RF/ER-95-0119.UN, Rev. 0

FINAL PHASE I RFI/RI REPORT
WALNUT CREEK
PRIORITY DRAINAGE
OPERABLE UNIT 6

VOLUME 5

APPENDIX C (C3.4-C6)

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Golden, Colorado

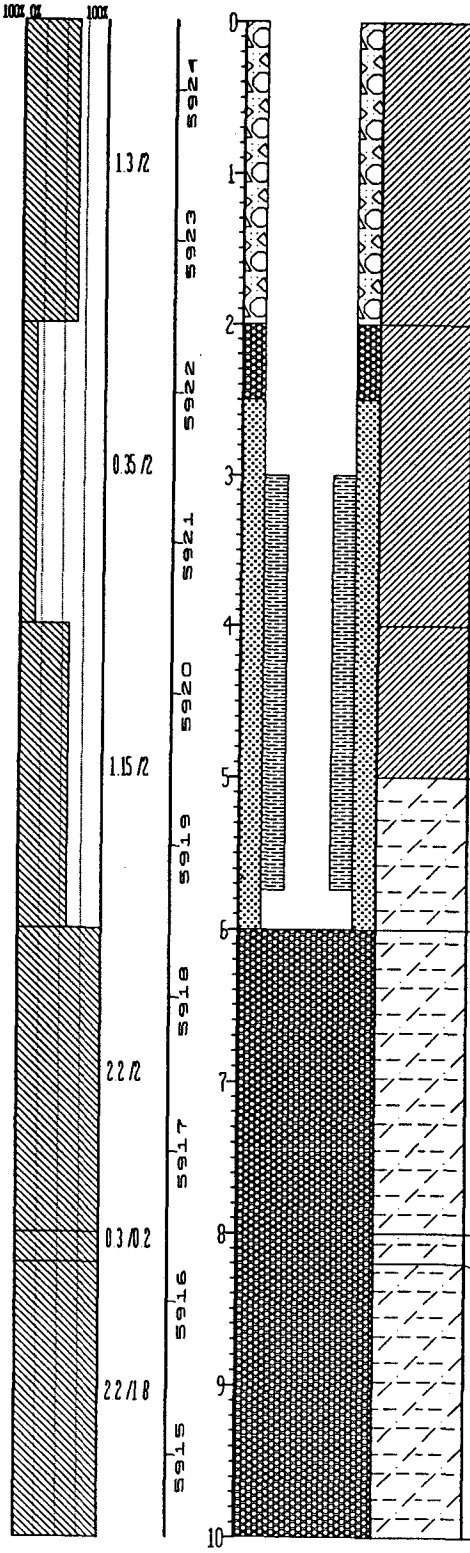
February 1996

APPENDIX C3.4
LANDFILL/OU7 HISTORICAL INVESTIGATIONS BORING LITHOLOGY AND MONITORING WELL CONSTRUCTION LOGS

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 10	GROUND ELEVATION (FT):	5924.46	PROJECT NUMBER:	667.11
NORTH: 752827	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA
EAST: 2083977	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/23/86
REMARKS:					

LOG OF BORING NUMBER: 7-86

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE / DESCRIPTION

CH:	Silty Clay, Dk. yellowish brown (10 YR 4/2). Est. plast. mod. to high. Some grass and roots from surface. Some gravel (avg. size 2.5 cm). Trace sand, VFG to med. grained.
CH:	Same as above.
CH:	Silty Clay, Dk. yellowish orange (10 YR 6/6) to yellowish gray (5 Y 8/1). Plast. mod. to high.
SILTY CLAYSTONE:	Top of Bedrock. Same as above
SILTY CLAYSTONE:	Same as above. More silt. Bottom of interval has black discoloration in matrix. Maybe organics (oil). (This box has a distinct odor, may be organics).
SILTY CLAYSTONE:	Same as above, some black carbonaceous material.
SILTY CLAYSTONE:	Same as above. NOTE: No water encountered while drilling.

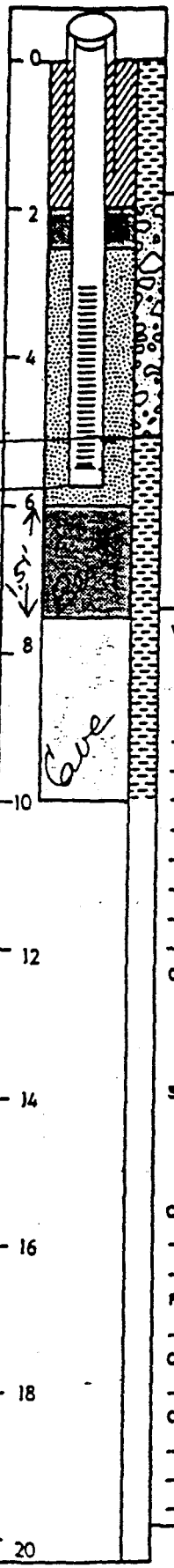
WELL 7-86

WELL CONSTRUCTION SUMMARY

2.0

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5927'
TOP OF CASING 5929.00'



