	<0.3	5.5	210	<4.1	0.02	<1.5	<0.1
NH-VPB-04	WASTE SOIL		07/26/89	JMM	<0.5	<5.0	<0.4	<0.3	3.2	5.6	<4.1	0.02	<1.5	<5.0
NH-VPB-05	WASTE SOIL		06/21/89	JMM	<0.2	0.3	<0.4	1.2	1.8	6.4	<4.1	<0.02	<1.5	<0.1
NH-VPB-06	WASTE SOIL		05/24/89	JMM	0.2	1.0	<0.4	<0.3	5.3	6.3	<4.1	0.44	<1.5	<1.0
	WASTE SOIL		07/12/89	JMM	NA	NA	NA	NA	NA	NA	NA	0.02	NA	NA
	WASTE STLC		07/12/89	JMM	NA	NA	NA	NA	NA	NA	NA	0.002	NA	NA
NH-VPB-07	WASTE SOIL		06/21/89	JMM	<0.2	0.4	<0.4	1.4	2.6	9.1	<4.1	0.04	<1.5	<0.1
NH-VPB-08	ROLLOFF BOX		05/18/89	JMM	0.4	0.1	<0.4	<0.3	1.6	3.6	1.8	<0.02	<1.5	<0.1
NH-VPB-09	WASTE SOIL		06/14/89	JMM	<0.2	0.7	0.4	<0.3	3.9	8.1	<4.1	<0.02	<1.5	<0.1
NH-VPB-10	WASTE SOIL		06/06/89	JMM	0.5	1.2	<0.4	<0.3	13	28	<4.1	<0.02	17	<0.1
NH-VPB-11	WASTE SOIL		08/01/89	JMM	<5.0	0.5	<2.0	<0.3	4.1	7.7	1.2	<0.02	<5.0	<0.5
NH-VPB-12	WASTE SOIL		06/07/89	JMM	0.3	1.0	<0.4	<0.3	8.5	12	<4.1	<0.02	5.4	<1.0
NH-VPB-13	WASTE SOIL		07/10/89	JMM	<0.5	0.6	<0.4	<0.3	5.7	10	<0.2	<0.02	<1.5	<0.5
NH-VPB-14	WASTE SOIL		06/22/89	JMM	<0.2	1.3	<0.4	<0.3	7.0	20	<0.2	0.03	4.7	<0.5

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample.
Soil samples were analyzed according to the individual method for each metal as listed in the Analytical Methods Reference tables in the text.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM NORTH HOLLYWOOD VPB PHASE 1
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver	Total Thallium	Total Zinc
NH-VPB-01	WASTE SOIL		07/20/89	JMM	<0.5	<10	26
NH-VPB-02	WASTE SOIL		06/28/89	JMM	<0.5	<0.5	17
NH-VPB-03	WASTE SOIL		06/02/89	JMM	<0.5	<0.5	19
NH-VPB-04	WASTE SOIL		07/26/89	JMM	<0.5	<1.0	13
NH-VPB-05	WASTE SOIL		06/21/89	JMM	1.1	<0.5	13
NH-VPB-06	WASTE SOIL		05/24/89	JMM	2.4	<0.5	19
	WASTE SOIL		07/12/89	JMM	NA	NA	NA
	WASTE STLC		07/12/89	JMM	NA	NA	NA
NH-VPB-07	WASTE SOIL		06/21/89	JMM	1.0	<0.5	17
NH-VPB-08	ROLLOFF BOX		05/18/89	JMM	<0.5	<0.5	7.1
NH-VPB-09	WASTE SOIL		06/14/89	JMM	<0.5	<0.5	27
NH-VPB-10	WASTE SOIL		06/06/89	JMM	<0.5	<0.5	38
NH-VPB-11	WASTE SOIL		08/01/89	JMM	<2.0	<10	16
NH-VPB-12	WASTE SOIL		06/07/89	JMM	<0.5	<0.5	24
NH-VPB-13	WASTE SOIL		07/10/89	JMM	<0.5	<1.0	19
NH-VPB-14	WASTE SOIL		06/22/89	JMM	0.5	<0.5	26

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, DUP=Duplicate sample.
Soil samples were analyzed according to the individual method for each metal as listed in the Analytical Methods Reference tables in the text.

APPENDIX F: SOIL SAMPLE SUMMARY TABLES

APPENDIX F.2 CRYSTAL SPRINGS VPBS

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

05/15/90

DATES AND LABORATORY NOS. FOR SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
CS-VPB-01	VOC	VPB	30	08/28/89	08/31/89	N/A	09/06/89	J89973	JMM
	VOC	VPB	60	08/28/89	08/31/89	N/A	09/06/89	J89974	JMM
	BNA	VPB	30	08/28/89	08/31/89	09/05/89	09/07/89	J89973	JMM
	BNA	VPB	60	08/28/89	08/31/89	09/05/89	09/07/89	J89974	JMM
	PSTPCB	VPB	30	08/28/89	08/31/89	09/05/89	09/09/89	J89973	JMM
	PSTPCB	VPB	60	08/28/89	08/31/89	09/05/89	09/09/89	J89974	JMM
	METAL	VPB	30	08/28/89	08/31/89	N/A	09/14/89	J89973	JMM
	METAL	VPB	60	08/28/89	08/31/89	N/A	09/14/89	J89974	JMM
CS-VPB-02	VOC	VPB	60	08/14/89	08/23/89	N/A	08/24/89	J89352	JMM
	VOC	VPB	70	08/14/89	08/23/89	N/A	08/24/89	J89351	JMM
	VOC	VPB-DUP	60	08/14/89	08/23/89	N/A	08/24/89	J89353	JMM
	BNA	VPB	60	08/14/89	08/23/89	08/24/89	08/28/89	J89352	JMM
	BNA	VPB	70	08/14/89	08/23/89	08/24/89	08/28/89	J89351	JMM
	PSTPCB	VPB	60	08/14/89	08/23/89	08/24/89	08/29/89	J89352	JMM
	PSTPCB	VPB	70	08/14/89	08/23/89	08/24/89	08/29/89	J89351	JMM
	METAL	VPB	70	08/14/89	08/23/89	N/A	08/31/89	J89351	JMM
	METAL	VPB	60	08/14/89	08/23/89	N/A	08/31/89	J89352	JMM
CS-VPB-03	VOC	VPB	50	08/15/89	08/23/89	N/A	08/24/89	J89355	JMM
	VOC	VPB	70	08/16/89	08/23/89	N/A	08/24/89	J89354	JMM
	BNA	VPB	50	08/15/89	08/23/89	08/25/89	08/31/89	J89355	JMM
	BNA	VPB	70	08/16/89	08/23/89	08/24/89	08/28/89	J89354	JMM
	PSTPCB	VPB	50	08/15/89	08/23/89	08/24/89	08/29/89	J89355	JMM
	PSTPCB	VPB	70	08/16/89	08/23/89	08/24/89	08/29/89	J89354	JMM
	METAL	VPB	50	08/15/89	08/23/89	N/A	08/31/89	J89355	JMM
	METAL	VPB	70	08/16/89	08/23/89	N/A	08/31/89	J89354	JMM
CS-VPB-04	VOC	VPB	20	08/16/89	08/23/89	N/A	08/24/89	J89358	JMM
	VOC	VPB	50	08/16/89	08/23/89	N/A	08/24/89	J89359	JMM
	BNA	VPB	20	08/16/89	08/23/89	08/24/89	08/28/89	J89358	JMM
	BNA	VPB	50	08/16/89	08/23/89	08/24/89	08/28/89	J89359	JMM
	PSTPCB	VPB	20	08/16/89	08/23/89	08/24/89	08/29/89	J89358	JMM
	PSTPCB	VPB	50	08/16/89	08/23/89	08/24/89	08/29/89	J89359	JMM
	METAL	VPB	20	08/16/89	08/23/89	N/A	08/31/89	J89358	JMM
	METAL	VPB	50	08/16/89	08/23/89	N/A	08/31/89	J89359	JMM
CS-VPB-05	VOC	VPB	40	08/17/89	08/25/89	N/A	08/29/89	J89605	JMM
	VOC	VPB	20	08/17/89	08/25/89	N/A	08/29/89	J89604	JMM
	BNA	VPB	20	08/17/89	08/25/89	08/30/89	09/01/89	J89604	JMM
	BNA	VPB	40	08/17/89	08/25/89	08/30/89	09/01/89	J89605	JMM
	BNA	VPB-DUP	40	08/17/89	08/25/89	08/30/89	09/01/89	J89606	JMM
	PSTPCB	VPB	20	08/17/89	08/25/89	08/30/89	09/01/89	J89604	JMM
	PSTPCB	VPB	40	08/17/89	08/25/89	08/30/89	09/01/89	J89605	JMM
	METAL	VPB	20	08/17/89	08/25/89	N/A	09/06/89	J89604	JMM
	METAL	VPB	40	08/17/89	08/25/89	N/A	09/06/89	J89605	JMM
CS-VPB-06	VOC	VPB	20	08/30/89	08/31/89	N/A	09/06/89	J80007	JMM
	VOC	VPB	30	08/30/89	08/31/89	N/A	09/06/89	J80008	JMM
	BNA	VPB	20	08/30/89	08/31/89	09/05/89	09/07/89	J80007	JMM
	BNA	VPB	30	08/30/89	08/31/89	09/05/89	09/07/89	J80008	JMM
	PSTPCB	VPB	20	08/30/89	08/31/89	09/05/89	09/09/89	J80007	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

