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MOFFETT FIELD
SSIC NO. 5090.3

CLEAN

Contract No. N62474-888-D-5086

Contract Task Order 0030

Navy Engineer-in-Charge: Stephen Chao

PRC Project Manager: Thomas Adkisson

NAVAL AIR STATION MOFFETT FIELD
MOUNTAIN VIEW, CALIFORNIA

BUILDING 29 AREA
FIELD INVESTIGATION
TECHNICAL MEMORANDUM

VOLUME II

Prepared By

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April 15, 1991

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N00296.001087
MOFFETT FIELD
SSIC NO. 5090.3

BUILDING 29 AREA FIELD INVESTIGATION TECHNICAL MEMORANDUM

DATED 15 APRIL 1991

THIS RECORD CONTAINS MULTIPLE VOLUMES WHICH HAVE BEEN ENTERED SEPARATELY

VOLUME I OF II IS FILED AS ADMINISTRATIVE RECORD NO. **N00296.001086**

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MOFFETT FIELD
SSIC NO. 5090.3

REVISED FIELD INVESTIGATION TECHNICAL MEMORANDUM BUILDING 29 AREA

DATED 23 AUGUST 1991

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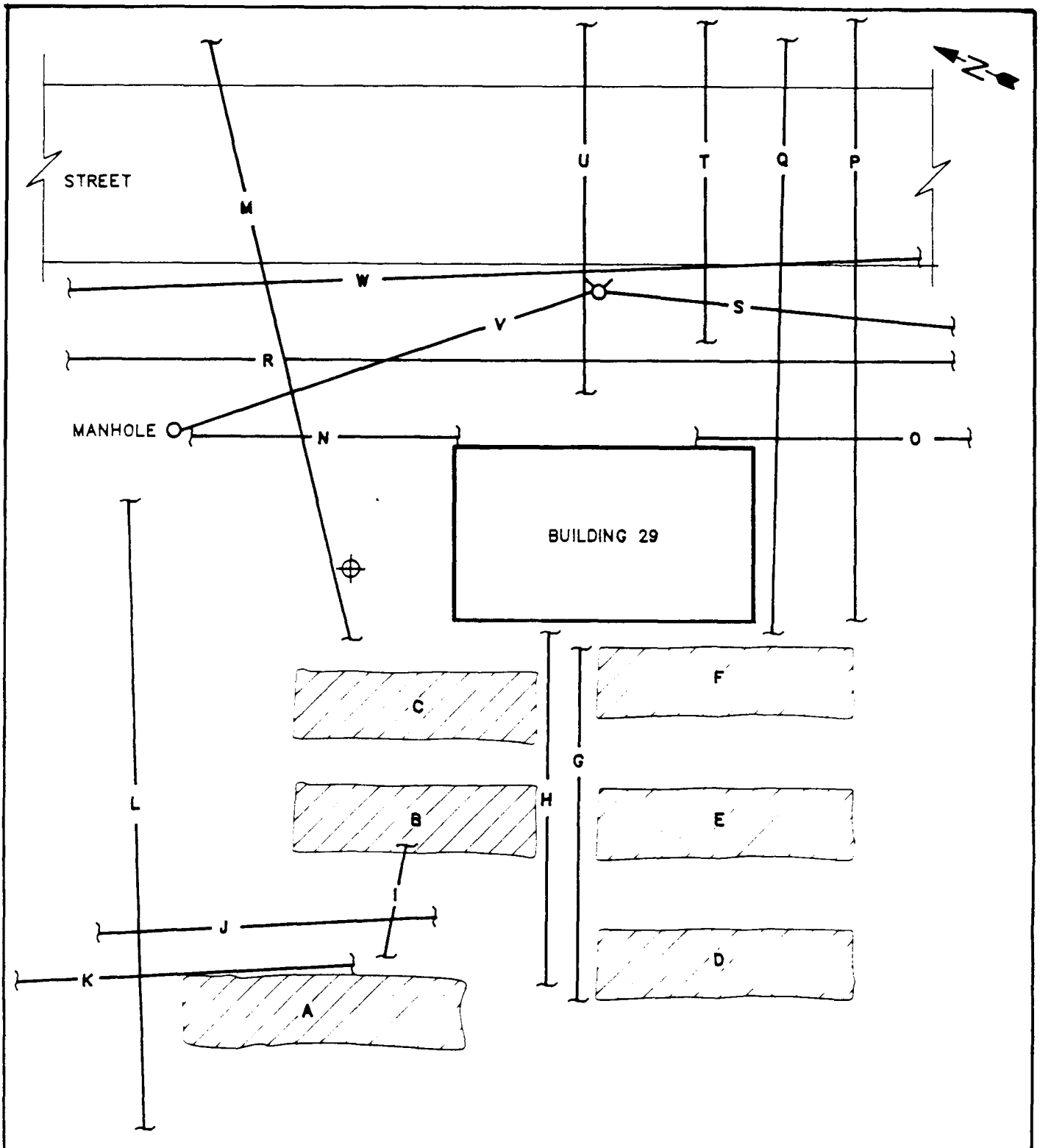
APPENDIX A

INTERPRETATION OF GROUND PENETRATING RADAR SURVEY



LEGEND

FIRE HYDRANT

—W— PIPELINE

MONITORING WELL

TANK

FIGURE A-1
NAS MOFFETT FIELD SITE 9
BUILDING 29 GPR INTERPRETATION

0 10' 20' 30'
SCALE

FILE NAME: D:\00300IRS\C89\FIG-302.DWG

DATE: 02/2, AA

A description of the features that are indicated on Figure A-1 is provided below. Each feature is identified with a unique uppercase arabic letter. The twenty-three subsurface features that have been identified are labeled as A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, and W.

A This feature appears to be an UST. The approximate area of tank surface is indicated by cross-hatching on Figure A-1.

B This feature appears to be an UST. The approximate area of tank surface is indicated by cross-hatching on Figure A-1.

C This feature appears to be an UST. The approximate area of tank surface is indicated by cross-hatching on Figure A-1.

D This feature appears to be an UST. The approximate area of tank surface is indicated by cross-hatching on Figure A-1.

E This feature appears to be an UST. The approximate area of tank surface is indicated by cross-hatching on Figure A-1.

F This feature appears to be an UST. The approximate area of tank surface is indicated by cross-hatching on Figure A-1.

G This feature is well-defined in the survey record and appears to be a metallic pipeline associated with features B, C, D, E, and F.

H This feature is well-defined in the survey record and appears to be a metallic pipeline associated with features B, C, D, E, and F. The relationship between this feature and feature G is not apparent in the survey record.

I This feature appears to be a metallic pipeline associated with UST features B and (possibly) A.

J This feature appears to be a metallic pipeline that may be associated with pipeline I.

K This feature appears to be a metallic pipeline that may be associated with either pipeline I or UST A.

L This feature is well-defined in the survey record and appears to be a metallic pipeline or utility line.

M This feature is well-defined in the survey record and appears to be a metallic pipeline. Based on the orientation and apparent depth of the feature, it may be associated with nearby UST features.

N This feature appears to be a metallic pipeline or utility line that may be a continuation of feature O.

O This feature appears to be a metallic pipeline or utility line that may be a continuation of feature N.

P This feature is well-defined in the survey record and appears to be a metallic pipeline. Based on the orientation and apparent depth of the feature, it may be associated with nearby UST features.

Q This feature is well-defined in the survey record and appears to be a metallic pipeline. Based on the orientation and apparent depth of the feature, it may be associated with nearby UST features.

R This feature is well-defined in the survey record and appears to be a metallic pipeline or utility line.

S This feature is well-defined in the survey record and appears to be a metallic pipeline that is connected to the nearby fire hydrant.

T This feature appears to be a metallic pipeline or utility line.

U This feature is well-defined in the survey record and appears to be a metallic pipeline. Based on the orientation of the feature, it appears to be associated with Building 29.

V This feature is well-defined in the survey record and appears to be a metallic pipeline that is connected to the nearby fire hydrant and manhole.

W This feature is well-defined in the survey record and appears to be a metallic pipeline or utility line.

APPENDIX B

SOIL GAS SURVEY DATA SUMMARY

TABLE

BUILDING 29 AREA INVESTIGATION
SUMMARY OF ANALYTICAL RESULTS FOR SOIL-GAS AND WATER SAMPLES

SAMPLE	DEPTH (FT)	1,1-DCE	DCM	CHLORO-FORM	1,1,1-TCA	CARBON TET	1,2-DCA	TCE	PCE	TRANS-1,2-DCE	CIS-1,2-DCE	1,1-DCA	BENZENE	TOLUENE	ETHYL BENZENE	M,P-XYLENES	O-XYLENE	TPH JET/GAS
FB26NOV#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB27NOV#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB28NOV#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB29NOV#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB30NOV#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB01DEC#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB02DEC#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.03	3.02	0.69	2.80	1.03	44.20
FB02DEC#2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB03DEC#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB04DEC#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
FB05DEC#1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
HP29-16	26.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	14.40
HP29-18	12.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	93.30	<0.10	1970.00	616.00	7020.00	4750.00	6010.00	485000.00
HP29-18-A	25.00	100.00	<0.10	<0.10	43.70	<0.10	<0.10	1800.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
HP29-18-B	25.00	116.00	<0.10	<0.10	40.00	<0.10	<0.10	1760.00	<0.10	<0.10	191.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
HP29-24	24.00	4.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	17.40
HP29-34	26.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	45.50
HP29-40	22.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	29.10
HP29-41	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	203.00	18.50	<0.10	<0.10	<0.10	1320.00
HP29-51	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	130.00	<0.10	136.00	28.90	53.80	12.00	10.00	2110.00
HP29-52	20.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	632.00	<0.10	<0.10	32.30	<0.10	<0.10	<0.10	<0.10	5.60	<0.10	1530.00
HP29-61	24.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	5.56	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
HP29-63	19.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	87.70	120.00	446.00	238.00	18.00	8230.00
HP29-66	20.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	997.00	6.53	<0.10	248.00	<0.10	12.20	12.40	9.65	2.05	0.67	3120.00
HP29-67	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	26.10
HP29-79	19.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	90.50	54.30	713.00	17.40	3.01	5610.00
HP29-91	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	42.10
HP29-93	16.00	<0.10	<0.10	7.10	<0.10	<0.10	<0.10	1340.00	3.71	<0.10	38.40	<0.10	26.20	<0.10	<0.10	<0.10	<0.10	<0.10
HP29-99	18.00	29.60	<0.10	<0.10	<0.10	<0.10	<0.10	283.00	<0.10	<0.10	1622.00	25.90	<0.10	<0.10	<0.10	<0.10	<0.10	22.70
HP29-100	15.00	50.70	<0.10	<0.10	13.20	<0.10	<0.10	1370.00	3980.00	<0.10	152.00	9.45	<0.10	<0.10	<0.10	1.93	<0.10	6.68
HP29-102	21.00	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	3.64	<0.10	3.51	<0.10	25.10
SG01	8.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.85	<0.01	<0.01	0.27	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG02	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG03	8.70	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG04	9.60	1.36	<0.01	<0.01	<0.01	<0.01	<0.01	0.15	<0.01	<0.01	2.63	1.27	<0.01	<0.01	<0.01	<0.01	<0.01	14.80
SG05	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG06	5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.01	0.81
SG09	9.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	4.47	0.72	38.90	16.60	18.10	1910.00
SG10	5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.17	0.28	0.37	10.30
SG11	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG12	5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG13	5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG14	5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG15	8.00	0.52	<0.01	<0.01	<0.01	<0.01	<0.01	1.22	1.19	<0.01	10.30	0.39	<0.01	<0.01	0.72	0.77	2.32	47.60
SG16	10.00	6.68	0.44	<0.01	<0.01	<0.01	<0.01	0.91	<0.01	<0.01	<0.01	<0.01	19.60	2.47	5.77	2.45	1.84	141.00

Source: Hydro Geo Chem, 1990

TABLE B-2 (Continued)

SAMPLE	DEPTH (FT)	1,1-DCE	DCM	CHLORO-FORM	1,1,1-TCA	CARBON TET	1,2-DCA	TCE	PCE	TRANS-1,2-DCE	CIS-1,2-DCE	1,1-DCA	BENZENE	TOLUENE	ETHYL BENZENE	M,P-XYLENES	O-XYLENE	TPH JET/GAS
SG17	8.00	0.19	<0.01	<0.01	<0.01	<0.01	<0.01	0.13	<0.01	<0.01	6.03	0.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG18-A	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG18-B	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG19	2.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG21	4.00	0.28	<0.01	<0.01	<0.01	<0.01	<0.01	0.51	0.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	68.90
SG22	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	11.00	300.00	<0.01	3.90	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	25.40
SG28	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	4.12	<0.01	<0.01	<0.01	<0.01	0.23	<0.01	0.20	<0.01	2.02
SG29-A	4.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.64	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.01	<0.01
SG29-B	4.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.78	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG30	8.00	0.39	<0.01	<0.01	<0.01	<0.01	<0.01	0.92	0.21	<0.01	9.43	0.36	10.90	1.42	7.15	5.52	1.80	400.00
SG31	6.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG32	6.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	125.00	19.80	4.45	5.92	6.55	2457.00
SG33	6.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG34	6.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.37	<0.01	<0.01
SG35	13.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6.11	0.21	0.16	0.19	0.18	99.30
SG37-A	6.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG37-B	6.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.28	0.20	0.05	0.17	0.06	4.50
SG38-A	9.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	40.60	0.70	1.97	1.00	1.38	660.00
SG38-B	9.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	60.60	27.40	32.20	15.90	11.50	2100.00
SG39	6.60	0.48	<0.01	<0.01	<0.01	<0.01	<0.01	0.83	5.90	<0.01	1.49	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG40	6.00	35.00	<0.01	<0.01	<0.01	<0.01	<0.01	153.00	0.75	<0.01	42.30	1.25	120.00	23.20	50.20	15.70	11.30	4751.00
SG41	9.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	69.40	30.80	168.00	50.20	74.40	5590.00
SG42	10.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	207.00	110.00	30.80	19.10	35.30	2250.00
SG44	4.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.31	0.27
SG45-A	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.33	<0.01	0.33
SG45-B	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	1.40
SG46	5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3.34	<0.01	<0.01	<0.01	7.03
SG49	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8.87	0.48	2.56	4.89	7.34	473.00
SG50	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.83	5.57	<0.01	<0.01	<0.01	400.00
SG51	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	17.20	0.27	0.55	<0.01	1.34	175.00
SG51	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	21.30	0.24	0.26	0.33	0.15	236.00
SG52	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG52	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG53	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.20	0.05	12.70
SG55	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG56	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.24	0.10	2.33
SG57	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.19	<0.01	0.15	<0.01	8.95
SG58	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG59	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.96	4.82	0.91	1.13	0.25	313.00
SG59	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.87	<0.01	0.33	<0.01	1.27
SG60	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.81
SG61	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.26	2.36	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG62	6.00	70.50	<0.01	0.52	7.59	<0.01	<0.01	314.00	16.40	<0.01	8.19	2.85	<0.01	0.13	<0.01	0.14	0.07	<0.01
SG63	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.55	0.36	4.69	<0.01	12.90	293.00

Source: Hydro Geo Chem, 1990

TABLE B-2 (Continued)

SAMPLE	DEPTH (FT)	1,1-DCE	DCM	CHLORO-FORM	1,1,1-TCA	CARBON TET	1,2-DCA	TCE	PCE	TRANS-1,2-DCE	CIS-1,2-DCE	1,1-DCA	BENZENE	TOLUENE	ETHYL BENZENE	M,P-XYLENES	O-XYLENE	TPH JET/GAS
SG65-A	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	13.10	53.96	0.48	3.35	2.60	1620.00
SG65	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG65-B	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	16.30	65.30	15.80	<0.01	4.88	2071.00
SG66	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	63.30	65.70	70.60	46.20	38.60	4330.00
SG67	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.19	0.08	1.35
SG67	13.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG68	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	0.13	<0.01	4.80
SG69-A	15.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	44.80	3.19	1.89	<0.01	0.13	769.00
SG69-B	15.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	40.80	2.02	0.51	0.07	0.18	664.00
SG70	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	<0.01	0.29
SG71	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG73	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	0.10	<0.01	0.98
SG74	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.28	<0.01	0.14	<0.01	3.20
SG75	5.00	6.71	0.78	0.96	<0.01	<0.01	<0.01	3.46	1.00	<0.01	6.05	0.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG77	9.60	4.81	<0.01	0.21	<0.01	<0.01	<0.01	46.20	1.01	<0.01	9.67	0.40	<0.01	<0.01	0.09	<0.01	<0.01	<0.01
SG78	12.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG79	15.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	58.70	69.00	56.10	18.20	19.10	2740.00
SG80	7.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.29	<0.01	<0.01	<0.01	<0.01	2.84
SG81	7.60	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG85	6.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.52	2.79	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG91	15.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5.32	0.21	0.15	0.28	0.21	167.00
SG95-A	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG95-B	7.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG96-A	7.00	4.52	0.70	0.19	<0.01	<0.01	<0.01	119.00	248.00	<0.01	17.50	0.66	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG96-B	7.00	4.05	0.53	<0.01	<0.01	<0.01	<0.01	91.50	187.00	<0.01	16.40	0.50	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG100	8.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SG102-A	8.00	<0.01	<0.01	0.11	<0.01	<0.01	<0.01	4.06	22.50	<0.01	1.83	<0.01	6.67	26.30	8.37	33.80	17.70	906.00
SG102-B	8.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.32	6.73	<0.01	0.74	<0.01	1.90	7.70	2.46	10.78	5.16	259.00

FB = FIELD BLANK
HP = HYDRO PUNCH WATER SAMPLE
SG = SOIL GAS SAMPLE
A,B = SERIAL DUPLICATES

Source: Hydro Geo Chem, 1990

APPENDIX C

CONE PENETROMETER TEST PLOTS

N00296.001087
MOFFETT FIELD
SSIC NO. 5090.3

APPENDIX C – CONE PENETROMETER TEST PLOTS

THIS RECORD CONTAINS LARGE VOLUMES OF DATA AND IS NOT REQUIRED TO BE PHYSICALLY LOCATED WITH THE ADMINISTRATIVE RECORD DOCUMENT.

DUE TO EXTENSIVE VOLUME, THIS DATA WILL NOT BE IMAGED.

TO VIEW THE DATA, CONTACT:

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APPENDIX D

SOIL BORING AND MONITORING WELL LOGS

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GRAPHIC SYMBOL	LETTER SYMBOL	LETTER DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS W/ FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURE
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS W/ FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS W/ SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

WELL CONSTRUCTION MATERIALS SYMBOLS

GROUT

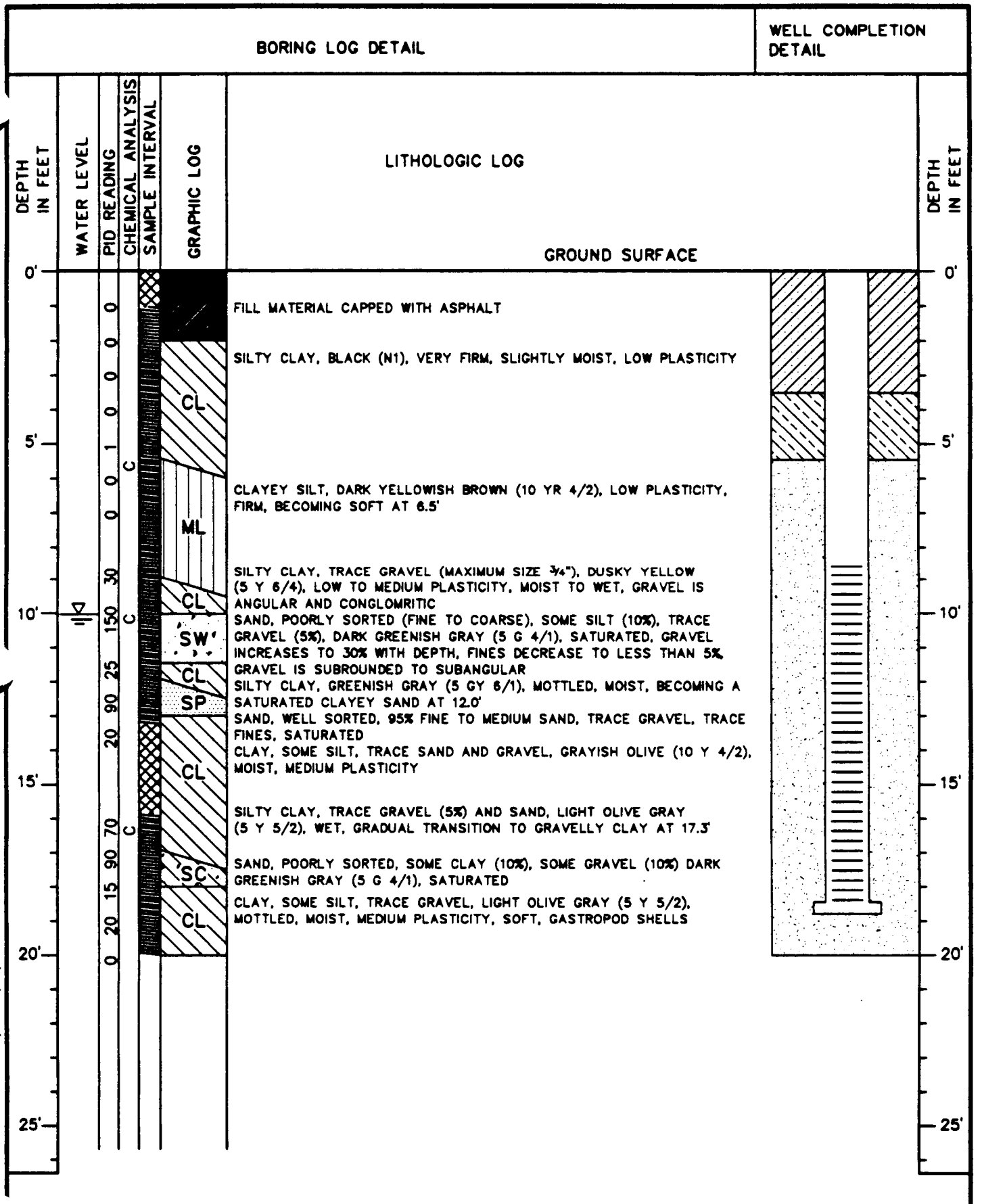
BENTONITE SEAL

FILTER PACKING

NAS MOFFETT FIELD BUILDING 29 AREA
SYMBOLS LEGENDS

FILE NAME: 003DWR\VTS\VFW-001A.DWG

DATE: 04/15/97 JAA

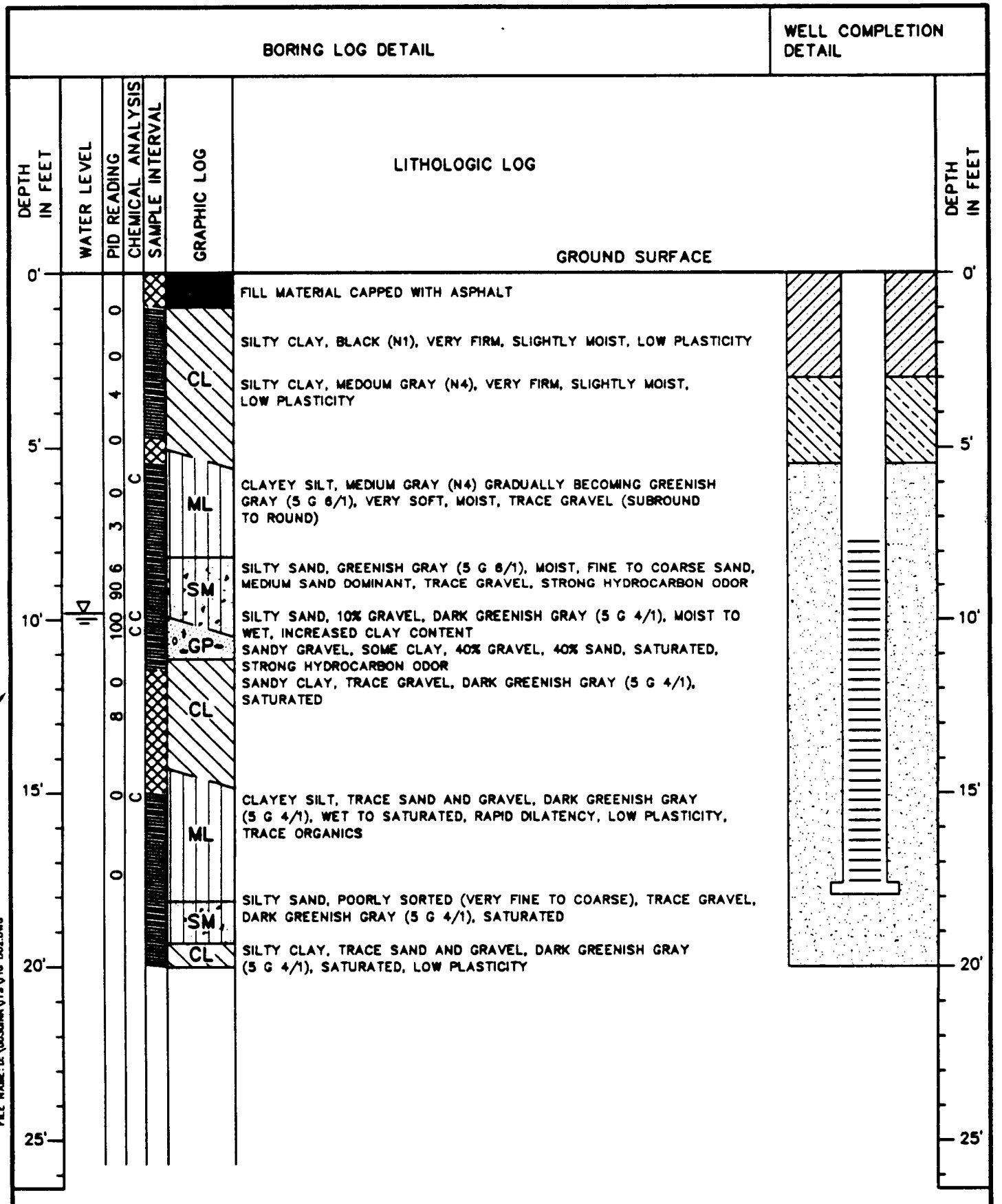


FILE NAME: D:\0030IRR\ITS\FIG-D01.DWG

DATE: 03/22/

FIGURE D-1
NAS MOFFETT FIELD BUILDING 29 AREA
W29-1(A)

SCALE: AS SHOWN



FILE NAME: D:\00308WVTS\FIG-002.DWG

DATE: 03/22/

FIGURE D-2
NAS MOFFETT FIELD BUILDING 29 AREA
W29-2(A1)

SCALE: AS SHOWN

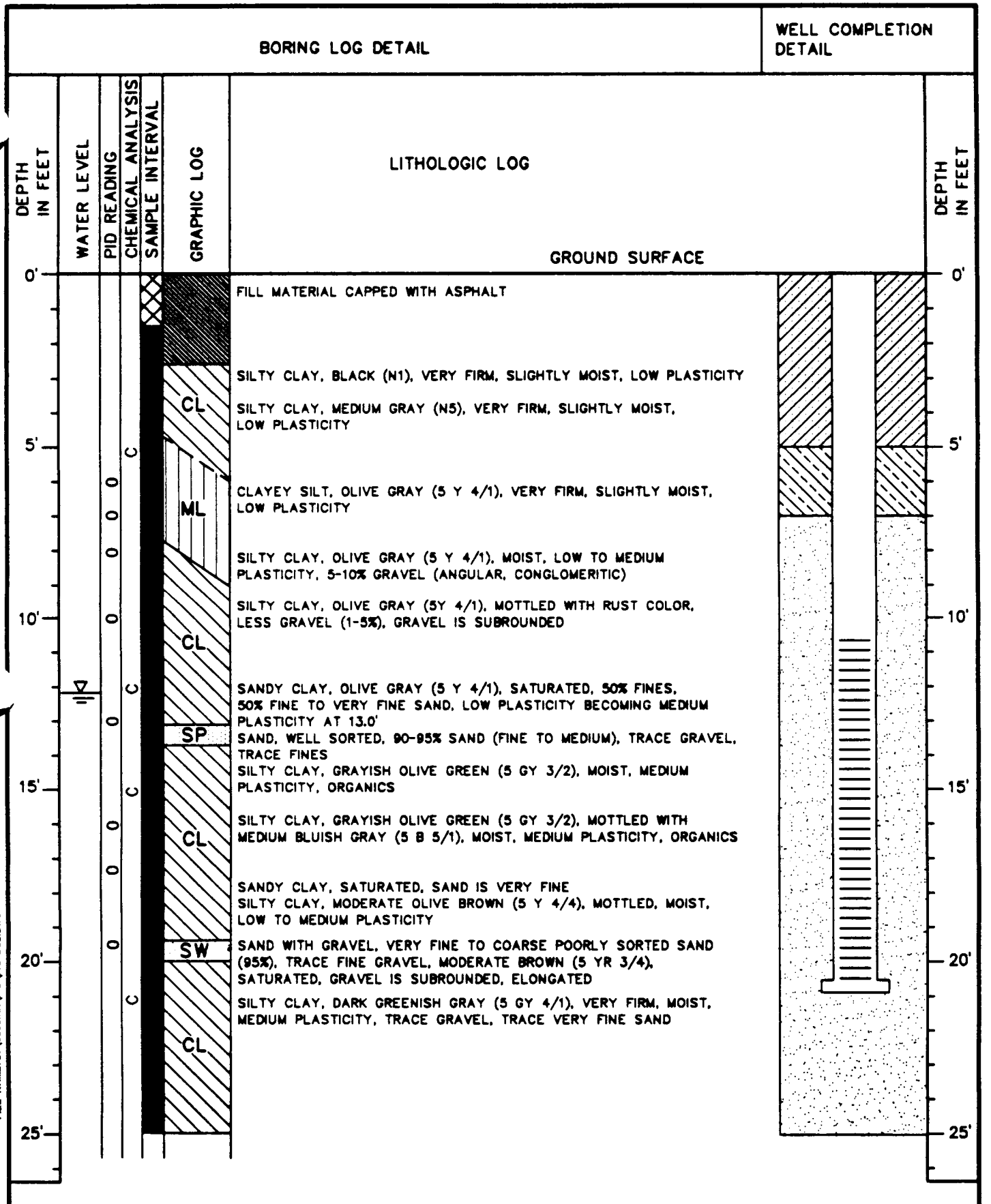


FIGURE D-3
NAS MOFFETT FIELD BUILDING 29 AREA
W29-3(A1)