LOCATION Golden, CO
PERSONNEL C. Walker
PROJECT 106R06222 Rocky Flats Plant

DRILLING SUMMARY:

TOTAL DEPTH Well: 5.74' Hole: 10.00'
BOREHOLE DIAMETER 7¼"
DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Avenue
Golden, CO (Tony Robinson)
RIG Acker
BIT(S) Blade bit
DRILLING FLUID None
SURFACE CASING 5" x 4' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ___
CASING STRING(S): C=CASING S=SCREEN

0.0'	-	3.0'	C1		-		
3.0'	-	5.74'	S1		-		
	-				-		
	-				-		
	-				-		
	-				-		
	-				-		
	-				-		

CASING: C1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrap screen, 0.25' welded bottom cap.

CENTRALIZERS None

FILTER MATERIAL 32-42 silica sand
2.50' - 6.00'
CEMENT Portland Type I
0.00' - 2.00'
OTHER 3/8" bentonite pellets
2.00' - 2.50'
6.00' - 7.51'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7¼" auger	9/23	0955	9/23	1045
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
2" stainless	9/23	1215	9/23	1220
FILTER PLACEMENT:	9/23	1220	9/23	1225
CEMENTING:	9/23	1230	9/23	1235
DEVELOPMENT:	9/29	1445	9/29	1445
OTHER:				
Bentonite	9/23	1225	9/23	1230
	9/23	1210	9/23	1215

WELL DEVELOPMENT

See Well Development Summary Sheets.

COMMENTS:

No water encountered during drilling.

Top of stainless steel casing: 2.00'

Cave from TD to 7.51'

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT	8-86
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86	

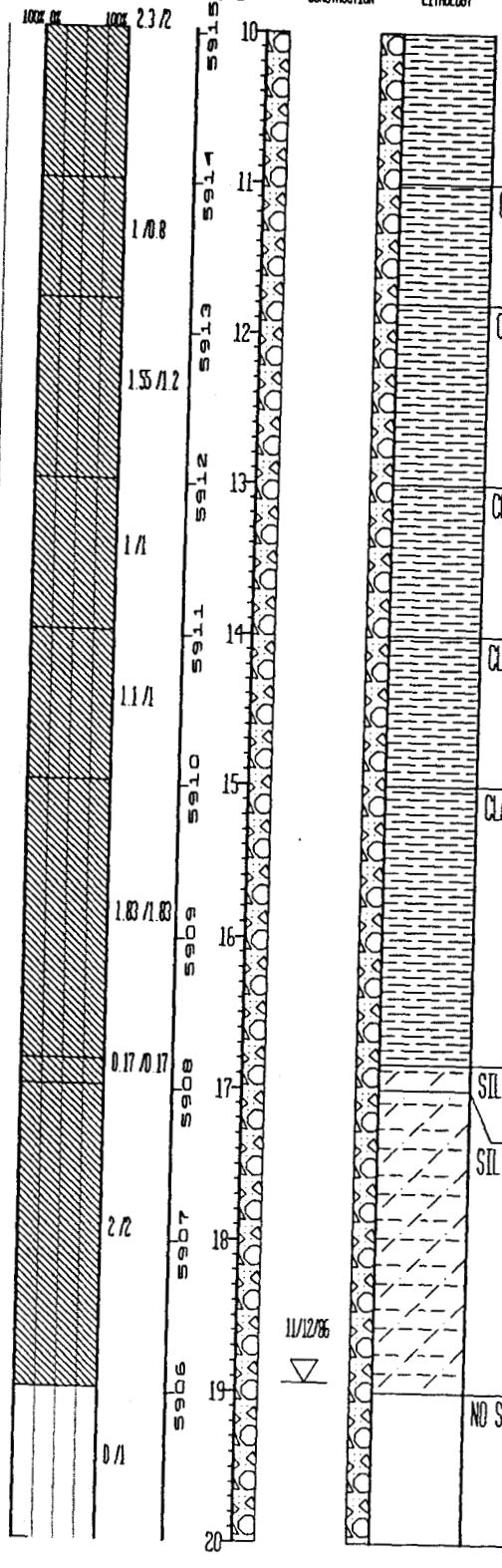
REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				0.9/1	5925	0			CL	SANDY CLAY, moderate yellowish brown (10 YR 5/4), mod. plast., some gravel (max size = 3 cm), some roots in top of interval.
				0.9/1	5924	1			CLAYSTONE	Top of Bedrock Yellowish gray (5 Y 8/1), non-apparent bedding, well weathered, mod-poorly friable, some iron staining as mottles, trace of calc. material at base of interval, trace of silt.
				2.25/2	5923	2			CLAYSTONE	Same as above: some calc. material.
				2.25/2	5922	3				
				1.4/1	5921	4			CLAYSTONE	Same as above: trace of calc. material.
				1.4/1	5920	5	11/10/86 ▽		CLAYSTONE	Same as above.
				1.85/2	5919	6				
				1.85/2	5918	7			CLAYSTONE	Same as above.
				1.85/1.7	5917	8				
				0.3/0.3	5916	9			CLAYSTONE	Same as above: floury texture, no calc. material, some silt.
				2.3/2		10			CLAYSTONE	Same as above.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT	8-86
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86	

REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50%) | PERCENT RECOVERY (100% 0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

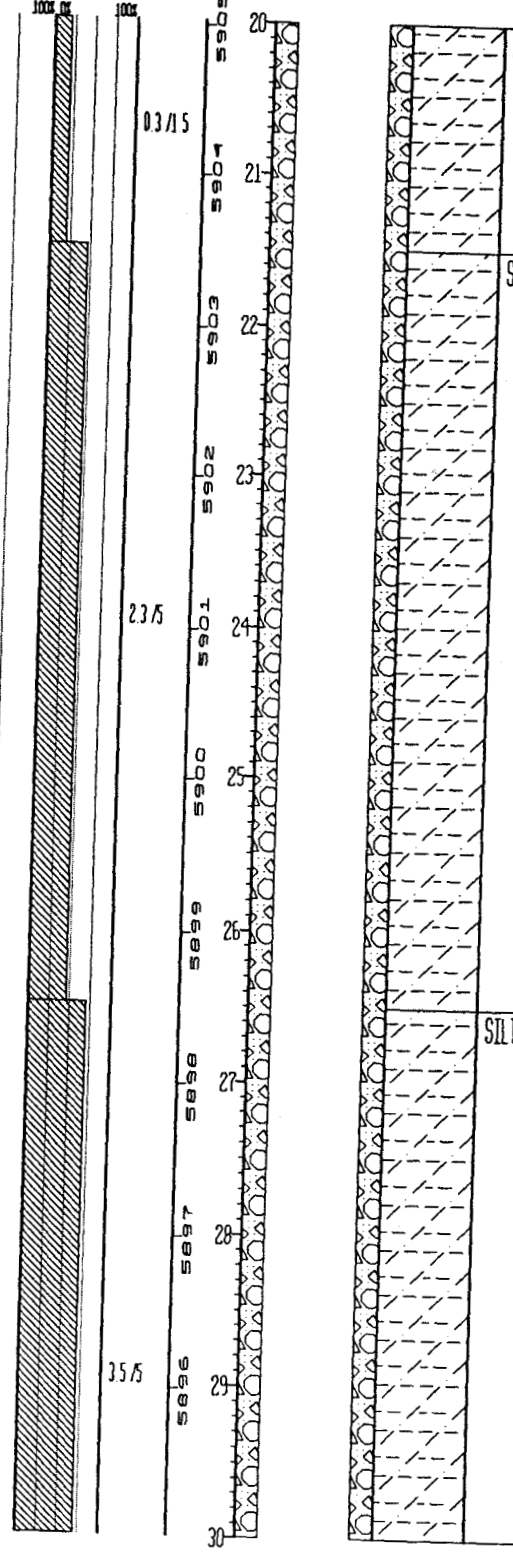


Unified Soils Classification or Rock Type	Description
CLAYSTONE:	Light olive gray (5 Y 6/1), apparent massive bedding, well weathered, mod-highly friable, some iron staining as mottles, some silt, trace of Mg staining.
CLAYSTONE:	Same as above: apparent horizontal bedding, trace of carb material, increased iron staining.
CLAYSTONE:	Same as above, increased silt fraction.
CLAYSTONE:	Carbonaceous, olive gray (5 Y 4/1), apparent horizontal laminar bedding, well weathered, mod. friable, some silt, some iron staining as mottles, trace of horizontal coal seams (1 mm thick).
CLAYSTONE:	Same as above.
SILTY CLAYSTONE:	Yellowish gray (5 Y 8/1), non-apparent bedding, well weathered, mod-high friability, trace of iron staining, trace of Mg staining.
SILTY CLAYSTONE:	Same as above, highly fractured at base of interval. Very base of interval is carbonaceous and olive black (5 Y 2/1).
NO SAMPLE:	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT	8-86
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86	

REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



SILTY CLAYSTONE: Light olive gray (5 Y 6/1), apparent massive bedding, highly weathered, mod-poorly friable, trace of carb. material, trace of iron staining as mottles.

SILTY CLAYSTONE: Same as above: some 90 degree and 75 degree fracturing showing slickensides, no iron staining.