05/15/90

DATES AND LABORATORY NOS. FOR SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
CS-VPB-06	PSTPCB	VPB	30	08/30/89	08/31/89	09/05/89	09/09/89	J80008	JMM
	METAL	VPB	20	08/30/89	08/31/89	N/A	09/14/89	J80007	JMM
	METAL	VPB	30	08/30/89	08/31/89	N/A	09/14/89	J80008	JMM
CS-VPB-07	VOC	VPB	40	08/21/89	08/25/89	N/A	08/29/89	J89602	JMM
	VOC	VPB	50	08/21/89	08/25/89	N/A	08/29/89	J89603	JMM
	BNA	VPB	40	08/21/89	08/25/89	08/30/89	09/01/89	J89602	JMM
	BNA	VPB	50	08/21/89	08/25/89	08/30/89	09/01/89	J89603	JMM
	PSTPCB	VPB	40	08/21/89	08/25/89	08/30/89	09/01/89	J89602	JMM
	PSTPCB	VPB	50	08/21/89	08/25/89	08/30/89	09/01/89	J89603	JMM
	METAL	VPB	40	08/21/89	08/25/89	N/A	09/06/89	J89602	JMM
	METAL	VPB	50	08/21/89	08/25/89	N/A	09/06/89	J89603	JMM
CS-VPB-08	VOC	VPB	20	08/23/89	08/25/89	N/A	08/29/89	J89611	JMM
	VOC	VPB	40	08/23/89	08/25/89	N/A	08/29/89	J89612	JMM
	BNA	VPB	20	08/23/89	08/25/89	08/30/89	09/01/89	J89611	JMM
	BNA	VPB	40	08/23/89	08/25/89	08/30/89	09/01/89	J89612	JMM
	PSTPCB	VPB	20	08/23/89	08/25/89	08/31/89	09/05/89	J89611	JMM
	PSTPCB	VPB	40	08/23/89	08/25/89	08/31/89	09/05/89	J89612	JMM
	PSTPCB	VPB-DUP	40	08/23/89	08/25/89	08/31/89	09/05/89	J89613	JMM
	METAL	VPB	20	08/23/89	08/25/89	N/A	09/14/89	J89611	JMM
	METAL	VPB	40	08/23/89	08/25/89	N/A	09/14/89	J89612	JMM
CS-VPB-09	VOC	VPB	30	08/17/89	08/25/89	N/A	08/29/89	J89607	JMM
	VOC	VPB	50	08/17/89	08/25/89	N/A	08/29/89	J89608	JMM
	BNA	VPB	30	08/17/89	08/25/89	08/30/89	09/01/89	J89607	JMM
	BNA	VPB	50	08/17/89	08/25/89	08/30/89	09/01/89	J89608	JMM
	PSTPCB	VPB	30	08/17/89	08/25/89	08/30/89	09/01/89	J89607	JMM
	PSTPCB	VPB	50	08/17/89	08/25/89	08/30/89	09/01/89	J89608	JMM
	METAL	VPB	30	08/17/89	08/25/89	N/A	09/07/89	J89607	JMM
	METAL	VPB	50	08/17/89	08/25/89	N/A	09/07/89	J89608	JMM
CS-VPB-10	VOC	VPB	70	08/24/89	08/31/89	N/A	09/05/89	J89967	JMM
	VOC	VPB	50	08/24/89	08/31/89	N/A	09/05/89	J89966	JMM
	BNA	VPB	50	08/24/89	08/31/89	08/31/89	09/07/89	J89966	JMM
	BNA	VPB	70	08/24/89	08/31/89	09/05/89	09/07/89	J89967	JMM
	PSTPCB	VPB	50	08/24/89	08/31/89	09/05/89	09/09/89	J89966	JMM
	PSTPCB	VPB	70	08/24/89	08/31/89	09/05/89	09/09/89	J89967	JMM
	METAL	VPB	50	08/24/89	08/31/89	N/A	09/14/89	J89966	JMM
	METAL	VPB	70	08/24/89	08/31/89	N/A	09/14/89	J89967	JMM
	METAL	VPB-DUP	50	08/24/89	08/31/89	N/A	09/14/89	J89968	JMM
CS-VPB-11	VOC	VPB	30	08/25/89	08/31/89	N/A	09/05/89	J89969	JMM
	VOC	VPB	70	08/25/89	08/31/89	N/A	09/05/89	J89970	JMM
	BNA	VPB	30	08/25/89	08/31/89	09/05/89	09/07/89	J89969	JMM
	BNA	VPB	70	08/25/89	08/31/89	09/05/89	09/07/89	J89970	JMM
	PSTPCB	VPB	30	08/25/89	08/31/89	09/05/89	09/09/89	J89969	JMM
	PSTPCB	VPB	70	08/25/89	08/31/89	09/05/89	09/09/89	J89970	JMM
	METAL	VPB	30	08/25/89	08/31/89	N/A	09/14/89	J89969	JMM
	METAL	VPB	70	08/25/89	08/31/89	N/A	09/14/89	J89970	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acetone Value	Acetone DL	Acrolein Value	Acrolein DL	Acrylonitrile Value	Acrylonitrile DL	Benzene Value	Benzene DL	Bromochloromethane Value	Bromochloromethane DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	60	08/28/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	70	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB-DUP	60	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	70	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	50	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	20	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	30	08/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	50	08/21/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	40	08/23/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	50	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	50	08/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB	70	08/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bromoform Value	Bromoform DL	2-Butanone (MEK) Value	2-Butanone (MEK) DL	Carbon Disulfide Value	Carbon Disulfide DL	Carbon Tetrachloride Value	Carbon Tetrachloride DL	Chlorobenzene Value	Chlorobenzene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	60	08/28/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	70	08/14/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB-DUP	60	08/14/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	70	08/16/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	50	08/16/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005		0.005
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	20	08/17/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	30	08/30/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	50	08/21/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	40	08/23/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	50	08/17/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	50	08/24/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB	70	08/25/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Chloroethane Value	Chloroethane DL	2-Chloroethylvinyl-ether Value	2-Chloroethylvinyl-ether DL	Chloroform Value	Chloroform DL	Dibromochloromethane Value	Dibromochloromethane DL	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	60	08/28/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	70	08/14/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB-DUP	60	08/14/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	70	08/16/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/16/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	20	08/17/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	30	08/30/89	JMM	ND	0.05	ND	0.005	0.01	0.005	ND	0.005	ND	0.05
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/21/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	40	08/23/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/17/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/24/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	70	08/25/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,3-Dichlorobenzene Value	1,3-Dichlorobenzene DL	1,4-Dichlorobenzene Value	1,4-Dichlorobenzene DL	Dichlorobromomethane Value	Dichlorobromomethane DL	Dichlorodifluoromethane Value	Dichlorodifluoromethane DL	1,1-Dichloroethane Value	1,1-Dichloroethane DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	60	08/28/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	70	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB-DUP	60	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	70	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	50	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	20	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	30	08/30/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	50	08/21/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	40	08/23/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	50	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	50	08/24/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB	70	08/25/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloroethane Value	1,2-Dichloroethane DL	1,1-Dichloroethene Value	1,1-Dichloroethene DL	cis-1,2-Dichloroethene Value	cis-1,2-Dichloroethene DL	trans-1,2-Dichloroethene Value	trans-1,2-Dichloroethene DL	1,2-Dichloroethene (total) Value	1,2-Dichloroethene (total) DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	60	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	70	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB-DUP	60	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	70	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	50	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	20	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	30	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	50	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	40	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	50	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	50	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB	70	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloropropane Value	1,2-Dichloropropane DL	cis-1,3-Dichloropropene Value	cis-1,3-Dichloropropene DL	trans-1,3-Dichloropropene Value	trans-1,3-Dichloropropene DL	Ethylbenzene Value	Ethylbenzene DL	2-Hexanone Value	2-Hexanone DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	60	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	70	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB-DUP	60	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	70	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	20	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	30	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	40	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	50	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB	70	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Methyl Bromide Value	Methyl Bromide DL	Methyl Chloride Value	Methyl Chloride DL	4-Methyl-2-pentanone (MIK) Value	4-Methyl-2-pentanone (MIK) DL	Methylene Chloride Value	Methylene Chloride DL	Styrene Value	Styrene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	60	08/28/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	70	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB-DUP	60	08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	70	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	50	08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	20	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	30	08/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.1	0.05	ND	0.05
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	50	08/21/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	40	08/23/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	50	08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	50	08/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB	70	08/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SA[illegible]FS FROM CRYSTAL [illegible] VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,2,2-Tetrachloroethane Value	1,1,2,2-Tetrachloroethane DL	Tetrachloroethene (PCE) Value	Tetrachloroethene (PCE) DL	Tetrahydrofuran Value	Tetrahydrofuran DL	Toluene Value	Toluene DL	1,2,3-Trichlorobenzene Value	1,2,3-Trichlorobenzene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	60	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.005	ND	0.005	0.07	0.05	ND	0.05	NA	NA
	VPB	70	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB-DUP	60	08/14/89	JMM	ND	0.005	ND	0.005	0.02	0.05	ND	0.05	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	70	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	50	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	20	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	30	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	50	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	40	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	50	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	50	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB	70	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,1-Trichloroethane (TCA) Value	DL	1,1,2-Trichloroethane Value	DL	Trichloroethene (TCE) Value	DL	Trichlorofluoromethane Value	DL	Trichlorotrifluoroethane (Freon 113) Value	DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	60	08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	70	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB-DUP	60	08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	70	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	50	08/16/89	JMM	ND	0.005	ND	0.005	0.01	0.005	ND	0.05	NA	NA
CS-VPB-05	VPB	40	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	20	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	30	08/30/89	JMM	ND	0.005	ND	0.005	0.008	0.005	ND	0.05	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	0.005	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	50	08/21/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	40	08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	0.005	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	50	08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-10	VPB	70	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	50	08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB	70	08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Trihalomethanes Value	Total Trihalomethanes DL	Vinyl Acetate Value	Vinyl Acetate DL	Vinyl Chloride Value	Vinyl Chloride DL	m,p-Xylene Value	m,p-Xylene DL	o-Xylene Value	o-Xylene DL
CS-VPB-01	VPB	30	08/28/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	60	08/28/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-02	VPB	60	08/14/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	70	08/14/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB-DUP	60	08/14/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-03	VPB	50	08/15/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	70	08/16/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-04	VPB	20	08/16/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	50	08/16/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-05	VPB	40	08/17/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	20	08/17/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-06	VPB	20	08/30/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	30	08/30/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-07	VPB	40	08/21/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	50	08/21/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-08	VPB	20	08/23/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	40	08/23/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-09	VPB	30	08/17/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	50	08/17/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-10	VPB	70	08/24/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	50	08/24/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-11	VPB	30	08/25/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB	70	08/25/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Xylene (total) Value	Xylene (total) DL
CS-VPB-01	VPB	30	08/28/89	JMM	NA	NA
	VPB	60	08/28/89	JMM	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	NA	NA
	VPB	70	08/14/89	JMM	NA	NA
	VPB-DUP	60	08/14/89	JMM	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	NA	NA
	VPB	70	08/16/89	JMM	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	NA	NA
	VPB	50	08/16/89	JMM	NA	NA
CS-VPB-05	VPB	40	08/17/89	JMM	NA	NA
	VPB	20	08/17/89	JMM	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	NA	NA
	VPB	30	08/30/89	JMM	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	NA	NA
	VPB	50	08/21/89	JMM	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	NA	NA
	VPB	40	08/23/89	JMM	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	NA	NA
	VPB	50	08/17/89	JMM	NA	NA
CS-VPB-10	VPB	70	08/24/89	JMM	NA	NA
	VPB	50	08/24/89	JMM	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	NA	NA
	VPB	70	08/25/89	JMM	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acenaphthene Value	Acenaphthene DL	Acenaphthylene Value	Acenaphthylene DL	Aniline Value	Aniline DL	Anthracene Value	Anthracene DL	Benzidine Value	Benzidine DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)anthracene Value	Benzo(a)anthracene DL	Benzo(b)fluoranthene Value	Benzo(b)fluoranthene DL	Benzo(k)fluoranthene Value	Benzo(k)fluoranthene DL	Benzoic Acid Value	Benzoic Acid DL	Benzo(g,h,i)perylene Value	Benzo(g,h,i)perylene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)pyrene Value	Benzo(a)pyrene DL	Benzyl Alcohol Value	Benzyl Alcohol DL	Bis(2-Chloroethoxy)-methane Value	Bis(2-Chloroethoxy)-methane DL	Bis(2-Chloroethyl)-ether Value	Bis(2-Chloroethyl)-ether DL	Bis(2-Chloroisopropyl)ether Value	Bis(2-Chloroisopropyl)ether DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bis(2-Ethylhexyl)-phthalate Value	Bis(2-Ethylhexyl)-phthalate DL	4-Bromophenylphenyl-ether Value	4-Bromophenylphenyl-ether DL	Butylbenzylphthalate Value	Butylbenzylphthalate DL	4-Chloroaniline Value	4-Chloroaniline DL	2-Chloronaphthalene Value	2-Chloronaphthalene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	60	08/28/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/14/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/16/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/16/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/17/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	30	08/30/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/21/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/23/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/17/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/24/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/25/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2-Chlorophenol Value	2-Chlorophenol DL	4-Chlorophenyl-phenylether Value	4-Chlorophenyl-phenylether DL	Chrysene Value	Chrysene DL	Dibenzo(a,h)-anthracene Value	Dibenzo(a,h)-anthracene DL	Dibenzofuran Value	Dibenzofuran DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL	1,3-Dichlorobenzene Value	1,3-Dichlorobenzene DL	1,4-Dichlorobenzene Value	1,4-Dichlorobenzene DL	3,3'-Dichlorobenzidine Value	3,3'-Dichlorobenzidine DL	2,4-Dichlorophenol Value	2,4-Dichlorophenol DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

					Diethylphthalate		2,4-Dimethylphenol		Dimethylphthalate		Di-n-butylphthalate		4,6-Dinitro-o-cresol	
Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2,4-Dinitrophenol Value	2,4-Dinitrophenol DL	2,4-Dinitrotoluene Value	2,4-Dinitrotoluene DL	2,6-Dinitrotoluene Value	2,6-Dinitrotoluene DL	Di-n-octylphthalate Value	Di-n-octylphthalate DL	1,2-Diphenyl-hydrazine Value	1,2-Diphenyl-hydrazine DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	60	08/28/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-02	VPB	60	08/14/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	70	08/14/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-03	VPB	50	08/15/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	70	08/16/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-04	VPB	20	08/16/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	50	08/16/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-05	VPB	20	08/17/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	40	08/17/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB-DUP	40	08/17/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-06	VPB	20	08/30/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	30	08/30/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-07	VPB	40	08/21/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	50	08/21/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-08	VPB	20	08/23/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	40	08/23/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-09	VPB	30	08/17/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	50	08/17/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-10	VPB	50	08/24/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	70	08/24/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-11	VPB	30	08/25/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB	70	08/25/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Fluoranthene Value	Fluoranthene DL	Fluorene Value	Fluorene DL	Hexachlorobenzene Value	Hexachlorobenzene DL	Hexachlorobutadiene Value	Hexachlorobutadiene DL	Hexachlorocyclo-pentadiene Value	Hexachlorocyclo-pentadiene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Hexachloroethane Value	Hexachloroethane DL	Ideno(1,2,3-c,d)-pyrene Value	Ideno(1,2,3-c,d)-pyrene DL	Isophorone Value	Isophorone DL	2-Methylnaphthalene Value	2-Methylnaphthalene DL	2-Methylphenol Value	2-Methylphenol DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	4-Methylphenol Value	4-Methylphenol DL	Naphthalene Value	Naphthalene DL	2-Nitroaniline Value	2-Nitroaniline DL	3-Nitroaniline Value	3-Nitroaniline DL	4-Nitroaniline Value	4-Nitroaniline DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 12 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Nitrobenzene Value	Nitrobenzene DL	2-Nitrophenol Value	2-Nitrophenol DL	4-Nitrophenol Value	4-Nitrophenol DL	N-Nitrosodimethylamine Value	N-Nitrosodimethylamine DL	N-Nitroso-di-N-propylamine Value	N-Nitroso-di-N-propylamine DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 13 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	N-Nitrosodiphenyl-amine Value	N-Nitrosodiphenyl-amine DL	P-Chloro-m-cresol Value	P-Chloro-m-cresol DL	Pentachlorophenol Value	Pentachlorophenol DL	Phenanthrene Value	Phenanthrene DL	Phenol Value	Phenol DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	60	08/28/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	70	08/14/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	70	08/16/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	50	08/16/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	40	08/17/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	30	08/30/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	50	08/21/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	40	08/23/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	50	08/17/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	70	08/24/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB	70	08/25/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 14 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Pyrene Value	Pyrene DL	1,2,4-Trichloro-benzene Value	1,2,4-Trichloro-benzene DL	2,4,5-Trichloro-phenol Value	2,4,5-Trichloro-phenol DL	2,4,6-Trichloro-phenol Value	2,4,6-Trichloro-phenol DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	60	08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	70	08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	70	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	50	08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB-DUP	40	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	30	08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	50	08/21/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	40	08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	50	08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	70	08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB	70	08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Aldrin Value	Aldrin DL	Arochlor 1016 Value	Arochlor 1016 DL	Arochlor 1221 Value	Arochlor 1221 DL	Arochlor 1232 Value	Arochlor 1232 DL	Arochlor 1242 Value	Arochlor 1242 DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	60	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	70	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	70	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	50	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	40	08/17/[illegible]	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	30	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	50	08/21/[illegible]		ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB-DUP	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	50	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	70	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB	70	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Arochlor 1248 Value	Arochlor 1248 DL	Arochlor 1254 Value	Arochlor 1254 DL	Arochlor 1260 Value	Arochlor 1260 DL	Alpha-BHC Value	Alpha-BHC DL	Beta-BHC Value	Beta-BHC DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	60	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	50	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	40	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	30	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	50	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB-DUP	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	50	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 3 ***