SCALE: AS SHOWN

DATE: 03/

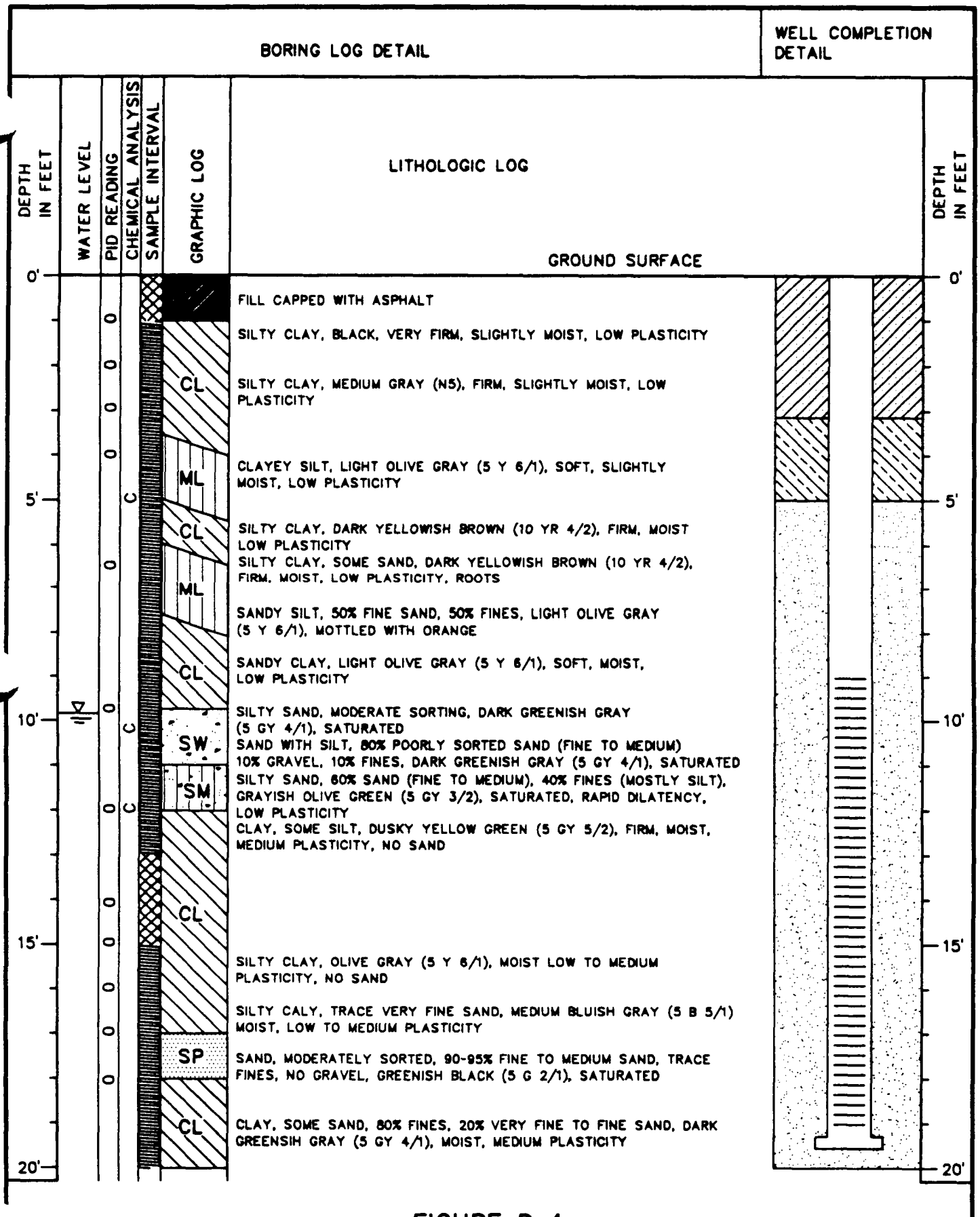


FIGURE D-4
NAS MOFFETT FIELD BUILDING 29 AREA
W29-4(A1)

SCALE: AS SHOWN

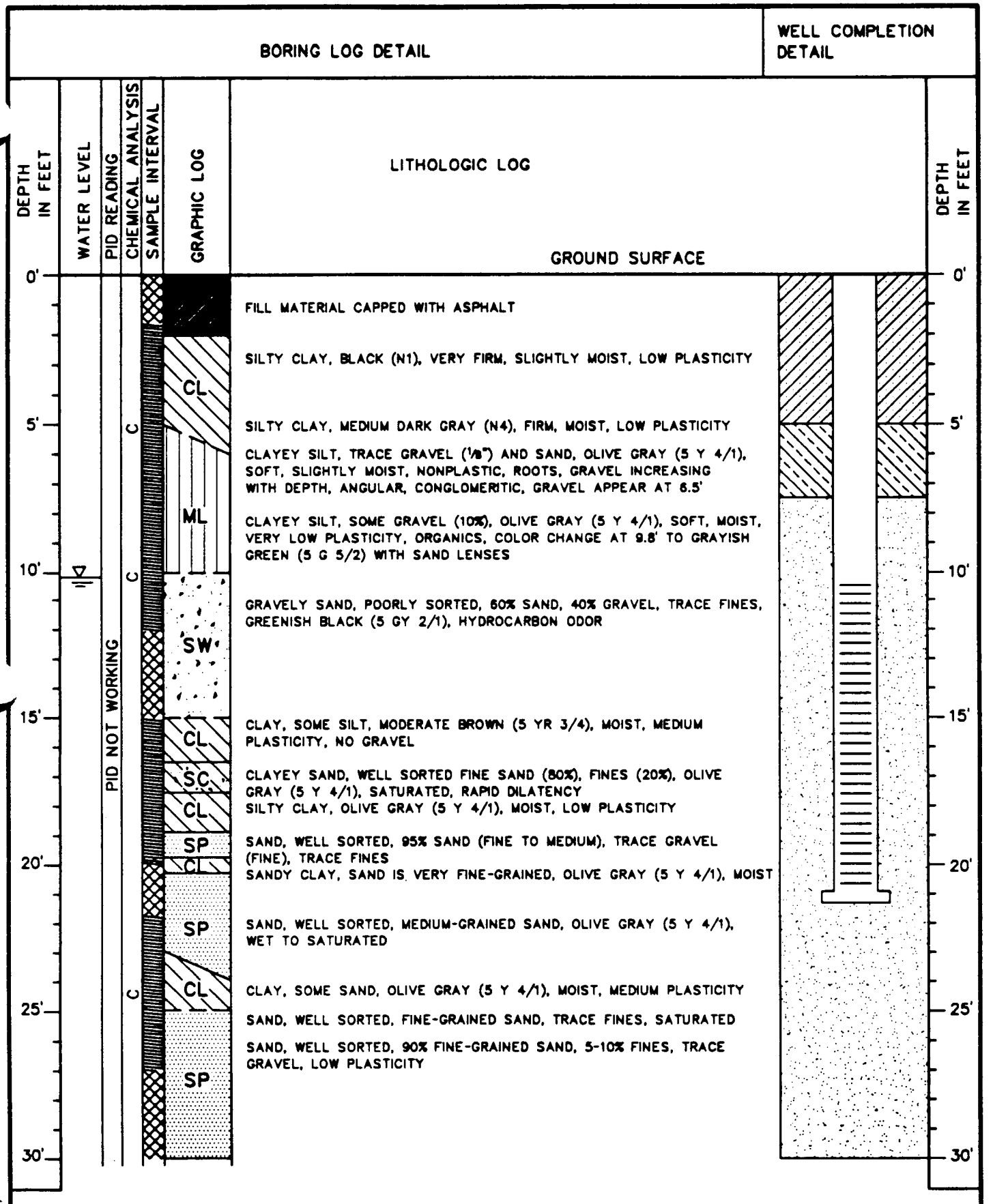


FIGURE D-5
NAS MOFFETT FIELD BUILDING 29 AREA
W29-5(A1)

SCALE: AS SHOWN

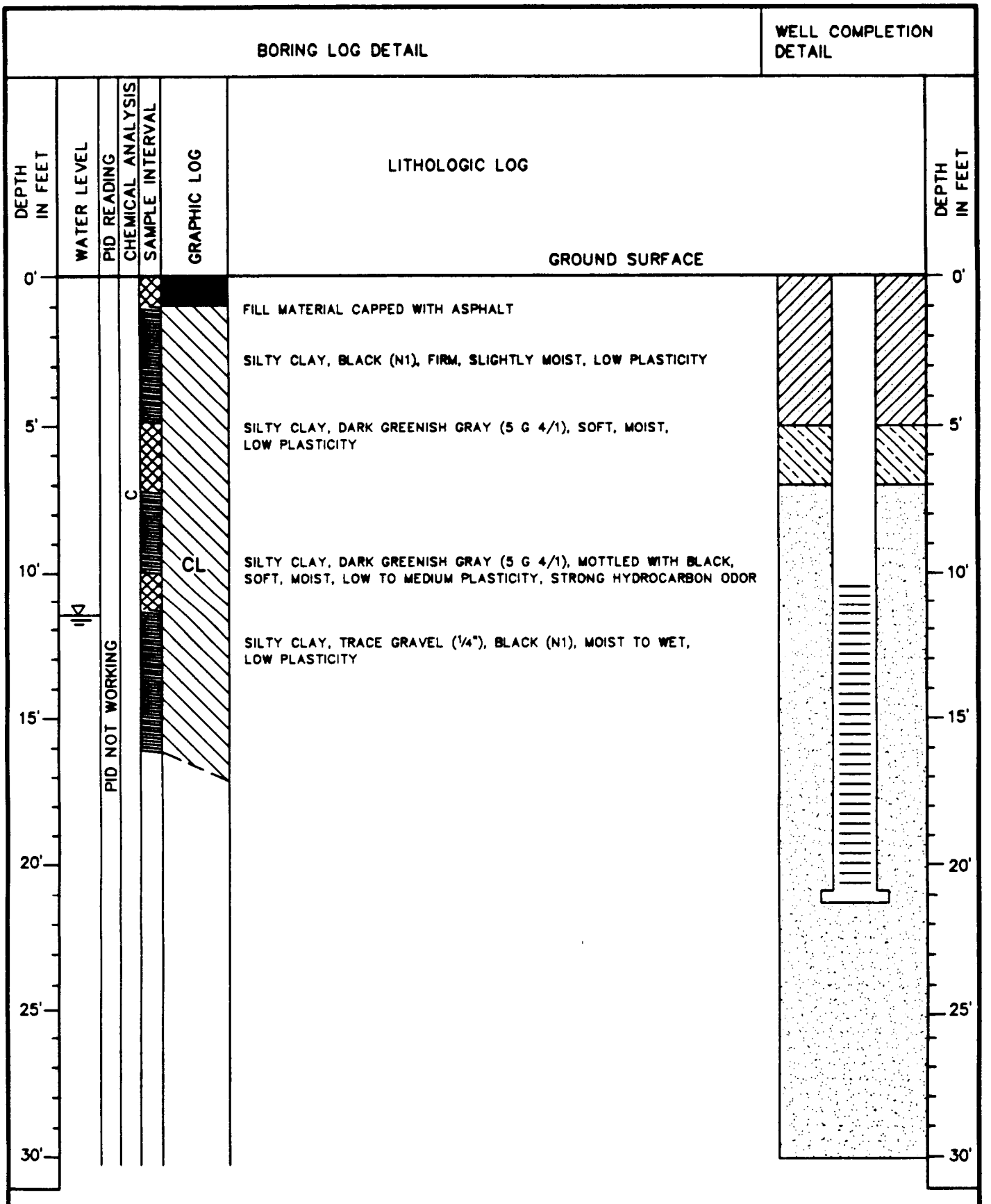


FIGURE D-6
NAS MOFFETT FIELD BUILDING 29 AREA
W29-6(A1)

SCALE: AS SHOWN

FILE NAME: D:\003DIRK\VTS\FIG-D06.DWG

Z: 03/28/01 JAA

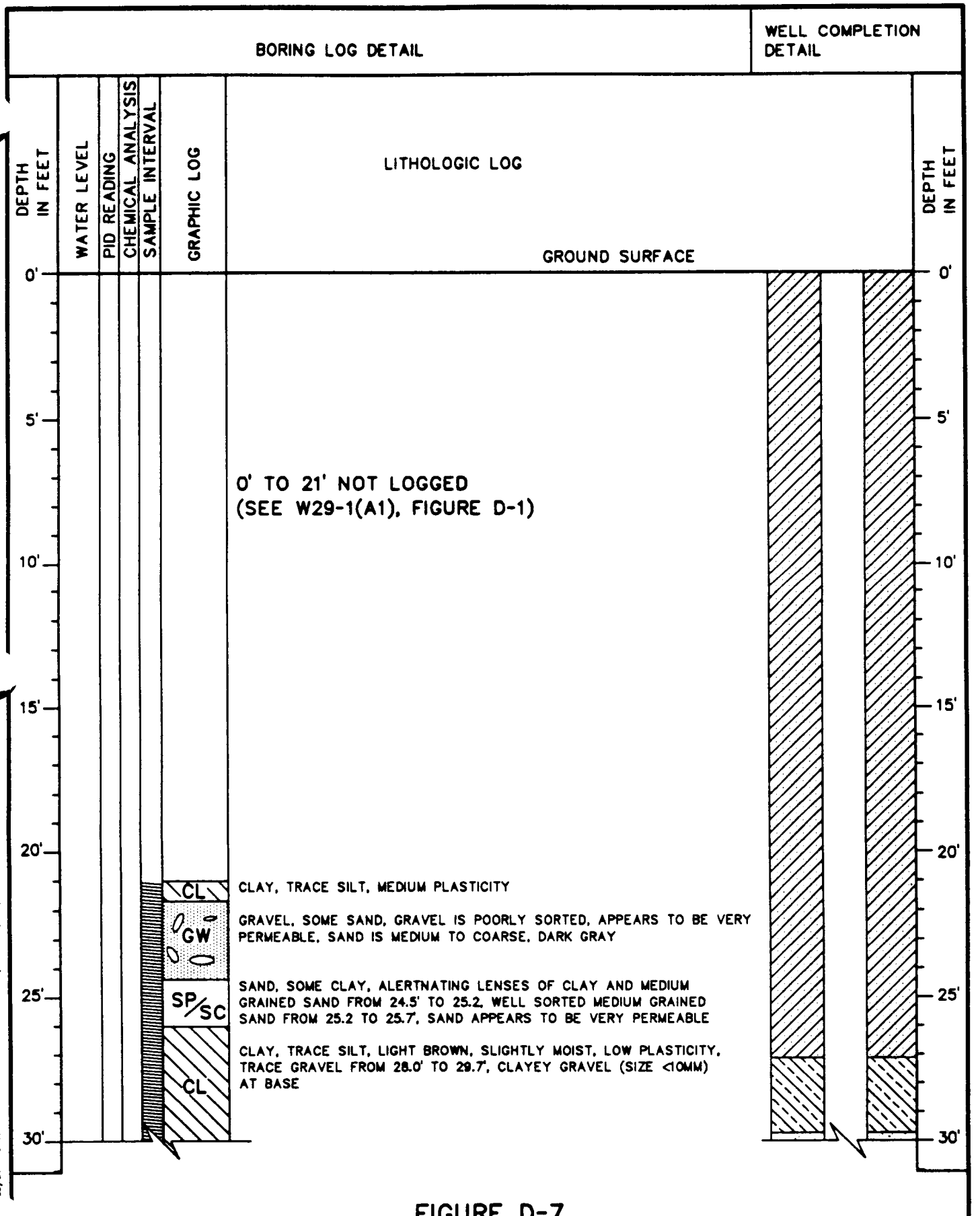


FIGURE D-7
NAS MOFFETT FIELD BUILDING 29 AREA
W29-7(A2)

SCALE: AS SHOWN

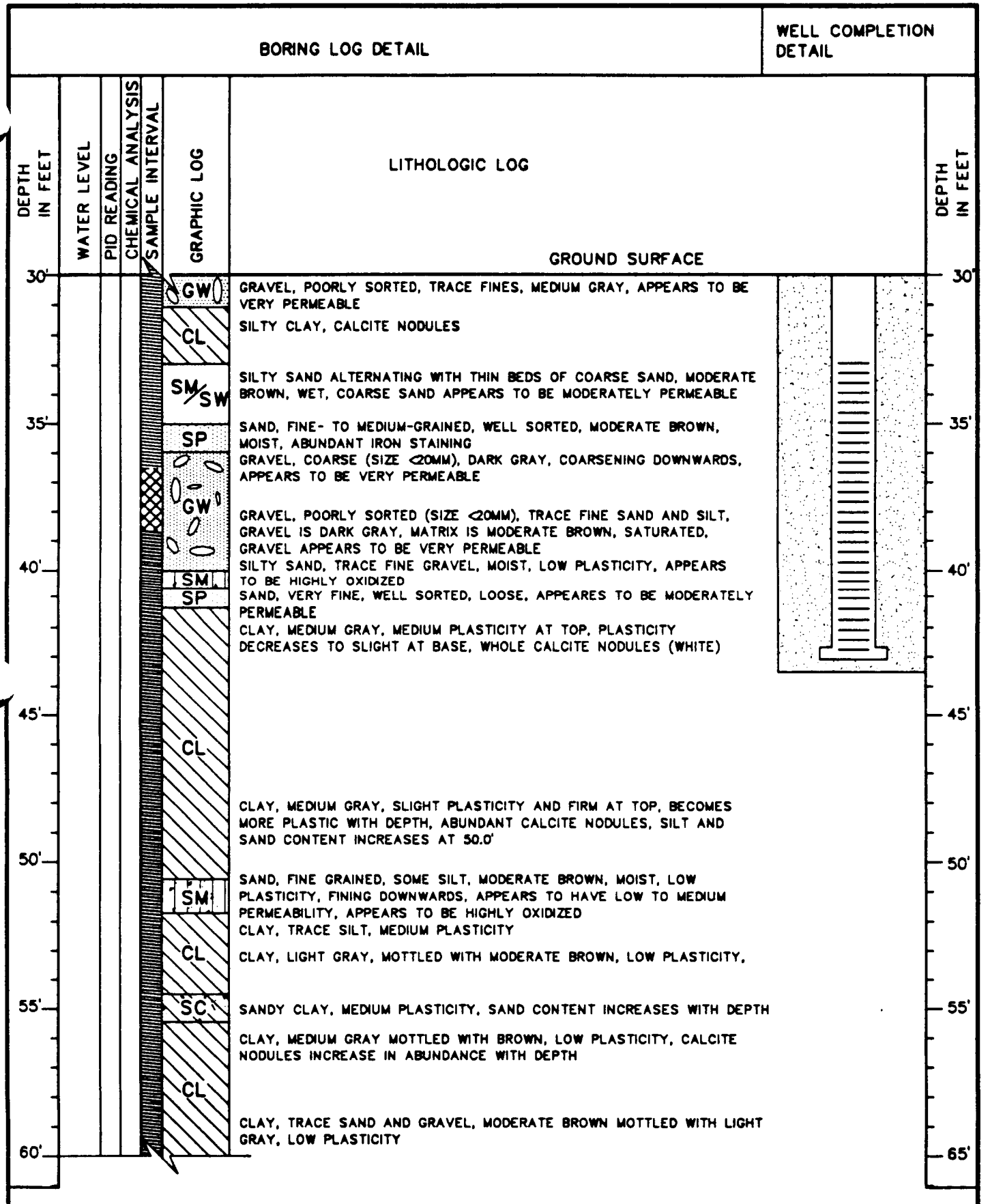


FIGURE D-7 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-7(A2)

SCALE: AS SHOWN

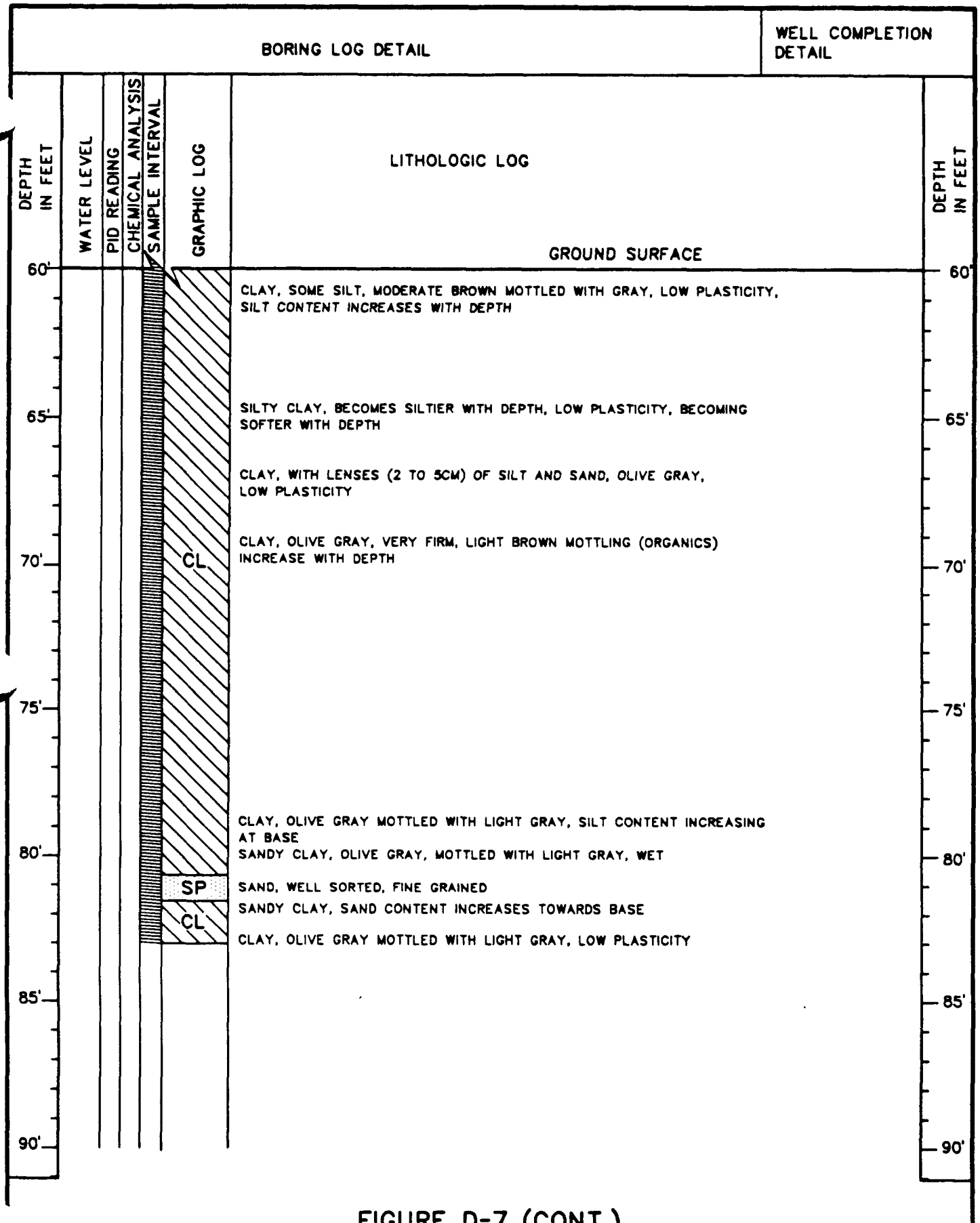


FIGURE D-7 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-7(A2)

SCALE: AS SHOWN

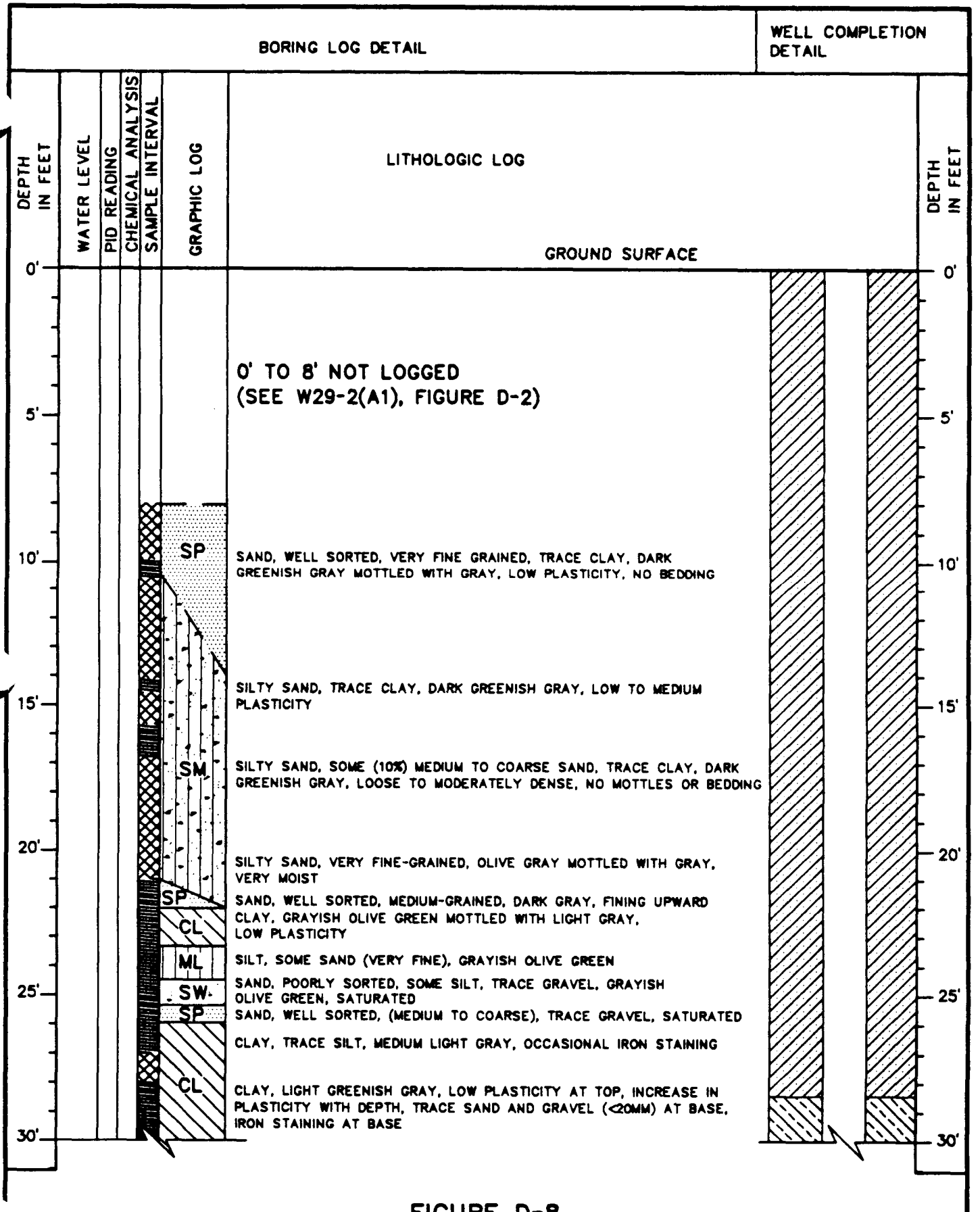


FIGURE D-8
NAS MOFFETT FIELD BUILDING 29 AREA
W29-8(A2)

SCALE: AS SHOWN

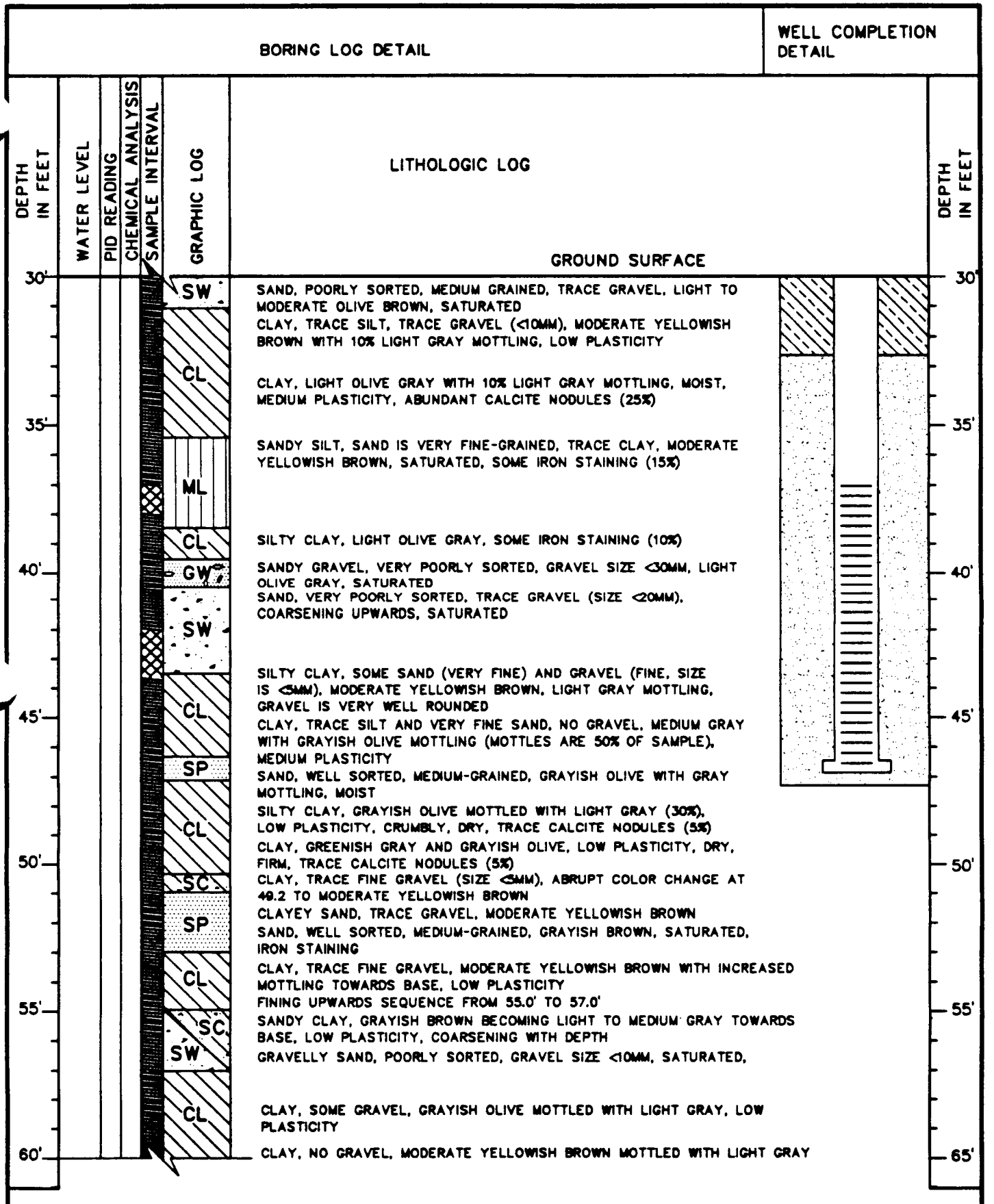


FIGURE D-8 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-8(A2)