SILTY CLAYSTONE: Same as above: no apparent fractures, trace of iron staining as mottles.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT	8-86
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86	

REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5895	30				
					5894	31				
				0.5/1	5893	32				SILTY CLAYSTONE: Light olive gray (5 Y 6/1), non-apparent bedding, highly weathered, mod-poorly friable, some carb. material, trace of iron staining as mottles.
				2/2	5892	33				SILTY CLAYSTONE: Carbonaceous, olive gray (5 Y 4/1), at top of interval, olive black (5 Y 2/1) at middle of interval, non-apparent bedding, highly weathered, mod. friable.
					5891	34				
				2/2	5890	35				SILTY CLAYSTONE: Light olive gray (5 Y 6/1), non-apparent bedding, highly weathered, mod. friable, fractures at 85 degrees showing slickensides, some carb. material.
					5889	36				
					5888	37				SILTY CLAYSTONE: Same as above: bottom of interval is olive gray (5 Y 4/1).
					5887	38				
				4.1/5	5886	39				
						40				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86

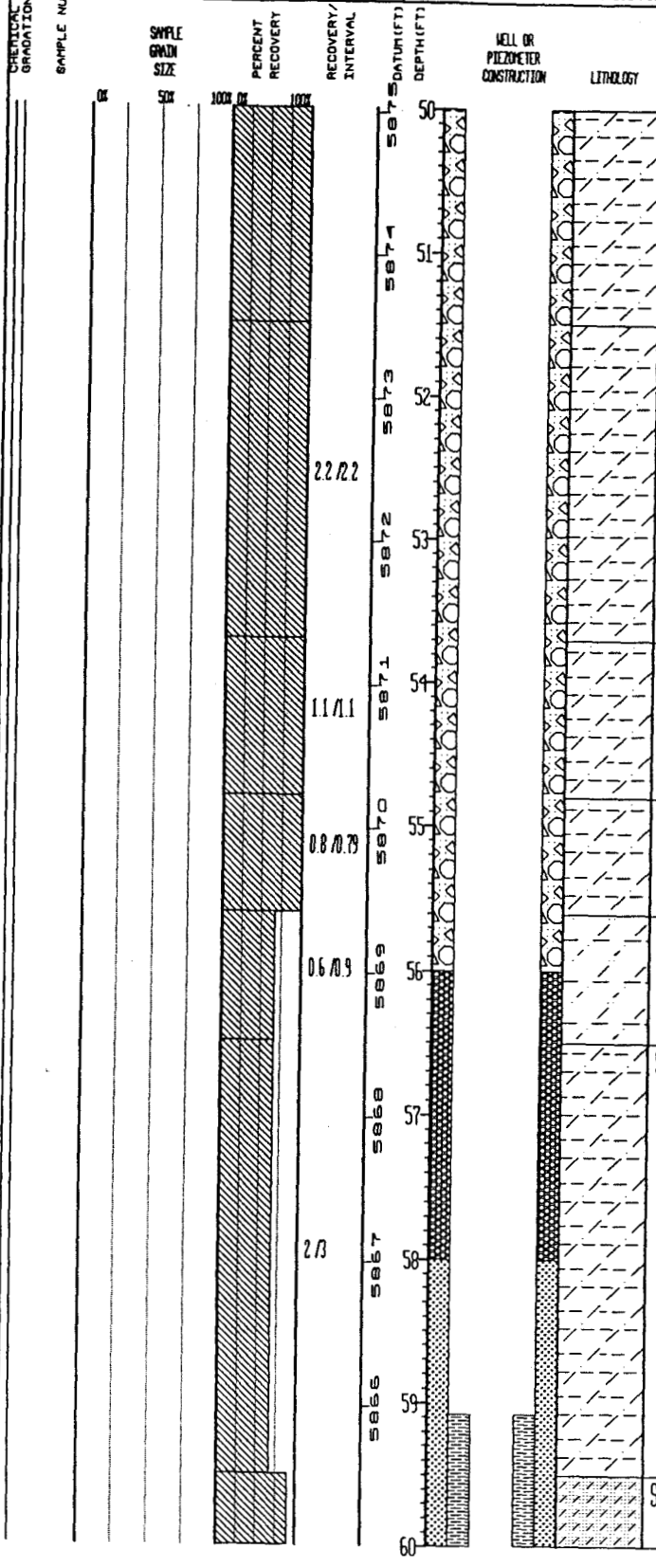
LOG OF BORING NUMBER: 8-86

REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5885	40				
					5884	41				
				0.6 /0.79	5883	42				SILTY CLAYSTONE: Olive gray (5 Y 4/1), non-apparent bedding, well weathered, mod-poorly friable, trace of carb. material.
					5882	43				SILTY CLAYSTONE: Same as above.
				4.2 /4.2	5881	44				
					5880	45				
					5879	46				
					5878	47				SILTY CLAYSTONE: Same as above, top of interval is fractured 60 degrees-70 degrees, increased silt fraction.
					5877	48				
				5 /5	5876	49	11/13/86 ▽			
						50				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT	8-86
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86	