					Delta-BHC		BHC (Lindane)		Chlordane		alpha-Chlordane		gamma-Chlordane	
Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	60	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	70	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	70	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	50	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	40	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	30	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	50	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB-DUP	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	50	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	70	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB	70	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	p,p'-DDD Value	p,p'-DDD DL	p,p'-DDE Value	p,p'-DDE DL	p,p'-DDT Value	p,p'-DDT DL	Dieldrin Value	Dieldrin DL	Endosulfan I (alpha) Value	Endosulfan I (alpha) DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	60	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	50	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	40	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	30	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	50	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB-DUP	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	50	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB	70	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Endosulfan II (beta) Value	Endosulfan II (beta) DL	Endosulfan sulfate Value	Endosulfan sulfate DL	Endrin Value	Endrin DL	Endrin Aldehyde Value	Endrin Aldehyde DL	Endrin Ketone Value	Endrin Ketone DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	60	08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	70	08/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	70	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	50	08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	40	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	30	08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	50	08/21/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB-DUP	40	08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	50	08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	70	08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB	70	08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Heptachlor Value	Heptachlor DL	Heptachlor Epoxide Value	Heptachlor Epoxide DL	Methoxychlor Value	Methoxychlor DL	Toxaphene Value	Toxaphene DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	60	08/28/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-02	VPB	60	08/14/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	70	08/14/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	70	08/16/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	50	08/16/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	40	08/17/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	30	08/30/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	50	08/21/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	40	08/23/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB-DUP	40	08/23/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	50	08/17/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	70	08/24/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB	70	08/25/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony (Sb) Value	Total Antimony (Sb) DL	Total Arsenic (As) Value	Total Arsenic (As) DL	Total Beryllium (Be) Value	Total Beryllium (Be) DL	Total Cadmium (Cd) Value	Total Cadmium (Cd) DL	Total Chromium (Cr) Value	Total Chromium (Cr) DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	0.5	1.3	NR	ND	2.0	ND	2.0	7.0	NR
	VPB	60	08/28/89	JMM	ND	0.5	0.6	NR	ND	2.0	ND	2.0	ND	1.4
CS-VPB-02	VPB	70	08/14/89	JMM	ND	0.5	1.3	NR	ND	2.0	ND	2.0	8.5	NR
	VPB	60	08/14/89	JMM	ND	0.5	1.2	NR	ND	2.0	ND	2.0	9.1	NR
CS-VPB-03	VPB	50	08/15/89	JMM	ND	0.5	0.6	NR	ND	2.0	ND	2.0	ND	5.0
	VPB	70	08/16/89	JMM	ND	0.5	1.0	NR	ND	2.0	ND	2.0	11	NR
CS-VPB-04	VPB	20	08/16/89	JMM	ND	0.5	1.6	NR	ND	2.0	ND	2.0	9.5	NR
	VPB	50	08/16/89	JMM	ND	0.5	0.6	NR	ND	2.0	ND	2.0	9.6	NR
CS-VPB-05	VPB	20	08/17/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	13	NR
	VPB	40	08/17/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	13	NR
CS-VPB-06	VPB	20	08/30/89	JMM	ND	0.5	1.7	NR	ND	2.0	ND	2.0	10	NR
	VPB	30	08/30/89	JMM	ND	0.5	3.0	NR	ND	2.0	ND	2.0	15	NR
CS-VPB-07	VPB	40	08/21/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	6.1	NR
	VPB	50	08/21/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	16	NR
CS-VPB-08	VPB	20	08/23/89	JMM	ND	0.5	0.7	NR	ND	2.0	ND	2.0	9.6	NR
	VPB	40	08/23/89	JMM	ND	0.5	1.4	NR	ND	2.0	ND	2.0	7.1	NR
CS-VPB-09	VPB	30	08/17/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	7.6	NR
	VPB	50	08/17/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	7.5	NR
CS-VPB-10	VPB	50	08/24/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	ND	1.4
	VPB	70	08/24/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	ND	1.4
	VPB-DUP	50	08/24/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	ND	1.4
CS-VPB-11	VPB	30	08/25/89	JMM	ND	0.5	1.1	NR	ND	2.0	ND	2.0	ND	1.4
	VPB	70	08/25/89	JMM	ND	0.5	1.2	NR	ND	2.0	ND	2.0	ND	1.4

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Copper (Cu) Value	Total Copper (Cu) DL	Total Lead (Pb) Value	Total Lead (Pb) DL	Total Mercury (Hg) Value	Total Mercury (Hg) DL	Total Nickel (Ni) Value	Total Nickel (Ni) DL	Total Selenium (Se) Value	Total Selenium (Se) DL
CS-VPB-01	VPB	30	08/28/89	JMM	16	NR	ND	10	0.02	NR	ND	5.0	ND	0.5
	VPB	60	08/28/89	JMM	13	NR	ND	10	0.04	NR	ND	5.0	ND	0.5
CS-VPB-02	VPB	70	08/14/89	JMM	72	NR	ND	10	0.03	NR	ND	5.0	ND	0.5
	VPB	60	08/14/89	JMM	37	NR	ND	10	0.05	NR	ND	5.0	ND	0.5
CS-VPB-03	VPB	50	08/15/89	JMM	29	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
	VPB	70	08/16/89	JMM	36	NR	ND	10	0.04	NR	ND	5.0	ND	0.5
CS-VPB-04	VPB	20	08/16/89	JMM	36	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
	VPB	50	08/16/89	JMM	22	NR	ND	10	0.02	0.02	ND	5.0	ND	0.5
CS-VPB-05	VPB	20	08/17/89	JMM	25	NR	ND	10	ND	0.02	10	NR	ND	0.5
	VPB	40	08/17/89	JMM	23	NR	ND	10	0.04	NR	7.8	NR	ND	0.5
CS-VPB-06	VPB	20	08/30/89	JMM	15	NR	ND	10	0.03	NR	5.5	NR	ND	0.5
	VPB	30	08/30/89	JMM	28	NR	ND	10	0.03	NR	9.7	NR	ND	0.5
CS-VPB-07	VPB	40	08/21/89	JMM	21	NR	ND	10	ND	0.02	5.7	NR	ND	0.5
	VPB	50	08/21/89	JMM	30	NR	ND	10	0.02	NR	14	NR	ND	0.5
CS-VPB-08	VPB	20	08/23/89	JMM	16	NR	ND	10	0.21	NR	5.5	NR	ND	0.5
	VPB	40	08/23/89	JMM	29	NR	ND	10	0.02	NR	ND	5.0	ND	0.5
CS-VPB-09	VPB	30	08/17/89	JMM	25	NR	ND	10	ND	0.02	4.8	NR	ND	0.5
	VPB	50	08/17/89	JMM	38	NR	ND	10	ND	0.02	6.5	NR	ND	0.5
CS-VPB-10	VPB	50	08/24/89	JMM	18	NR	ND	10	0.08	NR	ND	5.0	ND	0.5
	VPB	70	08/24/89	JMM	18	NR	ND	10	0.03	NR	ND	5.0	ND	0.5
	VPB-DUP	50	08/24/89	JMM	21	NR	ND	10	0.16	NR	ND	5.0	ND	0.5
CS-VPB-11	VPB	30	08/25/89	JMM	23	NR	ND	10	0.09	NR	ND	5.0	ND	0.5
	VPB	70	08/25/89	JMM	12	NR	ND	10	0.02	NR	ND	5.0	ND	0.5

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver (Ag) Value	Total Silver (Ag) DL	Total Thallium (Tl) Value	Total Thallium (Tl) DL	Total Zinc (Zn) Value	Total Zinc (Zn) DL
CS-VPB-01	VPB	30	08/28/89	JMM	ND	2.0	ND	1.0	25	NR
	VPB	60	08/28/89	JMM	ND	2.0	ND	1.0	21	NR
CS-VPB-02	VPB	70	08/14/89	JMM	ND	2.0	ND	1.0	47	NR
	VPB	60	08/14/89	JMM	ND	2.0	ND	1.0	28	NR
CS-VPB-03	VPB	50	08/15/89	JMM	ND	2.0	ND	1.0	18	NR
	VPB	70	08/16/89	JMM	ND	2.0	ND	1.0	32	NR
CS-VPB-04	VPB	20	08/16/89	JMM	ND	2.0	ND	1.0	50	NR
	VPB	50	08/16/89	JMM	ND	2.0	ND	1.0	34	NR
CS-VPB-05	VPB	20	08/17/89	JMM	ND	2.0	ND	1.0	50	NR
	VPB	40	08/17/89	JMM	ND	2.0	ND	1.0	53	NR
CS-VPB-06	VPB	20	08/30/89	JMM	ND	2.0	ND	1.0	46	NR
	VPB	30	08/30/89	JMM	ND	2.0	ND	1.0	55	NR
CS-VPB-07	VPB	40	08/21/89	JMM	ND	2.0	ND	1.0	31	NR
	VPB	50	08/21/89	JMM	ND	2.0	ND	1.0	67	NR
CS-VPB-08	VPB	20	08/23/89	JMM	ND	2.0	ND	1.0	34	NR
	VPB	40	08/23/89	JMM	ND	2.0	ND	1.0	27	NR
CS-VPB-09	VPB	30	08/17/89	JMM	ND	2.0	ND	1.0	50	NR
	VPB	50	08/17/89	JMM	ND	2.0	ND	1.0	50	NR
CS-VPB-10	VPB	50	08/24/89	JMM	ND	2.0	ND	1.0	49	NR
	VPB	70	08/24/89	JMM	ND	2.0	ND	1.0	34	NR
	VPB-DUP	50	08/24/89	JMM	ND	2.0	ND	1.0	51	NR
CS-VPB-11	VPB	30	08/25/89	JMM	ND	2.0	ND	1.0	32	NR
	VPB	70	08/25/89	JMM	ND	2.0	ND	1.0	22	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