SCALE: AS SHOWN

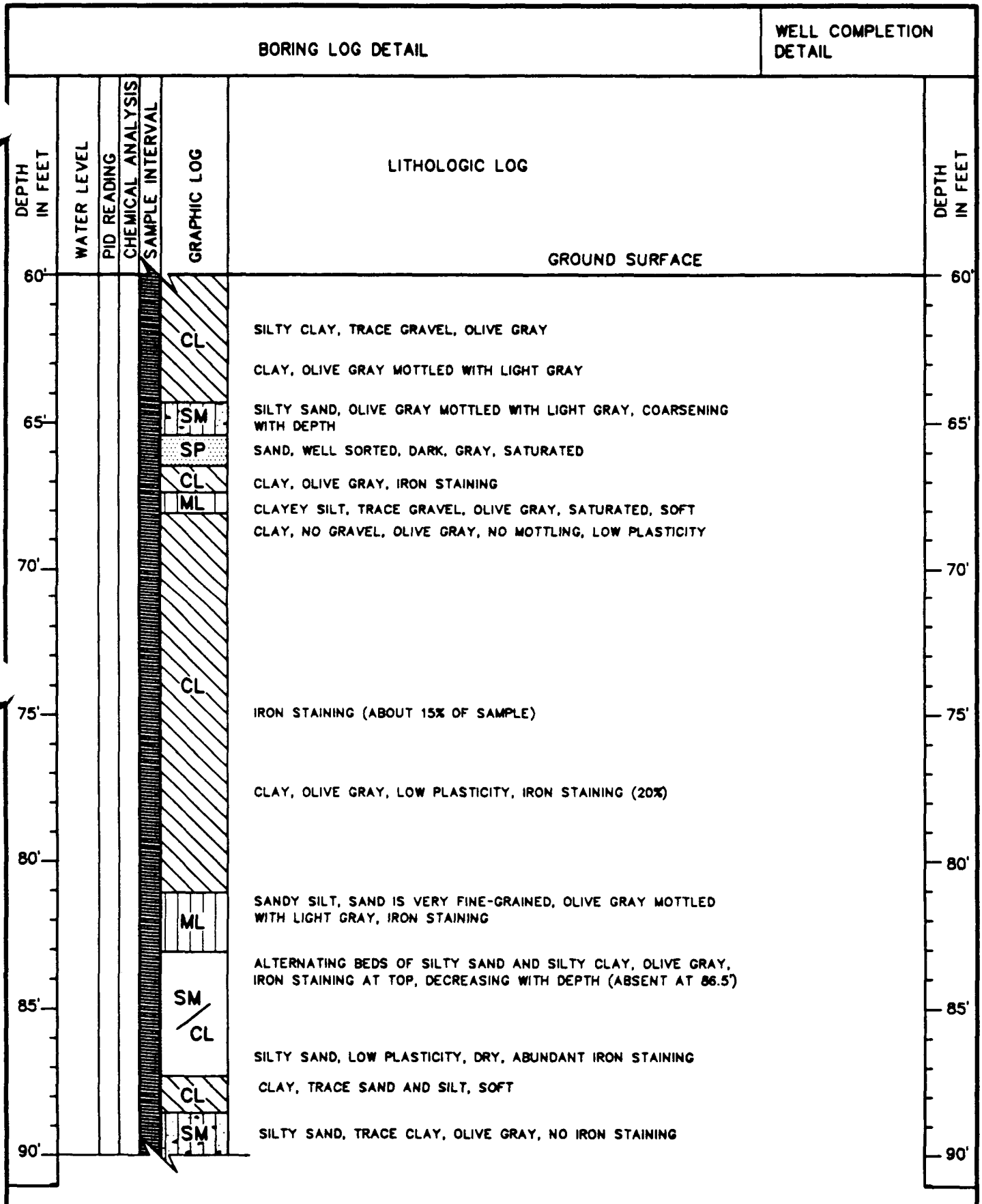


FIGURE D-8 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-8(A2)

SCALE: AS SHOWN

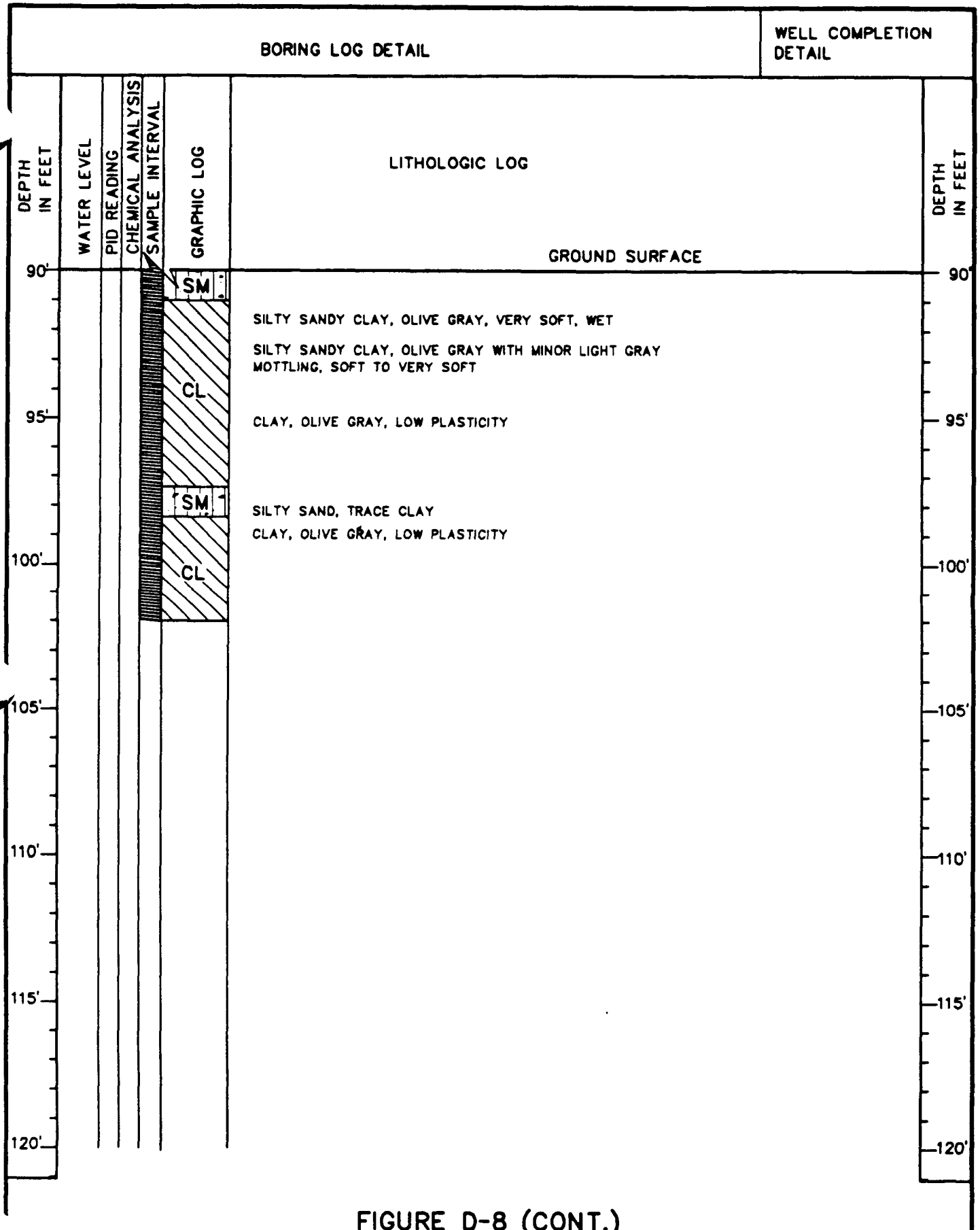


FIGURE D-8 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-8(A2)

SCALE: AS SHOWN

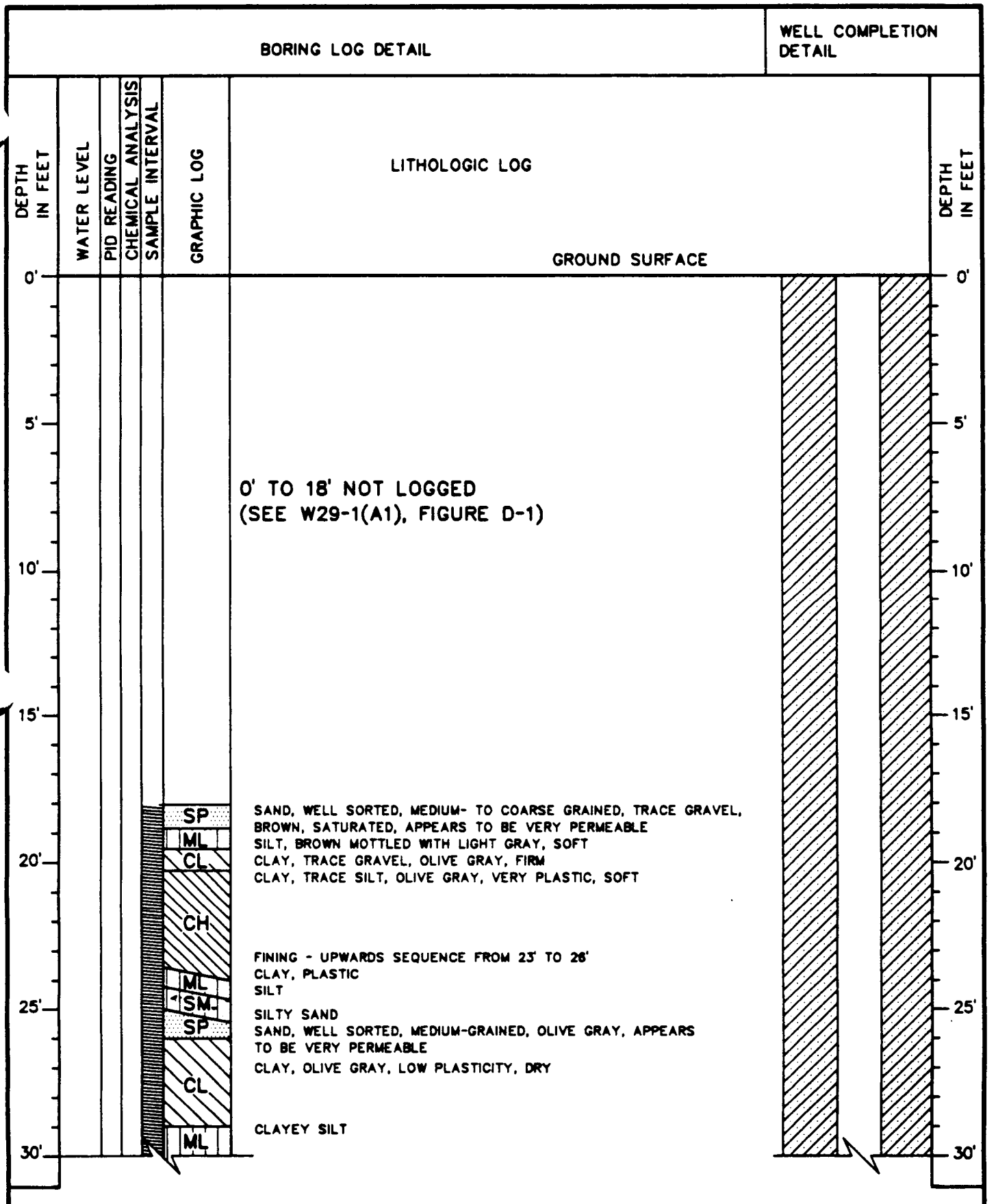
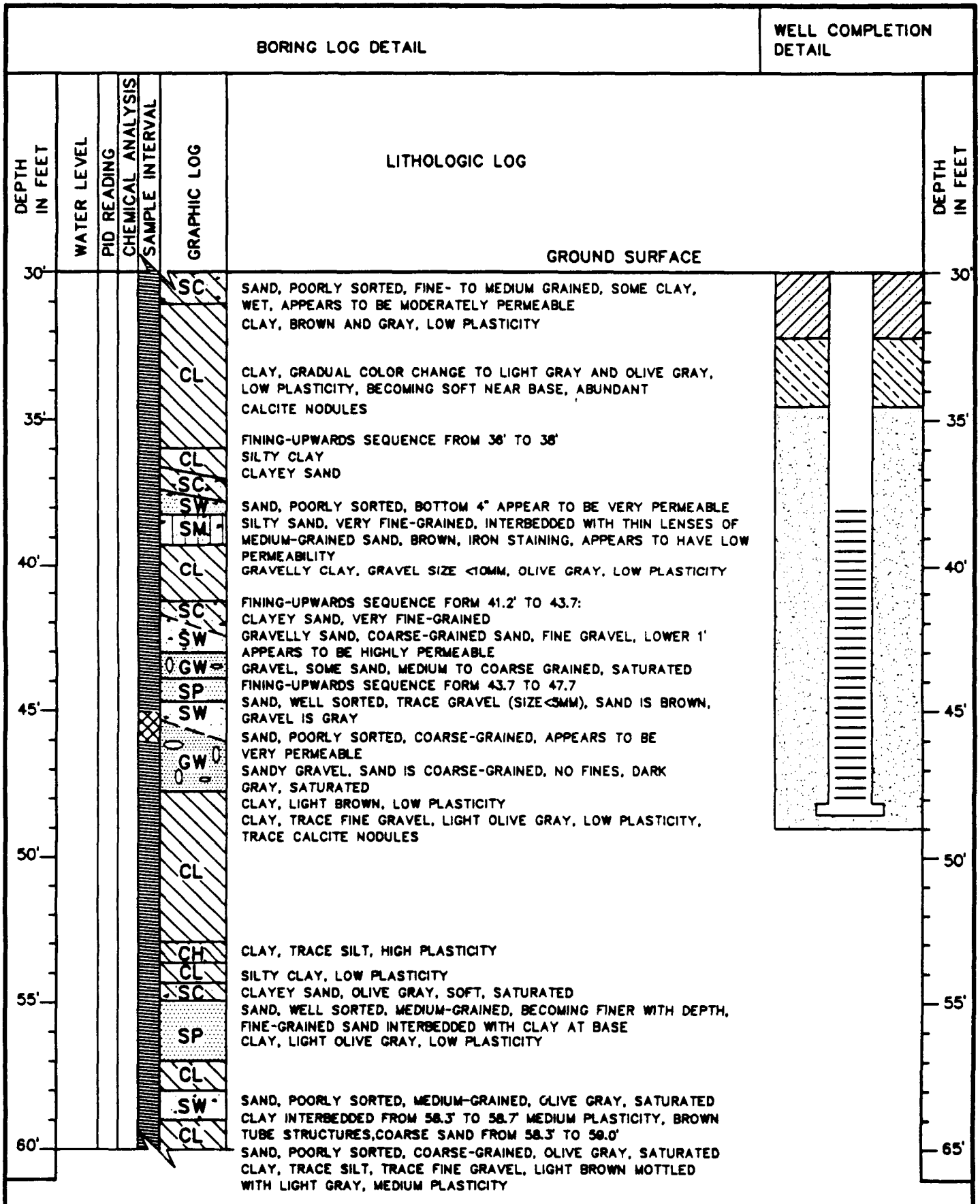


FIGURE D-9
NAS MOFFETT FIELD BUILDING 29 AREA
W29-9(A2)

SCALE: AS SHOWN

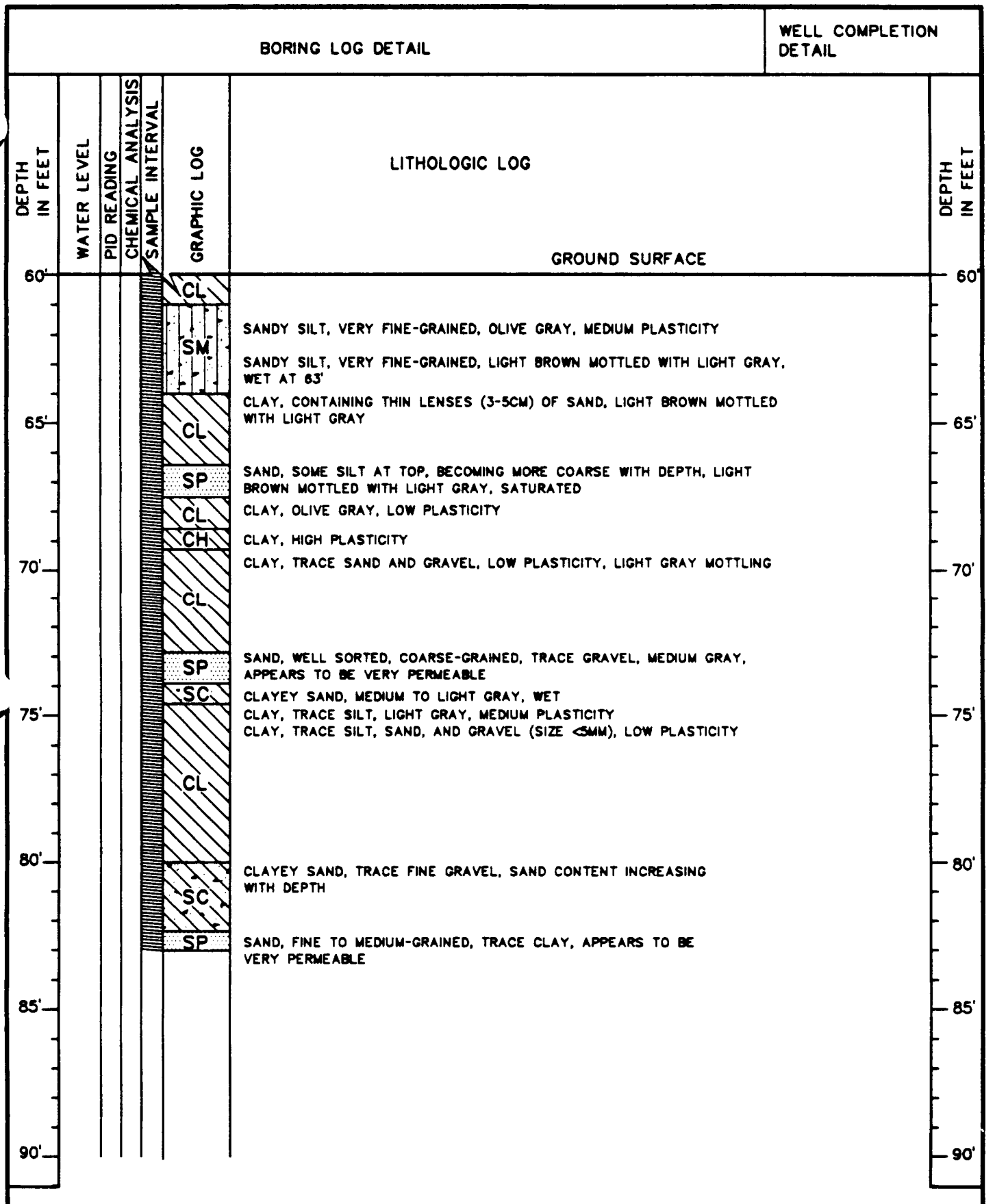


FILE NAME: D:\00308\VTS\FIG-D09.DWG

DATE 7/91 JAA

FIGURE D-9 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-9(A2)

SCALE: AS SHOWN



FILE NAME: D:\00301RR\VTS\FIG-D09.DWG

13/27/91 JAA

FIGURE D-9 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-9(A2)

SCALE: AS SHOWN

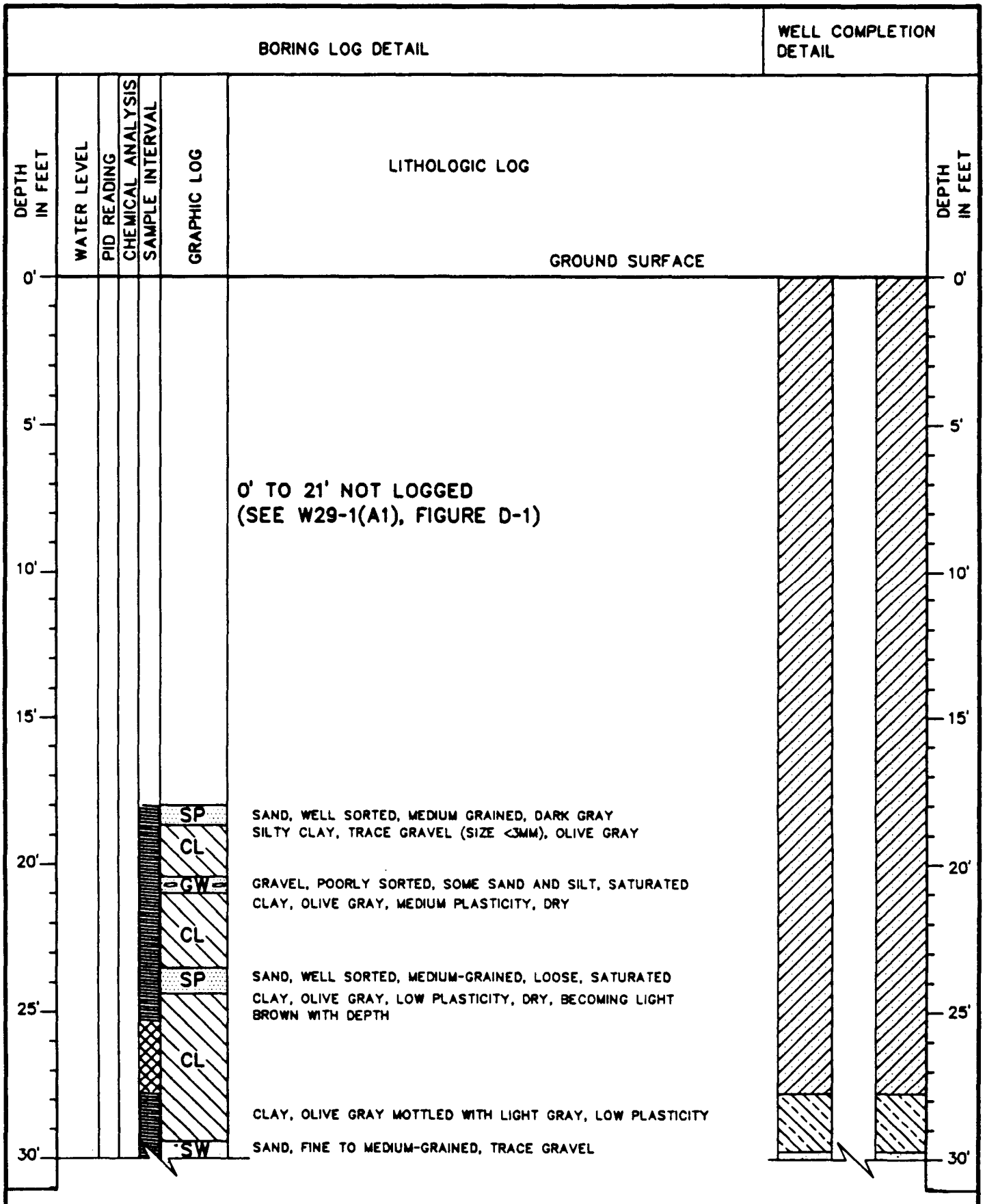


FIGURE D-10
NAS MOFFETT FIELD BUILDING 29 AREA
W29-10(A2)

SCALE: AS SHOWN

FILE NAME: D:\0030WR\VTS\FIG-D10.DWG

DATE 29/91 JAA

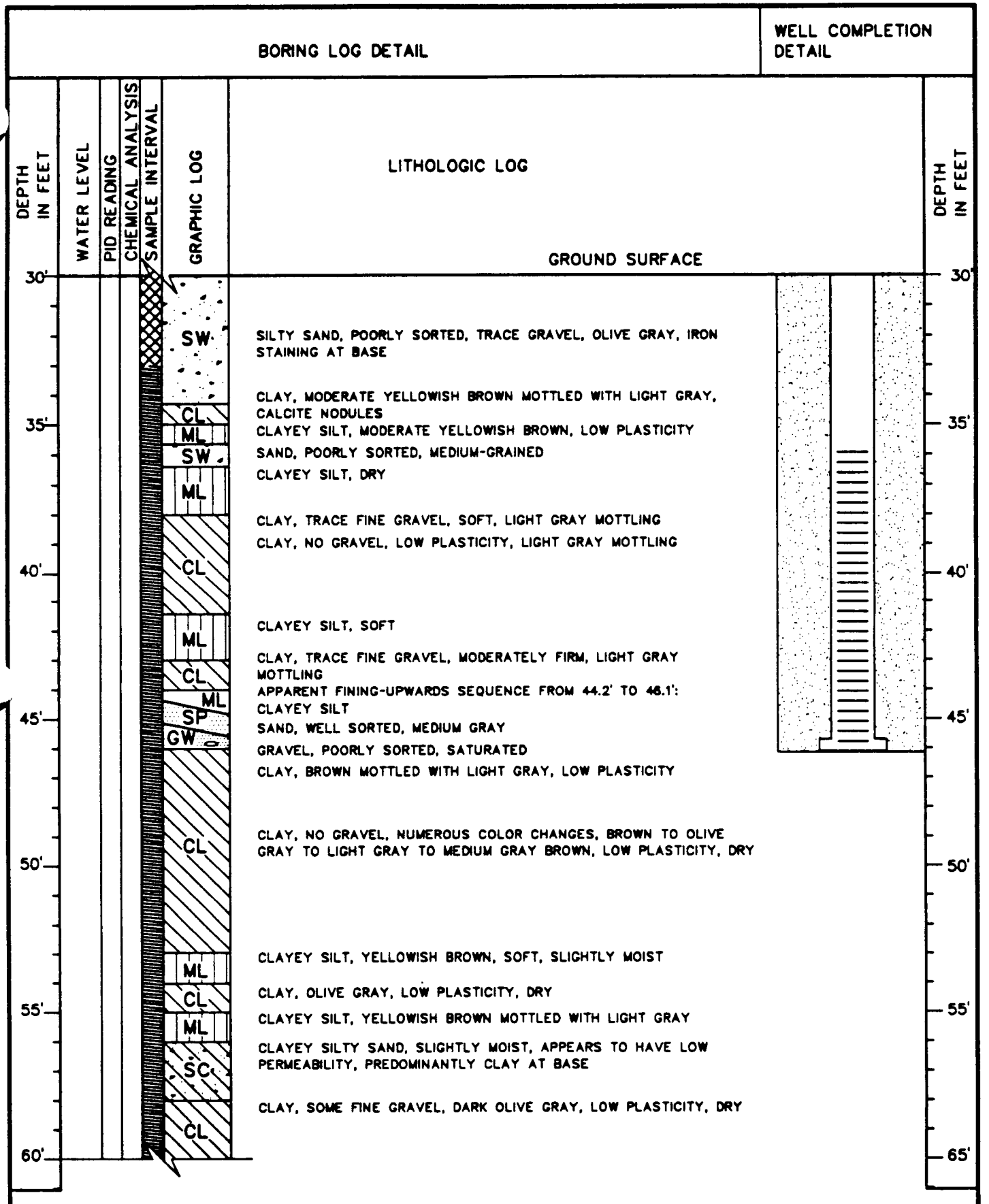


FIGURE D-10 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-10(A2)

SCALE: AS SHOWN

FILE NAME: D:\0030MR\VTS\FIG-D10.DWG

'29/91 JAA

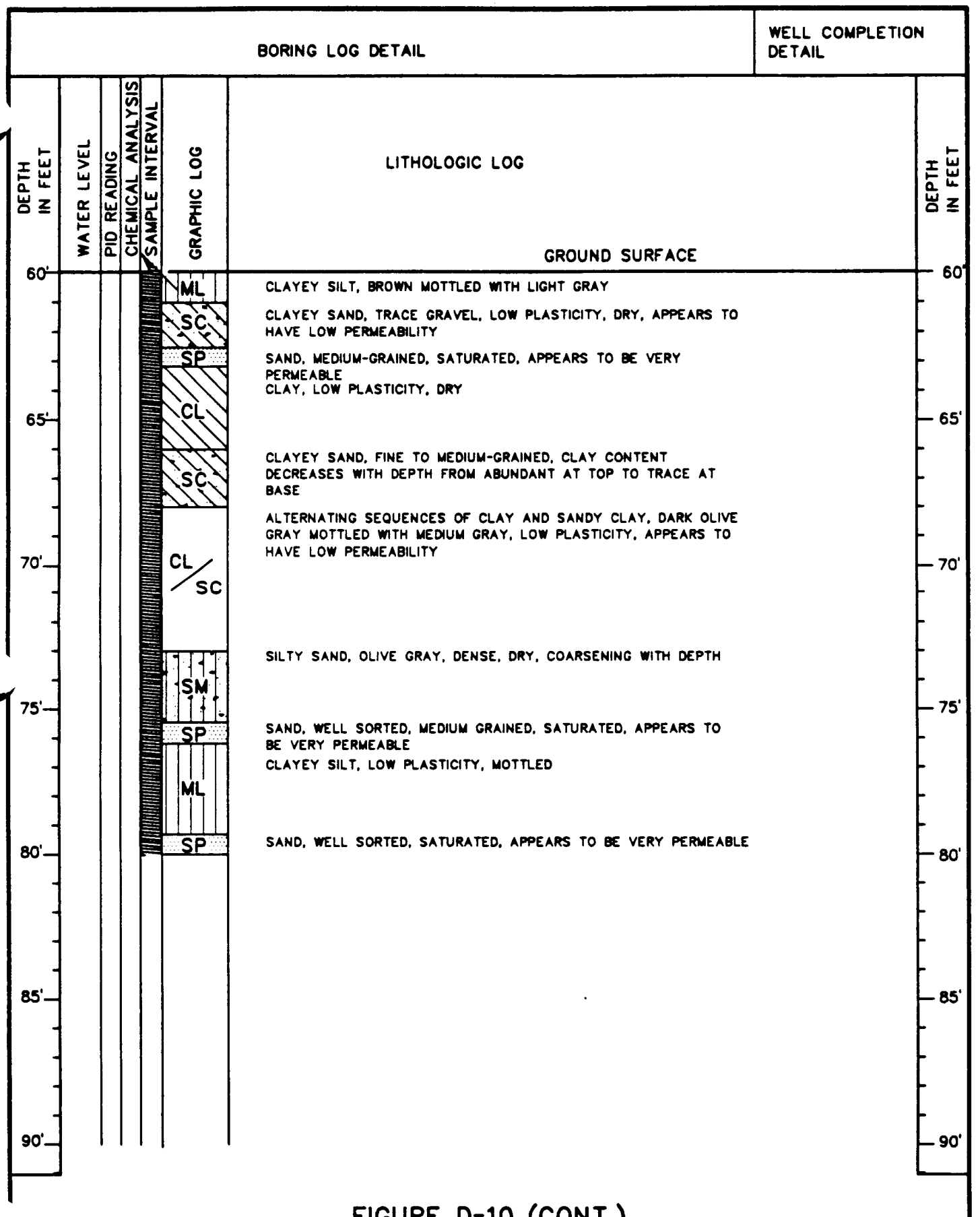


FIGURE D-10 (CONT.)
NAS MOFFETT FIELD BUILDING 29 AREA
W29-10(A2)