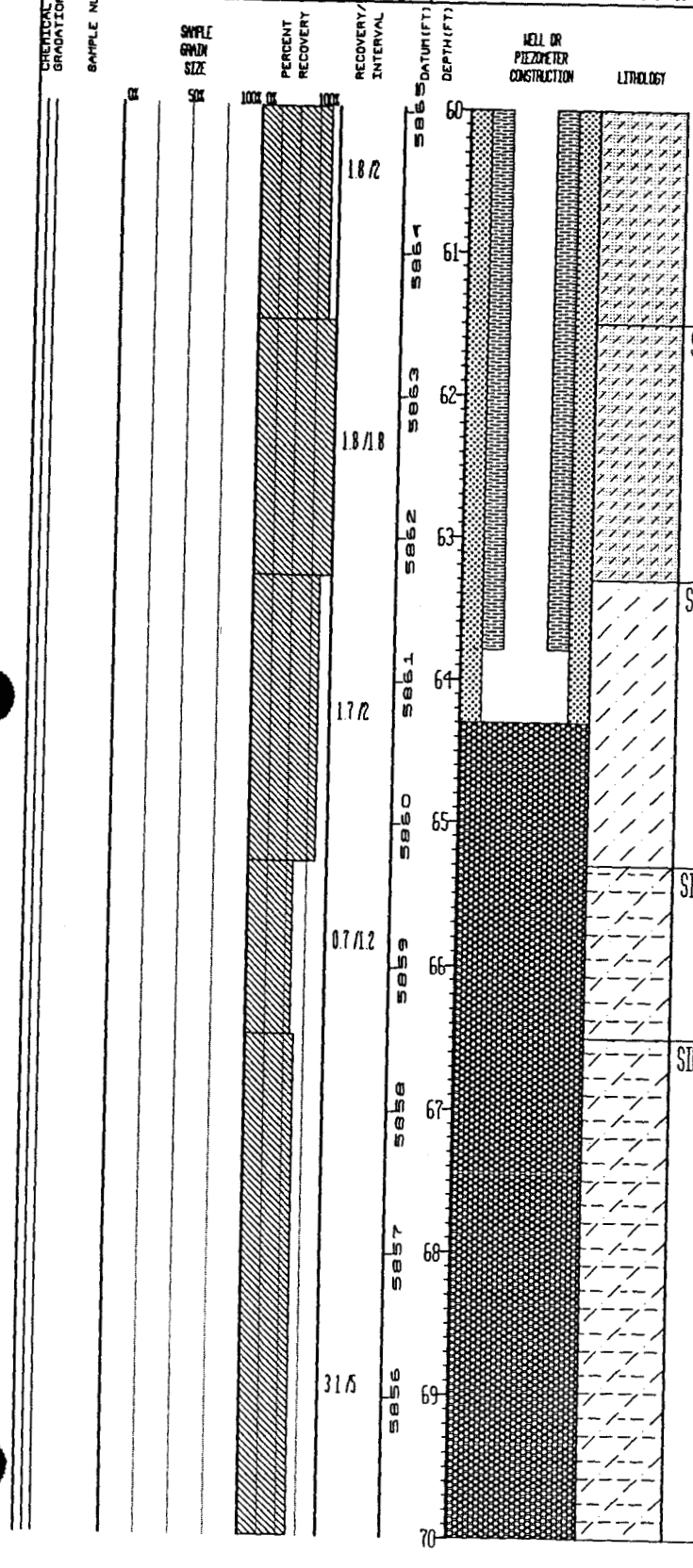
REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1), non-apparent bedding, highly weathered, mod-poorly friable, trace of carb., trace of iron staining, decreased silt fraction at base of interval.
SILTY CLAYSTONE	Same as above, light olive gray (5 Y 6/1).
SILTY CLAYSTONE	Same as above.
CLAYEY SILTSTONE	Olive gray (5 Y 4/1), non-apparent bedding, highly weathered, mod-poorly friable.
SILTY CLAYSTONE	Olive gray (5 Y 4/1) at top of interval and light olive gray (5 Y 6/1) at bottom of interval, non-apparent bedding, highly weathered, mod. friable, some carb. material, trace of iron staining.
SANDY SILTSTONE	VFG, light olive gray (5 Y 6/1), slab shows massive bedding w/possible burrowing, highly weathered, poorly friable, trace of carb. material,

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT	8-86
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86	

REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

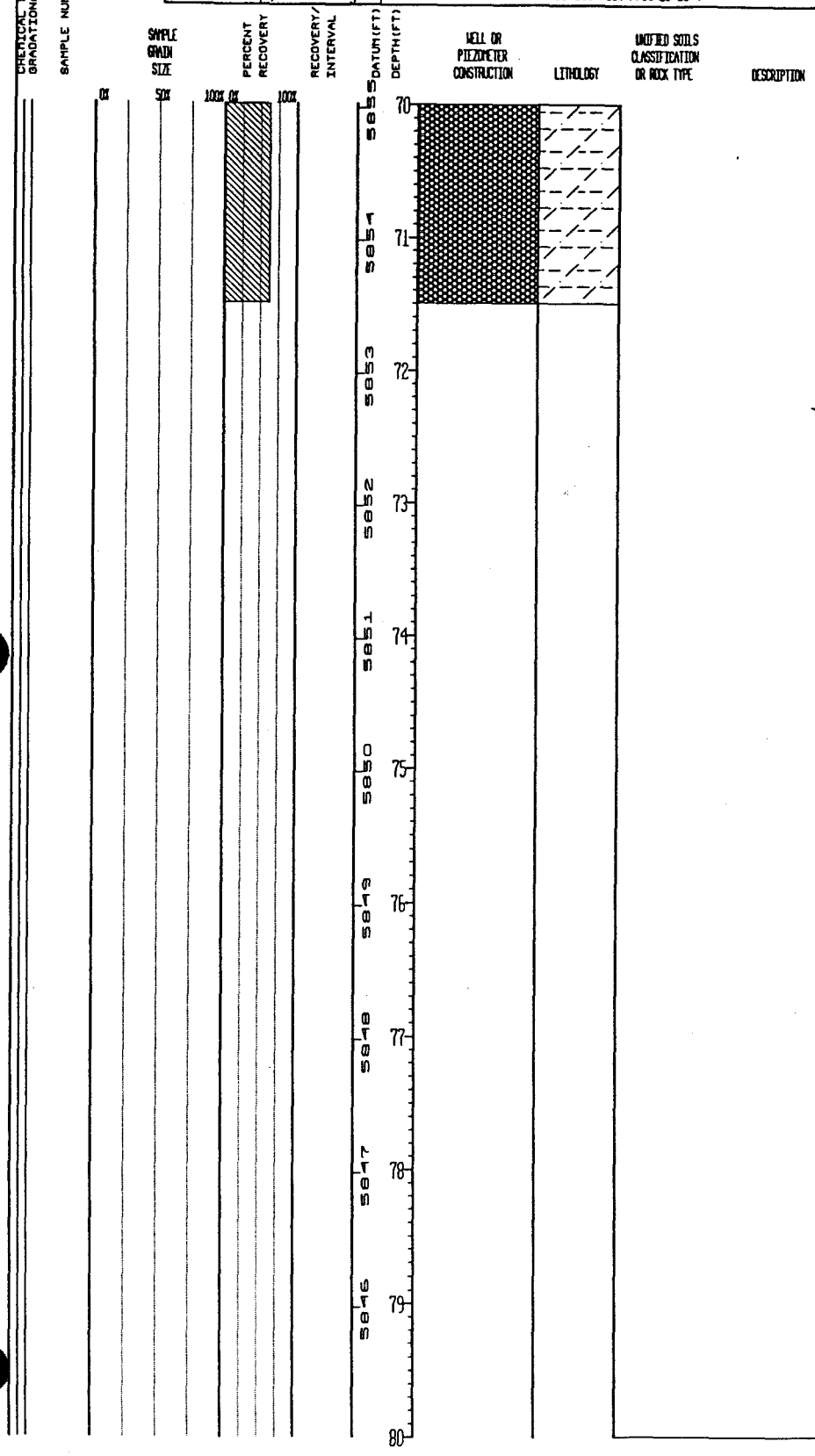


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	trace of iron staining, some clay.
SANDY SILTSTONE:	VFG, light olive gray (5 Y 6/1), massive bedding, highly weathered, poorly friable, trace of carb. material, trace of iron staining as mottles, some sand.
SILTSTONE:	Light olive gray (5 Y 6/1), non-apparent bedding, highly weathered, poorly friable, some clay at bottom of interval.
SILTY CLAYSTONE:	Olive gray (5 Y 4/1), non-apparent bedding, highly weathered, mod. friable, some carb., trace of coal 1-2 mm.
SILTY CLAYSTONE:	Same as above, light olive gray (5 Y 6/1).

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 71.5	GROUND ELEVATION (FT):	5925.03	PROJECT NUMBER:	667.11
NORTH:	752817	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DAT
EAST:	2084001	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86

LOG OF BORING NUMBER: 8-86

REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.