05/15/90

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
CS-VPB-01	VOC	WASTE SOIL		08/28/89	08/29/89	N/A	08/29/89	J89781	JMM
	BNA	WASTE SOIL		08/28/89	08/29/89	08/31/89	09/07/89	J89781	JMM
	PSTPCB	WASTE SOIL		08/28/89	08/29/89	08/31/89	09/05/89	J89781	JMM
	METAL	WASTE SOIL		08/28/89	08/29/89	N/A	09/06/89	J89781	JMM
CS-VPB-02	VOC	WASTE SOIL		08/14/89	08/15/89	N/A	08/17/89	J88597	JMM
	BNA	WASTE SOIL		08/14/89	08/15/89	08/16/89	08/23/89	J88597	JMM
	METAL	WASTE SOIL		08/14/89	08/15/89	N/A	08/28/89	J88597	JMM
	INORG	WASTE SOIL		08/14/89	09/19/89	N/A	09/25/89	J91955	JMM
CS-VPB-03	VOC	WASTE SOIL		08/16/89	08/17/89	N/A	08/17/89	J88885	JMM
	BNA	WASTE SOIL		08/16/89	08/17/89	08/18/89	08/23/89	J88885	JMM
	PSTPCB	WASTE SOIL		08/16/89	08/17/89	08/18/89	08/23/89	J88885	JMM
	METAL	WASTE SOIL		08/16/89	08/17/89	N/A	08/28/89	J88885	JMM
	INORG	WASTE SOIL		08/16/89	09/19/89	N/A	09/25/89	J91956	JMM
CS-VPB-04	BNA	WASTE SOIL		08/16/89	08/17/89	08/18/89	08/23/89	J88886	JMM
	PSTPCB	WASTE SOIL		08/16/89	08/17/89	08/18/89	08/23/89	J88886	JMM
	METAL	WASTE SOIL		08/16/89	08/17/89	N/A	08/28/89	J88886	JMM
	INORG	WASTE SOIL		08/16/89	09/19/89	N/A	09/25/89	J91957	JMM
CS-VPB-05	VOC	WASTE SOIL		08/17/89	08/18/89	N/A	08/22/89	J88927	JMM
	BNA	WASTE SOIL		08/17/89	08/18/89	08/18/89	08/23/89	J88927	JMM
	PSTPCB	WASTE SOIL		08/17/89	08/18/89	08/18/89	08/23/89	J88927	JMM
	METAL	WASTE SOIL		08/17/89	08/18/89	N/A	08/28/89	J88927	JMM
	INORG	WASTE SOIL		08/17/89	09/19/89	N/A	09/25/89	J91958	JMM
CS-VPB-06	VOC	WASTE SOIL		08/30/89	08/31/89	N/A	09/05/89	J89982	JMM
	BNA	WASTE SOIL		08/30/89	08/31/89	08/31/89	09/07/89	J89982	JMM
	PSTPCB	WASTE SOIL		08/30/89	08/31/89	08/31/89	09/05/89	J89982	JMM
	METAL	WASTE SOIL		08/30/89	08/31/89	N/A	09/14/89	J89982	JMM
CS-VPB-07	VOC	WASTE SOIL		08/22/89	08/23/89	N/A	08/24/89	J89334	JMM
	BNA	WASTE SOIL		08/22/89	08/23/89	08/24/89	08/28/89	J89334	JMM
	PSTPCB	WASTE SOIL		08/22/89	08/23/89	08/24/89	08/29/89	J89334	JMM
	METAL	WASTE SOIL		08/22/89	08/23/89	N/A	08/31/89	J89334	JMM
	INORG	WASTE SOIL		08/22/89	09/19/89	N/A	09/25/89	J91959	JMM
CS-VPB-08	VOC	WASTE SOIL		08/23/89	08/23/89	N/A	08/24/89	J89445	JMM
	BNA	WASTE SOIL		08/23/89	08/23/89	08/25/89	08/31/89	J89445	JMM
	PSTPCB	WASTE SOIL		08/23/89	08/23/89	08/24/89	08/29/89	J89445	JMM
	METAL	WASTE SOIL		08/23/89	08/23/89	N/A	08/31/89	J89445	JMM
CS-VPB-09	VOC	WASTE SOIL		08/18/89	08/21/89	N/A	08/22/89	J88999	JMM
	BNA	WASTE SOIL		08/18/89	08/21/89	08/21/89	08/23/89	J88999	JMM
	PSTPCB	WASTE SOIL		08/18/89	08/21/89	08/21/89	08/23/89	J88999	JMM
	METAL	WASTE SOIL		08/18/89	08/21/89	N/A	08/30/89	J88999	JMM
CS-VPB-10	VOC	WASTE SOIL		08/24/89	08/25/89	N/A	08/29/89	J89516	JMM
	BNA	WASTE SOIL		08/24/89	08/25/89	08/25/89	08/31/89	J89516	JMM
	PSTPCB	WASTE SOIL		08/24/89	08/25/89	08/30/89	09/01/89	J89516	JMM
	METAL	WASTE SOIL		08/24/89	08/25/89	N/A	08/31/89	J89516	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

05/15/90

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
CS-VPB-11	VOC	WASTE SOIL		08/25/89	08/25/89	N/A	08/29/89	J89619	JMM
	BNA	WASTE SOIL		08/25/89	08/25/89	08/30/89	09/01/89	J89619	JMM
	PSTPCB	WASTE SOIL		08/25/89	08/25/89	08/30/89	09/01/89	J89619	JMM
	METAL	WASTE SOIL		08/25/89	08/25/89	N/A	09/06/89	J89619	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

					Acetone		Acrolein		Acrylonitrile		Benzene		Bromochloromethane	
Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bromoform		2-Butanone (MEK)		Carbon Disulfide		Carbon Tetrachloride		Chlorobenzene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Chloroethane		2-Chloroethylvinyl-ether		Chloroform		Dibromochloromethane		1,2-Dichlorobenzene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,3-Dichlorobenzene		1,4-Dichlorobenzene		Dichlorobromomethane		Dichlorodifluoromethane		1,1-Dichloroethane	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloroethane Value	1,2-Dichloroethane DL	1,1-Dichloroethene Value	1,1-Dichloroethene DL	cis-1,2-Dichloroethene Value	cis-1,2-Dichloroethene DL	trans-1,2-Dichloroethene Value	trans-1,2-Dichloroethene DL	1,2-Dichloroethene (total) Value	1,2-Dichloroethene (total) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloropropane Value	1,2-Dichloropropane DL	cis-1,3-Dichloropropene Value	cis-1,3-Dichloropropene DL	trans-1,3-Dichloropropene Value	trans-1,3-Dichloropropene DL	Ethylbenzene Value	Ethylbenzene DL	2-Hexanone Value	2-Hexanone DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Methyl Bromide Value	Methyl Bromide DL	Methyl Chloride Value	Methyl Chloride DL	4-Methyl-2-pentanone (MIK) Value	4-Methyl-2-pentanone (MIK) DL	Methylene Chloride Value	Methylene Chloride DL	Styrene Value	Styrene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.05	0.05	ND	0.05
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,2,2-Tetrachloroethane Value	1,1,2,2-Tetrachloroethane DL	Tetrachloroethene (PCE) Value	Tetrachloroethene (PCE) DL	Tetrahydrofuran Value	Tetrahydrofuran DL	Toluene Value	Toluene DL	1,2,3-Trichlorobenzene Value	1,2,3-Trichlorobenzene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,1-Trichloro-ethane (TCA) Value	1,1,1-Trichloro-ethane (TCA) DL	1,1,2-Trichloro-ethane Value	1,1,2-Trichloro-ethane DL	Trichloroethene (TCE) Value	Trichloroethene (TCE) DL	Trichlorofluoro-methane Value	Trichlorofluoro-methane DL	Trichlorotrifluoro-ethane (Freon 113) Value	Trichlorotrifluoro-ethane (Freon 113) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.005	ND	0.005	0.007	0.005	ND	0.05	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.005	ND	0.005	0.04	0.005	ND	0.05	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	0.009	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	0.007	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Trihalomethanes Value	Total Trihalomethanes DL	Vinyl Acetate Value	Vinyl Acetate DL	Vinyl Chloride Value	Vinyl Chloride DL	m,p-Xylene Value	m,p-Xylene DL	o-Xylene Value	o-Xylene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Xylene (total) Value	Xylene (total) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	NA	NA
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acenaphthene Value	Acenaphthene DL	Acenaphthylene Value	Acenaphthylene DL	Aniline Value	Aniline DL	Anthracene Value	Anthracene DL	Benzidine Value	Benzidine DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)anthracene Value	Benzo(a)anthracene DL	Benzo(b)fluoranthene Value	Benzo(b)fluoranthene DL	Benzo(k)fluoranthene Value	Benzo(k)fluoranthene DL	Benzoic Acid Value	Benzoic Acid DL	Benzo(g,h,i)perylene Value	Benzo(g,h,i)perylene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)pyrene Value	Benzo(a)pyrene DL	Benzyl Alcohol Value	Benzyl Alcohol DL	Bis(2-Chloroethoxy)-methane Value	Bis(2-Chloroethoxy)-methane DL	Bis(2-Chloroethyl)-ether Value	Bis(2-Chloroethyl)-ether DL	Bis(2-Chloroisopropyl)ether Value	Bis(2-Chloroisopropyl)ether DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bis(2-Ethylhexyl)-phthalate Value	Bis(2-Ethylhexyl)-phthalate DL	4-Bromophenylphenyl-ether Value	4-Bromophenylphenyl-ether DL	Butylbenzylphthalate Value	Butylbenzylphthalate DL	4-Chloroaniline Value	4-Chloroaniline DL	2-Chloronaphthalene Value	2-Chloronaphthalene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2-Chlorophenol		4-Chlorophenyl-phenylether		Chrysene		Dibenzo(a,h)-anthracene		Dibenzofuran	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL	1,3-Dichlorobenzene Value	1,3-Dichlorobenzene DL	1,4-Dichlorobenzene Value	1,4-Dichlorobenzene DL	3,3'-Dichloro-benzidine Value	3,3'-Dichloro-benzidine DL	2,4-Dichlorophenol Value	2,4-Dichlorophenol DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Diethylphthalate Value	Diethylphthalate DL	2,4-Dimethylphenol Value	2,4-Dimethylphenol DL	Dimethylphthalate Value	Dimethylphthalate DL	Di-n-butylphthalate Value	Di-n-butylphthalate DL	4,6-Dinitro-o-cresol Value	4,6-Dinitro-o-cresol DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2,4-Dinitrophenol		2,4-Dinitrotoluene		2,6-Dinitrotoluene		Di-n-octylphthalate		1,2-Diphenyl-hydrazine	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Fluoranthene Value	Fluoranthene DL	Fluorene Value	Fluorene DL	Hexachlorobenzene Value	Hexachlorobenzene DL	Hexachlorobutadiene Value	Hexachlorobutadiene DL	Hexachlorocyclo-pentadiene Value	Hexachlorocyclo-pentadiene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Hexachloroethane Value	Hexachloroethane DL	Ideno(1,2,3-c,d)-pyrene Value	Ideno(1,2,3-c,d)-pyrene DL	Isophorone Value	Isophorone DL	2-Methylnaphthalene Value	2-Methylnaphthalene DL	2-Methylphenol Value	2-Methylphenol DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	4-Methylphenol Value	4-Methylphenol DL	Naphthalene Value	Naphthalene DL	2-Nitroaniline Value	2-Nitroaniline DL	3-Nitroaniline Value	3-Nitroaniline DL	4-Nitroaniline Value	4-Nitroaniline DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 12 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Nitrobenzene		2-Nitrophenol		4-Nitrophenol		N-Nitrosodimethyl-amine		N-Nitroso-di-N-propylamine	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 13 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	N-Nitrosodiphenyl-amine Value	N-Nitrosodiphenyl-amine DL	P-Chloro-m-cresol Value	P-Chloro-m-cresol DL	Pentachlorophenol Value	Pentachlorophenol DL	Phenanthrene Value	Phenanthrene DL	Phenol Value	Phenol DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 14 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Pyrene Value	Pyrene DL	1,2,4-Trichloro-benzene Value	1,2,4-Trichloro-benzene DL	2,4,5-Trichloro-phenol Value	2,4,5-Trichloro-phenol DL	2,4,6-Trichloro-phenol Value	2,4,6-Trichloro-phenol DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

06/09/90

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Aldrin Value	Aldrin DL	Arochlor 1016 Value	Arochlor 1016 DL	Arochlor 1221 Value	Arochlor 1221 DL	Arochlor 1232 Value	Arochlor 1232 DL	Arochlor 1242 Value	Arochlor 1242 DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Arochlor 1248 Value	Arochlor 1248 DL	Arochlor 1254 Value	Arochlor 1254 DL	Arochlor 1260 Value	Arochlor 1260 DL	Alpha-BHC Value	Alpha-BHC DL	Beta-BHC Value	Beta-BHC DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Delta-BHC Value	Delta-BHC DL	BHC (Lindane) Value	BHC (Lindane) DL	Chlordane Value	Chlordane DL	alpha-Chlordane Value	alpha-Chlordane DL	gamma-Chlordane Value	gamma-Chlordane DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	p,p'-DDD Value	p,p'-DDD DL	p,p'-DDE Value	p,p'-DDE DL	p,p'-DDT Value	p,p'-DDT DL	Dieldrin Value	Dieldrin DL	Endosulfan I (alpha) Value	Endosulfan I (alpha) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Endosulfan II (beta)		Endosulfan sulfate		Endrin		Endrin Aldehyde		Endrin Ketone	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Heptachlor Value	Heptachlor DL	Heptachlor Epoxide Value	Heptachlor Epoxide DL	Methoxychlor Value	Methoxychlor DL	Toxaphene Value	Toxaphene DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony (Sb) Value	Total Antimony (Sb) DL	Total Arsenic (As) Value	Total Arsenic (As) DL	Total Beryllium (Be) Value	Total Beryllium (Be) DL	Total Cadmium (Cd) Value	Total Cadmium (Cd) DL	Total Chromium (Cr) Value	Total Chromium (Cr) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	13	NR
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	0.5	ND	2.0	ND	2.0	ND	2.0	5.9	NR
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	5.0	NR
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	9.8	NR
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	11	NR
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	0.5	1.0	NR	ND	2.0	ND	2.0	6.3	NR
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	0.5	4.0	NR	ND	2.0	ND	2.0	17	NR
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	0.5	8.0	NR	ND	2.0	ND	2.0	7.5	NR
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	11	NR
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	0.5	1.4	NR	ND	2.0	ND	2.0	6.9	NR
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	0.5	ND	5.0	ND	2.0	ND	2.0	9.5	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Copper (Cu) Value	Total Copper (Cu) DL	Total Lead (Pb) Value	Total Lead (Pb) DL	Total Mercury (Hg) Value	Total Mercury (Hg) DL	Total Nickel (Ni) Value	Total Nickel (Ni) DL	Total Selenium (Se) Value	Total Selenium (Se) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	15	NR	ND	10	0.03	NR	6.5	NR	ND	0.5
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	52	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	40	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	49	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	42	NR	ND	10	ND	0.02	5.4	NR	ND	0.5
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	8.7	NR	ND	10	0.04	NR	ND	5.0	ND	0.5
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	150	NR	ND	10	0.03	NR	ND	5.0	ND	0.5
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	13	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	18	NR	ND	10	ND	0.02	ND	5.0	ND	0.5
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	15	NR	ND	10	0.05	NR	ND	5.0	ND	0.5
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	10	NR	ND	10	0.066	NR	5.0	NR	ND	0.5