SCALE: AS SHOWN

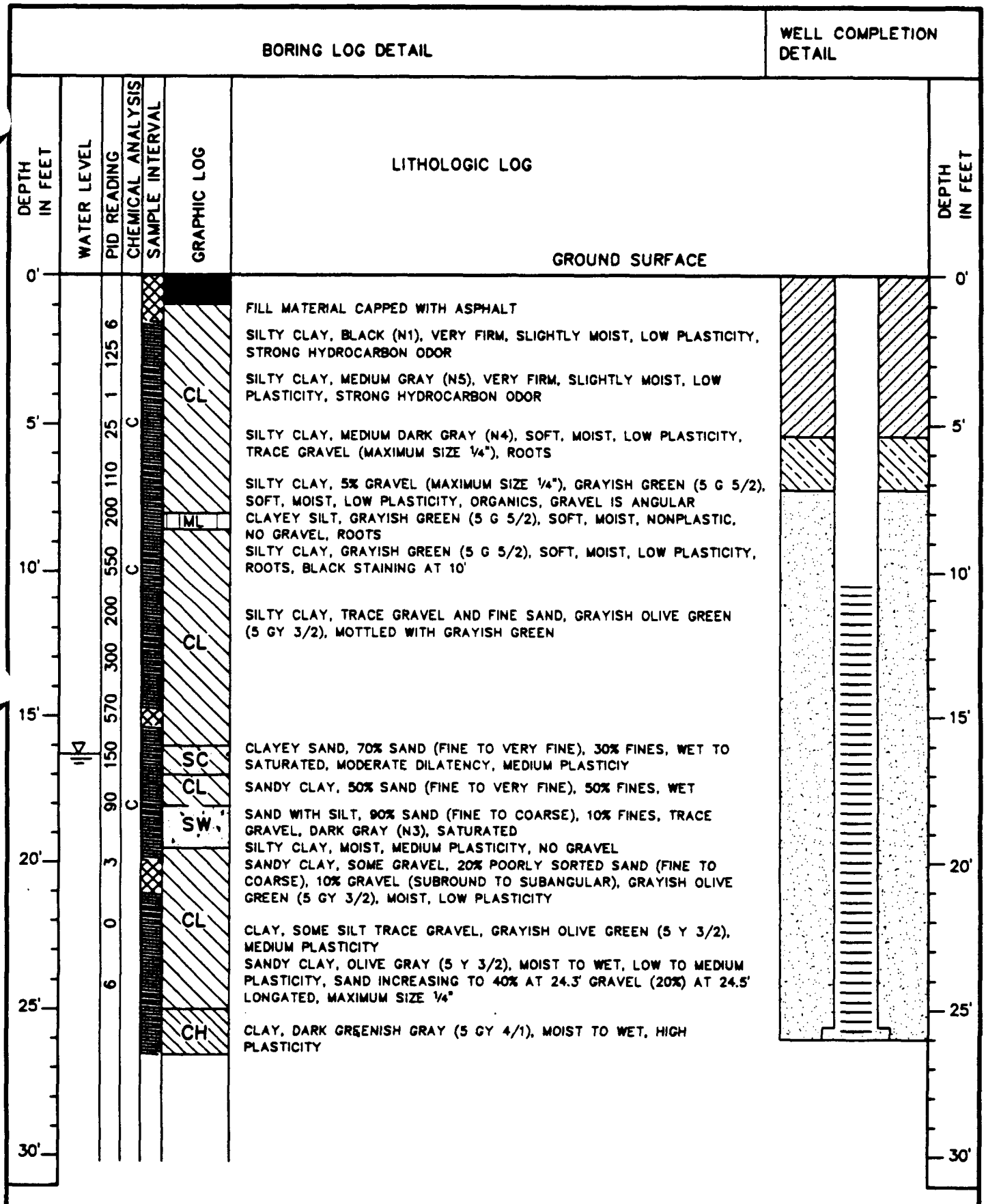


FIGURE D-11
NAS MOFFETT FIELD BUILDING 29 AREA
W56-1(A1)

SCALE: AS SHOWN

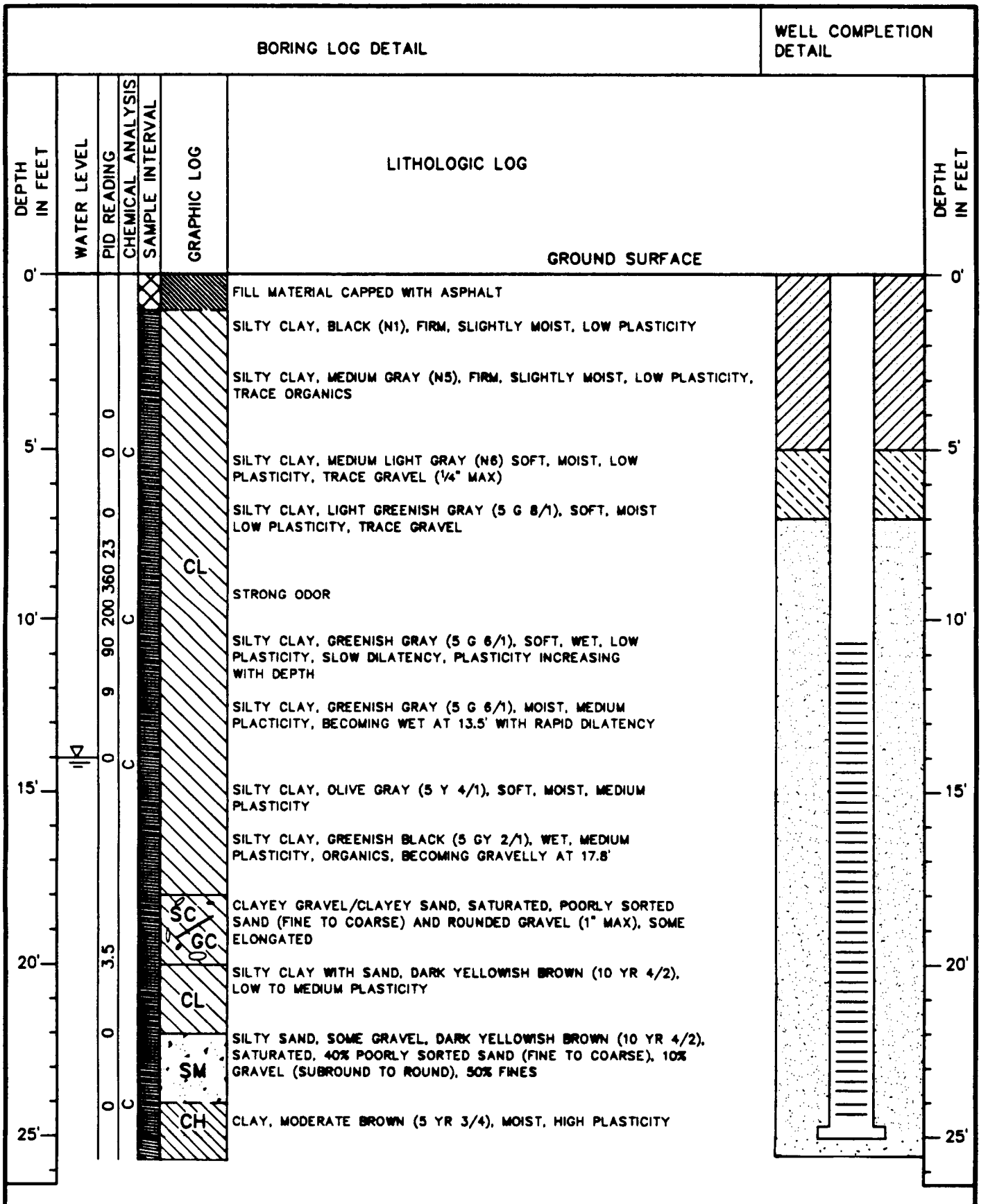


FIGURE D-12
NAS MOFFETT FIELD BUILDING 29 AREA
W56-2(A1)

SCALE: AS SHOWN

FILE NAME: D:\00JOBS\VTS\V19-D12.DWG

JAA

DATE:

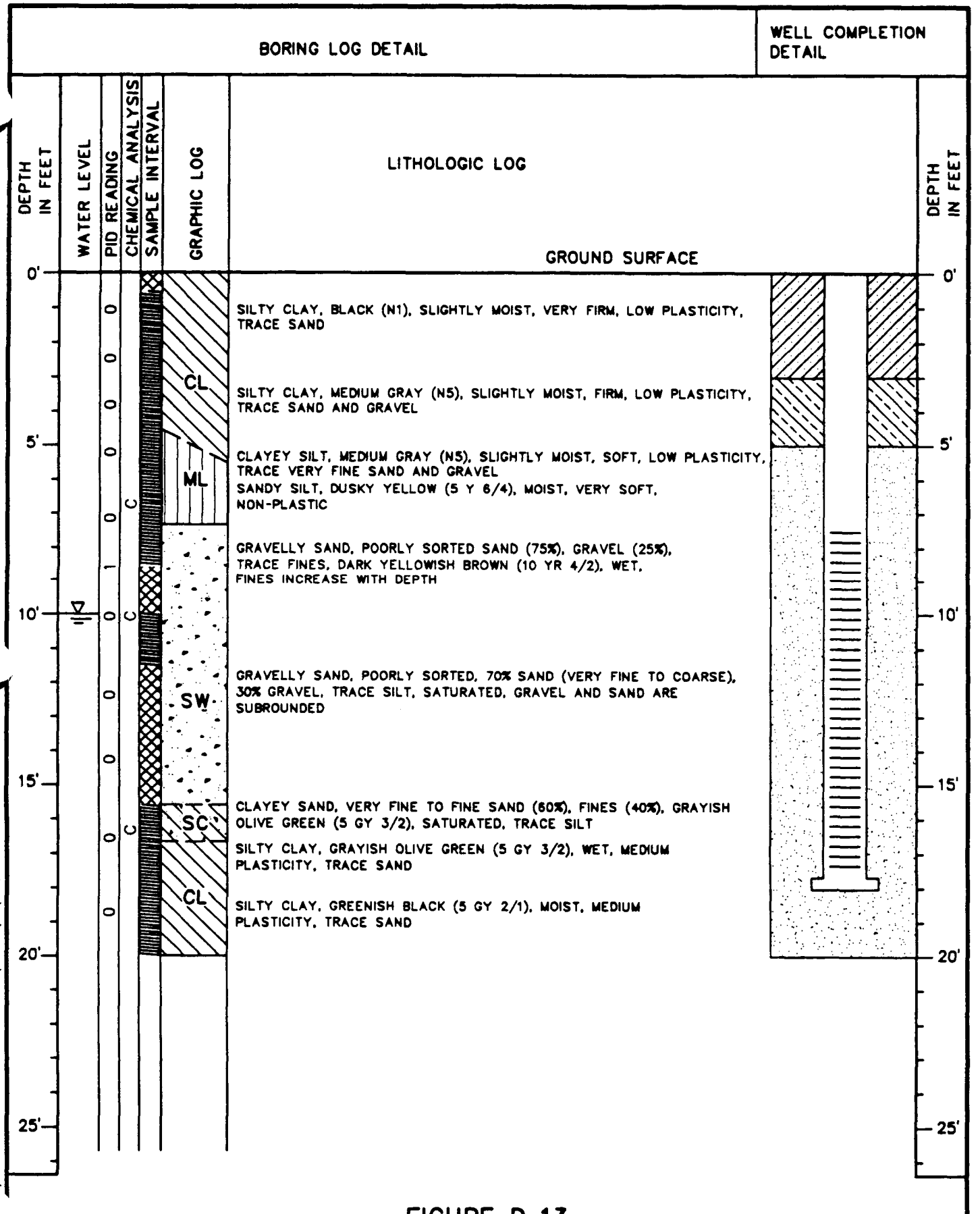


FIGURE D-13
NAS MOFFETT FIELD BUILDING 29 AREA
W61-1(A1)

SCALE: AS SHOWN

BORING LOG DETAIL

DEPTH IN FEET	WATER LEVEL	PID READING	CHEMICAL ANALYSIS	SAMPLE INTERVAL	GRAPHIC LOG	LITHOLOGIC LOG	DEPTH IN FEET
						GROUND SURFACE	
0'						ASPHALT AND FILL MATERIAL	0'
		0				SILTY CLAY, BROWNISH BLACK (5 YR 2/1), NONPLASTIC, SLIGHTLY MOIST, VERY FIRM SILTY CLAY, OLIVE GRAY (5 Y 4/1), NONPLASTIC, SLIGHTLY MOIST, VERY FIRM	
		0					
5'		0	C				5'
		0				SILTY CLAY, LIGHT OLIVE BROWN (5 Y 5/6), NONPLASTIC, VERY SOFT SILTY CLAY, TRACE GRAVEL, LIGHT OLIVE BROWN (5 Y 5/6), NON PLASTIC, VERY SOFT, AMOUNT OF GRAVEL INCREASES WITH DEPTH, SUBROUND GRAVEL, ORGANICS, ORANGE STREAKS AT 7.0' SILTY CLAY, TRACE SAND, GRAYISH GREEN (10 GY 5/2), LOW TO MEDIUM PLASTICITY, MOIST, SOFT, BECOMING MOTTLED AT 8.0'	
		18			CL		
10'		18	C			SANDY CLAY, SOME SILT, DARK GREENISH GRAY (5 GY 4/1), MEDIUM PLASTICITY SILTY CLAY, SOME COARSE SAND AND GRAVEL , DARK GREENISH GRAY (5 GY 4/1), LOW TO MEDIUM PLASTICITY, MOIST, AMOUNT OF GRAVEL INCREASES WITH DEPTH CLAY, SOME SILT AND GRAVEL, DARK GREENISH GRAY (5 GY 4/1), MEDIUM PLASTICITY, MOIST, MAXIMUM SIZE OF GRAVEL IS ABOUT 1"	10'
		140	C				
		200					
		100					
		25				CLAY, SOME SILT, TRACE SAND AND GRAVEL, MEDIUM PLASTICITY	
15'							15'
20'							20'
25'							25'