WELL 8-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5927'
TOP OF CASING 5928.60'

DRILLING SUMMARY:

TOTAL DEPTH Well: 63.80' Hole: 71.50'

BOREHOLE DIAMETER 0.00' - 18.35': 7½"
18.35' - 71.50: 4 3/4"

DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Ave., Golden, CO
(Tony Robinson, Jim Horn)

RIG 0.00' - 18.35': Acker; 18.35' - 71.50': Mobile B-57

BIT(S) 0.00' - 18.35': Blade bit;
18.35' - 71.50': Coring bit

DRILLING FLUID None

SURFACE CASING 5" x 20.85' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ___

CASING STRING(S): C=CASING S=SCREEN

0.00'	18.35'	C1			
0.00'	59.08'	C2			
59.08'	63.79'	S1			

CASING: C1 5" I.D. steel surface casing
C2 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrapped screen, 0.25' welded bottom cap.

CENTRALIZERS None

FILTER MATERIAL 32-42 silica sand
58.00' - 64.30'

CEMENT Portland Type I
0.00' - 56.00'

OTHER 3/8" bentonite pellets
56.00' - 58.00'
64.30' - 71.50'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7½" auger	9/24	0930	9/24	1135
NC Core	10/20	1049	10/20	1310
Reaming	10/22	1720	10/23	0920
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
5" steel	9/24	1315	9/24	1327
2" stainless	11/3	1243	11/3	1253
FILTER PLACEMENT	11/3	1207	11/3	1340
CEMENTING:	11/3	1415	11/3	1500
DEVELOPMENT:	11/5	1515	11/13	0930
OTHER:				
Bentonite	11/3	1340	11/3	1410
	11/3	1143	11/3	1207
Packer testing	10/22	0900	10/22	1516
Cementing 5" steel	9/24	1330	9/24	1350

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

No water encountered during drilling.

Top of stainless steel casing: 1.60'

When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: (1) fractured bedrock from 20' - 30'.

LOCATION Rocky Flats Plant
PERSONNEL C. Walker/L. Pivonka
PROJECT 106P06222

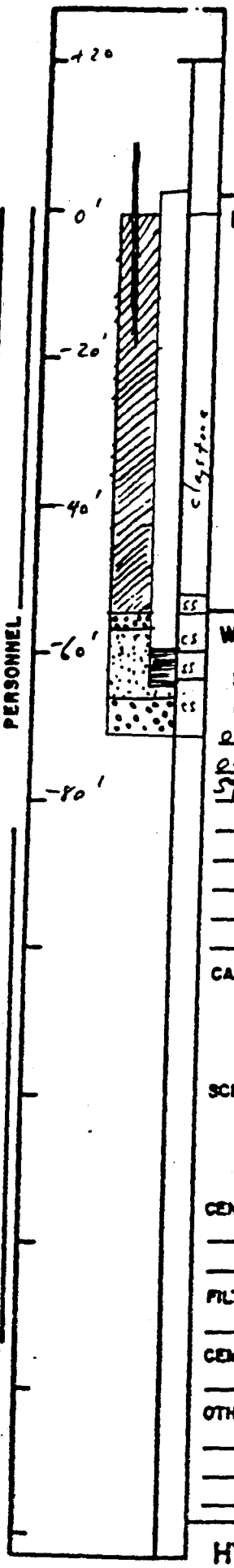
high pit well

WELL 8-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____ ELEVATION: GROUND LEVEL _____

TOP OF CASING _____



LOCATION

PERSONNEL

PROJECT

DRILLING SUMMARY:

TOTAL DEPTH Well: 63.8' Hole: 71.5'

BOREHOLE DIAMETER 0.00'-18.35': 7 1/4"
18.35'-71.50': 4 3/4"

DRILLER Boyles Bros (Jim Horn)

RIG Mobile Drill B-57

BIT(S) Core Bit

DRILLING FLUID None

SURFACE CASING 5" x 18.35'

WELL DESIGN:

BASIS: GEOLOGIC LOG ___ GEOPHYSICAL LOG ___

CASING STRING(S): C=CASING S=SCREEN

0.00	18.35	C1			
0.00	59.08	C2			
59.08	63.79	S1			

CASING: C1 5" surface casing
C2 2" Type 316 SS Well casing
~~C3~~
~~C4~~

SCREEN: S1 2" Type 316 No 10 Slot Screen
~~S2~~
~~S3~~
~~S4~~

CENTRALIZERS _____

FILTER MATERIAL 32-42 Silica Sand 56.00'-64.30'

CEMENT Portland Type I cement 0.00'-56.00'

OTHER Volclay Bentonite Pellets 56.00'-58.00'
64.30'-71.50'

CONSTRUCTION TIME LOG:

TASK	START DATE	START TIME	FINISH DATE	FINISH TIME
DRILLING:	10/20/86	1310	10/21/86	1405
GEOPHYS. LOGGING:				
CASING:	11/3/86	1243	11/3/86	1253
FILTER PLACEMENT:	11/3/86	1207	11/3/86	1340
CEMENTING:	11/3/86	1415	11/3/86	1500
DEVELOPMENT:				
OTHER:				
Reaming	10/20/86	1049	10/20/86	1310
Bentonite	11/3/86	1143	11/3/86	1207
bentonite	11/3/86	1340	11/3/86	1410