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver (Ag) Value	Total Silver (Ag) DL	Total Thallium (Tl) Value	Total Thallium (Tl) DL	Total Zinc (Zn) Value	Total Zinc (Zn) DL
CS-VPB-01	VPB-WASTE SOIL		08/28/89	JMM	ND	2.0	ND	1.0	39	NR
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	ND	2.0	ND	1.0	25	NR
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	ND	2.0	ND	1.0	19	NR
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	ND	2.0	ND	1.0	38	NR
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	ND	2.0	ND	1.0	42	NR
CS-VPB-06	VPB-WASTE SOIL		08/30/89	JMM	ND	2.0	ND	1.0	25	NR
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	ND	2.0	ND	1.0	66	NR
CS-VPB-08	VPB-WASTE SOIL		08/23/89	JMM	ND	2.0	ND	1.0	19	NR
CS-VPB-09	VPB-WASTE SOIL		08/18/89	JMM	ND	2.0	ND	1.0	50	NR
CS-VPB-10	VPB-WASTE SOIL		08/24/89	JMM	ND	2.0	ND	1.0	27	NR
CS-VPB-11	VPB-WASTE SOIL		08/25/89	JMM	ND	2.0	ND	1.0	33	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF NITRATES AND OTHER INORGANICS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Alkalinity Value	Alkalinity DL	Bicarbonate (HCO3) Value	Bicarbonate (HCO3) DL	Calcium Value	Calcium DL	Carbonate (CO3) Value	Carbonate (CO3) DL	Chloride Value	Chloride DL
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	NA	NA	N/A	NA	NA	NA	N/A	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	NA	N/A	NA	NA	NA	N/A	NA	NA
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	NA	N/A	NA	NA	NA	N/A	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	NA	NA	N/A	NA	NA	NA	N/A	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	NA	NA	N/A	NA	NA	NA	N/A	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF NITRATES AND OTHER INORGANICS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Conductance Value	Conductance DL	Copper (Cu) in Soil (WET) Value	Copper (Cu) in Soil (WET) DL	Fluoride Value	Fluoride DL	Free CO2 (25C) Value	Free CO2 (25C) DL	Hardness Value	Hardness DL
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	NA	0.081	NR	NA	NA	NA	N/A	NA	N/A
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	0.068	NR	NA	NA	NA	N/A	NA	N/A
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	0.081	NR	NA	NA	NA	N/A	NA	N/A
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	NA	0.070	NR	NA	NA	NA	N/A	NA	N/A
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	NA	0.19	NR	NA	NA	NA	N/A	NA	N/A

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF NITRATES AND OTHER INORGANICS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Hydroxide (OH) Value	Hydroxide (OH) DL	Langelier Index Value	Langelier Index DL	Magnesium Value	Magnesium DL	Nitrate (NO3) Value	Nitrate (NO3) DL	Nitrate-N (NO3-N) Value	Nitrate-N (NO3-N) DL
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	N/A	NA	N/A	NA	NA	NA	NA	NA	NA
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	N/A	NA	N/A	NA	NA	NA	NA	NA	NA
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	NA	N/A	NA	N/A	NA	NA	NA	NA	NA	NA
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	N/A	NA	N/A	NA	NA	NA	NA	NA	NA
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	N/A	NA	N/A	NA	NA	NA	NA	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF NITRATES AND OTHER INORGANICS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Potassium		Sodium		Sulfate (SO4)		TDS by addition		pH	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF NITRATES AND OTHER INORGANICS IN WASTE SOIL SAMPLES FROM CRYSTAL SPRINGS VPB PHASE 1

(COMPLETE LISTING)

*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	pH of CaCO3 Saturation (25C) Value	pH of CaCO3 Saturation (25C) DL	pH of CaCO3 Saturation (60C) Value	pH of CaCO3 Saturation (60C) DL
CS-VPB-02	VPB-WASTE SOIL		08/14/89	JMM	NA	N/A	NA	N/A
CS-VPB-03	VPB-WASTE SOIL		08/16/89	JMM	NA	N/A	NA	N/A
CS-VPB-04	VPB-WASTE SOIL		08/16/89	JMM	NA	N/A	NA	N/A
CS-VPB-05	VPB-WASTE SOIL		08/17/89	JMM	NA	N/A	NA	N/A
CS-VPB-07	VPB-WASTE SOIL		08/22/89	JMM	NA	N/A	NA	N/A