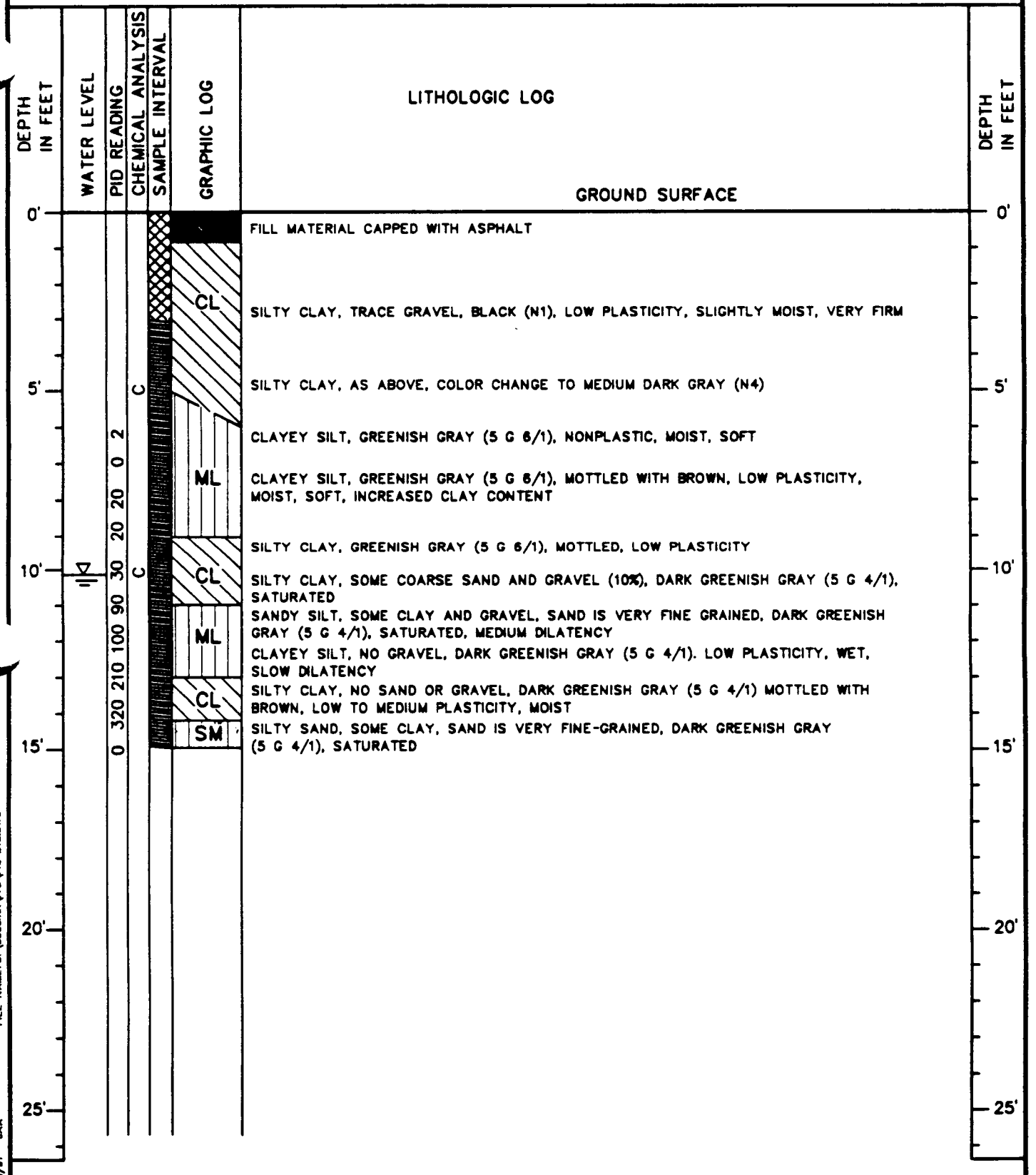
FILE NAME: D:\00300RV\FS\SB24.DWG

DATE: 7/23/91 JAA

FIGURE D-14
NAS MOFFETT FIELD BUILDING 29 AREA
SB24

SCALE: AS SHOWN

BORING LOG DETAIL



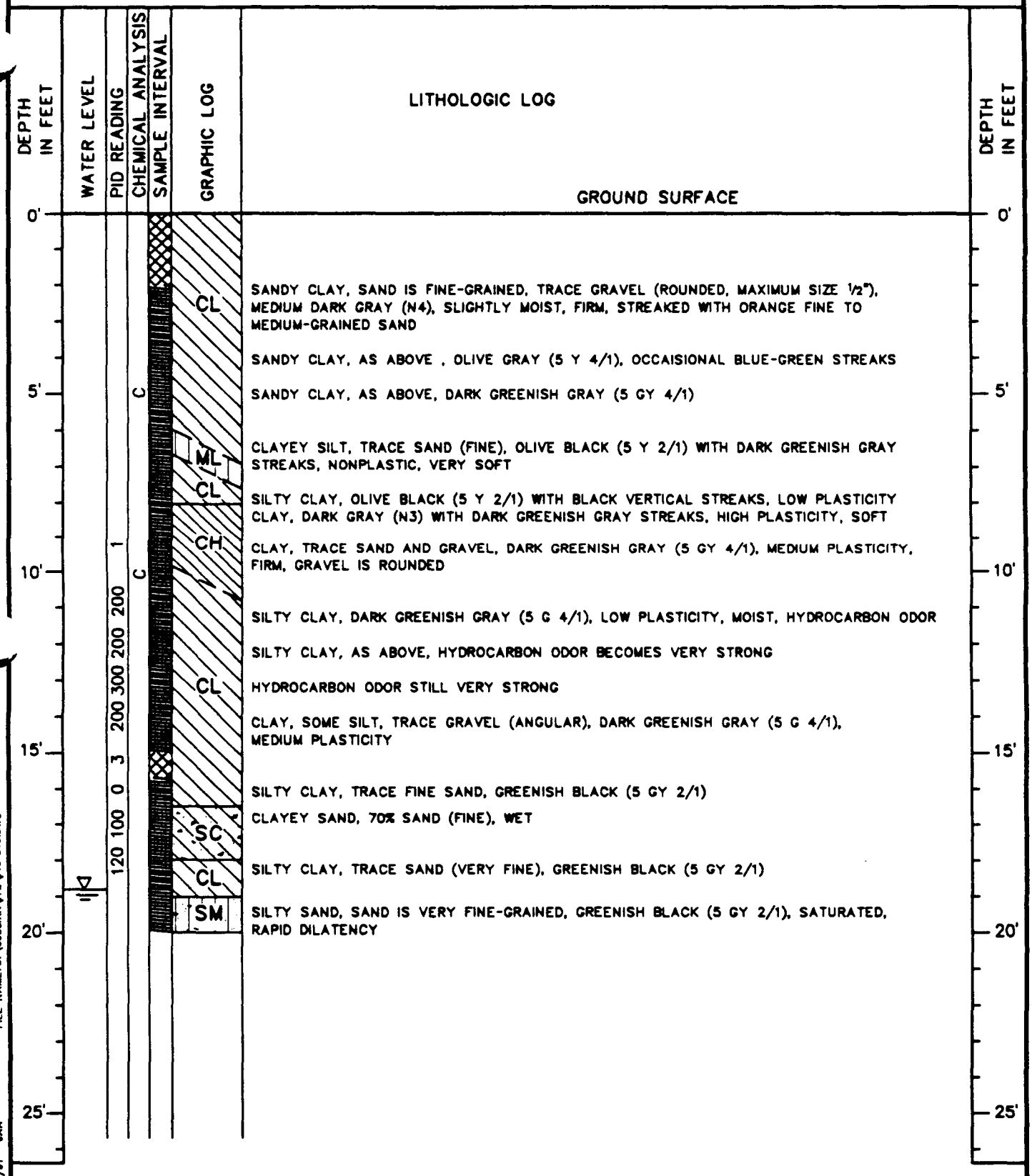
FILE NAME: D:\00.DGN\VTS\FIG-D15.DWG

13/29/91 JAA

FIGURE D-15
NAS MOFFETT FIELD BUILDING 29 AREA
SB49

SCALE: AS SHOWN

BORING LOG DETAIL



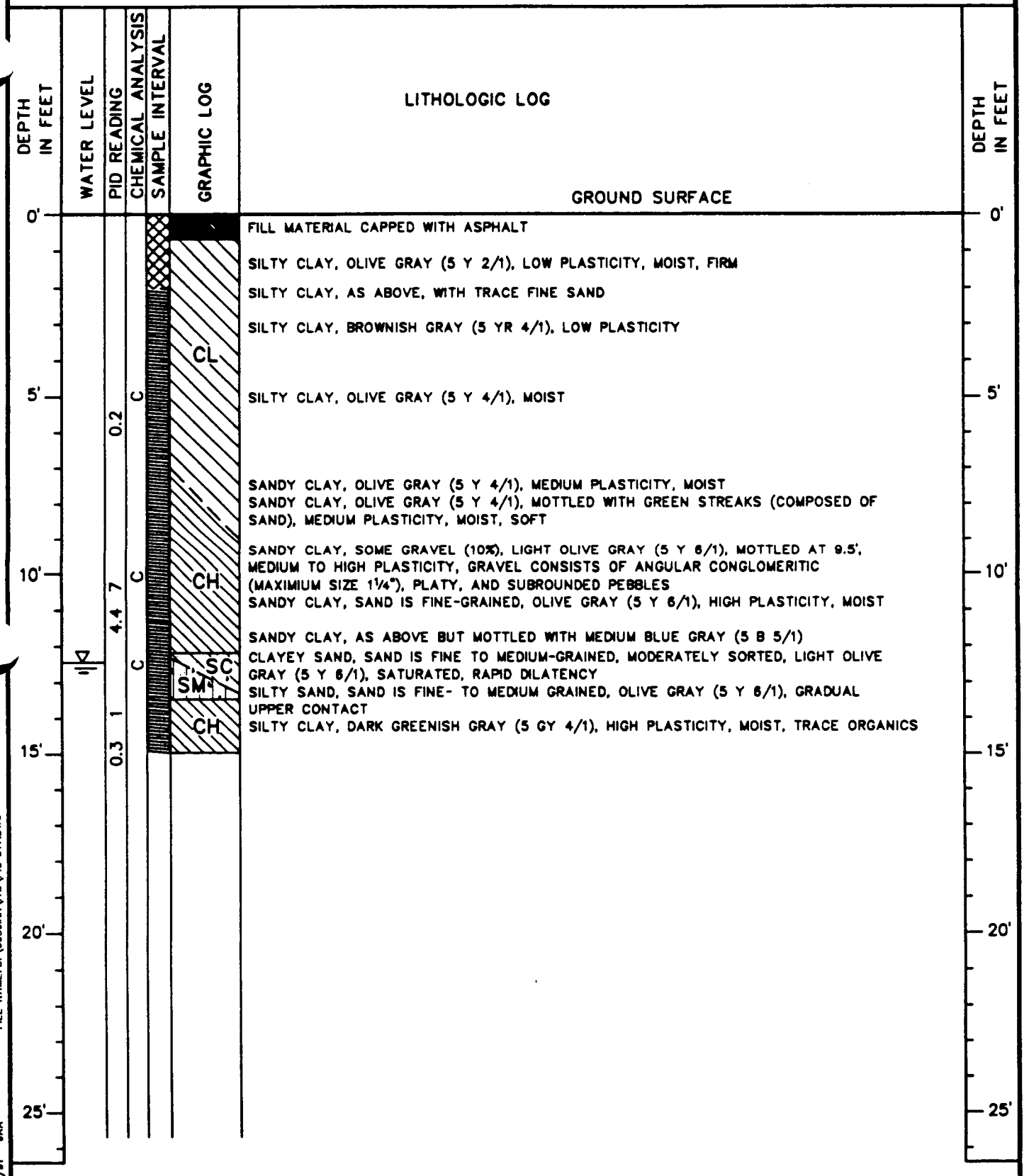
FILE NAME: D:\00JORR\JTS\FIG-D16.DWG

/28/91 JAA

FIGURE D-16
NAS MOFFETT FIELD BUILDING 29 AREA
SB51

SCALE: AS SHOWN

BORING LOG DETAIL



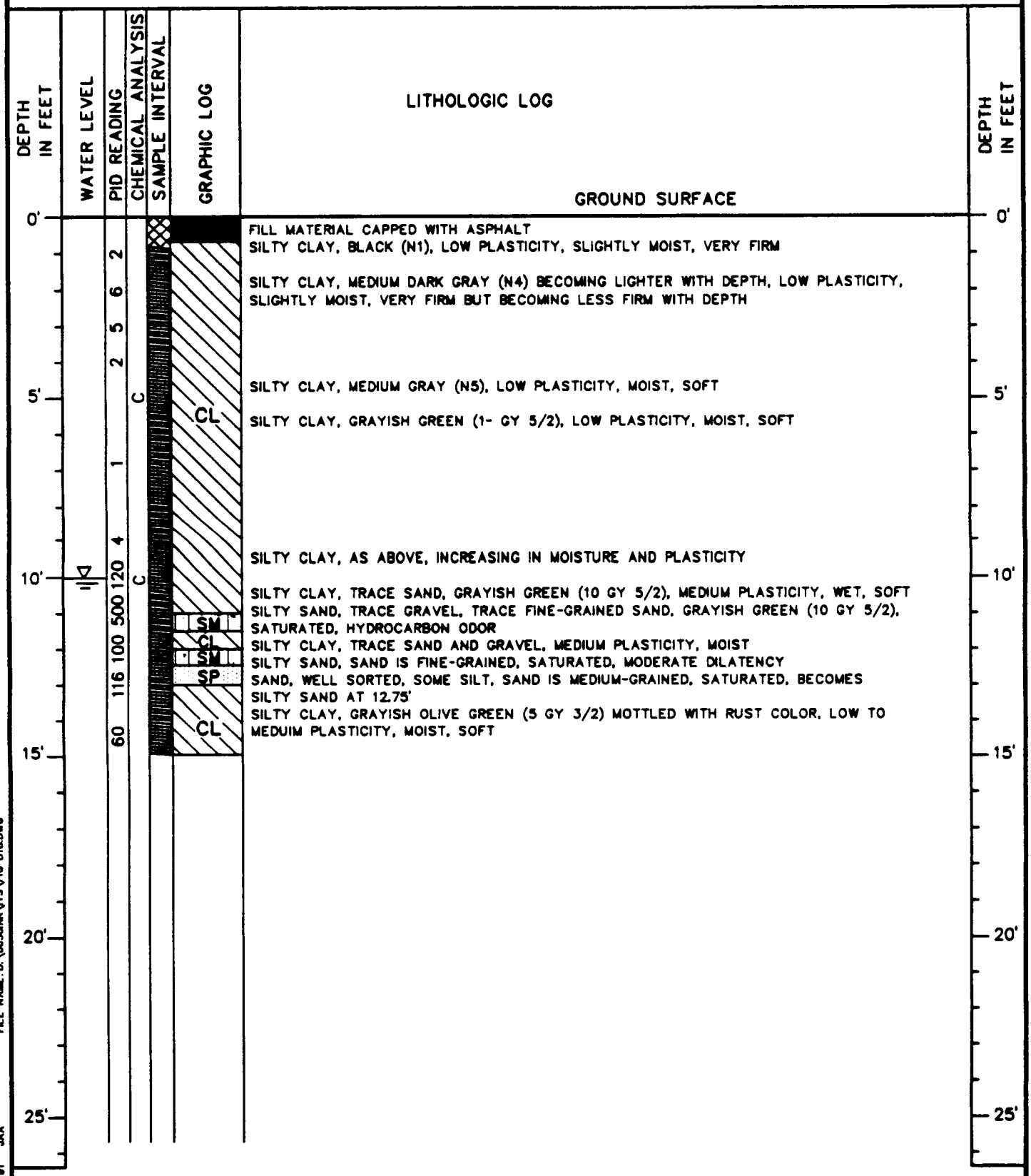
FILE NAME: D:\00.50RRR\JTS\FIG-D17.DWG

/29/91 JAA

FIGURE D-17
NAS MOFFETT FIELD BUILDING 29
SB60

SCALE: AS SHOWN

BORING LOG DETAIL



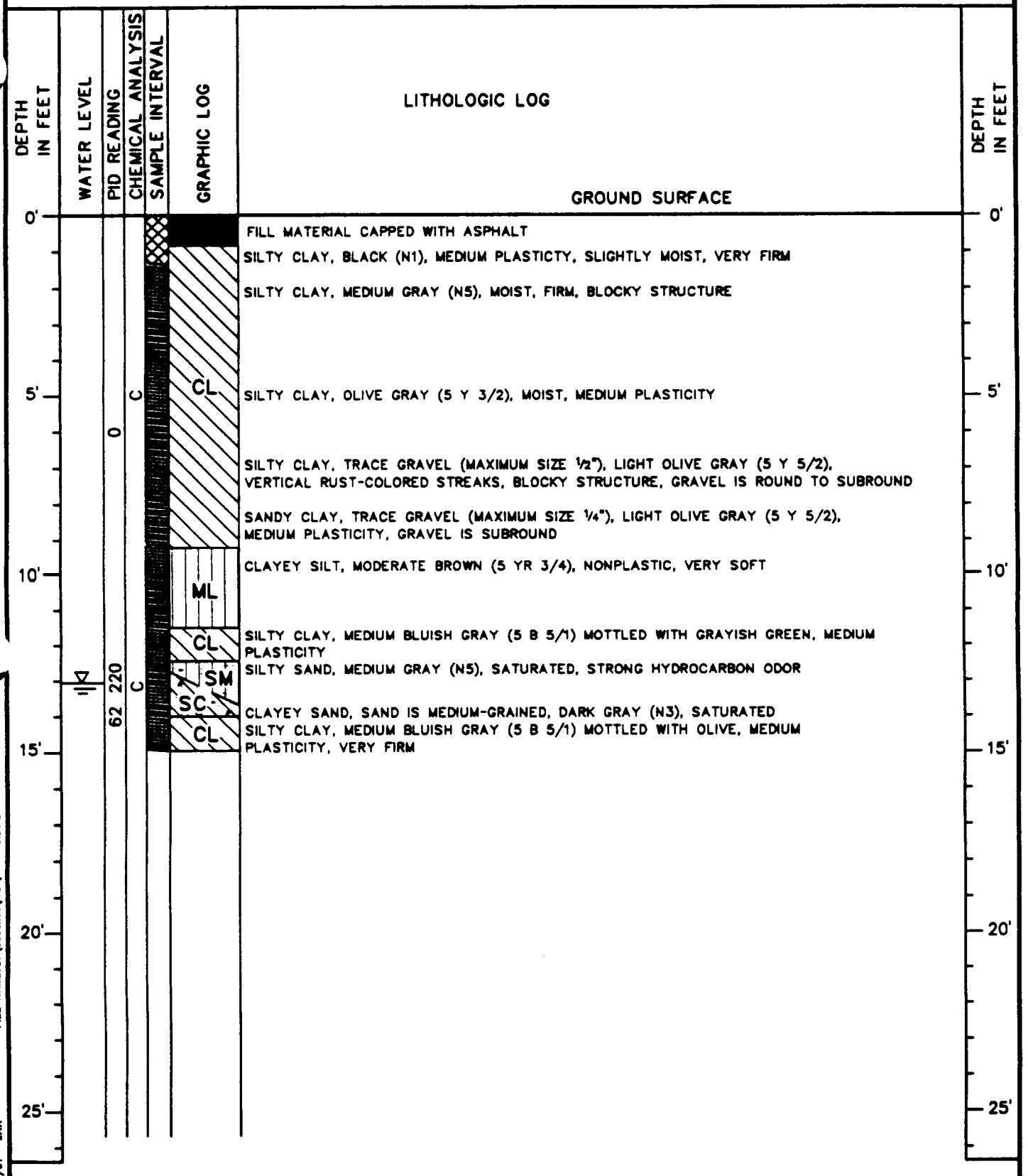
FILE NAME: D:\00JCIRR\ITS\FIG-D18.DWG

DATE: 03/25/01 JAA

FIGURE D-18
NAS MOFFETT FIELD BUILDING 29
SB63

SCALE: AS SHOWN

BORING LOG DETAIL



FILE NAME: D:\00308RVTS\VIG-D19.DWG

03/29/91 JAA

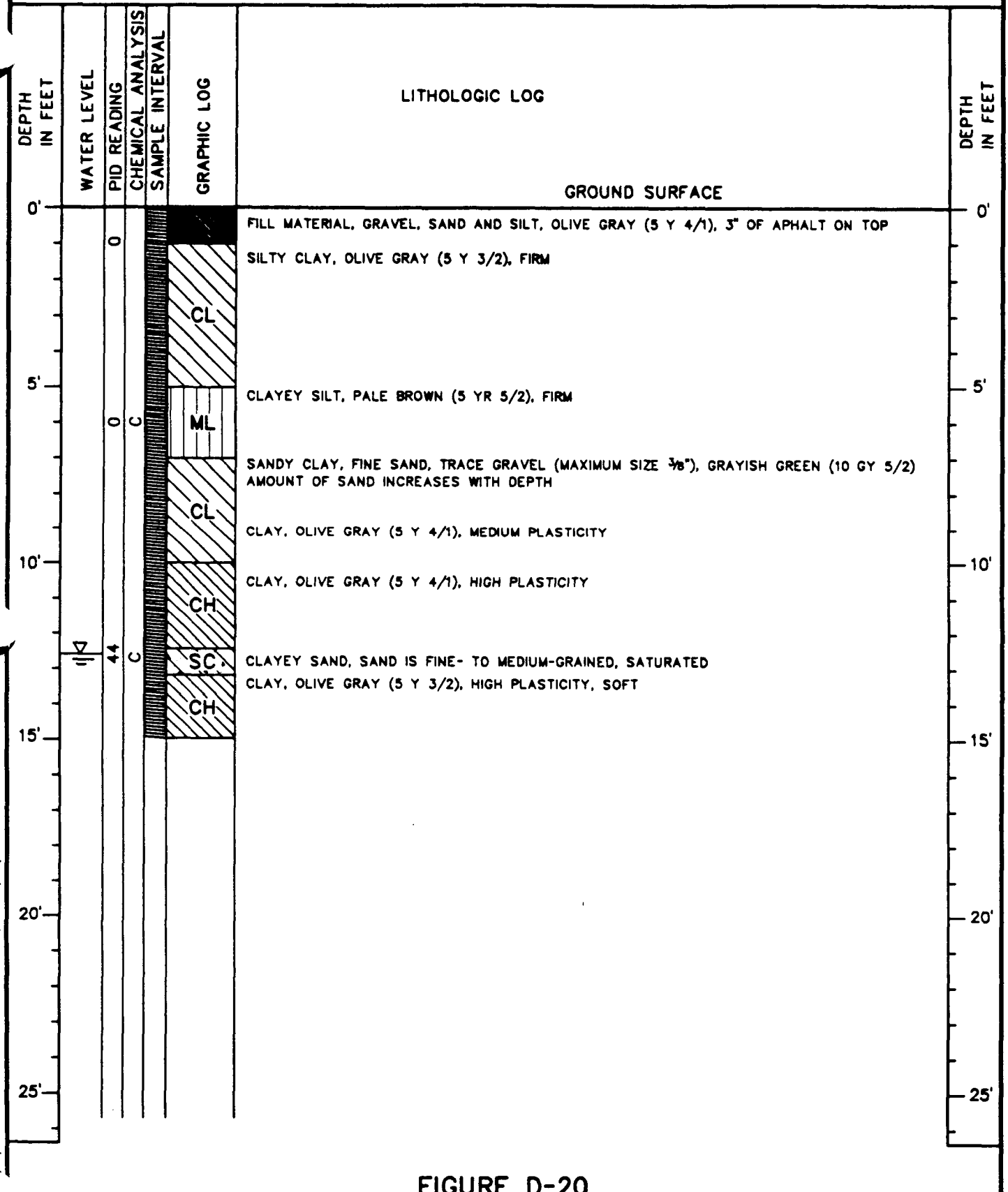
FIGURE D-19

NAS MOFFETT FIELD BUILDING 29 AREA

SB65

SCALE: AS SHOWN

BORING LOG DETAIL



FILE NAME: D:\00308RR\ITS\FIG-D20.DWG

/23/91 JAA

FIGURE D-20
NAS MOFFETT FIELD BUILDING 29 AREA
SB73

SCALE: AS SHOWN

BORING LOG DETAIL

DEPTH IN FEET	WATER LEVEL	PID READING	CHEMICAL ANALYSIS	SAMPLE INTERVAL	GRAPHIC LOG	LITHOLOGIC LOG	DEPTH IN FEET
						GROUND SURFACE	
0'		0				SILTY CLAY, BLACK (N1), NONPLASTIC, MOIST, VERY FIRM, ROOTS	0'
		0					
		0					
5'		0	C			SILTY CLAY, DARK GREENISH GRAY (5 G 4/1), NONPLASTIC, MOIST	5'
		0			CL	SILTY CLAY, SOME GRAVEL (MAXIMUM SIZE ½"), GREENISH GRAY (5 G 6/1), NONPLASTIC, MOIST, GRAVEL IS SUBROUND TO SUBANGULAR	
10'		60	C			SILTY CLAY, AS ABOVE BUT GRAVEL IS ANGULAR (MAXIMUM SIZE ½")	10'
		21				SILTY CLAY, GREENISH GRAY (5 G 6/1), LOW TO MEDIUM PLASTICITY, WET, SLOW DILATENCY SILTY CLAY, GRAYISH OLIVE GREEN (5 GY 3/2), LOW PLASTICITY, MOIST, SILT INCREASES WITH DEPTH	
		3					
		21				SILTY CLAY, TRACE MEDIUM SAND, GRAYISH OLIVE GREEN (5 G 6/1), OCCASIONAL BLACK STREAKS, MEDIUM PLASTICITY	
15'		51					15'
20'							20'
25'							25'

FILE NAME: D:\00.30RRR\ITS\SB31.DWG

'23/91 JAA

FIGURE D-21
NAS MOFFETT FIELD BUILDING 29 AREA
SB31

SCALE: AS SHOWN

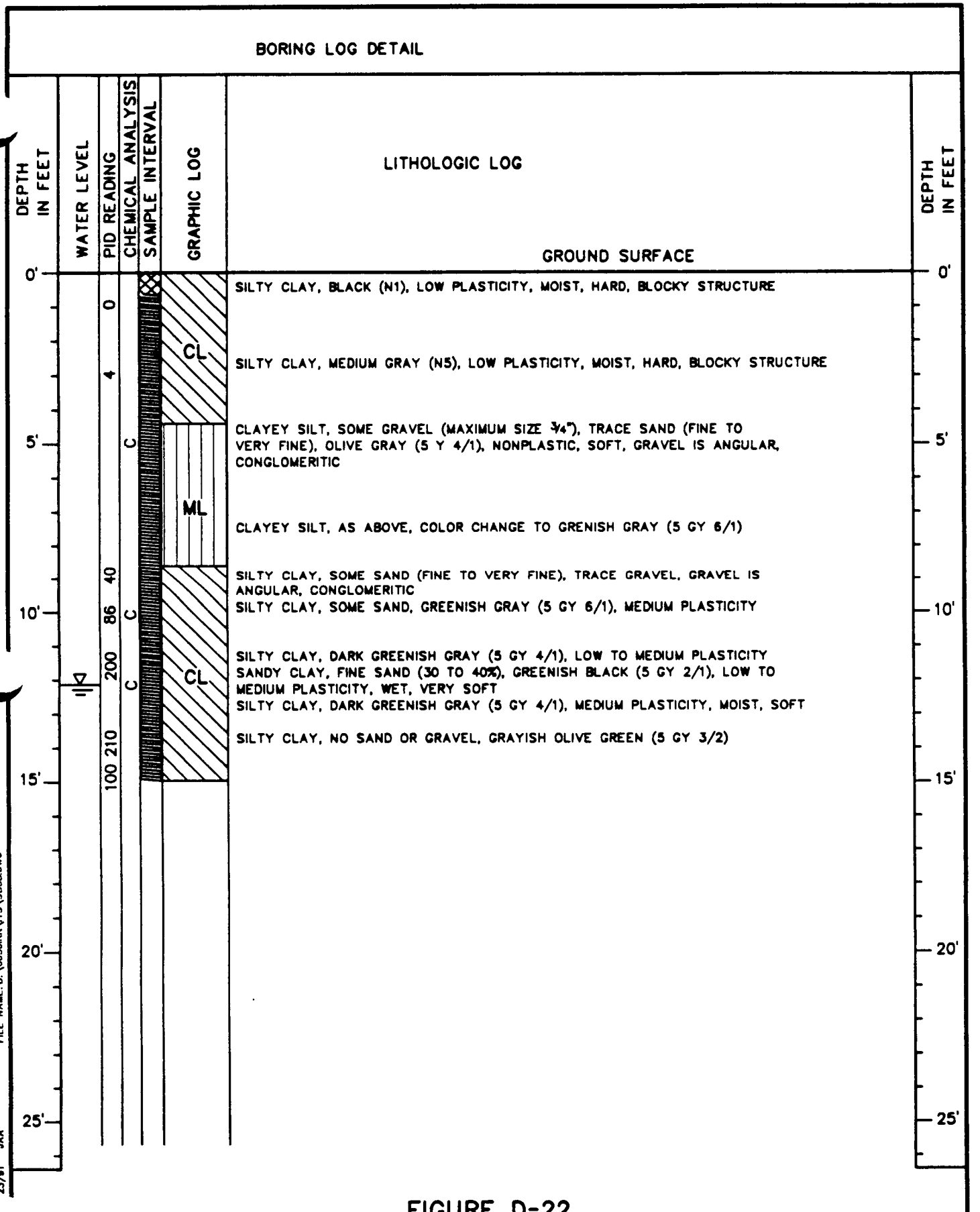
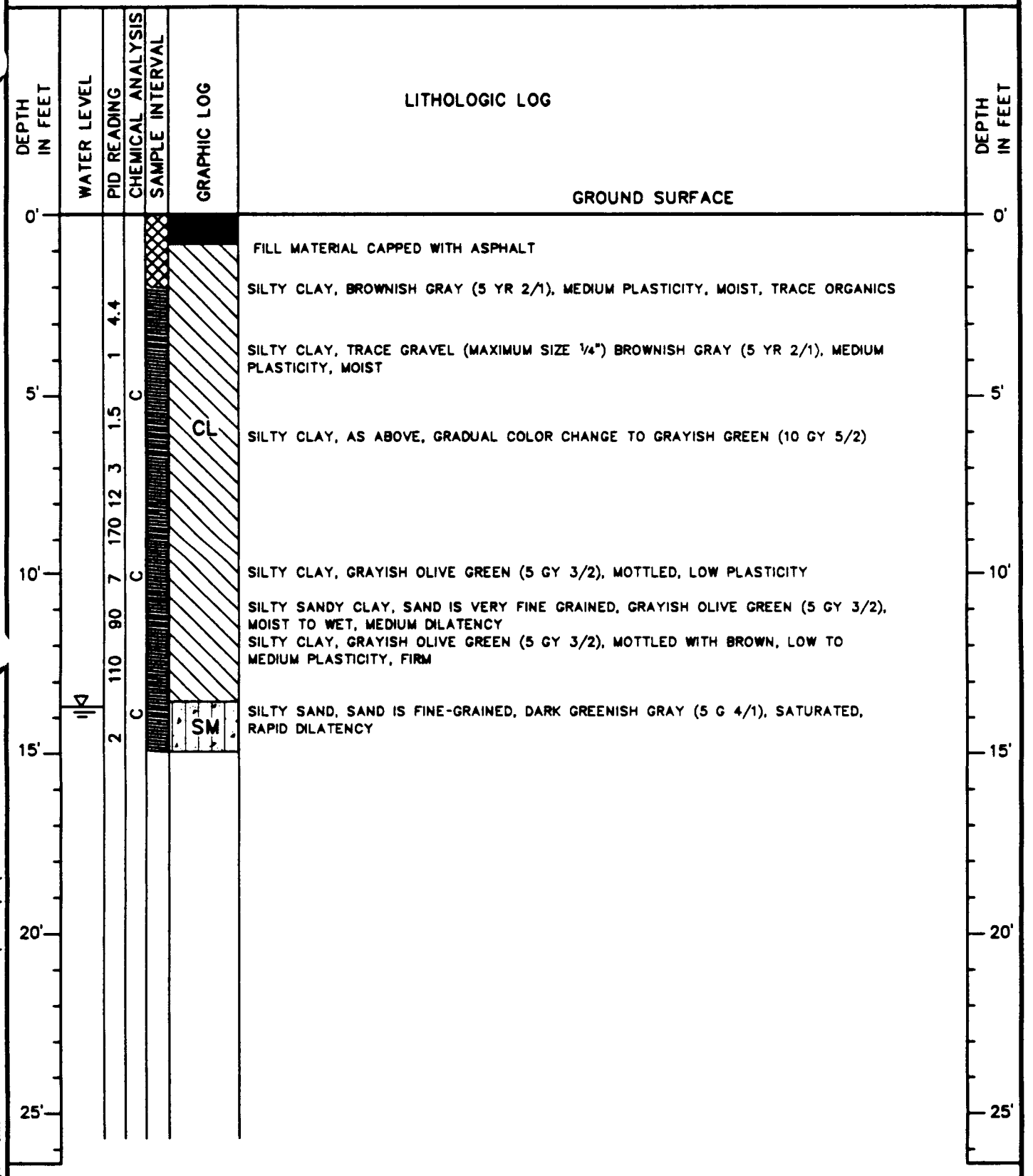


FIGURE D-22
NAS MOFFETT FIELD BUILDING 29 AREA
SB38

SCALE: AS SHOWN

BORING LOG DETAIL



FILE NAME: D:\0030RMVTS\SB42.DWG

03/23/91 JAA

FIGURE D-23
NAS MOFFETT FIELD BUILDING 29 AREA
SB42

SCALE: AS SHOWN

BORING NO. W9-6(A)

FIELD GEOLOGIST W. Hopkins
EDITED BY D. Cox
CHECKED BY J. Hadsgil
TOTAL DEPTH 35 feet

COORDINATES N 336,389.7 E 1,548,272.7
DATE BEGAN 7/18/88
DATE FINISHED 7/18/88
GROUND SURFACE EL. 18.5 ft.

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	BLOWS ON SAMPLER (PER 6")	USCS SYMBOL	DESCRIPTION
0	MD#1	6/18	5,4,15	OL	SILTY CLAY; dark gray to black, dry, soft, slightly plastic. Organic-rich
	MD#2	9/18	7,14,24		SILTY CLAY; black, moist-dry(damp), stiff, moderately plastic.
5	MD#3	10/18	7,10,14	ML-CL	CLAYEY SILT; light brown, dry-moist(damp), stiff, slightly plastic. SILTY CLAY; light olive brown, moist, medium stiff, mod. plastic. At 12.5 to 13.5 ft. clayey silt to silt.
	S	42/42			
10	S	60/60			CLAYEY SILT; medium gray, wet, medium stiff to soft, slightly plastic. Small amount of water at 13.0 ft. Silt has solvent odor, no reading on Hnu
15	MD#4	13/18	2,2,3		
				SM/SP	SILTY SAND; dark gray, wet(saturated), medium dense.
20	S	36/60		ML	CLAYEY SILT; dark gray, wet, very soft to medium stiff, slightly plastic, minor sand. Water standing at 20-21 ft.
25	S	36/60		CL	SILTY CLAY; light gray brown, wet, medium stiff, moderately plastic, minor pebbles.
30	S	30/60		ML-SP	CLAYEY SANDY SILT/SILTY SAND; medium gray brown, wet, medium stiff. No odor in this aquifer.
35					TOTAL DEPTH 35 FEET
40					
45					
50					
55					
60					
65					
70					

WELL SUMMARY

DRILLING CO.: Water Development Co.
DRILLING METHOD: CME 75 Hollow Stem Auger

SAMPLING METHODS: MD=California Modified
S=Split Barrel

ROJECT NO.: 409616
JENT: Moffett Naval Air Station
Moffett Field, California

CAD FILE: MF-W9-6A.DWG

IT ...Creating a Safer Tomorrow

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. W9-10(A1)

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST E. Wessner
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 26 ft.

COORDINATES N ____ E ____
DATE BEGAN 5/15/90
DATE FINISHED 5/15/90
GROUND SURFACE EL. ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in.)	WELL SUMMARY	BLOWS ON SAMPLER	USCS	PROFILE	DESCRIPTION
0			Christy Box		ML/CL		Road base fill.
	MD1	18/18	Standpipe	5/7/5			CLAYEY SILT; light olive, slightly to moderately moist, coarse inclusions. 1.5'
	MD2	18/18	Top of Casing with Locking Cap	3/6/9	CL		SILTY CLAY/CLAY; brown black, moderately moist, soft, medium plasticity.
5	MD3		5% Bentonite-Cement Grout	3/6/8			SILTY CLAY; olive gray, moderately moist, soft, medium plasticity, few coarse sand inclusions. 6.0'
			4" dia. sch. 40 Steel Casing		ML/SC		CLAYEY SANDY SILT; yellowish gray, moderately moist, very soft, crumbly, loose, some calcite inclusions. 9.0'
10			Bentonite Pellets		SC		CLAYEY SAND; light olive brown, wet, very soft, non-plastic. ∇ Water encountered at 10 feet. 15.0'
15			Centralizer				
			12" Borehole dia.		SP		SAND; (drill rate). Sands in muds.
20			#1C Sand				
			4" dia. sch. 40 S.S. Screen .010" Slot				
25			Centralizer				25.0'
					CL		SILTY CLAY; (drill rate).
							TOTAL DEPTH 26 FEET
30							
35							
40							
45							
50							
55							
60							
65							
70							

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-55)

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-10(MF-15)

BORING NO. W9-11(B2)

PROJ. GEOL. S. Bartling — COORDINATES N ____ E ____
FIELD GEOLOGIST C. Dorgan
EDITED BY T. Ault — DATE BEGAN 5/7/90
CHECKED BY W. Garber — DATE FINISHED 5/7/90
TOTAL DEPTH 98 ft. — GROUND SURFACE EL. ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	WELL SUMMARY	BLOWS ON SAMPLER	USCS	PROFILE	DESCRIPTION
0			Christy Box				ASPHALT fill material
	MD1	12/18	Standpipe	3/5/10	CL		SILTY CLAY (fill present throughout), grayish black, dry, very dense, plastic when wetted.
	MD2	15/18	Top of Casing with Locking Cap	3/3/7	ML		CLAYEY SILT, black, dry, dense, non-plastic, low-plastic, (Still some gravel).
5	MD3	20/18		3/5/9	ML		CLAYEY SILT (few fine-coarse Sands), dusky yellow, dry, slight moist, low plasticity.
10					CL/CH		SANDY SILTY CLAY, light olive gray, wet, highly plastic,(fine Sands. Groundwater At 11 Ft. ▽
15							
20			Centralizer				Same as above, mottled grayish green and dusk yellowish green.
25					CL		SILTY CLAY, gravel and sand, moderate olive brown, wet, highly plastic, increase in gravel and sand with depth. (coarse and gravel)
30					GC		COARSE GRAVELS & sand within silty clay fines still present.
35	Grab Sample		5% Bentonite-Cement Grout				Same as above gravels are up to 1/2" Ave. Subangular to Subrounded. Decrease in gravels with depth.
40			4" dia. sch. 40 Steel Casing				
45			12" Borehole dia.		CL		SANDY SILTY CLAY, moderate olive brown, moderately-highly plastic (Sands are fine-coarse).
50							SILTY CLAY(<1% Coarse Sands), mottled, moderate olive brown and light olive brown, medium stiff, moderately-highly plasticity.
55							Same as above SILTY CLAY, (.75 Pentrometer), Medium stiff, moderately-highly plastic: no sands.
60					CH		CLAY, light olive brown, moderately stiff, fat: highly plastic.
65					CL		SILTY CLAY, mottled moderate olive brown to grayish green, very stiff, plastic after working Carbonate nodules react with HCL. Gravelly, Sandy within matrix of SILTY CLAY, moderate yellowish brown, stiff, plastic after working - few gravels throughout.
70							

DRILLING CO.: Water Developement
DRILL METHOD: Air Rotary with Drive Casing

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-11(MF-19)

BORING NO. W9-11(B2)

PROJ. GEOL. S. Bartling — COORDINATES N ____ E ____
FIELD GEOLOGIST C. Dorgan
EDITED BY T. Ault — DATE BEGAN 5/7/90
CHECKED BY W. Garber — DATE FINISHED 5/7/90
TOTAL DEPTH 98 ft. — GROUND SURFACE EL. ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	WELL SUMMARY	BLOWS ON SAMPLER	USCS	PROFILE	DESCRIPTION
70–75			5% Bentonite-Cement Grout		CL		
75–80			Bentonite Pellets		SC/CL		Increase in gravels with depth.
80–85			Centralizer; #1C Sand		SC		CLAYEY SAND(fine grained), light olive gray, loose.
85–90			4" dia. sch. 40 S.S. Screen .010" Slot; Centralizer		CL		SANDY SILTY CLAY, light olive gray, soft-moderate, stiff, moderately-highly plastic after working.
90–95							
95–98	Grab Sample		Bentonite Hole Plug				CLAY, light olive brown, soft-medium stiff, moderately-highly plastic after working.
98							TOTAL DEPTH 98 FT.
100, 105, 110, 115, 120, 125, 130, 135, 140							

DRILLING CO.: Water Developement
DRILL METHOD: Air Rotary with Drive Casing

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-11(MF-19)

BORING NO. W9-22(A2)

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST E. Wessner
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 52 ft.

COORDINATES N ____ E ____
DATE BEGAN 4-30-90
DATE FINISHED ____
GROUND SURFACE EL ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	WELL SUMMARY	BLOWS ON SAMPLER	USCS	DESCRIPTION
0			Christy Box			
	MD1	8/18	Standpipe	6/12/18	CL	SILTY CLAY; grayish black, slightly moist, soft, slightly plastic.
	MD2	12/18	Top of Casing with Locking Cap	2/6/11	CL	SILTY CLAY; olive gray, slightly moist, soft, slightly plastic. 5.0'
5	MD3	18/18		6/7/7	CL	Loss of recovery. CPT log shows SILTY CLAY.
		0/42				
10		40/60	5% Bentonite-Cement Grout		SC	CLAYEY SAND; very fine grained, dark greenish gray, moist, very soft, slightly plastic. 13.0'
			4" dia. sch. 40 Steel Casing		CH	SILTY CLAY/CLAY; olive gray, mottled dusky yellow, moist, very soft, plastic. 15.0'
15		10/60			CH	SILTY CLAY; dusky yellowish green, very moist, very soft, medium plasticity. 16.5'
					SM	Loss of recovery. CPT shows SAND. 20.0'
20		30/60	12" Borehole dia.		SM	SAND; fine to medium grained, wet, loose, grading into clayey sand with depth. 22.0'
					CL/CH	SILTY CLAY/CLAY; medium olive gray, moist, very soft, medium plasticity. 24.0'
25		30/60			SM/SC	SAND; fine to medium grained, very wet, loose. Grading into silty clay, greenish gray, moist, soft, medium plasticity. 28.0'
					CL	SILTY CLAY; dusky yellowish gray, moist to slightly moist, medium stiff, low to medium plasticity. Becomes grayish green, soft, with medium plasticity. 30.0'
30		50/60			ML	CLAYEY SILT; light olive gray, moist, very soft, low plasticity. 31.0'
					SP	SAND; fine to medium grained, wet, loose. 32.0'
			Bentonite Pellets		CL	SILTY CLAY; light olive brown, moderately moist, medium stiff, plastic. 34.0'
35		60/60	#1C Sand		CL	SILTY CLAY; yellowish gray, moist, very soft, very plastic, coarse calcite inclusions. 36.0'
			Centralizer		ML	SANDY CLAYEY SILT; light olive brown, moderately moist, soft, slight to moderate plasticity. 37.0'
					ML	CLAYEY SILT; moderate olive brown, moist, very soft, moderately plastic. 39.0'
40		60/60	4" dia. sch. 40 S.S. Screen .010" Slot		SC	CLAYEY SAND; olive brown, wet, very soft, medium pebbles.
45		60/60			SC	Very coarse sands, wet, loose, sub-angular. 49.0'
50		36/36	Backfill: Native Soil		CL	SILTY CLAY; moderate olive brown, wet, soft, plastic, coarse sand grains grading to fine pebbles included in matrix.
						TOTAL DEPTH 52 FEET
55						
60						
65						
70						

Continuous Core

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-55)

PAGE 1 OF 1

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-22(+MF16)

BORING NO. W9-23(A1)

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST T. Ault
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 20 ft.
COORDINATES N ____ E ____
DATE BEGAN 4-17-90
DATE FINISHED 4-17-90
GROUND SURFACE EL. ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	WELL SUMMARY	BLOWS ON SAMPLER	USCS	PROFILE	DESCRIPTION
0			Christy Box		CL		SILTY CLAY, brownish black, dry to slightly moist, firm to hard, very slightly plastic. 2.0'
	MD1	16/18	Standpipe	7/9/13			
	MD2	15/18	5% Bentonite-Cement Grout	6/8/9	ML		CLAYEY SILT, light olive gray, slightly moist, soft, non-plastic. 5.5'
5	MD3	18/18	Bentonite Pellets	14/16/24			
		40/60	4" dia. sch. 40 C.S. Casing		SW		GRAVELLY SAND, dark brownish yellow, dry, very loose, medium sand, some very coarse sand, fine, angular gravel. Wet at 7'. Coarse sand predominant at 9'. Gravel size increases - medium to coarse. 10.0'
10	Continuous Core	4/60	12" Borehole dia.		SW		Flowing SAND, fine to coarse grained, dusky yellowish green, wet, very loose. 17.0'
15		30/60	4" dia. sch. 40 S.S. Screen .010" Slot		SC		CLAYEY SAND, fine grained, grayish green, wet, loose. 18.5'
			#1C Sand		CL		SANDY CLAY, grayish green, moist to wet, very soft, medium plasticity, some layers with no sand, very fine sand.
20							TOTAL DEPTH 20 FEET
25							
30							
35							
40							
45							
50							
55							
60							
65							
70							

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-75)

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-23(•MF16)

BORING NO. W9-24(A1)

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST J.E. Strack
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 22 ft.
COORDINATES N ____ E ____
DATE BEGAN 5-2-90
DATE FINISHED 5-2-90
GROUND SURFACE EL. ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in.)	BLOWS ON SAMPLER	USCS	DESCRIPTION
0					FILL: SAND and GRAVEL.
	MD1	14/18	13/17/22	CL	SILTY CLAY; yellowish gray, dry, firm, moderately plastic. Fill inclusions to ~ 18". Changes to grayish black at ~ 2.5'. Changes to dusky yellowish brown at ~ 5'.
	MD2	16/18	6/8/14		
5	MD3	12/18	5/12/26		7.0'
				CL	SILTY CLAY; dark yellowish brown, slightly moist, soft, medium plasticity. 9.0'
10				CL	SILTY CLAY/CLAYEY SILT, moist. ▽ Groundwater encountered at ~ 13' 15.0'
15				SM	SILTY SAND, wet. 18.0'
				GW	SANDY GRAVEL, very fine pebbles to coarse sand, dusky brown matrix, wet, loose to medium dense 19.5'
20		18/18	5/7/8	ML	SANDY SILT; dark yellowish brown, wet, non-plastic 20.0'
				CH	CLAY, dark greenish gray, moist, highly plastic.
					TOTAL DEPTH 22 FEET

WELL SUMMARY:
- Christy Box
- Standpipe
- Top of Casing with Locking Cap
- 5% Bentonite-Cement Grout
- 4" dia. sch. 40 Steel Casing
- Bentonite Pellets
- Centralizer
- #1C Sand
- 4" dia. sch. 40 S.S. Screen .010" Slot
- 12" Borehole dia.

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-75)

PAGE 1 OF 1

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-24(*MF16)

BORING NO. W9-26A1

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST E. Wessner
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 17.4 ft.