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

APPENDIX F: SOIL SAMPLE SUMMARY TABLES

APPENDIX F.3 POLLOCK VPBS

06/06/90

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
DATES AND LABORATORY NOS. FOR SOIL SAMPLES FROM POLLOCK VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
PO-VPB-02	VOC	VPB	30	10/26/89	11/06/89	N/A	11/07/89	JB6879	JMM
	BNA	VPB	30	10/26/89	11/06/89	11/07/89	11/10/89	JB6879	JMM
	BNA	VPB-DUP	30	10/26/89	11/06/89	11/07/89	11/10/89	JB6880	JMM
	PSTPCB	VPB	30	10/26/89	11/06/89	11/07/89	11/14/89	JB6879	JMM
	METAL	VPB	30	10/26/89	11/06/89	N/A	11/30/89	JB6879	JMM
PO-VPB-05	VOC	VPB	30	10/24/89	11/06/89	N/A	11/07/89	JB6883	JMM
	VOC	VPB-DUP	30	10/24/89	11/06/89	N/A	11/07/89	JB6884	JMM
	BNA	VPB	30	10/24/89	11/06/89	11/07/89	11/10/89	JB6883	JMM
	PSTPCB	VPB	30	10/24/89	11/06/89	11/07/89	11/14/89	JB6883	JMM
	METAL	VPB	30	10/24/89	11/06/89	N/A	11/30/89	JB6883	JMM
PO-VPB-07	VOC	VPB	50	10/31/89	11/06/89	N/A	11/07/89	JB6887	JMM
	BNA	VPB	50	10/31/89	11/06/89	11/07/89	11/10/89	JB6887	JMM
	PSTPCB	VPB	50	10/31/89	11/06/89	11/07/89	11/14/89	JB6887	JMM
	PSTPCB	VPB-DUP	50	10/31/89	11/06/89	11/07/89	11/14/89	JB6888	JMM
	METAL	VPB	50	10/31/89	11/06/89	N/A	11/30/89	JB6887	JMM
PO-VPB-08	VOC	VPB	20	10/30/89	11/06/89	N/A	11/07/89	JB6891	JMM
	BNA	VPB	20	10/30/89	11/06/89	11/07/89	11/10/89	JB6891	JMM
	PSTPCB	VPB	20	10/30/89	11/06/89	11/07/89	11/14/89	JB6891	JMM
	METAL	VPB	20	10/30/89	11/06/89	N/A	11/30/89	JB6891	JMM
	METAL	VPB-DUP	20	10/30/89	11/06/89	N/A	11/30/89	JB6892	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acetone Value	Acetone DL	Acrolein Value	Acrolein DL	Acrylonitrile Value	Acrylonitrile DL	Benzene Value	Benzene DL	Bromochloromethane Value	Bromochloromethane DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
	VPB-DUP	30	10/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bromoform		2-Butanone (MEK)		Carbon Disulfide		Carbon Tetrachloride		Chlorobenzene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
	VPB-DUP	30	10/24/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Chloroethane Value	Chloroethane DL	2-Chloroethylvinyl-ether Value	2-Chloroethylvinyl-ether DL	Chloroform Value	Chloroform DL	Dibromochloromethane Value	Dibromochloromethane DL	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB-DUP	30	10/24/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,3-Dichlorobenzene Value	1,3-Dichlorobenzene DL	1,4-Dichlorobenzene Value	1,4-Dichlorobenzene DL	Dichlorobromomethane Value	Dichlorobromomethane DL	Dichlorodifluoromethane Value	Dichlorodifluoromethane DL	1,1-Dichloroethane Value	1,1-Dichloroethane DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
	VPB-DUP	30	10/24/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloroethane Value	1,2-Dichloroethane DL	1,1-Dichloroethene Value	1,1-Dichloroethene DL	cis-1,2-Dichloroethene Value	cis-1,2-Dichloroethene DL	trans-1,2-Dichloroethene Value	trans-1,2-Dichloroethene DL	1,2-Dichloroethene (total) Value	1,2-Dichloroethene (total) DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
	VPB-DUP	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloropropane Value	1,2-Dichloropropane DL	cis-1,3-Dichloropropene Value	cis-1,3-Dichloropropene DL	trans-1,3-Dichloropropene Value	trans-1,3-Dichloropropene DL	Ethylbenzene Value	Ethylbenzene DL	2-Hexanone Value	2-Hexanone DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
	VPB-DUP	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Methyl Bromide Value	Methyl Bromide DL	Methyl Chloride Value	Methyl Chloride DL	4-Methyl-2-pentanone (MIK) Value	4-Methyl-2-pentanone (MIK) DL	Methylene Chloride Value	Methylene Chloride DL	Styrene Value	Styrene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
	VPB-DUP	30	10/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,2,2-Tetrachloroethane Value	1,1,2,2-Tetrachloroethane DL	Tetrachloroethene (PCE) Value	Tetrachloroethene (PCE) DL	Tetrahydrofuran Value	Tetrahydrofuran DL	Toluene Value	Toluene DL	1,2,3-Trichlorobenzene Value	1,2,3-Trichlorobenzene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
	VPB-DUP	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,1-Trichloroethane (TCA) Value	1,1,1-Trichloroethane (TCA) DL	1,1,2-Trichloroethane Value	1,1,2-Trichloroethane DL	Trichloroethene (TCE) Value	Trichloroethene (TCE) DL	Trichlorofluoromethane Value	Trichlorofluoromethane DL	Trichlorotrifluoroethane (Freon 113) Value	Trichlorotrifluoroethane (Freon 113) DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
	VPB-DUP	30	10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Trihalomethanes Value	Total Trihalomethanes DL	Vinyl Acetate Value	Vinyl Acetate DL	Vinyl Chloride Value	Vinyl Chloride DL	m,p-Xylene Value	m,p-Xylene DL	o-Xylene Value	o-Xylene DL
PO-VPB-02	VPB	30	10/26/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-05	VPB	30	10/24/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
	VPB-DUP	30	10/24/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-07	VPB	50	10/31/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-08	VPB	20	10/30/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Xylene (total) Value	Xylene (total) DL
PO-VPB-02	VPB	30	10/26/89	JMM	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	NA	NA
	VPB-DUP	30	10/24/89	JMM	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acenaphthene Value	Acenaphthene DL	Acenaphthylene Value	Acenaphthylene DL	Aniline Value	Aniline DL	Anthracene Value	Anthracene DL	Benzidine Value	Benzidine DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)anthracene Value	Benzo(a)anthracene DL	Benzo(b)fluoranthene Value	Benzo(b)fluoranthene DL	Benzo(k)fluoranthene Value	Benzo(k)fluoranthene DL	Benzoic Acid Value	Benzoic Acid DL	Benzo(g,h,i)perylene Value	Benzo(g,h,i)perylene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)pyrene Value	Benzo(a)pyrene DL	Benzyl Alcohol Value	Benzyl Alcohol DL	Bis(2-Chloroethoxy)-methane Value	Bis(2-Chloroethoxy)-methane DL	Bis(2-Chloroethyl)-ether Value	Bis(2-Chloroethyl)-ether DL	Bis(2-Chloroisopropyl)ether Value	Bis(2-Chloroisopropyl)ether DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bis(2-Ethylhexyl)-phthalate Value	Bis(2-Ethylhexyl)-phthalate DL	4-Bromophenylphenyl-ether Value	4-Bromophenylphenyl-ether DL	Butylbenzylphthalate Value	Butylbenzylphthalate DL	4-Chloroaniline Value	4-Chloroaniline DL	2-Chloronaphthalene Value	2-Chloronaphthalene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2-Chlorophenol Value	2-Chlorophenol DL	4-Chlorophenyl-phenylether Value	4-Chlorophenyl-phenylether DL	Chrysene Value	Chrysene DL	Dibenzo(a,h)-anthracene Value	Dibenzo(a,h)-anthracene DL	Dibenzofuran Value	Dibenzofuran DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL	1,3-Dichlorobenzene Value	1,3-Dichlorobenzene DL	1,4-Dichlorobenzene Value	1,4-Dichlorobenzene DL	3,3'-Dichlorobenzidine Value	3,3'-Dichlorobenzidine DL	2,4-Dichlorophenol Value	2,4-Dichlorophenol DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Diethylphthalate Value	Diethylphthalate DL	2,4-Dimethylphenol Value	2,4-Dimethylphenol DL	Dimethylphthalate Value	Dimethylphthalate DL	Di-n-butylphthalate Value	Di-n-butylphthalate DL	4,6-Dinitro-o-cresol Value	4,6-Dinitro-o-cresol DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2,4-Dinitrophenol Value	2,4-Dinitrophenol DL	2,4-Dinitrotoluene Value	2,4-Dinitrotoluene DL	2,6-Dinitrotoluene Value	2,6-Dinitrotoluene DL	Di-n-octylphthalate Value	Di-n-octylphthalate DL	1,2-Diphenyl-hydrazine Value	1,2-Diphenyl-hydrazine DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
	VPB-DUP	30	10/26/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-05	VPB	30	10/24/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-07	VPB	50	10/31/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-08	VPB	20	10/30/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Fluoranthene Value	Fluoranthene DL	Fluorene Value	Fluorene DL	Hexachlorobenzene Value	Hexachlorobenzene DL	Hexachlorobutadiene Value	Hexachlorobutadiene DL	Hexachlorocyclo-pentadiene Value	Hexachlorocyclo-pentadiene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Hexachloroethane Value	Hexachloroethane DL	Ideno(1,2,3-c,d)-pyrene Value	Ideno(1,2,3-c,d)-pyrene DL	Isophorone Value	Isophorone DL	2-Methylnaphthalene Value	2-Methylnaphthalene DL	2-Methylphenol Value	2-Methylphenol DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	4-Methylphenol Value	4-Methylphenol DL	Naphthalene Value	Naphthalene DL	2-Nitroaniline Value	2-Nitroaniline DL	3-Nitroaniline Value	3-Nitroaniline DL	4-Nitroaniline Value	4-Nitroaniline DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 12 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Nitrobenzene Value	Nitrobenzene DL	2-Nitrophenol Value	2-Nitrophenol DL	4-Nitrophenol Value	4-Nitrophenol DL	N-Nitrosodimethylamine Value	N-Nitrosodimethylamine DL	N-Nitroso-di-N-propylamine Value	N-Nitroso-di-N-propylamine DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 13 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	N-Nitrosodiphenyl-amine Value	N-Nitrosodiphenyl-amine DL	P-Chloro-m-cresol Value	P-Chloro-m-cresol DL	Pentachlorophenol Value	Pentachlorophenol DL	Phenanthrene Value	Phenanthrene DL	Phenol Value	Phenol DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 14 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Pyrene Value	Pyrene DL	1,2,4-Trichloro-benzene Value	1,2,4-Trichloro-benzene DL	2,4,5-Trichloro-phenol Value	2,4,5-Trichloro-phenol DL	2,4,6-Trichloro-phenol Value	2,4,6-Trichloro-phenol DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	VPB-DUP	30	10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Aldrin Value	Aldrin DL	Arochlor 1016 Value	Arochlor 1016 DL	Arochlor 1221 Value	Arochlor 1221 DL	Arochlor 1232 Value	Arochlor 1232 DL	Arochlor 1242 Value	Arochlor 1242 DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
	VPB-DUP	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Arochlor 1248 Value	Arochlor 1248 DL	Arochlor 1254 Value	Arochlor 1254 DL	Arochlor 1260 Value	Arochlor 1260 DL	Alpha-BHC Value	Alpha-BHC DL	Beta-BHC Value	Beta-BHC DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB-DUP	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Delta-BHC Value	Delta-BHC DL	BHC (Lindane) Value	BHC (Lindane) DL	Chlordane Value	Chlordane DL	alpha-Chlordane Value	alpha-Chlordane DL	gamma-Chlordane Value	gamma-Chlordane DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
	VPB-DUP	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	p,p'-DDD Value	p,p'-DDD DL	p,p'-DDE Value	p,p'-DDE DL	p,p'-DDT Value	p,p'-DDT DL	Dieldrin Value	Dieldrin DL	Endosulfan I (alpha) Value	Endosulfan I (alpha) DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
	VPB-DUP	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Endosulfan II (beta) Value	Endosulfan II (beta) DL	Endosulfan sulfate Value	Endosulfan sulfate DL	Endrin Value	Endrin DL	Endrin Aldehyde Value	Endrin Aldehyde DL	Endrin Ketone Value	Endrin Ketone DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
	VPB-DUP	50	10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Heptachlor Value	Heptachlor DL	Heptachlor Epoxide Value	Heptachlor Epoxide DL	Methoxychlor Value	Methoxychlor DL	Toxaphene Value	Toxaphene DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-05	VPB	30	10/24/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-07	VPB	50	10/31/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
	VPB-DUP	50	10/31/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-08	VPB	20	10/30/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony (Sb) Value	Total Antimony (Sb) DL	Total Arsenic (As) Value	Total Arsenic (As) DL	Total Beryllium (Be) Value	Total Beryllium (Be) DL	Total Cadmium (Cd) Value	Total Cadmium (Cd) DL	Total Chromium (Cr) Value	Total Chromium (Cr) DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	3.3	NR
PO-VPB-05	VPB	30	10/24/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	3.9	NR
PO-VPB-07	VPB	50	10/31/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	3.7	NR
PO-VPB-08	VPB	20	10/30/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	9.0	NR
	VPB-DUP	20	10/30/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	4.1	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Copper (Cu) Value	Total Copper (Cu) DL	Total Lead (Pb) Value	Total Lead (Pb) DL	Total Mercury (Hg) Value	Total Mercury (Hg) DL	Total Nickel (Ni) Value	Total Nickel (Ni) DL	Total Selenium (Se) Value	Total Selenium (Se) DL
PO-VPB-02	VPB	30	10/26/89	JMM	8.1	NR	ND	10	0.060	NR	ND	4.0	ND	5.0
PO-VPB-05	VPB	30	10/24/89	JMM	6.1	NR	10	NR	ND	0.02	ND	4.0	ND	5.0
PO-VPB-07	VPB	50	10/31/89	JMM	35	NR	ND	10	0.042	NR	ND	4.0	ND	5.0
PO-VPB-08	VPB	20	10/30/89	JMM	12	NR	16	NR	0.034	NR	5.9	NR	ND	5.0
	VPB-DUP	20	10/30/89	JMM	12	NR	ND	10	0.037	NR	ND	4.0	ND	5.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver (Ag) Value	Total Silver (Ag) DL	Total Thallium (Tl) Value	Total Thallium (Tl) DL	Total Zinc (Zn) Value	Total Zinc (Zn) DL
PO-VPB-02	VPB	30	10/26/89	JMM	ND	1.0	ND	10	15	NR
PO-VPB-05	VPB	30	10/24/89	JMM	ND	1.0	ND	10	30	NR
PO-VPB-07	VPB	50	10/31/89	JMM	ND	1.0	ND	10	29	NR
PO-VPB-08	VPB	20	10/30/89	JMM	ND	1.0	ND	10	37	NR
	VPB-DUP	20	10/30/89	JMM	ND	1.0	ND	10	26	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
PO-VPB-01	VOC	WASTE SOIL		10/25/89	10/25/89	N/A	10/26/89	JA5949	JMM
	BNA	WASTE SOIL		10/25/89	10/25/89	10/27/89	10/31/89	JA5949	JMM
	PSTPCB	WASTE SOIL		10/25/89	10/25/89	10/27/89	11/04/89	JA5949	JMM
	METAL	WASTE SOIL		10/25/89	10/25/89	N/A	11/22/89	JA5949	JMM
PO-VPB-02	VOC	WASTE SOIL		10/26/89	10/27/89	N/A	10/30/89	JA6066	JMM
	BNA	WASTE SOIL		10/26/89	10/27/89	10/27/89	10/31/89	JA6066	JMM
	PSTPCB	WASTE SOIL		10/26/89	10/27/89	10/27/89	11/04/89	JA6066	JMM
	METAL	WASTE SOIL		10/26/89	10/27/89	N/A	11/16/89	JA6066	JMM
PO-VPB-03	VOC	WASTE SOIL		11/06/89	11/07/89	N/A	11/13/89	JB6922	JMM
	BNA	WASTE SOIL		11/06/89	11/07/89	11/09/89	11/16/89	JB6922	JMM
	PSTPCB	WASTE SOIL		11/06/89	11/07/89	11/10/89	11/22/89	JB6922	JMM
	METAL	WASTE SOIL		11/06/89	11/07/89	N/A	11/30/89	JB6922	JMM
PO-VPB-04	VOC	WASTE SOIL		10/27/89	10/31/89	N/A	11/01/89	JA6311	JMM
	BNA	WASTE SOIL		10/27/89	10/31/89	11/01/89	11/03/89	JA6311	JMM
	PSTPCB	WASTE SOIL		10/27/89	10/31/89	11/01/89	11/10/89	JA6311	JMM
	METAL	WASTE SOIL		10/27/89	10/31/89	N/A	11/16/89	JA6311	JMM
PO-VPB-05	VOC	WASTE SOIL		10/24/89	10/25/89	N/A	10/26/89	JA5913	JMM
	BNA	WASTE SOIL		10/24/89	10/25/89	10/27/89	10/31/89	JA5913	JMM
	PSTPCB	WASTE SOIL		10/24/89	10/25/89	10/27/89	11/04/89	JA5913	JMM
	METAL	WASTE SOIL		10/24/89	10/25/89	N/A	11/16/89	JA5913	JMM
PO-VPB-06	VOC	WASTE SOIL		10/27/89	10/31/89	N/A	11/01/89	JA6312	JMM
	BNA	WASTE SOIL		10/27/89	10/31/89	11/01/89	11/03/89	JA6312	JMM
	PSTPCB	WASTE SOIL		10/27/89	10/31/89	11/01/89	11/10/89	JA6312	JMM
	METAL	WASTE SOIL		10/27/89	10/31/89	N/A	11/16/89	JA6312	JMM
PO-VPB-07	VOC	WASTE SOIL		10/31/89	11/01/89	N/A	11/02/89	JB6529	JMM
	BNA	WASTE SOIL		10/31/89	11/01/89	11/02/89	11/06/89	JB6529	JMM
	PSTPCB	WASTE SOIL		10/31/89	11/01/89	11/02/89	11/08/89	JB6529	JMM
	METAL	WASTE SOIL		10/31/89	11/01/89	N/A	11/21/89	JB6529	JMM
PO-VPB-08	VOC	WASTE SOIL		10/30/89	10/31/89	N/A	11/01/89	JA6309	JMM
	BNA	WASTE SOIL		10/30/89	10/31/89	11/01/89	11/03/89	JA6309	JMM
	PSTPCB	WASTE SOIL		10/30/89	10/31/89	11/01/89	11/10/89	JA6309	JMM
	METAL	WASTE SOIL		10/30/89	10/31/89	N/A	11/16/89	JA6309	JMM
PO-VPB-09	VOC	WASTE SOIL		10/31/89	11/01/89	N/A	11/02/89	JB6534	JMM
	BNA	WASTE SOIL		10/31/89	11/01/89	11/02/89	11/06/89	JB6534	JMM
	PSTPCB	WASTE SOIL		10/31/89	11/01/89	11/02/89	11/08/89	JB6534	JMM
	METAL	WASTE SOIL		10/31/89	11/01/89	N/A	11/21/89	JB6534	JMM
PO-VPB-10	VOC	WASTE SOIL		11/08/89	11/09/89	N/A	11/13/89	JB7282	JMM
	BNA	WASTE SOIL		11/08/89	11/09/89	11/16/89	11/27/89	JB7282	JMM
	PSTPCB	WASTE SOIL		11/08/89	11/09/89	11/10/89	11/22/89	JB7282	JMM
	METAL	WASTE SOIL		11/08/89	11/09/89	N/A	11/29/89	JB7282	JMM
PO-VPB-11	VOC	WASTE SOIL		11/02/89	11/03/89	N/A	11/07/89	JB6678	JMM
	BNA	WASTE SOIL		11/02/89	11/03/89	11/06/89	11/07/89	JB6678	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