COORDINATES N ____ E ____
DATE BEGAN 5-3-90
DATE FINISHED 5-3-90
GROUND SURFACE EL ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	BLOWS PER FOOT (N)	WELL SUMMARY	P.I.D. READING (ppm)	USCS	PROFILE	DESCRIPTION
0				Christy Box				GRAVEL ROAD BASE; angular, dry. 1.5'
	MD1	12/14	9/8/16	Top of Casing with Locking Cap		CL		SILTY CLAY; brownish black, dry to slightly moist, medium stiff, non-plastic. 4.0'
	MD2	5/7/11	8/16					
5	MD3	4/4/5/5		Bentonite/ Cement Grout		CL		SILTY SANDY CLAY; grayish orange, slightly moist, crumbly, soft, low plasticity. SANDY CLAY; grayish orange, moderately moist, non-plastic, some silts, crumbly. 8.0'
10				Filter Pack: #1C Sand		GW/SW		COARSE GRAVELS; fine cobbles, very moist to wet, clay matrix, loose, turns to wet gravelly mixture of fine sands and clays. ∇ Groundwater encountered at ~10 to 11 feet. 13.0'
15				4" dia. sch. 40 S.S. Screen .010" Slot				Due to water table, all returns from 13' down, came back indescribable.
								TOTAL DEPTH 17.4 FEET
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								
70								

DRILLING CO.:
DRILL METHOD: Hollow Stem Auger (Rig CME-55)

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

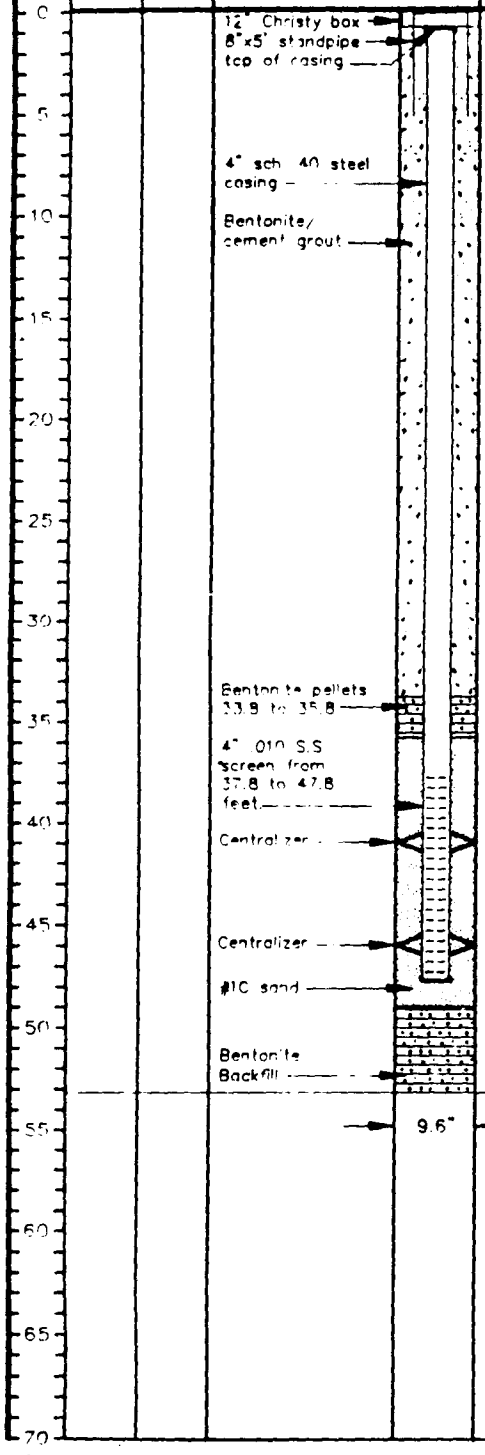
INTERNATIONAL TECHNOLOGY CORPORATION

MFW926A1(MF)

BORING NO. W9-27(B1)

FIELD GEOLOGIST E. Wessner
EDITED BY J. Hadsall
CHECKED BY J. Hadsall
TOTAL DEPTH 53.2 feet

COORDINATES N 338,676.4 E 1,546,653.8
DATE BEGAN 8/19/88
DATE FINISHED 8/22/88
GROUND SURFACE EL. 16.9 ft.



USCS SYMBOL	DESCRIPTION
FILL	FILL: coarse gravels and silty clay.
CL	SILTY SANDY CLAY; dark gray-black, slightly moist, medium stiff, moderately plastic.
	SILTY CLAY; light gray to mottled brown gray, moderate to slightly moist, slightly to moderately plastic.
GW	GRAVELS; black and gray, very coarse to fine, angular, poorly sorted.
	Fuel odor, (3-4ppm in mud bin), no water.
CL	SILTY CLAY; brown-gray, moderately moist, medium stiff to ▽soft, moderately plastic.
	- Slight inflow of water.
SP-CH	SILTY COARSE SANDS; angular to subangular, medium grained and some gravels, poorly sorted.
	Stringers of silty clay, light olive gray, moist, soft, plastic.
CH	SILTY CLAY; olive gray, moist, moderately plastic to plastic.
	SILTY CLAY; orange brown, moist, soft to medium stiff, plastic, mottled brown gray.
	SILTY CLAY; mottled gray brown, moist, stiff, moderately plastic.
SP-CL	SANDY SILTY CLAY; with fine to medium sands, subangular, poorly sorted.
CL	SANDY CLAY; gray brown, wet, slightly plastic.
	SILTY CLAY; gray brown, moist, stiff, moderately plastic, minor sand.
	TOTAL DEPTH 53.2 FEET

DRILLING CO.: Water Development Co.
DRILLING METHOD: Air Rotary

NOTE: Redrill of W9-27(B1), (7-19-88)
No samples taken while drilling this well. Samples taken during the drilling of the original W9-27(B1-abandoned) will be used as sample data.

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MA2-27B1.DWG

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SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. W9-28(A2)

PROJ. GEOL S. Bartling — COORDINATES N ____ E ____
FIELD GEOLOGIST T. Ault — DATE BEGAN 4/27/90
EDITED BY T. Ault — DATE FINISHED 4/27/90
CHECKED BY W. Garber — GROUND SURFACE EL ____
TOTAL DEPTH 50 ft.

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	WELL SUMMARY	BLOWS ON SAMPLER	USCS	PROFILE	DESCRIPTION
0			Christy Box				SAND, loose, dry.
	MD1	12/18	Standpipe	10/12/17/20	CL		SANDY CLAY, moderate yellow, dry to moist, firm, slightly plastic.
	MD2	18/18	Top of Casing with Locking Cap	5/8/13/16	CL		CLAY, olive gray, moist, firm, moderately plastic
5	MD3	18/18		8/15/22	CL		CLAY, medium light gray, to olive gray, moist, some very hard gray clay, slightly plastic.
		60/60			ML		SANDY CLAYEY SILT, moist, soft, light olive brown, low plasticity. Groundwater At 8 Ft.
					SM		SILTY SAND, light olive brown, fine sand, wet, loose.
10		6/60	5% Bentonite-Cement Grout; 4" dia. sch 40 Steel Casing		SP		SAND (medium grade), moderate olive brown, very loose.
15		60/60			CH		CLAY, dusky yellowish green, very moist to wet, soft, very plastic.
					SC		CLAYEY SAND (fine grain), dusky yellowish green, loose.
20		60/60	12" Borehole dia.		CL		SANDY CLAY, dusky yellowish green, very moist, to wet, plastic to very plastic. Grayish green
25					SW		GRAVELLY SAND (coarse sand), with fine gravel, wet.
					ML		CLAYEY SILT (with fine sand), dusky yellowish green, moist (slightly mottled), hard, medium plasticity.
		60/60			CL		CLAY, (sandy), grayish green, moist, soft, highly plastic.
					ML		CLAYEY SILT, low to moderate moisture, yellowish gray, firm, low to medium plasticity.
30		30/60			SC/GM		GRAVELLY SILTY SAND, dusky yellow, wet, firm, (medium to coarse sand, fine gravel with occasional medium angular gravel).
35			Bentonite Pellets				Poor recovery, fine sand slough with some clay, dark gray.
		5/60	Centralizer; #1C Sand		GW		GRAVEL with coarse to fine sand and silt matrix, dusky yellow, moist, very firm, angular gravel
40		6/60	4" dia. sch. 40 S.S. Screen .010" Slot		SP		SAND, (medium), light olive gray, very wet, very loose. GRAVELLY SAND at base, light olive gray, wet and firm.
45		26/60	Centralizer		SP		SAND, (medium grain) wet, light olive gray, loose, flowing sand.
50							TOTAL DEPTH 50 FT.
55							
60							
65							
70							

Continuous Core

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-55)

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-28(*MF16)

BORING NO. W9-31(A1)

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST J. Strack
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 27 ft.

COORDINATES N ____ E ____
DATE BEGAN 5/11/90
DATE FINISHED 5/11/90
GROUND SURFACE EL. ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in)	BLOWS ON SAMPLER	USCS	DESCRIPTION
0					SILTY GRAVELLY SAND, fill
	MD1	16/18	7/13/18	CL	SILTY CLAY, orange black, slightly moist, firm, medium plasticity, changes to olive gray at 2 feet.
	MD2	18/18	7/11/16		
5	MD3	14/18	6/7/8		SILTY CLAY, light olive, moist, soft medium plasticity.
10					
15				ML	CLAYEY SILT, dark greenish gray, moist, very soft low plasticity. Groundwater At 18 Ft ▽
20					
				SM	SILTY SAND, dark greenish gray, wet.
25				CL	SILTY CLAY, greenish gray, slightly moist, firm, medium plasticity
		24/24	4/7/9/12		TOTAL DEPTH 27 FT.
30					
35					
40					
45					
50					
55					
60					
65					
70					

WELL SUMMARY

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-55)

PAGE 1 OF 1

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

INTERNATIONAL TECHNOLOGY CORPORATION

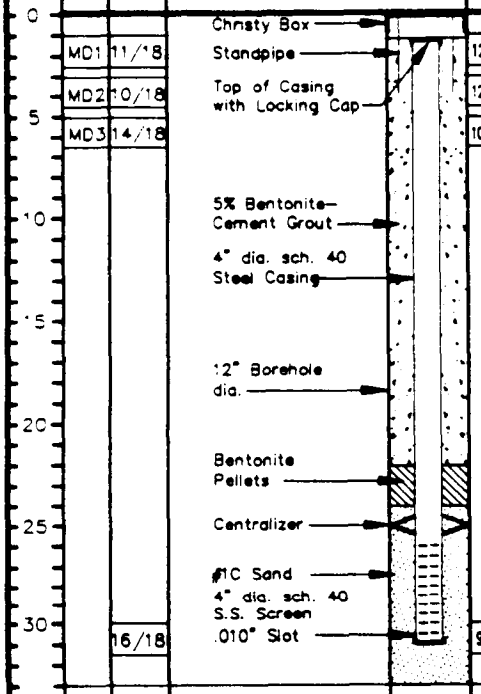
BORING NO. W9-43(A2)

PROJ. GEOL. S. Bartling
FIELD GEOLOGIST J. Strack
EDITED BY T. Ault
CHECKED BY W. Garber
TOTAL DEPTH 33 ft.

COORDINATES N ____ E ____
DATE BEGAN 5/3/90
DATE FINISHED 5/3/90
GROUND SURFACE EL ____

DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY/DRIVE (in.)	BLOWS ON SAMPLER	USCS	DESCRIPTION
0					FILL: SAND, GRAVEL, dry, loose.
	MD1	11/18	12/11/16	SM	GRAVELLY SILTY SAND, coarse sand and fine gravel, dark yellowish brown, dry, loose.
	MD2	10/18	12/15/27	CH	CLAY, dark gray, slightly moist, firm, plastic.
5	MD3	14/18	10/23/30		
10				CL	SILTY CLAY, olive gray, slightly moist, medium plasticity.
15					SILTY CLAY, dark greenish gray, moist, medium plasticity.
20				GW/SM	▽SAND, wet, possibly a SAND-GRAVEL mixture with some fines. —Groundwater At 20Ft.
				CL/ML	SILTY CLAY-CLAYEY SILT, wet.
25					
30		16/18	9/11/10	SW	GRAVELLY SAND with very fine to fine gravel.
				CL	SILTY CLAY, light gray, moist, firm, medium plastic.
				ML	CLAYEY SILT, dusky yellowish green, moist, firm, low plasticity.
35					TOTAL DEPTH 33 FT.
40					
45					
50					
55					
60					
65					
70					

WELL SUMMARY



PROFILE

DRILLING CO.: Water Developement
DRILL METHOD: Hollow Stem Auger (Rig CME-55)

PAGE 1 OF 1

PROJECT NO.: 409700
CLIENT: Moffett Naval Air Station
LOCATION: Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS FOR EXPLANATION OF SYMBOLS AND TERMS

INTERNATIONAL TECHNOLOGY CORPORATION

MF-W9-43(MF-20)

APPENDIX E

LABORATORY QUALITY ASSURANCE RESULTS

APPENDIX E

QUALITY ASSURANCE/QUALITY CONTROL RESULTS

The Building 29 investigation was conducted in accordance with the QA requirements presented in the QAPjP. This section describes and summarizes the results of field and laboratory QA activities associated with the organic analyses conducted as part of the Building 29 investigation. Final metals data arrived late from the laboratory and is in the process of being reviewed.

The majority of the organic data has been received from the laboratory, but if QC data were missing, data quality was interpreted based on other QC sources when possible. For example, if the laboratory did not submit laboratory blank results, trip blanks, or equipment blanks, knowledge of common laboratory contaminants was used to assess the data. If surrogate recoveries were missing, surrogate recoveries of other samples and matrix spike/matrix duplicate recoveries were used. If no alternative QC sources could be used, it is stated that applicable QC data is unavailable.

QC SAMPLING AND ANALYSIS

PRC reviewed the CLP analytical results according to EPA the guidance documents "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses (EPA, 1988). For non-CLP protocols, PRC reviewed the data according to the QA/QC recommended for the analytical methods used. The data reviews were based on the sample results and QC summaries only, not the raw data.

QA sampling and analysis activities included collecting and analyzing field and laboratory QC samples. Field QC samples included trip blanks, equipment blanks, and field duplicates. Laboratory QC samples included laboratory blanks, matrix spikes and matrix spike duplicates, and blank spikes. Other QC procedures regularly performed by the laboratory include instrument tunings, calibration checks, and surrogate recovery monitoring.

Trip blanks were filled with deionized water, transported to the sampling location, and returned to the laboratory in a manner identical to the handling procedures used for the samples. The trip blanks were subject to volatiles analysis only. The purpose of the trip blank is to assess any volatile contamination encountered during transport of the samples. Acetone and methylene chloride were detected in most trip blanks. Trip blanks from 12/11/90, 12/12/90, 1/2/91 and 1/3/91 contained solvent contamination significantly above levels normally found in laboratory method blanks. Solvent contamination in these trip blanks may have resulted from field activities. Low

concentrations of TCE were found in trip blanks from 12/6/90 and 12/20/90 but this was likely caused by to instrumental carry over from previous sample analysis.

Equipment (rinsate) blanks were taken from the Teflon® bailer following decontamination. The purpose of the equipment blank is to assess cross-contamination associated with the sampling activities and to ensure that sampling devices have been effectively cleaned. Methylene chloride and acetone were found in the majority of equipment blanks. Five of the equipment blanks contained methylene chloride in excess of 50 μg/L. Chlorinated volatile compounds including carbon disulfide, 1,2 DCE, 1,1,1 TCA, TCE and PCE, were found in five equipment blanks. The concentrations observed for the chlorinated compounds was always less than 12 μg/L.

Field duplicates assess precision related with sampling protocols, sample homogeneity, handling, and analysis. Two duplicate ground water samples were collected during the Building 29 investigation. The field duplicates (W29-6(A1), W29-6(A1) dup and W29-10(A2) W29-10 A2 dup) showed good precision for all analytes. Analytical results for these samples are in Appendix F.

Laboratory blanks were prepared at the laboratory and extracted and analyzed along with a group of samples. The laboratory blanks assessed any contamination introduced in the laboratory. Each group of samples extracted or analyzed on a particular day had an associated laboratory blank.

Matrix spikes and matrix spike duplicates (MS/MSD) were prepared by spiking samples with known concentrations of selected analytes. The MS/MSD were used to assess laboratory precision and accuracy on each matrix. Blank spikes were used to assess laboratory precision and accuracy. They used a blank water matrix and were not matrix specific.

TCL VOLATILE ORGANICS DATA ASSESSMENT

The volatile organic data, which has been reviewed, substantially meet the QA/QC criteria, with some exceptions. There were no sample quantitation method blank, tuning or calibration problems encountered for the volatile samples. The following minor problems were noted with exceeding holding times, surrogate recovery, and MS/MSD.

Holding Time: Four samples analyzed by the laboratory in early to mid-December missed the 10 day holding time. Confusion in the laboratory apparently resulted from changes in the latest CLP SOW. All samples were analyzed within 14 days of sampling. Results from these analyzes are considered estimated (J), but usable.

Surrogate Recovery: Volatile surrogate recoveries for samples W29-3 and SB-42 were less than QC acceptance criteria for toluene-d_8 and bromofluorobenzene (BFB). Volatile surrogate recoveries for sample SB-51-2 exceeded the QC acceptance criteria for toluene-d_8 and BFB. Six samples had volatile surrogate recoveries for 1,2-dichloroethane-d_4 (1,2-DCE-d_4) in excess of QC acceptance criteria. Results for samples W29-3 and SB-42 are considered low and thus estimated but usable. Results for SB-51-2 are considered estimated and usable for limited purposes only. Results from W29-3, W29-4, and SB-65 are qualified but considered usable, outside of the QC limits. Results for samples HP29-18, HP29-18 DL, HP29-34, SB-42 RE, and SB-65 RE are considered estimated and usable for limited purposes only.

MS/MSD: The relative percent difference (RPD) for matrix spike compound trichloroethylene (TCE) marginally exceeded the QC limit in spiked samples of W29-6(A1) DL. The excessive RPD for TCE likely reflects the heterogeneity of the chlorinated VOC contamination found in the Building 29 area. The RPD for matrix spike compound toluene slightly exceeded the QC acceptance criteria (25 percent reported, 21 percent QC limit) in spiked samples of W29-5. Toluene was present in the sample and the excessive RPD may reflect sample heterogeneity according to the laboratory. In both cases, the slight excesses of the RPD are not expected to affect the data quality.

TOTAL PETROLEUM HYDROCARBON DATA ASSESSMENT

Samples analyzed for total petroleum hydrocarbons (TPH) extractables as diesel and jet fuel (JP-5), also purgeable hydrocarbons as gasoline, are currently being reviewed so no information on data quality is available at this time.

APPENDIX F

SOIL AND GROUND WATER ANALYTICAL DATA

MFVOAW01.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer
Date : April 4, 1991

Table F-1
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in ug/l

Sample Location	W29-1 (A1)			W29-2 (A1)			W29-3 (A1)			W29-4 (A1)			W29-5 (A1)			W29-6 (A1)		
Sampling Date	1/3/91			1/2/91			12/20/90			1/2/91			1/2/91			12/20/90		
Analysis Date	1/8/91			1/8/91			12/29/90			1/8/91			1/8/91			12/30/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	11			ND			16			36			42			49		
1,1 DCE	7			ND			33			31			35			140		
1,2 DCE	1200	D		ND			180			260			2000			750	D	
1,1,1 TCA	ND			ND			8			3	J		ND			31		
TCE	7			ND			1100	D		100			21			7800	D	
PCE	ND			ND			15			ND			ND			150		
Vinyl Chloride	120			ND			ND			ND			3	J		2	J	
Freon 113	ND			ND			ND			ND			ND			ND		
dichloro trifluoro ethane	ND			ND			ND			ND			35	J		ND		
Acetone	8	J		ND			ND			37	B		99			ND		
2-butanone (MEK)	ND			ND			ND			ND			ND			ND		
Methylene chloride	3	BJ		28	BJ		2	BJ		2	BJ		3	BJ		2	BJ	
Carbon disulfide	ND			ND			ND			ND			3	J		21		
2-hexanone	ND			ND			ND			ND			ND			ND		
4-methyl-2-pentanone	ND			ND			ND			ND			ND			110	B	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAW02.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer
Date : April 4, 1991

Table F-2
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in ug/l

Sample Location	W29-6 (A1) DUP			W29-7 (A2)			W29-8 (A2)			W29-9 (A2)			W29-10 (A2)			W29-10 (A2) DUP		
Sampling Date	12/20/90			12/21/90			1/9/91			1/9/91			1/9/91			1/9/91		
Analysis Date	12/30/90			12/28/90			1/17/91			1/17/91			1/17/91			1/17/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	54			52			23			ND			5			ND		
1,1 DCE	160			89			71			ND			ND			ND		
1,2 DCE	800	D		380	D		270			24			25			16		
1,1,1 TCA	30			29			15			1	J		ND			ND		
TCE	7800	D		2200	D		3500			52			34			52		
PCE	160			1	J		56			ND			ND			ND		
Vinyl Chloride	2	J		3	J		ND			ND			ND			ND		
Freon 113	ND			ND			110	J		ND			ND			ND		
dichloro trifluoro ethane	ND			ND			8	J		ND			4			ND		
Acetone	14			4	BJ		10	J		5	J		8	J		7	J	
2-butanone (MEK)	ND			ND			ND			ND			ND			ND		
Methylene chloride	2	BJ		2	BJ		ND			1	J		2	J		ND		
Carbon disulfide	8			ND			ND			ND			ND			10		
2-hexanone	ND			ND			ND			ND			ND			ND		
4-methyl-2-pentanone	140			ND			ND			ND			ND			ND		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAW03.wk1

Table F-3
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer
Date : April 4, 1991

Concentration in ug/l

Sample Location	W61-1 (A1)			HP29-18			HP29-24			HP29-67 DUP			HP29-51			HP29-52		
Sampling Date	1/2/91			12/4/90			12/4/90			11/29/90			11/29/90			11/29/90		
Analysis Date	1/7/91			12/16/90			12/16/90			12/14/90			12/14/90			12/14/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	45			100			ND			2	J		9	J		30	J	
1,1 DCE	45			66			ND			ND			6	J		65	J	
1,2 DCE	320	D		670	D		ND			ND			130			370		
1,1,1 TCA	18			63			ND			ND			ND			ND		
TCE	2400	D		1200	D		ND			ND			ND			2600		
PCE	11			ND			ND			ND			ND			180		
Vinyl Chloride	ND			ND			ND			ND			4	J		ND		
Freon 113	ND			5800	J		ND			ND			ND			ND		
dichloro trifluoro ethane	24	J		ND			ND			ND			ND			ND		
Acetone	ND			ND			ND			ND			ND			ND		
2-butanone (MEK)	ND			ND			ND			ND			ND			ND		
Methylene chloride	2	BJ		ND			ND			ND			4	BJ		28	BJ	
Carbon disulfide	ND			ND			ND			7			68			61	J	
2-hexanone	ND			ND			ND			ND			ND			ND		
4-methyl-2-pentanone	ND			ND			ND			ND			ND			ND		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAW04.WK1

Table F-4
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer
Date : April 4, 1991

Concentration in ug/l

Sample Location	HP29-61			HP29-66			HP29-67			HP29-93			HP29-99			HP29-100		
Sampling Date	12/4/90			11/29/90			11/29/90			12/2/90			12/4/90			12/2/90		
Analysis Date	12/14/90			12/14/90			12/14/90			12/14/90			12/15/90			12/14/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND			23	J		2	J		19			57			51		
1,1 DCE	ND			44	J		ND			52			70			130		
1,2 DCE	2	BJ		430			ND			130	B		2600	D		460	BD	
1,1,1 TCA	ND			ND			ND			11			ND			43		
TCE	8			1100			ND			1300	D		220			1300	BD	
PCE	ND			11	J		ND			5			ND			3500	D	
Vinyl Chloride	ND			ND			ND			ND			ND			ND		
Freon 113	ND			ND			ND			ND			ND			ND		
dichloro trifluoro ethane	ND			ND			ND			ND			ND			ND		
Acetone	ND			ND			ND			ND			ND			ND		
2-butanone (MEK)	ND			ND			ND			ND			ND			ND		
Methylene chloride	4	BJ		11	BJ		ND			ND			ND			10	B	
Carbon disulfide	6			ND			6			6			30	J		5		
2-hexanone	ND			ND			ND			ND			ND			ND		
4-methyl-2-pentanone	ND			ND			ND			ND			ND			ND		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHW01.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8,1991

Table F-5
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in mg/l

Sample Location	W29-1 (A1)			W29-2 (A2)			W29-3 (A1)			W29-4 (1A)			W29-5 (A1)			W29-6 (A1)		
Sampling Date	1/3/91			1/2/91			12/20/90			12/20/90			1/2/91			12/20/90		
Analysis Date	1/9/91			1/9/91			12/29/90			12/29/90			1/7/91			12/29/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Screen/Sample Depth (feet)	8.5-18.5			7.5-17.5			10.5-20.5			9.0-19.0			10.5-20.5			10.5-20.5		
TPH Analysis																		
Purgeable (as gasoline)	62			2700			ND			ND			3200			56		
Extractable																		
as JP-5	NA			4000			NA			NA			610			NA		
as diesel	NA			NA			NA			NA			NA			NA		
Benzene	0.004	J		ND			ND			ND			0.006			0.004	J	
Toluene	ND			ND			ND			ND			ND			ND		
Ethylbenzene	ND			ND			ND			ND			ND			0.001	J	
Total Xylenes	ND			ND			ND			ND			ND			ND		
Total BTEX	0.004			0			0			0			0.006			0.005		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHW02.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8,1991

Table F-6
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in mg/l

Sample Location	W29-6 (A1) DUP			W29-7 (A2)			W29-8 (A2)			W29-9 (A2)			W29-10 (A2)			W29-10 (A2) DUP		
Sampling Date	12/20/90			1/22/91			1/10/91			1/10/91			1/10/91			1/10/91		
Analysis Date	12/29/90			1/25/91			1/15/91			1/15/91			1/14/91			1/15/91		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Screen/Sample Depth (feet)	10.5-20.5			33-43			37-47			38-48			36-46			36-46		
TPH Analysis																		
Purgeable (as gasoline)	54			ND			ND			ND			ND			ND		
Extractable																		
as JP-5	NA			NA			NA			NA			NA			NA		
as diesel	NA			NA			NA			NA			NA			NA		
Benzene				0.003			ND			ND			ND			ND		
Toluene				ND			ND			ND			ND			ND		
Ethylbenzene				ND			ND			ND			ND			ND		
Total Xylenes				ND			ND			ND			ND			ND		
Total BTEX	0			0.003			0			0			0			0		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHW03.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8,1991

Table F-7
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in mg/l

Sample Location	W61-1 (A1)			HP 29-16			HP 29-24			HP 29-34			HP 29-40			HP 29-41		
Sampling Date	1/2/91			12/5/90			12/5/90			12/5/90			12/5/90			12/5/90		
Analysis Date	1/4/91			12/11/90			12/11/90			12/11/90			12/11/90			12/11/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Screen/Sample Depth (feet)	7.5-17.5			26			24			26			22			19		
TPH Analysis																		
Purgeable (as gasoline)	ND			ND			ND			ND			130			ND(1000)		
Extractable																		
as JP-5	NA			NA			NA			NA			NA			NA		
as diesel	NA			NA			NA			NA			NA			NA		
Benzene	ND			NA			ND			ND			NA			NA		
Toluene	ND			NA			ND			ND			NA			NA		
Ethylbenzene	ND			NA			ND			ND			NA			NA		
Total Xylenes	ND			NA			ND			ND			NA			NA		
Total BTEX	0			0			0			0			0			0		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHW04.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8,1991

Table F-8
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in mg/l

Sample Location	HP 29-51			HP 29-52			HP 29-61			HP 29-63			HP 29-67			HP 29-79		
Sampling Date	11/30/90			11/30/90			12/3/90			12/5/90			11/30/90			12/5/90		
Analysis Date	12/7/90			12/7/90			12/8/90			12/10/90			12/7/90			12/11/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Screen/Sample Depth (feet)	19			19			24			19			18			19		
TPH Analysis																		
Purgeable (as gasoline)	320			ND(500)			ND			2800			ND			4100		
Extractable																		
as JP-5	NA			NA			NA			NA			NA			NA		
as diesel	NA			NA			NA			NA			NA			NA		
Benzene	0.11			ND			ND			NA			NA			NA		
Toluene	0.003	J		ND			ND			NA			NA			NA		
Ethylbenzene	0.04			ND			ND			NA			NA			NA		
Total Xylenes	0.007	J		ND			ND			NA			NA			NA		
Total BTEX	0.16			0			0			0			0			0		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHW05.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8,1991

Table F-9
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in mg/l

Sample Location	HP 29-91			HP 29-93			HP 29-99			HP 29-100			HP 29-102			HP 29-18		
Sampling Date	12/5/90			12/5/90			12/5/90			12/3/90			12/3/90					
Analysis Date	12/11/90			12/10/90			12/10/90			12/8/90			12/8/90					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Screen/Sample Depth (feet)	19			16			18			15			21			25		
TPH Analysis																		
Purgeable (as gasoline)	ND			ND (1000)			ND (1000)			ND			ND			NA		
Extractable																		
as JP-5	NA			NA			NA			NA			NA			NA		
as diesel	NA			NA			NA			NA			NA			NA		
Benzene	NA			0.002	J		ND			0.003	J		NA			0.004	J	
Toluene	NA			ND			ND			0.002	J		NA			ND		
Ethylbenzene	NA			ND			ND			ND			NA			ND		
Total Xylenes	NA			ND			ND			ND			NA			ND		
Total BTEX	0			0.002			0			0.005			0			0.004		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS01.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer
Date : April 4, 1991

Table F-10
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in ug/kg

Sample Location	W29-1 (A1)-1			W29-1 (A1)-2			W29-1 (A1)-3			W29-2 (A1)-1			W29-2 (A1)-2			W29-2 (A1)-3		
Sampling Date	12/11/90			12/11/90			12/11/90			12/10/90			12/10/90			12/10/90		
Analysis Date	12/19/90			12/19/90			12/19/90			12/19/90			12/22/90			12/19/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND			ND			ND			ND			ND			ND		
1,1 DCE	ND			ND			ND			ND			ND			ND		
1,2 DCE	ND			7			10			ND			ND			ND		
1,1,1 TCA	ND			ND			ND			ND			ND			ND		
TCE	ND			ND			ND			ND			ND			ND		
PCE	ND			ND			ND			ND			ND			ND		
Total Chlorinated Compounds	ND			7			10			ND			ND			ND		
Benzene	ND			ND			ND			ND			ND			ND		
Toluene	340	D		7			36			8			ND			ND		
Ethylbenzene	ND			ND			ND			ND			ND			ND		
Total Xylenes	3	J		ND			ND			ND			ND			ND		
Total BTEX	343			7			36			8			ND			ND		
Unknown Alkanes	ND																	
Acetone	5	BJ		8	BJ		11	BJ		60	B		21	B		23	B	
2-butanone (MEK)	ND			ND			ND			8	J		ND			ND		
Methylene chloride	ND			ND			1	BJ		4	BJ		9	B		4	BJ	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS02.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 4, 1991

Table F-11
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in ug/kg

Sample Location	W29-2 (A1)-4						W29-3 (A1)-1			W29-3 (A1)-2			W29-3 (A1)-3			W29-3 (A1)-4		
Sampling Date	12/11/90						12/11/90			12/11/90			12/11/90			12/11/90		
Analysis Date	12/19/90						12/19/90			12/19/90			12/19/90			12/19/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND						ND			ND			ND			ND		
1,1 DCE	ND						ND			ND			ND			ND		
1,2 DCE	ND						ND			ND			8			15		
1,1,1 TCA	ND						ND			ND			ND			ND		
TCE	ND						ND			ND			ND			70		
PCE	ND						ND			ND			ND			ND		
Total Chlorinated Compounds	ND						ND			ND			8			85		
Benzene	ND						ND			ND			ND			ND		
Toluene	21						54			85			87			51		
Ethylbenzene	ND						ND			ND			ND			ND		
Total Xylenes	3	J					ND			ND			4	J		ND		
Total BTEX	24						54			85			91			51		
Unknown Alkanes																		
Acetone	39	B					9	BJ		6	BJ		19	B		10	BJ	
2-butanone (MEK)	5	J					ND			ND			ND			ND		
Methylene chloride	5	BJ					1	BJ		2	BJ		4	BJ		3	BJ	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS03.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 4, 1991

Table F-12
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in ug/kg

Sample Location	W29-4 (A1)-1			W29-4 (A1)-2			W29-4 (A1)-3						W29-5 (A1)-1			W29-5 (A1)-2		
Sample I.D.	12/11/90			12/11/90			12/11/90						12/13/90			12/13/90		
Sampling Date	12/19/90			12/19/90			12/19/90						12/21/90			12/21/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND			ND			2	J					ND			ND		
1,1 DCE	ND			ND			ND						ND			ND		
1,2 DCE	ND			9			5	J					ND			15	J	
1,1,1 TCA	ND			ND			ND						ND			ND		
TCE	ND			5	J		ND						ND			ND		
PCE	ND			ND			ND						ND			ND		
Total Chlorinated Compounds	ND			14			7						ND			15		
Benzene	ND			ND			ND						ND			ND		
Toluene	19			6			91						28			ND		
Ethylbenzene	ND			ND			ND						ND			ND		
Total Xylenes	ND			ND			ND						ND			ND		
Total BTEX	19			6			91						28			ND		
Unknown Alkanes																		
Acetone	11	BJ		11	BJ		18	B					22	B		420	J	
2-butanone (MEK)	ND			ND			ND						ND			ND		
Methylene chloride	4	BJ		5	BJ		4	BJ					2	BJ		8	BJ	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS04.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 4, 1991

Table F-13
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in ug/kg

Sample Location	W29-5 (A1)-3			W29-6 (A1)-1						W61-1 (A1)-1			W61-1 (A1)-2			W61-1 (A1)-3		
Sampling Date	12/12/90			12/17/90						12/7/90			12/7/90			12/7/90		
Analysis Date	12/21/90			12/23/90						12/18/90			12/18/90			12/18/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND			ND						ND			ND			ND		
1,1 DCE	ND			ND						ND			ND			ND		
1,2 DCE	ND			ND						ND			ND			ND		
1,1,1 TCA	ND			ND						ND			ND			ND		
TCE	ND			ND						ND			100			ND		
PCE	ND			ND						ND			ND			ND		
Total Chlorinated Compounds	ND			ND						ND			100			ND		
Benzene	ND			ND						ND			ND			ND		
Toluene	14			170						17			35			280		
Ethylbenzene	ND			ND						ND			ND			ND		
Total Xylenes	ND			ND						ND			ND			ND		
Total BTEX	14			170						17			35			280		
Unknown Alkanes																		
Acetone	7	BJ		110	B					4	BJ		21	BJ		53	BJ	
2-butanone (MEK)	ND			18	B					ND			ND			ND		
Methylene chloride	2	BJ		3	BJ					3	BJ		13	BJ		29	BJ	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS05.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 4, 1991

Table F-14
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in ug/kg

Sample Location	SB24-1			SB24-2			SB24-3			SB31-1			SB31-2			SB38-1		
Sampling Date	12/7/90			12/7/90			12/7/90			12/7/90			12/7/90			12/7/90		
Analysis Date	12/15/90			12/17/90			12/17/90			12/17/90			12/17/90			12/17/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND			ND			ND			ND						ND		
1,1 DCE	ND			ND			ND			ND						ND		
1,2 DCE	ND			ND			ND			ND						ND		
1,1,1 TCA	ND			ND			ND			ND						ND		
TCE	ND			ND			ND			ND						ND		
PCE	ND			ND			ND			ND						ND		
Total Chlorinated Compounds	ND			ND			ND			ND						ND		
Benzene	ND			ND			ND			ND						ND		
Toluene	21			ND			ND			ND						36		
Ethylbenzene	ND			ND			ND			ND						ND		
Total Xylenes	ND			ND			ND			ND						ND		
Total BTEX	21			ND			ND			ND						36		
Unknown Alkanes				3600	J		16270	J										
Acetone	16			28			110	B		31	BJ					97	B	
2-butanone (MEK)	ND			ND			ND			ND						ND		
Methylene chloride	1	J		20			19	BJ		16	BJ					36	BJ	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS06.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer
Date : April 4, 1991

Table F-15
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB38-2			SB38-3						SB42-1			SB42-2			SB42-3		
Sampling Date	12/7/90									12/5/90			12/5/90			12/5/90		
Analysis Date	12/17/90									12/18/90			12/18/90			12/18/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND									ND			ND			ND		
1,1 DCE	ND									ND			ND			ND		
1,2 DCE	ND									ND			ND			ND		
1,1,1 TCA	ND									ND			ND			ND		
TCE	ND									ND			ND			ND		
PCE	ND									ND			ND			ND		
Total Chlorinated Compounds	ND									ND			ND			ND		
Benzene																		
Toluene										1	J					25		
Ethylbenzene																		
Total Xylenes																		
Total BTEX																		
Unknown Alkanes	1654									5	J		326	J		5516	J	
Acetone	83	B								60	B		10	BJ		53	B	
2-butanone (MEK)	ND									5	J					5	J	
Methylene chloride	18	BJ								10	B		5	BJ		7	B	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFVOAS07.WK1

Site : Moffet Building 29
Lab. : Chemwest
Reviewer : Thorsten Anderson, PRC
Date : March 6, 1991

Table F-16
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB63-1			SB63-2			SB65-1			SB65-2			SB73-1			SB73-2		
Sampling Date	12/5/90			12/5/90			12/5/90			12/5/90			12/5/90			12/5/90		
Analysis Date	12/19/90			12/19/90			12/13/90			12/13/90			12/13/90			12/13/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,1 DCA	ND			ND			ND			ND			ND			ND		
1,1 DCE	ND			ND			ND			ND			ND			ND		
1,2 DCE	ND			ND			ND			ND			ND			ND		
1,1,1 TCA	ND			ND			ND			ND			ND			ND		
TCE	ND			ND			ND			ND			ND			ND		
PCE	ND			ND			ND			ND			ND			ND		
Total Chlorinated Compounds	ND			ND			ND			ND			ND			ND		
Benzene																		
Toluene																		
Ethylbenzene																		
Total Xylenes																		
Total BTEX																		
Unknown Alkanes																		
Acetone	52	B		100	B		12	B		180	BJ		11	BJ		14	BJ	
2-butanone (MEK)	5	J		ND			ND			ND			ND			ND		
Methylene chloride	5	BJ		22	BJ		10	B		310	B		5	BJ		16	B	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Tr
BG - Background Sample

MFTPHS01.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-18
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	W29-1 (A1)-1			W29-1 (A1)-2			W29-1 (A1)-3			W29-2 (A1)-1			W29-2 (A1)-2			W29-2 (A1)-3		
Sampling Date	12/12/90			12/12/90			12/12/90			12/11/90			12/11/90			12/11/90		
Analysis Date	12/18/90			12/18/90			12/18/90			12/18/90			12/18/90			12/18/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	5			12			16			6			10			10		
TPH Analysis																		
Purgeable (as gasoline)	ND			ND			ND			ND			32			59		
Extractable																		
as JP-5	ND			56			ND			ND			72			710		
as diesel	ND			ND			ND			ND			ND			ND		
Benzene	ND			ND			ND			ND			ND			ND		
Toluene	0.34			0.007			0.036			0.008			ND			ND		
Ethylbenzene	0.003	J		ND			ND			ND			ND			ND		
Total Xylenes	ND			ND			ND			ND			ND			ND		
Total BTEX	0.343			0.007			0.036			0.008			0			0		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS02.WK1

Table F-19
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Concentration in mg/kg

Sample Location	W29-2 (A1)-4						W29-3 (A1)-1			W29-3 (A1)-2			W29-3 (A1)-3			W29-3 (A1)-4		
Sampling Date	12/11/90						12/12/90			12/12/90			12/12/90			12/12/90		
Analysis Date	12/18/90						12/18/90			12/19/90			12/18/90			12/19/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	15						5			12			15			21		
TPH Analysis																		
Purgeable (as gasoline)	ND						ND			ND			ND			ND		
Extractable																		
as JP-5	ND						ND			ND			ND			ND		
as diesel	20						ND			ND			ND			ND		
Benzene	ND						ND			ND			ND			ND		
Toluene	0.021						0.054			0.085			0.087			0.051		
Ethylbenzene	ND						ND			ND			ND			ND		
Total Xylenes	0.003	J					ND			ND			0.004	J		ND		
Total BTEX	0.024						0.054			0.085			0.091			0.051		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS03.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-20
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	W29-4 (A1)-1			W29-4 (A1)-2			W29-4 (A1)-3			W29-5 (A1)-1			W29-5 (A1)-2			W29-5 (A1)-3		
Sampling Date	12/11/90			12/11/90			12/11/90			12/13/90			12/13/90			12/13/90		
Analysis Date	12/18/90			12/18/90			12/18/90			12/19/90			12/19/90			12/19/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	5			10			13			5			13			24		
TPH Analysis																		
Purgeable	ND			ND			ND			ND			123			ND		
Extractable																		
as JP-5	ND			ND			ND			ND			380			ND		
as diesel	ND			ND			ND			ND			11			ND		
Benzene	ND			ND			ND			ND			ND			ND		
Toluene	0.019			0.006			0.091			0.028			ND			ND		
Ethylbenzene	ND			ND			ND			ND			ND			ND		
Total Xylenes	ND			ND			ND			ND			ND			ND		
Total BTEX	0.019			0.006			0.091			0.028			0			0		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS04.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-21
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	W29-6 (A1)-1									W61-1 (A1)-1			W61-1(A1)-2			W61-1 (A1)-3		
Sampling Date	12/17/90									12/7/90			12/7/90			12/7/90		
Analysis Date	12/28/90									12/15/90			12/15/90			12/16/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	7									7			10			16		
TPH Analysis																		
Purgeable	ND									ND			ND			ND		
Extractable																		
as JP-5	ND									ND			ND			ND		
as diesel	ND									ND			ND			ND		
Benzene	ND									ND			ND			ND		
Toluene	ND									0.017			0.035			0.28		
Ethylbenzene	ND									ND			ND			ND		
Total Xylenes	ND									ND			ND			ND		
Total BTEX	0			0						0.017			0.035			0.28		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS05.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-22
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB24-1			SB24-2			SB24-3						SB31-1			SB31-2		
Sampling Date	12/7/90			12/7/90			12/7/90						12/7/90			12/7/90		
Analysis Date	12/17/90			12/17/90			12/17/90						12/16/90			12/17/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	5			10			12						5			10		
TPH Analysis																		
Purgeable (as gasoline)	ND			ND			57						ND			380		
Extractable																		
as JP-5	ND			ND			ND						ND			ND		
as diesel	ND			200			36						ND			270		
Benzene	ND			ND			ND						ND			ND		
Toluene	0.021			ND			ND						ND			ND		
Ethylbenzene	ND			ND			ND						ND			ND		
Total Xylenes	ND			ND			ND						ND			ND		
Total BTEX	0.021			0			0						0			0		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS06.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-23
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB38-1			SB38-2			SB38-3			SB42-1			SB42-2			SB42-3		
Sampling Date	12/7/90			12/7/90			12/7/90			12/11/90			12/11/90			12/11/90		
Analysis Date	12/16/90			12/16/90			12/17/90			12/21/90			12/21/90			12/21/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	5			10			12			5			10			14		
TPH Analysis																		
Purgeable (as gasoline)	12			43			70			ND			122			ND		
Extractable																		
as JP-5	ND			ND			ND			ND			ND			ND		
as diesel	ND			100			29			ND			440			ND		
Benzene	ND			ND			ND			ND			ND			ND		
Toluene	0.036			ND			ND			0.001	J		ND			0.025		
Ethylbenzene	ND			ND			ND			ND			ND			ND		
Total Xylenes	ND			ND			ND			ND			ND			ND		
Total BTEX	0.036			0			0			0.001			0			0.025		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS07.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-24
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB49-1			SB49-2						SB51-1			SB51-2			SB51-3		
Sampling Date	12/7/90			12/7/90						12/11/90			12/11/90			12/11/90		
Analysis Date	12/16/90			12/16/90						12/21/90			12/21/90			12/11/90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	5			10						5			10			18.5		
TPH Analysis																		
Purgeable (as gasoline)	ND			71						ND			185			ND		
Extractable																		
as JP-5	ND			ND						ND			ND			ND		
as diesel	ND			230						ND			16			ND		
Benzene	ND			ND						ND			ND			ND		
Toluene	0.019			0.036						0.037	J		0.032			0.057		
Ethylbenzene	ND			ND						ND			1.1	D		0.16		
Total Xylenes	ND			ND						ND			1.5	D		0.048		
Total BTEX	0.019			0.036						0.037			2.632			0.265		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS08.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-25
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB60-1			SB60-2			SB60-3						SB63-1			SB63-2		
Sampling Date																		
Analysis Date																		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	5			10			12						5			10		
TPH Analysis																		
Purgeable (as gasoline)	ND			ND			ND						ND			ND		
Extractable																		
as JP-5	ND			ND			ND						ND			ND		
as diesel	ND			20			ND						ND			26		
Benzene	ND			ND			ND						ND			ND		
Toluene	0.006	J		0.019			0.003	J					0.005	J		ND		
Ethylbenzene	ND			ND			ND						ND	D		ND		
Total Xylenes	ND			ND			ND						ND	D		ND		
Total BTEX	0.006			0.019			0.003						0.005			0		
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

MFTPHS09.WK1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer :
Date : April 8, 1991

Table F-26
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample Location	SB65-1			SB65-2						SB73-1			SB73-2					
Sampling Date																		
Analysis Date																		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Sample Depth (feet)	6			13						6			12					
TPH Analysis																		
Purgeable (as gasoline)	ND			103						ND			ND					
Extractable																		
as JP-5	ND			ND						ND			ND					
as diesel	19			4600						ND			25					
Benzene	ND			ND						ND			ND					
Toluene	0.043	J		ND						0.029			0.031					
Ethylbenzene	ND			ND						ND			ND					
Total Xylenes	ND			ND						ND			ND					
Total BTEX	0.043			0						0.029			0.031					
Unknown alkanes																		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank

metals01.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-27
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	W29-1 (A)-1			W29-1 (A)-2			W29-1 (A)-3			W29-2 (1A)-1			W29-2 (1A)-2			W29-2 (A)-3		
	S-5-5.5-R			S-14-14.5-R			S-16-16.5-R			S-5.5-R			S-9.5-R			S-10-R		
Sampling Date	12-11-90			12-11-90			12-11-90			12-10-90			12-10-90			12-10-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	23900			15500			22900			16200			13200			15000		
Antimony	0.25	u		0.21	u		0.25	u		0.26	u		0.26	u		0.22	u	
Arsenic	3.2			2.8			6.9			2.4			2.8			5.1		
Barium	252			123			426			271			246			168		
Beryllium	1.1			0.71			1			0.54			0.67			0.64		
Cadmium	0.53			0.52	u		0.55			0.74			0.54	u		0.54	u	
Calcium	36900			16400			8700			249000			10000			17800		
Chromium	67.2			45.2			74.6			43.3			44.9			40.4		
Cobalt	15.8			13.1			29.9			11.5			10.4			14		
Copper	42.3			28.5			56			50.2			27.7			27.8		
Iron	28900			25200			38300			20600			21900			22400		
Lead	10.1			6.8			12.1			5.6			6.4			5.9		
Magnesium	27300			12100			16800			14200			10500			10600		
Manganese	501			873			5120			515			725			1620		
Mercury	0.42			0.016	B		0.098			0.064	u		0.058	B		0.054		
Nickel	77.9			60.7			105			54.4			52.9			49.3		
Potassium	1410			948			2130			1910			975			1090		
Selenium	0.25	u		0.21	u		0.25	u		1.3	u		0.26	u		0.22	u	
Silver	0.61	u		0.52	u		0.65	B		2.1			0.54	u		0.54	u	
Sodium	590			173	B		311	B		292	B		183			168	B	
Thallium	0.25	u		0.21	u		0.25	u		0.26	u		0.26	u		0.22	u	
Vanadium	53.4			53.2			86.6			44.1			54.1			64.8		
Zinc	69.7			58.6			95.2			61.9			47.2			45.6		
Molybdenum	1.5	u		1.3	u		1.5	u		3.6	B		2.1	B		1.3	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals02.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-28
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Concentration in mg/kg

Sample ID	W29-2 (1A)-4 S-15-R						W29-3 (A)-1 S-5-5.5-R			W29-3 (A)-2 S-12-12.5-R			W29-3 (A)-3 S-15-15.5-R			W29-3 (A)-4 S-21-21.5-R		
Sampling Date	12-10-90						12-11-90			12-11-90			12-11-90			12-11-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	19700						18200			15800			24300			27400		
Antimony	0.27	u					0.24	u		0.24	u		0.26	u		0.25	u	
Arsenic	2.4						5.2			9.9			2.2			2		
Barium	154						189			181			155			133		
Beryllium	1						0.78			0.86			1.1			1.4		
Cadmium	0.67	u					0.65			0.61	u		0.54			0.66		
Calcium	9660						98200			16200			9970			34900		
Chromium	75.6						53.6			52.5			87.1			157		
Cobalt	20.9						13.5			13.5			24			31		
Copper	46.1						31.8			29.4			63.1			68.2		
Iron	33300						24500			25200			41200			39600		
Lead	10.1						7.2			7.2			13			5.2		
Magnesium	15800						19500			11800			19000			28600		
Manganese	433						516			555			407			408		
Mercury	0.32						0.076			0.02	B		0.3			0.013	u	
Nickel	93.8						65.6			62.9			109			162		
Potassium	2090						1266			943			1550			1900		
Selenium	0.27	u					0.24	u		0.24	u		2.1			2		
Silver	0.67	u					0.61	u		0.61	u		0.66	u		0.63	u	
Sodium	241	B					365	B		221	B		281	B		316	B	
Thallium	0.27	u					0.24			0.24	u		0.26	u		0.25	u	
Vanadium	66						47.9			47			61.4			161		
Zinc	80.4						58.8			59.6			111			77.3		
Molybdenum	1.6	u					1.5	B		1.5	u		1.6	u		1.5	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals03.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-29
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	W29-4 (A)-1			W29-4 (A)-2			W29-4 (A)-3						W29-5 (A)-1			W29-5 (A)-2		
	S-5-5.5-R			S-9-9.5-R			S-13.5-14-R						S-5-5.5-R			S-13-13.5-R		
Sampling Date	12-11-90			12-11-90			12-11-90						12-13-90			12-13-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	19400			14800			15100						18800			14400		
Antimony	0.24	u		0.23	u		0.27	u					0.23	u		0.22	u	
Arsenic	4.4			9.5			0.78	B					4.2			3.4		
Barium	174			123			137						223			99.6		
Beryllium	0.85			0.76			0.86						0.92			0.74		
Cadmium	0.6	u		0.57	u		0.68	u					0.56	B		0.55	u	
Calcium	59200			6600			6450						54900			8680		
Chromium	59.4			47.5			49.9						57			53.2		
Cobalt	10.8			12			13.6						13.9			10.8		
Copper	27.2			28.4			33.4						36.9			30.2		
Iron	25600			23700			24900						25400			21800		
Lead	6.7			5.9			6.6						7.1			6.2		
Magnesium	13700			11100			11500						24000			10800		
Manganese	364			318			382						482			312		
Mercury	0.06	u		0.057	u		0.12	B					0.058	u		0.055	u	
Nickel	58.9			58.6			62.2						67.4			52.6		
Potassium	1290			1040			1520						1660			1140		
Selenium	0.24	u		0.23	u		0.27	u					0.23	u		0.22	u	
Silver	0.6	u		0.57	u		0.68	u					0.58	u		0.55	u	
Sodium	442	B		179	B		195	B					691			175	B	
Thallium	0.24	u		0.23	u		0.27	u					0.28	u		0.22	u	
Vanadium	42.9			49.9			50						53.6			50.5		
Zinc	57.4			53.3			60.8						61.5			51.9		
Molybdenum	1.4	u		1.37	u		1.2	B					1.4	u		1.3	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals06.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Thorsten Anderson, PRC
Date : April 15, 1991

Table F-30
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	W29-5 (A)-3			W29-6 (A)-1						W61-1 (A)-1			W61-1 (A)-2			W61-1 (A)-3		
	S-24-24.5-R			S-7.5-8-R						S-6-R			S-10-R			S-16-R		
Sampling Date	12-13-90			12-14-90						12-07-90			12-07-90			12-07-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	20800			17000						12700			11800			21600		
Antimony	0.24	u		0.25	u					0.26	u		0.21	u		0.25	u	
Arsenic	0.56	B		6.3						5.5			3.9			4.6		
Barium	142			263						162			79.9			177		
Beryllium	1.3			0.78						0.49	B		0.42	B		1.1	B	
Cadmium	0.61	u		0.63						0.64	u		0.54	u		0.62	u	
Calcium	14000			73800						60700			9630			11100		
Chromium	115			48.5						41			42			65.1		
Cobalt	22.5			11.9						13.2			9.9			24.2		
Copper	47.3			39.6						27.5			35.1			66		
Iron	31500			22600						21200			24000			37000		
Lead	4.4			11.8						6.8			10.7			26.8		
Magnesium	16800			16600						10300			9310			16900		
Manganese	380			567						604			417			574		
Mercury	0.066	B		0.013	u					0.064	u		0.054	u		0.22		
Nickel	96.8			55.5						65			49.1			94.5		
Potassium	1960			1000						1210			927			2140		
Selenium	0.24	u		0.25	u					0.26	u		0.21	u		0.25	B	
Silver	0.61	u		0.63	u					0.64	u		0.54	u		0.75	B	
Sodium	266			305	B					613	B		145			250		
Thallium	0.24	B		0.25	u					0.26	u		0.21	u		0.25	u	
Vanadium	92.3			45						41			49.6			73.2		
Zinc	62.7			86.3						57.2			45.4			102		
Molybdenum	1.5	u		1.5	u					5.3	B		4.3	B		5.7	B	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals07.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-31
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	SB24-1 S-5-R			SB24-2 S-10-R			SB24-3 S-12-R			SB31-1 S-5-R			SB31-2 S-10-R			SB38-1 S-5-R		
Sampling Date	12-05-90			12-05-90			12-05-90			12-05-90			12-05-90			12-05-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	14300			17800			28200			22600			16900			13500		
Antimony	0.24	u		0.26	u		0.27	u		0.25	u		0.25	u		0.24	u	
Arsenic	5.4			7.5			7.4			6.4			12.7			4		
Barium	162			186			271			221			456			189		
Beryllium	0.74			1			1.6			0.6			0.87			0.63		
Cadmium	0.59	u		0.63	u		0.67	u		0.62	u		0.63	u		0.68		
Calcium	79400			21500			7600			60400			30100			11100		
Chromium	47.8			57.6			93.2			65.6			57.3			41.5		
Cobalt	13.5			14.1			29.4			15.4			20.1			10.4		
Copper	25			31.6			72.8			41.2			75.5			28.7		
Iron	21900			27600			52400			28900			27100			20100		
Lead	14.1			18.2			26.6			7.3			22.9			5.3		
Magnesium	13500			13500			21700			35400			13800			13800		
Manganese	522			552			789			504			2360			378		
Mercury	0.059	u		0.13			0.25			0.062	u		0.39			0.06	u	
Nickel	65.3			65.4			122			75.3			78.4			51.5		
Potassium	1240			1520			2440			1720			1040			1220		
Selenium	0.24	u		0.25	u		0.67	u		0.25	u		0.25	u		0.24	u	
Silver	0.59	u		0.63	u		0.67	u		0.62	u		0.63	u		0.93	B	
Sodium	247	B		266	B		339	B		530	B		253	B		360	B	
Thallium	0.24	u		0.25	u		0.27	u		0.25	u		0.25	u		0.24	u	
Vanadium	44.3			60.7			87.8			70.3			59.2			41		
Zinc	48.6			60.9			131			73.3			95.9			46		
Molybdenum	5.6	B		5.5	B		6	B		5.6	B		5.9	B		6.1		

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals08.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-32
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	SB38-2			SB38-3						SB42-1			SB42-2			SB42-3		
	S-10-R			S-12-R						S-5-R			S-10-R			S-13.5-R		
Sampling Date	12-05-90			12-05-90						12-04-90			12-04-90			12-04-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	22300			17000						16700			18200			21100		
Antimony	0.27	u		0.24	u					0.25	u		0.25	u		0.26	u	
Arsenic	15			3.6						3.4			19.9			2.6		
Barium	277			135						199			148			471		
Beryllium	1.2			0.96						1			1.1			1.3		
Cadmium	0.76			0.61	u					0.62	u		0.61	u		0.77		
Calcium	48600			19500						50400			32600			13000		
Chromium	73.2			56						54.6			60.1			82.4		
Cobalt	16.8			15.5						16.8			16.4			23.3		
Copper	51.5			44.2						29.4			48.3			55.3		
Iron	34600			26000						24000			30100			35700		
Lead	12.7			7.8						6.1			11.9			9.2		
Magnesium	17000			12600						12800			13700			16000		
Manganese	594			363						544			358			525		
Mercury	0.066			0.091						0.062	u		0.094	B		0.41		
Nickel	91.6			69						74.1			77.3			101		
Potassium	1490			1410						1330			1390			1950		
Selenium	0.27	u		0.24	u					0.25			0.25	u		0.26	u	
Silver	0.66	u		0.61	u					0.62	u		0.61	u		0.64	u	
Sodium	304	B		252	B					298	B		253	B		222	B	
Thallium	0.27	u		0.24	u					0.25	u		0.25	u		0.26	u	
Vanadium	75.3			78.3						46.6			64.3			75.3		
Zinc	82.1			62.4						52.1			70.8			88.4		
Molybdenum	7.2			4.7	B					1.5	u		1.5	u		1.5	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals09.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-33
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	SB49-1			SB49-2						SB51-1			SB51-2			SB51-3		
	S-5-R			S-10-R						S-5.5-R			S-10.5-R			S-18.5-R		
Sampling Date	12-05-90			12-05-90						12-04-90			12-04-90			12-04-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	15000			14500						17500			17800			17300		
Antimony	0.52	B		0.24	u					0.25	u		0.25	u		2.5	u	
Arsenic	5.5			3.5						2.2			3.7			1		
Barium	194			109						211			320			160		
Beryllium	0.69			0.81						0.89			0.82			1.1		
Cadmium	0.6	u		0.61	u					0.64			0.62	u		0.66		
Calcium	113000			27400						111000			95800			14300		
Chromium	43.7			49.6						50.2			49.5			66.9		
Cobalt	10.4			11.6						12			11.6			16.8		
Copper	25.2			34.6						28.2			29.1			41.6		
Iron	20400			22100						22400			23300			29200		
Lead	4.7			7.8						18.6			16.5			8.5		
Magnesium	13200			11000						17700			18300			15000		
Manganese	430			305						433			641			369		
Mercury	0.06	u		0.061	u					0.062	u		0.062	u		0.13		
Nickel	52.5			59.1						57.7			55.5			91.6		
Potassium	1230			1280						1180			1310			1640		
Selenium	0.24	u		0.24	u					0.25	u		1.23	u		0.25	u	
Silver	0.69	B		0.61	u					0.62	u		0.62	u		0.63	u	
Sodium	363	B		234	B					483	B		395	B		269	B	
Thallium	0.24	u		0.24	u					0.25	u		0.25	u		0.25	u	
Vanadium	38.2			47						36.6			38.3			57		
Zinc	46.5			57.4						50			49.7			68.2		
Molybdenum	5.5	B		5.2	B					1.5	u		1.5	u		1.5	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals10.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-34
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	SB60-1			SB60-2			SB60-3						SB63-1			SB63-2		
	S-5-R			S-10-R			S-12-R						S-5-R			S-10-R		
Sampling Date	12-04-90			12-03-90			12-04-90						12-05-90			12-05-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	15200			16300			11200						13400			19400		
Antimony	0.25	u		0.25	u		0.24	u					0.25	u		0.26	u	
Arsenic	4.1			2.9			10.6						4.4			5.5		
Barium	211			208			91.9						176			207		
Beryllium	0.85			1			0.68						0.73			1.2		
Cadmium	0.62	u		0.62	u		0.59	u					0.61	u		0.65	u	
Calcium	120000			54800			4730						130000			31700		
Chromium	44.9			53			39						39.5			65.8		
Cobalt	12			15			10						9.6			16.8		
Copper	29.6			31.3			21.1						26.6			51		
Iron	20900			24800			19300						18400			29800		
Lead	6			7.6			5.2						5			9.9		
Magnesium	19800			13600			8710						12900			14600		
Manganese	413			598			313						395			391		
Mercury	0.062	u		0.14			0.091	B					0.061	u		0.12	B	
Nickel	56.7			70.2			50.4						51.4			86.7		
Potassium	1170			1580			1010						1250			1490		
Selenium	12.4	u		0.25	u		0.24	u					1.2	u		0.26	u	
Silver	0.62	u		0.62	u		0.59	u					0.61	u		0.65	u	
Sodium	537	B		241	B		169	B					360	B		270	B	
Thallium	0.25	u		0.25	u		0.24	u					0.25	u		0.26	u	
Vanadium	39			49.1			35.7						36.7			63.8		
Zinc	49.1			59.9			41.6						42.1			78.4		
Molybdenum	1.5	u		1.5	u		1.4	u					1.5	u		1.6	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals11.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-35
ANALYTICAL RESULTS
FOR SOIL SAMPLES