06/06/90

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
PO-VPB-11	PSTPCB	WASTE SOIL		11/02/89	11/03/89	11/06/89	11/10/89	JB6678	JMM
	METAL	WASTE SOIL		11/02/89	11/03/89	N/A	11/28/89	JB6678	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acetone Value	Acetone DL	Acrolein Value	Acrolein DL	Acrylonitrile Value	Acrylonitrile DL	Benzene Value	Benzene DL	Bromochloromethane Value	Bromochloromethane DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	0.05	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	0.05	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bromoform		2-Butanone (MEK)		Carbon Disulfide		Carbon Tetrachloride		Chlorobenzene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Chloroethane Value	Chloroethane DL	2-Chloroethylvinyl-ether Value	2-Chloroethylvinyl-ether DL	Chloroform Value	Chloroform DL	Dibromochloromethane Value	Dibromochloromethane DL	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,3-Dichlorobenzene Value	1,3-Dichlorobenzene DL	1,4-Dichlorobenzene Value	1,4-Dichlorobenzene DL	Dichlorobromomethane Value	Dichlorobromomethane DL	Dichlorodifluoromethane Value	Dichlorodifluoromethane DL	1,1-Dichloroethane Value	1,1-Dichloroethane DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloroethane Value	1,2-Dichloroethane DL	1,1-Dichloroethene Value	1,1-Dichloroethene DL	cis-1,2-Dichloroethene Value	cis-1,2-Dichloroethene DL	trans-1,2-Dichloroethene Value	trans-1,2-Dichloroethene DL	1,2-Dichloroethene (total) Value	1,2-Dichloroethene (total) DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloropropane Value	1,2-Dichloropropane DL	cis-1,3-Dichloropropene Value	cis-1,3-Dichloropropene DL	trans-1,3-Dichloropropene Value	trans-1,3-Dichloropropene DL	Ethylbenzene Value	Ethylbenzene DL	2-Hexanone Value	2-Hexanone DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Methyl Bromide Value	Methyl Bromide DL	Methyl Chloride Value	Methyl Chloride DL	4-Methyl-2-pentanone (MIK) Value	4-Methyl-2-pentanone (MIK) DL	Methylene Chloride Value	Methylene Chloride DL	Styrene Value	Styrene DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.05	ND	0.05	ND	0.05	0.3	0.05	ND	0.05
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,2,2-Tetrachloroethane Value	1,1,2,2-Tetrachloroethane DL	Tetrachloroethene (PCE) Value	Tetrachloroethene (PCE) DL	Tetrahydrofuran Value	Tetrahydrofuran DL	Toluene Value	Toluene DL	1,2,3-Trichlorobenzene Value	1,2,3-Trichlorobenzene DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,1-Trichloroethane (TCA) Value	DL	1,1,2-Trichloroethane Value	DL	Trichloroethene (TCE) Value	DL	Trichlorofluoromethane Value	DL	Trichlorotrifluoroethane (Freon 113) Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Trihalomethanes Value	Total Trihalomethanes DL	Vinyl Acetate Value	Vinyl Acetate DL	Vinyl Chloride Value	Vinyl Chloride DL	m,p-Xylene Value	m,p-Xylene DL	o-Xylene Value	o-Xylene DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Xylene (total) Value	Xylene (total) DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acenaphthene Value	Acenaphthene DL	Acenaphthylene Value	Acenaphthylene DL	Aniline Value	Aniline DL	Anthracene Value	Anthracene DL	Benzidine Value	Benzidine DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	20
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)anthracene Value	Benzo(a)anthracene DL	Benzo(b)fluoranthene Value	Benzo(b)fluoranthene DL	Benzo(k)fluoranthene Value	Benzo(k)fluoranthene DL	Benzoic Acid Value	Benzoic Acid DL	Benzo(g,h,i)perylene Value	Benzo(g,h,i)perylene DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	0.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)pyrene Value	Benzo(a)pyrene DL	Benzyl Alcohol Value	Benzyl Alcohol DL	Bis(2-Chloroethoxy)-methane Value	Bis(2-Chloroethoxy)-methane DL	Bis(2-Chloroethyl)-ether Value	Bis(2-Chloroethyl)-ether DL	Bis(2-Chloroisopropyl)ether Value	Bis(2-Chloroisopropyl)ether DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bis(2-Ethylhexyl)-phthalate		4-Bromophenylphenyl-ether		Butylbenzylphthalate		4-Chloroaniline		2-Chloronaphthalene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	10	ND	1.0	ND	1.0	ND	1.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2-Chlorophenol Value	2-Chlorophenol DL	4-Chlorophenyl-phenylether Value	4-Chlorophenyl-phenylether DL	Chrysene Value	Chrysene DL	Dibenzo(a,h)-anthracene Value	Dibenzo(a,h)-anthracene DL	Dibenzofuran Value	Dibenzofuran DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichlorobenzene		1,3-Dichlorobenzene		1,4-Dichlorobenzene		3,3'-Dichlorobenzidine		2,4-Dichlorophenol	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	20	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Diethylphthalate Value	Diethylphthalate DL	2,4-Dimethylphenol Value	2,4-Dimethylphenol DL	Dimethylphthalate Value	Dimethylphthalate DL	Di-n-butylphthalate Value	Di-n-butylphthalate DL	4,6-Dinitro-o-cresol Value	4,6-Dinitro-o-cresol DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	2.0	1.0	ND	1.0	ND	1.0	ND	1.0	ND	20
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2,4-Dinitrophenol		2,4-Dinitrotoluene		2,6-Dinitrotoluene		Di-n-octylphthalate		1,2-Diphenyl-hydrazine	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	20	ND	1.0	ND	1.0	ND	10	ND	2.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Fluoranthene		Fluorene		Hexachlorobenzene		Hexachlorobutadiene		Hexachlorocyclo-pentadiene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Hexachloroethane Value	Hexachloroethane DL	Ideno(1,2,3-c,d)-pyrene Value	Ideno(1,2,3-c,d)-pyrene DL	Isophorone Value	Isophorone DL	2-Methylnaphthalene Value	2-Methylnaphthalene DL	2-Methylphenol Value	2-Methylphenol DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	4-Methylphenol		Naphthalene		2-Nitroaniline		3-Nitroaniline		4-Nitroaniline	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	5.0	NA	NA	ND	10
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	10	ND	20	ND	20
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 12 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Nitrobenzene Value	Nitrobenzene DL	2-Nitrophenol Value	2-Nitrophenol DL	4-Nitrophenol Value	4-Nitrophenol DL	N-Nitrosodimethylamine Value	N-Nitrosodimethylamine DL	Nitroso-di-N-propylamine Value	Nitroso-di-N-propylamine DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	2.0	ND	10	ND	1.0	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 13 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	N-Nitrosodiphenyl-amine Value	N-Nitrosodiphenyl-amine DL	P-Chloro-m-cresol Value	P-Chloro-m-cresol DL	Pentachlorophenol Value	Pentachlorophenol DL	Phenanthrene Value	Phenanthrene DL	Phenol Value	Phenol DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	2.0	ND	4.0	ND	1.0	ND	2.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 14 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Pyrene Value	Pyrene DL	1,2,4-Trichloro-benzene Value	1,2,4-Trichloro-benzene DL	2,4,5-Trichloro-phenol Value	2,4,5-Trichloro-phenol DL	2,4,6-Trichloro-phenol Value	2,4,6-Trichloro-phenol DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	1.0	ND	1.0	ND	2.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Aldrin Value	Aldrin DL	Arochlor 1016 Value	Arochlor 1016 DL	Arochlor 1221 Value	Arochlor 1221 DL	Arochlor 1232 Value	Arochlor 1232 DL	Arochlor 1242 Value	Arochlor 1242 DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	1.0	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.20	ND	0.20	ND	0.40	ND	0.20	ND	0.20
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Arochlor 1248 Value	Arochlor 1248 DL	Arochlor 1254 Value	Arochlor 1254 DL	Arochlor 1260 Value	Arochlor 1260 DL	Alpha-BHC Value	Alpha-BHC DL	Beta-BHC Value	Beta-BHC DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.20	ND	0.20	ND	0.20	ND	0.20	ND	0.20
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Delta-BHC Value	Delta-BHC DL	BHC (Lindane) Value	BHC (Lindane) DL	Chlordane Value	Chlordane DL	alpha-Chlordane Value	alpha-Chlordane DL	gamma-Chlordane Value	gamma-Chlordane DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	1.0	NA	NA	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.20	ND	0.20	ND	0.40	NA	NA	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1

(COMPLETE LISTING)

*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	p,p'-DDD Value	p,p'-DDD DL	p,p'-DDE Value	p,p'-DDE DL	p,p'-DDT Value	p,p'-DDT DL	Dieldrin Value	Dieldrin DL	Endosulfan I (alpha) Value	Endosulfan I (alpha) DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.20	ND	0.20	ND	0.20	ND	0.20	ND	0.20
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Endosulfan II (beta) Value	Endosulfan II (beta) DL	Endosulfan sulfate Value	Endosulfan sulfate DL	Endrin Value	Endrin DL	Endrin Aldehyde Value	Endrin Aldehyde DL	Endrin Ketone Value	Endrin Ketone DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	NA	NA
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.20	ND	0.20	ND	0.20	ND	0.20	NA	NA
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Heptachlor Value	Heptachlor DL	Heptachlor Epoxide Value	Heptachlor Epoxide DL	Methoxychlor Value	Methoxychlor DL	Toxaphene Value	Toxaphene DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	0.50	ND	0.50	NA	NA	ND	2.5
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	0.20	ND	0.20	NA	NA	ND	1.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony (Sb) Value	Total Antimony (Sb) DL	Total Arsenic (As) Value	Total Arsenic (As) DL	Total Beryllium (Be) Value	Total Beryllium (Be) DL	Total Cadmium (Cd) Value	Total Cadmium (Cd) DL	Total Chromium (Cr) Value	Total Chromium (Cr) DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	6.5	NR
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	7.3	NR
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	5.0	NR
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	5.0	17	NR	ND	0.5	1.1	NR	9.2	NR
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	5.6	NR
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	5.6	NR
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	5.2	NR
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	6.8	NR
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	9.2	NR
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	12	NR
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	5.0	22	NR	ND	0.5	6.4	NR	20	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Copper (Cu)		Total Lead (Pb)		Total Mercury (Hg)		Total Nickel (Ni)		Total Selenium (Se)	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	180	NR	11	NR	0.028	NR	4.0	NR	ND	5.0
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	6.0	NR	14	NR	0.033	NR	ND	4.0	ND	5.0
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	4.2	NR	ND	10	0.030	NR	4.3	NR	ND	5.0
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	9.0	NR	11	NR	0.049	NR	14	NR	ND	5.0
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	4.0	NR	12	NR	ND	0.02	ND	4.0	ND	5.0
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	3.5	NR	ND	10	0.030	NR	ND	4.0	ND	5.0
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	3.3	NR	ND	10	0.03	NR	ND	4.0	ND	5.0
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	6.1	NR	ND	10	0.030	NR	4.0	NR	ND	5.0
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	6.9	NR	11	NR	0.04	NR	13	NR	ND	5.0
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	9.1	NR	22	NR	0.061	NR	7.4	NR	ND	5.0
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	21	NR	17	NR	0.091	NR	32	NR	ND	5.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM POLLOCK VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver (Ag) Value	Total Silver (Ag) DL	Total Thallium (Tl) Value	Total Thallium (Tl) DL	Total Zinc (Zn) Value	Total Zinc (Zn) DL
PO-VPB-01	VPB-WASTE SOIL		10/25/89	JMM	ND	1.0	ND	10	22	NR
PO-VPB-02	VPB-WASTE SOIL		10/26/89	JMM	ND	1.0	ND	10	33	NR
PO-VPB-03	VPB-WASTE SOIL		11/06/89	JMM	ND	1.0	ND	10	19	NR
PO-VPB-04	VPB-WASTE SOIL		10/27/89	JMM	ND	1.0	ND	10	43	NR
PO-VPB-05	VPB-WASTE SOIL		10/24/89	JMM	ND	1.0	ND	10	23	NR
PO-VPB-06	VPB-WASTE SOIL		10/27/89	JMM	ND	1.0	ND	10	27	NR
PO-VPB-07	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	10	15	NR
PO-VPB-08	VPB-WASTE SOIL		10/30/89	JMM	ND	1.0	ND	10	23	NR
PO-VPB-09	VPB-WASTE SOIL		10/31/89	JMM	ND	1.0	ND	10	33	NR
PO-VPB-10	VPB-WASTE SOIL		11/08/89	JMM	ND	1.0	ND	10	56	NR
PO-VPB-11	VPB-WASTE SOIL		11/02/89	JMM	ND	1.0	ND	10	86	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

APPENDIX F: SOIL SAMPLE SUMMARY TABLES

APPENDIX F.4 VERDUGO VPBs

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

06/01/90

DATES AND LABORATORY NOS. FOR WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1

Well Name	Analytical Group	Sample Type	Depth (ft)	Date Sampled	Date Received	Date Extracted	Date Analyzed	Lab No.	Lab
VD-VBP-04	BNA	WASTE SOIL		12/14/89	12/15/89	12/20/89	12/22/89	JC1076	JMM
VD-VPB-01	VOC	WASTE SOIL		01/10/90	01/11/90	N/A	01/21/90	K13027	JMM
	PSTPCB	WASTE SOIL		01/10/90	01/11/90	01/11/90	01/24/90	K13027	JMM
	METAL	WASTE SOIL		01/10/90	01/11/90	N/A	02/06/90	K13027	JMM
VD-VPB-02	VOC	WASTE SOIL		12/07/89	12/08/89	N/A	12/11/89	JC0205	JMM
	BNA	WASTE SOIL		12/07/89	12/08/89	12/14/89	12/18/89	JC0205	JMM
	PSTPCB	WASTE SOIL		12/07/89	12/08/89	12/08/89	12/09/89	JC0205	JMM
	METAL	WASTE SOIL		12/07/89	12/08/89	N/A	12/18/89	JC0205	JMM
VD-VPB-03	VOC	WASTE SOIL		12/12/89	12/13/89	N/A	12/14/89	JC0898	JMM
	BNA	WASTE SOIL		12/12/89	12/13/89	12/14/89	12/19/89	JC0898	JMM
	PSTPCB	WASTE SOIL		12/12/89	12/13/89	12/18/89	12/22/89	JC0898	JMM
	METAL	WASTE SOIL		12/12/89	12/13/89	N/A	12/28/89	JC0898	JMM
VD-VPB-04	VOC	WASTE SOIL		12/14/89	12/15/89	N/A	12/17/89	JC1076	JMM
	PSTPCB	WASTE SOIL		12/14/89	12/15/89	12/18/89	12/22/89	JC1076	JMM
	METAL	WASTE SOIL		12/14/89	12/15/89	N/A	12/28/89	JC1076	JMM
VD-VPB-05	VOC	WASTE SOIL		12/18/89	12/19/89	N/A	12/21/89	JC1312	JMM
	BNA	WASTE SOIL		12/18/89	12/19/89	12/20/89	12/22/89	JC1312	JMM
	PSTPCB	WASTE SOIL		12/18/89	12/19/89	12/20/89	12/26/89	JC1312	JMM
	METAL	WASTE SOIL		12/18/89	12/19/89	N/A	01/03/89	JC1312	JMM
VD-VPB-06	VOC	WASTE SOIL		01/05/90	01/05/90	N/A	01/09/90	K12619	JMM
	BNA	WASTE SOIL		01/05/90	01/05/90	01/09/90	01/10/90	K12619	JMM
	PSTPCB	WASTE SOIL		01/05/90	01/05/90	01/09/90	01/13/90	K12619	JMM
	METAL	WASTE SOIL		01/05/90	01/05/90	N/A	01/23/90	K12619	JMM
VD-VPB-07	VOC	WASTE SOIL		12/01/89	12/01/89	N/A	12/04/89	JC9505	JMM
	BNA	WASTE SOIL		12/01/89	12/01/89	12/05/89	12/08/89	JC9505	JMM
	PSTPCB	WASTE SOIL		12/01/89	12/01/89	12/04/89	12/08/89	JC9505	JMM
	METAL	WASTE SOIL		12/01/89	12/01/89	N/A	12/21/89	JC9505	JMM