Soil samples
Concentration in mg/kg

Sample ID	SB65-1			SB65-2			SB42 WOEB			SB65 WOEB			SB73-1			SB73-2		
	S-6-R			S-13-R									S-6-R			S-12-R		
Sampling Date	12-03-90			12-03-90			12-04-90			12-04-90			12-03-90			12-03-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	13800			13500			712			144	B		16100			15300		
Antimony	0.21	u		0.23			2	u		2	u		0.25	u		0.28	u	
Arsenic	7.6			3.6			1	u		1	u		4.9			11.2		
Barium	178			179			9	u		9	u		253			450		
Beryllium	0.83			0.8			1	u		1	u		0.8			0.92		
Cadmium	0.53	u		0.57			5	u		5	u		0.6			0.7	u	
Calcium	20200			5670			2470	B		330	B		125000			7670		
Chromium	49.2			46.3			5	u		5	u		44.2			47.9		
Cobalt	12.7			11.1			5	u		5	u		12.5			13.8		
Copper	26			27.5			7.6	B		107			25			34.2		
Iron	23900			24000			2040			480			22100			24500		
Lead	9.8			5.9			2.7	B		3.3	B		3.3			4.4		
Magnesium	11000			9820			983	B		107	B		15800			10400		
Manganese	708			308			30.2			30.1			472			1660		
Mercury	0.42			0.059	B		0.1	u		0.1	u		0.062	u		0.11	B	
Nickel	62			51.8			20	u		20	u		53.7			59.5		
Potassium	1240			1040			683	u		683	u		1250			1240		
Selenium	0.21	u		0.23	u		2	u		2	u		0.25	u		0.28	u	
Silver	0.53	u		0.57	u		5	u		5	u		0.62	u		0.7	u	
Sodium	249	B		179	B		592	B		659	B		523	B		228	B	
Thallium	0.21	u		0.23	u		2	u		2	u		0.25	u		0.28	u	
Vanadium	50.6			48.8			7	u		7	u		40.7			48.9		
Zinc	48.8			52			28.9			97.6			45.5			55.6		
Molybdenum	1.3	u		1.4	u		12	u		12	u		1.6	B		1.3	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals13.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-36
ANALYTICAL RESULTS
FOR GROUND-WATER SAMPLES

Concentration in ug/L

Sample Location	W29-1 (A)			W29-2 (A)			W29-3 (A)-W-O-R			W29-4 (A)-W-O-R			W29-5 (A)W-O-R			W29-6 (A)W-O-D		
Sampling Date	01-04-91			01-03-91			12-20-90			12-20-90			01-03-91			12-21-90		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	2970			18000			2220			10800			2470			23700		
Antimony	2	u		2	u		2	u		0.84	u		2	u		2	u	
Arsenic	3.4	B		54.6			2	B		1.9	B		1.9	B		4.5	B	
Barium	21			1060			72.3	B		142			236			398		
Beryllium	1	u		1	B		1	u		1	u		1	u		1	u	
Cadmium	5	u		5	u		5	u		5	u		5	u		5	u	
Calcium	118000			200000			147000			163000			150000			239000		
Chromium	9.1	B		44.6			9.6	B		38.1			7.7	B		84.4		
Cobalt	5	u		32.6	B		5	u		9.6	B		2.4	B		20.3	B	
Copper	10.4	B		115			6.2	B		24.5	B		7.1	B		44.4		
Iron	7500			32700			7660			19100			6290			37100		
Lead	4.9			81.4			4			8			7.6			108		
Magnesium	87200			81900			82000			65800			58000			84500		
Manganese	1960			1980			259			640			1600			717		
Mercury	0.1	u		0.1	u		0.1	u		0.1	u		0.1	u		0.1	u	
Nickel	25.6	B		128			29.2	B		50			9.8	u		94.9		
Potassium	1650	B		3000	B		3000	B		5160			1090	B		4590	B	
Selenium	2	u		2	u		2	u		2	u		2	B		2.1	B	
Silver	5	u		5	u		5	u		5	u		5	u		5	u	
Sodium	5480			49300			55600			45000			36700			44500		
Thallium	2	u		2	u		2	u		2	u		2	u		24.2		
Vanadium	11.5	B		53.5			13.8	B		35.1	B		7.5	B		78		
Zinc	51.8			197			62.3			84.8			48.9	B		85.5		
Molybdenum	12	u		12	u		12	u		12	u		12	u		12	u	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals15.wk1

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Table F-37
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Concentration in ug/L

Sample Location	W29-6 (A)W-O-R			W29-7 (B)W-O-R			W29-8 (B)-W-O-R			W29-9 (B)-W-O-R			W29-10 (B)-W-O-R			W29-10 (B)-W-O-D		
Sampling Date	12-21-90			01-22-90			01-09-91			01-10-91			01-10-91			01-10-91		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	25100			546			630			390			2500			1100		
Antimony	2	u		2	u		2	u		2	u		2	u		2	u	
Arsenic	4.5	B		2.2	B		1.3	B		1	u		1.6	B		1.1	B	
Barium	402			63	B		72.1	B		71.5	B		103	B		95.8	B	
Beryllium	1	B		1	u		1	u		1	u		1	u		1	u	
Cadmium	5	u		5	u		5	u		5	u		5	u		5	u	
Calcium	244000			93200			116000			60000			70200			69100		
Chromium	85			5	u		5	u		5	u		8.6	B		5	u	
Cobalt	20	B		5	u		5.4			5	u		5	u		5	u	
Copper	42.2			4.3	B		5.7	B		2.7			14.2	B		12.5	B	
Iron	36500			53800			52800			32600			30400			25800		
Lead	104			2.1	B		2	B		1.4	B		3.1			3.2		
Magnesium	86100			55100			42700			24400			27100			25900		
Manganese	733			798			864			693			752			700		
Mercury	0.1	u		0.1	u		0.1	u		0.1	u		0.1	u		0.1	u	
Nickel	100			20	u		28.3	B		6.7	u		25.1	B		12.9	u	
Potassium	4690	B		2580	B		2200	B		3700	B		2200	B		2050	B	
Selenium	2	B		2	u		2	u		2	u		2	u		2	u	
Silver	5	u		5	u		5	u		5	u		5	u		5	u	
Sodium	46100			46600			43600			42300			75300			91800		
Thallium	2	u		2	u		2	u		2	u		2	u		2	u	
Vanadium	78.6			7	u		7	u		7	u		8.4	B		2.9	u	
Zinc	99.6			32.1			61.7			28.7			66.7			48.9		
Molybdenum	14.8	B		12	u		14.2			12.1			29.5	B		28.1	B	

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

metals16.wk1

Table F-38
ANALYTICAL RESULTS
FOR GROUND WATER SAMPLES

Site : Moffett Building 29
Lab. : Chemwest
Reviewer : Garry Farmer, PRC
Date : April 15, 1991

Concentration in ug/L

Sample Location	W61-1 (A)-W-O-R																	
Sampling Date	01-02-91																	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	5180																	
Antimony	2	u																
Arsenic	1.9	B																
Barium	125	B																
Beryllium	1	u																
Cadmium	5	u																
Calcium	150000																	
Chromium	13.4																	
Cobalt	6.5	B																
Copper	5.8	B																
Iron	8380																	
Lead	4.9																	
Magnesium	56200																	
Manganese	166																	
Mercury	0.1	u																
Nickel	24.8	B																
Potassium	2760	B																
Selenium	2	u																
Silver	5	u																
Sodium	36500																	
Thallium	2	u																
Vanadium	17.2	B																
Zinc	97.2																	
Molybdenum	12	u																

Other analytes were analyzed for but were not detected/qualified.
Val - Validity Refer to data qualifier definitions.
Com. - Comments
NA - Not Analyzed

ND - None Detected
D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank
BG - Background Sample

APPENDIX G

BOREHOLE GEOPHYSICAL LOGS

COLOG INC
BOREHOLE GEOPHYSICS
1318 ROSS ST. PETALUMA, CALIF. 94954
PHONE: (707) 769-9094 FAX:767-1989

GAMMA SP SPR
16N 64N 6'-LAT
WELL: W29-7(B)-TH

PROJECT: MOFFETT BUILDING 29 DATE: 01-03-91
CLIENT: SPECTRUM/JMM COLOG ID NO:
LOCATION: MOFETT FIELD
STATE: CA COUNTY: SAN MATEO ELEV: DEPTH REF: GROUND

BOREHOLE DATA

DRILLING CONTRACTOR: SPECTRUM EXPLORATION
CUSTOMER TD: 83 COLOG TD: 83

RUN NO.	BIT RECORD Bit Size	From	To	CASING RECORD Size/Wgt/Thk	From	To
1	6 IN.	0	83	NONE		
2						
3						
4						

HOLE MEDIUM: WATER DRILL METHOD: CORE PUNCH
MUD TYPE: BENTONITE SLURRY TIME SINCE CIRC: 2 HOURS
VISCOSITY: WEIGHT: Rm: N/A at Deg

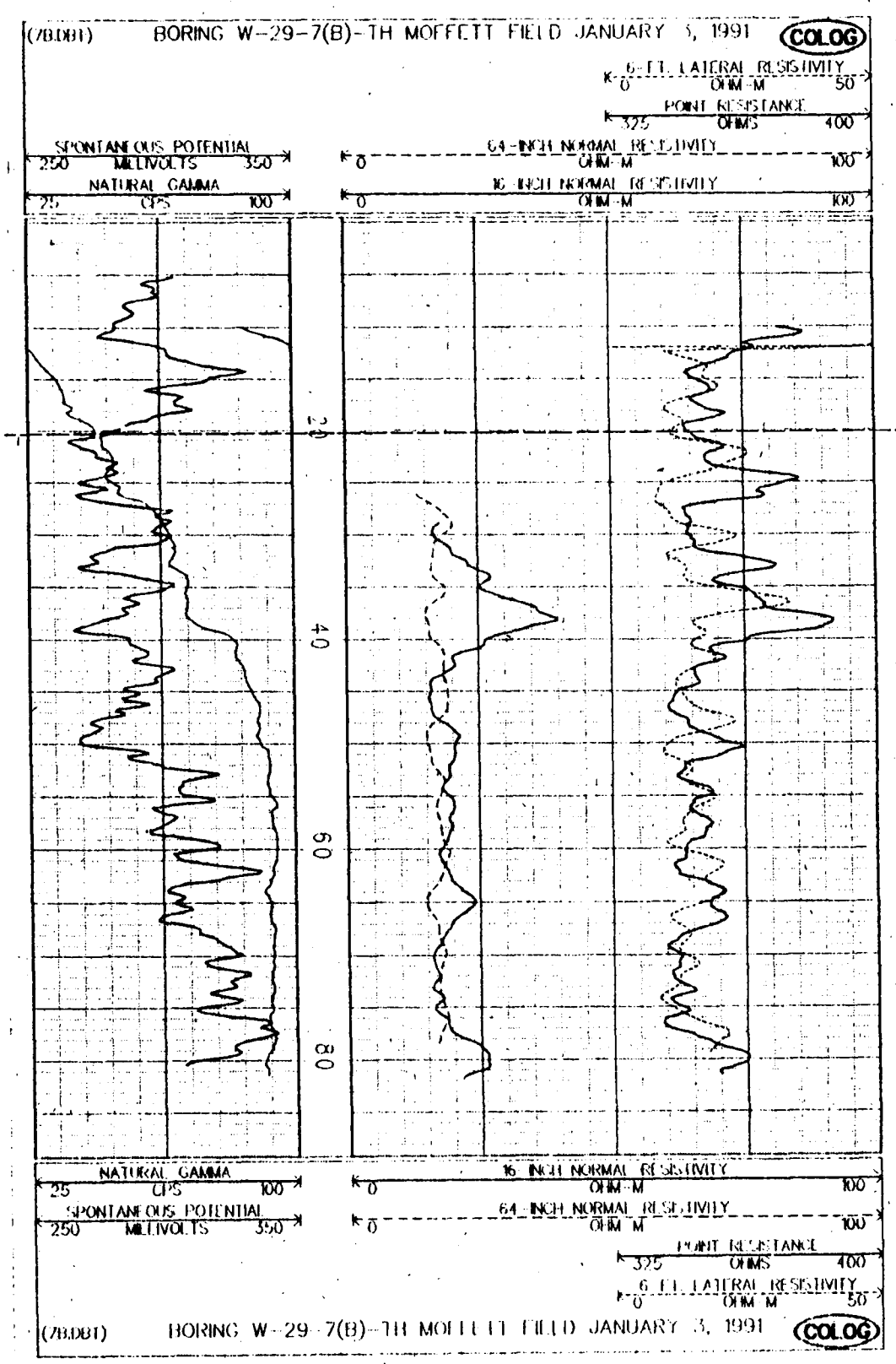
GENERAL DATA

INSTRUMENTATION: EG&G MT. SOPRIS SERIES III UNIT/TRUCK: 2
LOGGING ENGINEER: W. HENRICH, E. VOGEL 2
CLIENT REP: C. PETERSEN OF JMM
OTHER SERVICES:

LOGGING DATA

LOG FUNCTION	RUN NO.	EQUIPMENT MODEL	PROBE S.N.	DIPHOLE S.N.	LOGGING DIG INT FEET	SPEED FT./MIN	DETECTOR TYPE	SPACING Tx-Rx FEET	Rx-Rx FEET	SOURCE TYPE	SI/T CURR	LOGGED INTERVAL FROM	TO	INT FEET
GAMMA SP PR	1	ALP-S	C003	038	0.2'	15					SCIN	81.5'	5'	78.5'
16N 64N	2	LIP	1495	14	0.2	20						80.9'	2'9'	55.9'
6'-LAT	3	LIPLAT	1495	15	0.2	20						80.9'	11'	69'9

CALIBRATION FACTOR(S):
DIGITAL FILE NAME(S): 7b.+
REMARKS:
MUD PLUG SET IN GRADE BED MATERIAL
JUST BELOW PAVEMENT
TEN FEET FROM 13,800 VOLT TRANSFORMERS



COLOG INC
BOREHOLE GEOPHYSICS
1318 ROSS ST. PETALUMA, CALIF. 94954
PHONE: (707) 769-9094 FAX:767-1989

GAMMA SP SPR
16N 64N 6'-LAT
WELL: W29-8(B)-TH

PROJECT: MOFFETT BUILDING 29 DATE: 12-27-90
CLIENT: SPECTRUM/JMM COLOG ID NO:
LOCATION: MOFETT FIELD
STATE: CA COUNTY: SAN MATEO ELEV: DEPTH REF: GROUND

BOREHOLE DATA

DRILLING CONTRACTOR: SPECTRUM EXPLORATION
CUSTOMER TD: 102.7 COLOG TD: 102.5

RUN	BIT RECORD			CASING RECORD		
NO.	Bit Size	From	To	Size/Wgt/Thk.	From	To
1	4IN.	0	102.7	NONE		
2						
3						
4						

HOLE MEDIUM: WATER DRILL METHOD: CORE PUNCH
MUD TYPE: BENTONITE SLURRY TIME SINCE CIRC: 30 MIN
VISCOSITY: WEIGHT: Rm: 10.5 OHM-M at 40 Deg F

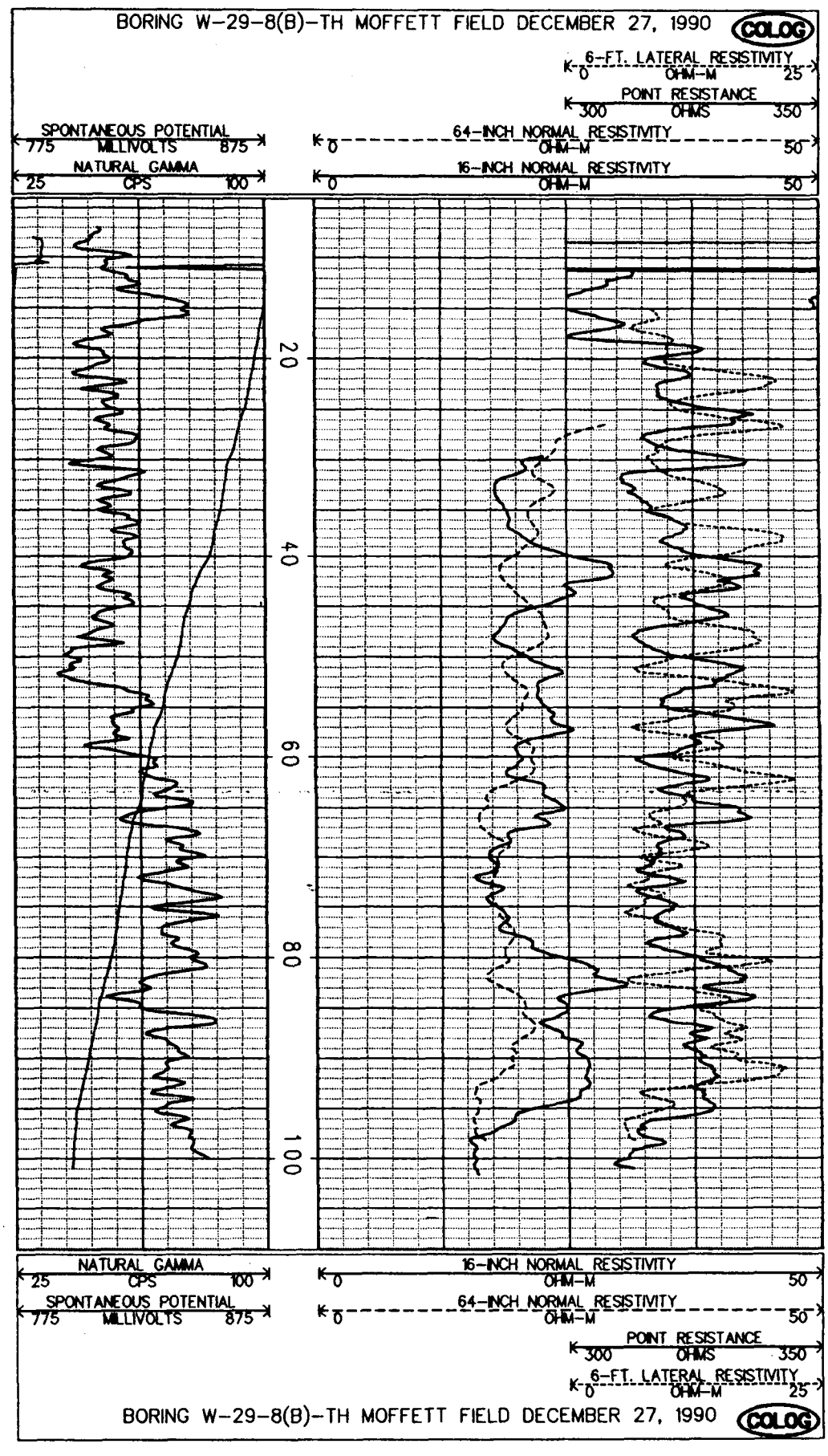
GENERAL DATA

INSTRUMENTATION: EG&G MT. SOPRIS SERIES III UNIT/TRUCK: 2
LOGGING ENGINEER: W. HENRICH
CLIENT REP: C. PETERSEN OF JMM
OTHER SERVICES:

LOGGING DATA

LOG FUNCTION	RUN NO.	EQUIPMENT MODEL	PROBE S.N.	UPHOLE S.N.	LOGGING DIG INT FEET	SPEED FT./MIN	DETECTOR TYPE	SPACING Tx-Rx- FEET	Rx-Rx- FEET	SOURCE TYPE	SIZE CURIE	LOGGED INTERVAL FROM	TO	INT. FEET
GAMMA SP PR	1	ALP-S	C003	038	0.2'	15					SCIN	101	5	96
16N 64N	2	ELP	1495	14	0.2	20'						101	15	86
6'-LAT	3	ELPLAT	1495	15	0.2	20'						102	15	87

CALIBRATION FACTOR(S): MUD PLUG SET INTO THE SIDEWALL OF BORING NEAR SURFACE
DIGITAL FILE NAME(S): 88.*
REMARKS:
SEVERE SP DRIFT ON ALL PROBE RUNS
ON ACCOUNT OF THE MUD PLUG GROUND



COLOG INC

BOREHOLE GEOPHYSICS

1318 ROSS ST. PETALUMA, CALIF. 94954
PHONE: (707) 769-9094 FAX:767-1989

GAMMA SP SPR
16N 64N 6'-LAT
WELL: W29-9(B)-TH

PROJECT: MOFFETT BUILDING 29 — DATE: 01-02-91
CLIENT: SPECTRUM/JMM — COLOG ID NO:
LOCATION: MOFFETT FIELD
STATE: CA — COUNTY: SAN MATEO — ELEV — DEPTH REF: GROUND

BOREHOLE DATA

DRILLING CONTRACTOR: SPECTRUM EXPLORATION
CUSTOMER ID: 83 — COLOG ID: 83

RUN NO.	BIT RECORD Bit Size	From	To	CASING RECORD Size/Wgt/Thk.	From	To
1	6 IN.	0	83	NONE		
2						
3						
4						

HOLE MEDIUM: WATER — DRILL METHOD: CORE PUNCH
MUD TYPE: BENTONITE SLURRY — TIME SINCE CIRC: 2 HOURS
VISCOSITY: — WEIGHT: — Rm: N.A. at Deg

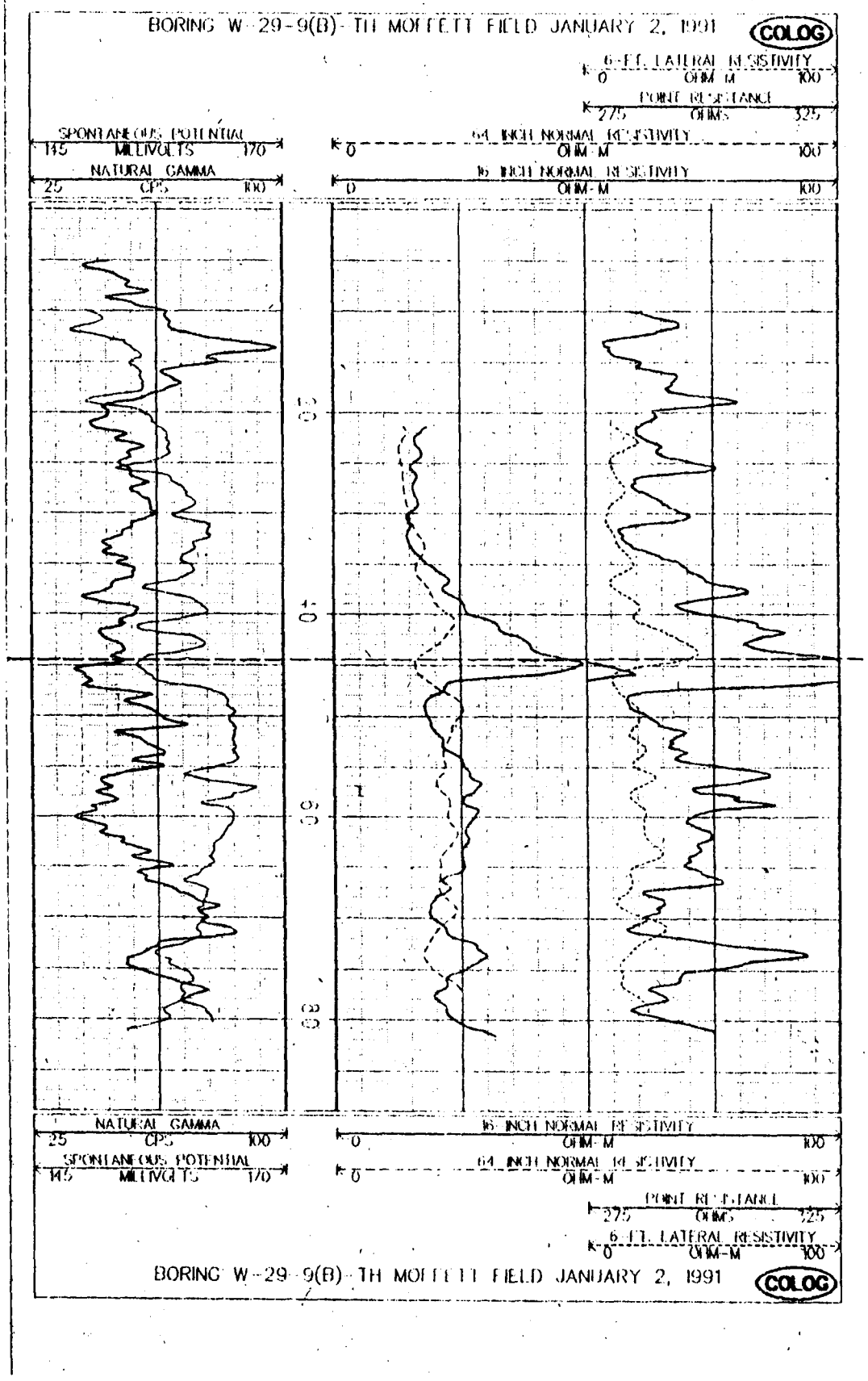
GENERAL DATA

INSTRUMENTATION: EG&G MT. SOPRIS SERIES III — UNIT/TRUCK: 2
LOGGING ENGINEER: W. HENRICH
CLIENT REP: C. PETERSEN OF JMM
OTHER SERVICES:

LOGGING DATA

LOG FUNCTION	RUN NO.	EQUIPMENT PROBE MODEL	PROBE S.N.	INTROL S.N.	LOGGING DIG INT FEET	SPEED FT./MIN	DETECTOR TYPE	SPACING Tx-Rx FEET	Rx-Rx FEET	SOURCE TYPE	SIZE CURR	LOGGED INTERVAL FROM	TO	INT FEET
GAMMA SP PR	1	ALP-S	0005	0.58	0.2'	15					.CIN	81.5'	5'	76.3'
16N 64N	2	ELP	1409	14	0.2	20						80.9'	20'	60.9'
6'-LAT	3	ELPLAT	1495	15	0.2	20						80.9'	15'	65.9

CALIBRATION FACTOR(S):
DIGITAL FILE NAME(S): 96.+
REMARKS:
MUD PLUG SET IN GRADE BED MATERIAL
JUST BELOW PAVEMENT



COLOG INC
BOREHOLE GEOPHYSICS
1318 ROSS ST. PETALUMA, CALIF. 94954
PHONE: (707) 769-9094 FAX:767-1989

GAMMA SP SPR
16N 64N 6'-LAT
WELL: W29-10(B)-TH

PROJECT: MOFFETT BUILDING 29 DATE: 12-28-90
CLIENT: SPECTRUM/JMM COLOG ID NO:
LOCATION: MOFETT FIELD
STATE: CA COUNTY: SAN MATEO ELEV: DEPTH REF: GROUND

BOREHOLE DATA

DRILLING CONTRACTOR: SPECTRUM EXPLORATION
CUSTOMER TD: 80.5 COLOG TD: 80.5

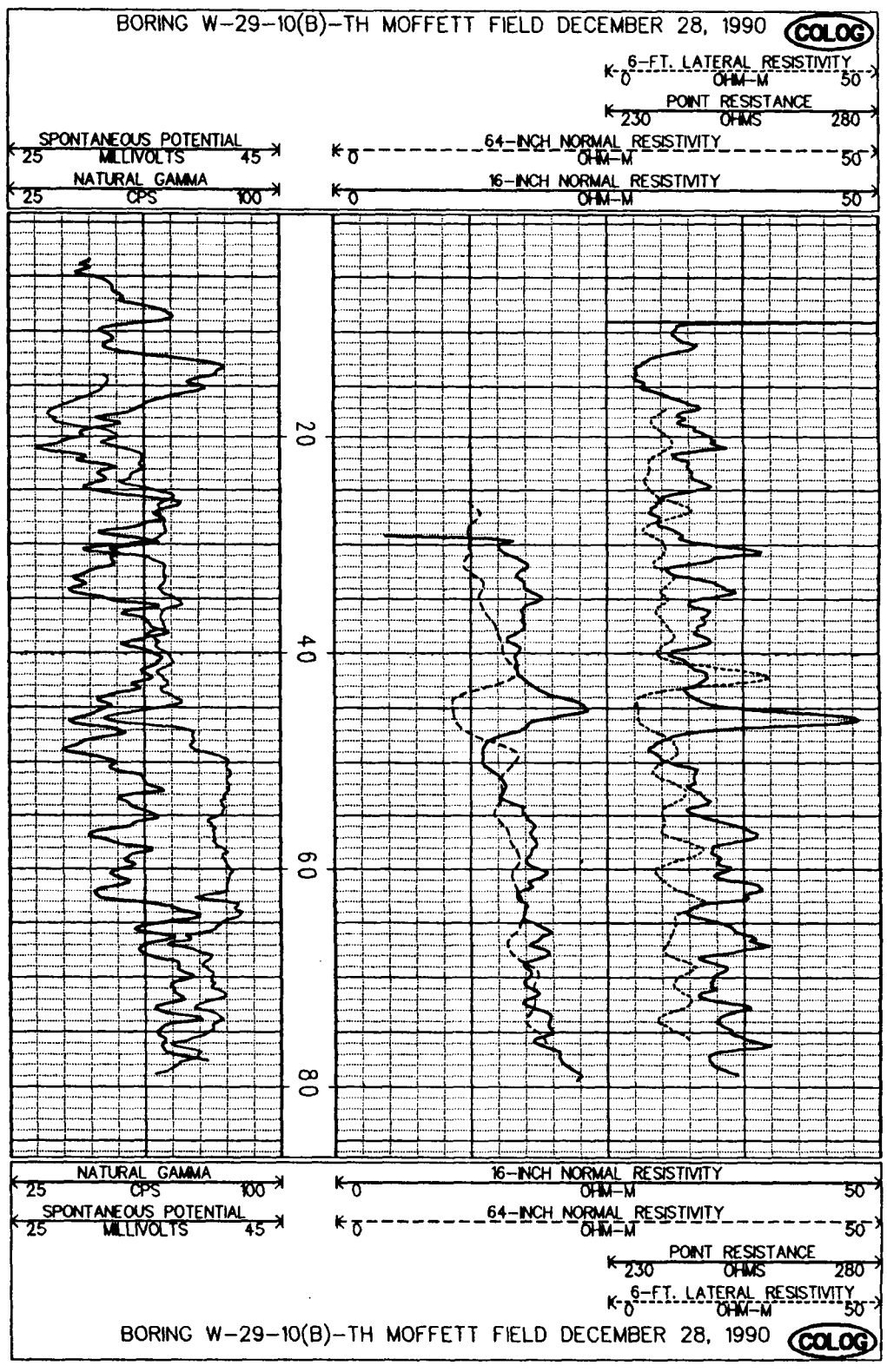
RUN NO.	BIT RECORD Bit Size	From	To	CASING RECORD Size/Wgt/Thk.	From	To
1	4IN.	0	80.5	NONE		
2						
3						
4						

HOLE MEDIUM: WATER DRILL METHOD: CORE PUNCH
MUD TYPE: BENTONITE SLURRY TIME SINCE CIRC: 30 MIN
VISCOSITY: WEIGHT: Rm: 11 OHM-M at 52 Deg F

GENERAL DATA

INSTRUMENTATION: EG&G MT. SOPRIS SERIES III UNIT/TRUCK: 2
LOGGING ENGINEER: W. HENRICH
CLIENT REP: C. PETERSEN OF JMM
OTHER SERVICES:

LOGGING DATA

LOG FUNCTION	RUN NO.	EQUIPMENT MODEL	PROBE S.N.	UPHOLE S.N.	LOGGING DIG INT FEET	SPEED FT./MIN	DETECTOR TYPE	SPACING Tx-Rx FEET	Rx-Rx FEET	SOURCE TYPE	SIZE CURIE	LOGGED INTERVAL FROM	TO	INT. FEET
GAMMA SP PR	1	ALP-S	C003	038	0.2'	15					SCIN	80.5'	5'	75.5'
16N 64N	2	ELP	1495	14	0.2	20						80.5	20'	60'
6'-LAT	3	ELPLAT	1495	15	0.2	20						80.5	20'	60'

CALIBRATION FACTOR(S):
DIGITAL FILE NAME(S): 10b.*
REMARKS:
MUD PLUG SET IN SOIL