Notes: N/A=Not applicable, DUP=Duplicate sample, SPL=Split sample, BS=Sample collected with a brass sleeve

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acetone Value	Acetone DL	Acrolein Value	Acrolein DL	Acrylonitrile Value	Acrylonitrile DL	Benzene Value	Benzene DL	Bromochloromethane Value	Bromochloromethane DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	0.07	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	0.1	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bromoform		2-Butanone (MEK)		Carbon Disulfide		Carbon Tetrachloride		Chlorobenzene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.005	ND	0.05	ND	0.005	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Chloroethane Value	Chloroethane DL	2-Chloroethylvinyl-ether Value	2-Chloroethylvinyl-ether DL	Chloroform Value	Chloroform DL	Dibromochloromethane Value	Dibromochloromethane DL	1,2-Dichlorobenzene Value	1,2-Dichlorobenzene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.05	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,3-Dichlorobenzene		1,4-Dichlorobenzene		Dichlorobromomethane		Dichlorodifluoro-methane		1,1-Dichloroethane	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.05	ND	0.05	ND	0.005	NA	NA	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		1,2-Dichloroethene (total)	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichloropropane		cis-1,3-Dichloropropene		trans-1,3-Dichloropropene		Ethylbenzene		2-Hexanone	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Methyl Bromide Value	Methyl Bromide DL	Methyl Chloride Value	Methyl Chloride DL	4-Methyl-2-pentanone (MIK) Value	4-Methyl-2-pentanone (MIK) DL	Methylene Chloride Value	Methylene Chloride DL	Styrene Value	Styrene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,2,2-Tetrachloroethane Value	1,1,2,2-Tetrachloroethane DL	Tetrachloroethene (PCE) Value	Tetrachloroethene (PCE) DL	Tetrahydrofuran Value	Tetrahydrofuran DL	Toluene Value	Toluene DL	1,2,3-Trichlorobenzene Value	1,2,3-Trichlorobenzene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.005	ND	0.005	ND	0.05	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,1,1-Trichloroethane (TCA) Value	DL	1,1,2-Trichloroethane Value	DL	Trichloroethene (TCE) Value	DL	Trichlorofluoromethane Value	DL	Trichlorotrifluoroethane (Freon 113) Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.005	ND	0.005	ND	0.005	ND	0.05	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Trihalomethanes Value	Total Trihalomethanes DL	Vinyl Acetate Value	Vinyl Acetate DL	Vinyl Chloride Value	Vinyl Chloride DL	m,p-Xylene Value	m,p-Xylene DL	o-Xylene Value	o-Xylene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	NA	NA	ND	0.05	ND	0.05	ND	0.005	ND	0.005

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF VOC CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Xylene (total) Value	Xylene (total) DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 5030/8240.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1

(COMPLETE LISTING)

*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Acenaphthene Value	Acenaphthene DL	Acenaphthylene Value	Acenaphthylene DL	Aniline Value	Aniline DL	Anthracene Value	Anthracene DL	Benzidine Value	Benzidine DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)anthracene		Benzo(b)fluoranthene		Benzo(k)fluoranthene		Benzoic Acid		Benzo(g,h,i)perylene	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.0	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Benzo(a)pyrene		Benzyl Alcohol		Bis(2-Chloroethoxy)-methane		Bis(2-Chloroethyl)-ether		Bis(2-Chloroiso-propyl)ether	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Bis(2-Ethylhexyl)-phthalate Value	Bis(2-Ethylhexyl)-phthalate DL	4-Bromophenylphenyl-ether Value	4-Bromophenylphenyl-ether DL	Butylbenzylphthalate Value	Butylbenzylphthalate DL	4-Chloroaniline Value	4-Chloroaniline DL	2-Chloronaphthalene Value	2-Chloronaphthalene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	5.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2-Chlorophenol		4-Chlorophenyl-phenylether		Chrysene		Dibenzo(a,h)-anthracene		Dibenzofuran	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	1,2-Dichlorobenzene		1,3-Dichlorobenzene		1,4-Dichlorobenzene		3,3'-Dichloro-benzidine		2,4-Dichlorophenol	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	10	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 7 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Diethylphthalate Value	Diethylphthalate DL	2,4-Dimethylphenol Value	2,4-Dimethylphenol DL	Dimethylphthalate Value	Dimethylphthalate DL	Di-n-butylphthalate Value	Di-n-butylphthalate DL	4,6-Dinitro-o-cresol Value	4,6-Dinitro-o-cresol DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 8 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	2,4-Dinitrophenol		2,4-Dinitrotoluene		2,6-Dinitrotoluene		Di-n-octylphthalate		1,2-Diphenyl-hydrazine	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	10	ND	0.50	ND	0.50	ND	5.0	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 9 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Fluoranthene Value	Fluoranthene DL	Fluorene Value	Fluorene DL	Hexachlorobenzene Value	Hexachlorobenzene DL	Hexachlorobutadiene Value	Hexachlorobutadiene DL	Hexachlorocyclo-pentadiene Value	Hexachlorocyclo-pentadiene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 10 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Hexachloroethane Value	Hexachloroethane DL	Ideno(1,2,3-c,d)-pyrene Value	Ideno(1,2,3-c,d)-pyrene DL	Isophorone Value	Isophorone DL	2-Methylnaphthalene Value	2-Methylnaphthalene DL	2-Methylphenol Value	2-Methylphenol DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 11 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	4-Methylphenol Value	4-Methylphenol DL	Naphthalene Value	Naphthalene DL	2-Nitroaniline Value	2-Nitroaniline DL	3-Nitroaniline Value	3-Nitroaniline DL	4-Nitroaniline Value	4-Nitroaniline DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	5.0	ND	10	ND	10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 12 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Nitrobenzene Value	Nitrobenzene DL	2-Nitrophenol Value	2-Nitrophenol DL	4-Nitrophenol Value	4-Nitrophenol DL	N-Nitrosodimethylamine Value	N-Nitrosodimethylamine DL	N-Nitroso-di-N-propylamine Value	N-Nitroso-di-N-propylamine DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	1.0	ND	5.0	ND	0.50	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 13 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	N-Nitrosodiphenyl-amine Value	N-Nitrosodiphenyl-amine DL	P-Chloro-m-cresol Value	P-Chloro-m-cresol DL	Pentachlorophenol Value	Pentachlorophenol DL	Phenanthrene Value	Phenanthrene DL	Phenol Value	Phenol DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	1.0	ND	2.0	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF BNA CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 14 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Pyrene Value	Pyrene DL	1,2,4-Trichloro-benzene Value	1,2,4-Trichloro-benzene DL	2,4,5-Trichloro-phenol Value	2,4,5-Trichloro-phenol DL	2,4,6-Trichloro-phenol Value	2,4,6-Trichloro-phenol DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.50	ND	0.50	ND	0.50	ND	1.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8270.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Aldrin Value	Aldrin DL	Arochlor 1016 Value	Arochlor 1016 DL	Arochlor 1221 Value	Arochlor 1221 DL	Arochlor 1232 Value	Arochlor 1232 DL	Arochlor 1242 Value	Arochlor 1242 DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.10	ND	0.10	ND	0.20	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***

CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1

(COMPLETE LISTING)

*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Arochlor 1248 Value	Arochlor 1248 DL	Arochlor 1254 Value	Arochlor 1254 DL	Arochlor 1260 Value	Arochlor 1260 DL	Alpha-BHC Value	Alpha-BHC DL	Beta-BHC Value	Beta-BHC DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Delta-BHC Value	Delta-BHC DL	BHC (Lindane) Value	BHC (Lindane) DL	Chlordane Value	Chlordane DL	alpha-Chlordane Value	alpha-Chlordane DL	gamma-Chlordane Value	gamma-Chlordane DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.10	ND	0.10	ND	0.20	NA	NA	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDF AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 4 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	p,p'-DDD Value	p,p'-DDD DL	p,p'-DDE Value	p,p'-DDE DL	p,p'-DDT Value	p,p'-DDT DL	Dieldrin Value	Dieldrin DL	Endosulfan I (alpha) Value	Endosulfan I (alpha) DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 5 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Endosulfan II (beta)		Endosulfan sulfate		Endrin		Endrin Aldehyde		Endrin Ketone	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.10	ND	0.10	ND	0.10	ND	0.10	NA	NA

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF PESTICIDE AND PCB CONTAMINANTS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 6 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Heptachlor Value	Heptachlor DL	Heptachlor Epoxide Value	Heptachlor Epoxide DL	Methoxychlor Value	Methoxychlor DL	Toxaphene Value	Toxaphene DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	0.10	ND	0.10	NA	NA	ND	0.50

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Method SW 846 3550/8080.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 1 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Antimony (Sb)		Total Arsenic (As)		Total Beryllium (Be)		Total Cadmium (Cd)		Total Chromium (Cr)	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	5.0	ND	5.0	ND	0.5	ND	0.5	3.8	NR
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	4.0	NR
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	3.1	NR
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	5.1	NR
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	ND	1.0
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	11	NR
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	5.0	ND	10	ND	0.5	ND	0.5	3.6	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.

*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 2 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Copper (Cu)		Total Lead (Pb)		Total Mercury (Hg)		Total Nickel (Ni)		Total Selenium (Se)	
					Value	DL	Value	DL	Value	DL	Value	DL	Value	DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	14	NR	ND	10	0.14	NR	ND	4.0	ND	5.0
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	4.4	NR	16	NR	0.0020	NR	ND	4.0	ND	5.0
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	3.4	NR	5.1	NR	0.05	NR	ND	4.0	ND	5.0
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	5.3	NR	7.7	NR	0.06	NR	ND	4.0	ND	5.0
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	1.0	ND	10	0.16	NR	ND	4.0	ND	5.0
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	8.8	NR	4.0	NR	ND	0.02	ND	4.0	ND	5.0
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	6.2	NR	14	NR	0.11	NR	ND	4.0	ND	5.0

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
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*** SAN FERNANDO VALLEY REMEDIAL INVESTIGATION ***
CONCENTRATION OF METALS IN WASTE SOIL SAMPLES FROM VERDUGO VPB PHASE 1
(COMPLETE LISTING)
*** PART 3 ***

Well Name	Sample Type	Depth (ft)	Date Sampled	Lab	Total Silver (Ag) Value	Total Silver (Ag) DL	Total Thallium (Tl) Value	Total Thallium (Tl) DL	Total Zinc (Zn) Value	Total Zinc (Zn) DL
VD-VPB-01	VPB-WASTE SOIL		01/10/90	JMM	ND	1.0	ND	10	29	NR
VD-VPB-02	VPB-WASTE SOIL		12/07/89	JMM	ND	1.0	ND	20	31	NR
VD-VPB-03	VPB-WASTE SOIL		12/12/89	JMM	ND	1.0	16	NR	16	NR
VD-VPB-04	VPB-WASTE SOIL		12/14/89	JMM	ND	1.0	13	NR	22	NR
VD-VPB-05	VPB-WASTE SOIL		12/18/89	JMM	ND	1.0	ND	10	ND	2.0
VD-VPB-06	VPB-WASTE SOIL		01/05/90	JMM	ND	1.0	ND	10	40	NR
VD-VPB-07	VPB-WASTE SOIL		12/01/89	JMM	ND	1.0	ND	25	31	NR

Notes: Concentrations are mg/kg, ND=Not detected, NA=Not analyzed, NR=Not reported, N/A=Not applicable, DUP=Duplicate sample, BS=Sample collected with a brass sleeve
Soil samples are analyzed according to EPA Methods SW 846 3050 (digestion) and EPA Methods SW 846 7XXX specific to each metal. A list of analytical methods is found elsewhere in this document.