WELL DEVELOPMENT

COMMENTS:

When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: (1) fractured bedrock from 20'-30'

HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

SS = sandstone

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 60-87

Coordinates N 39951.63 E 19938.52

Elevation: Ground Surface 5984.03'

Total Depth: Well 27.7'

Top of Casing 5985.96'

Borehole 32.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

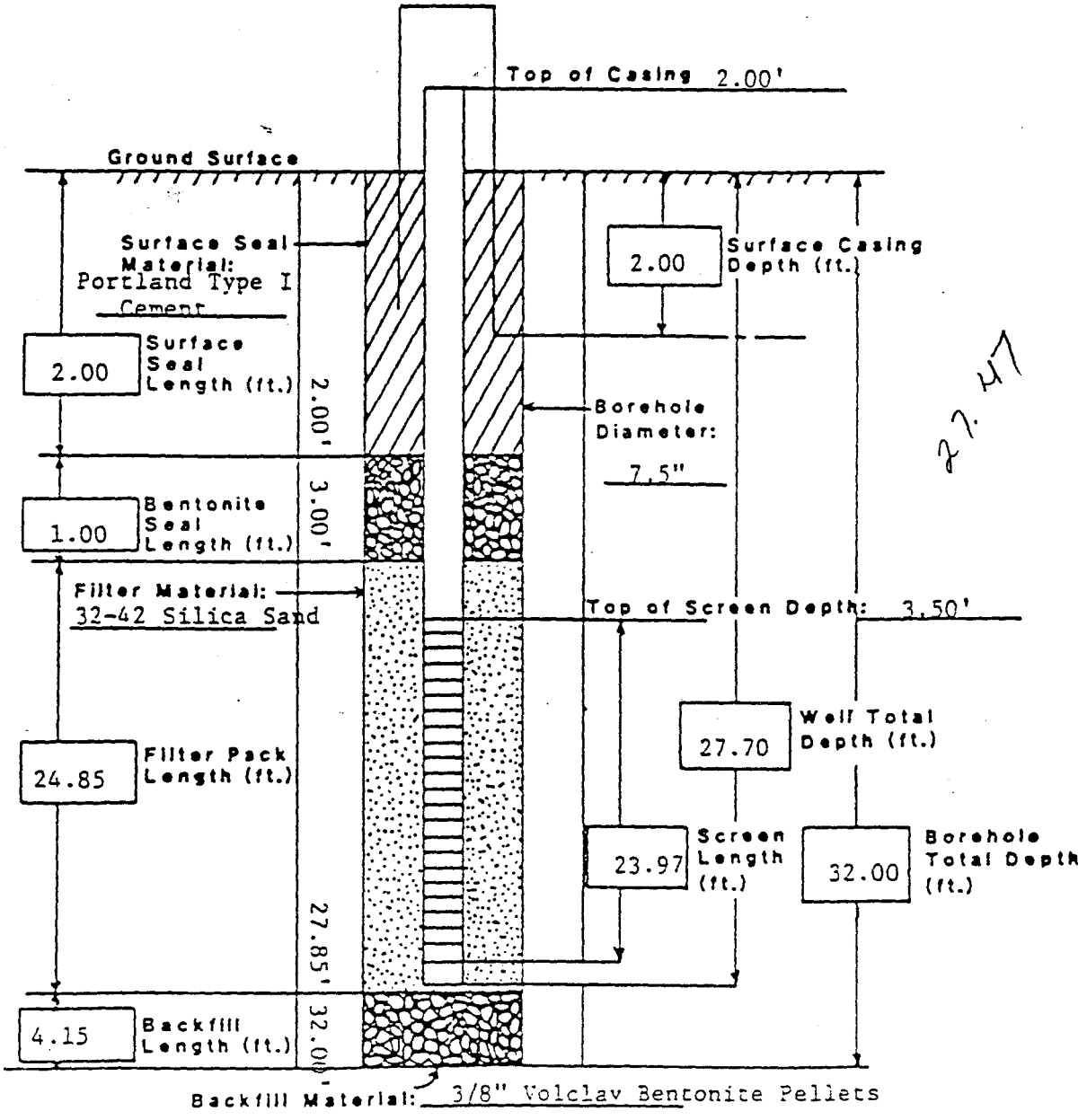
Date Installed November 20, 1987

Approved By _____ Site Manager

Installed By R. Treat, Geologist

_____ CEARP Manager

Comments _____



27.47

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 61-87

Coordinates N 39881.26 E 19974.80

Elevation: Ground Surface 5984.00'

Total Depth: Well 28.5'

Top of Casing 5985.75'

Borehole 34.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed November 25, 1987

Approved By

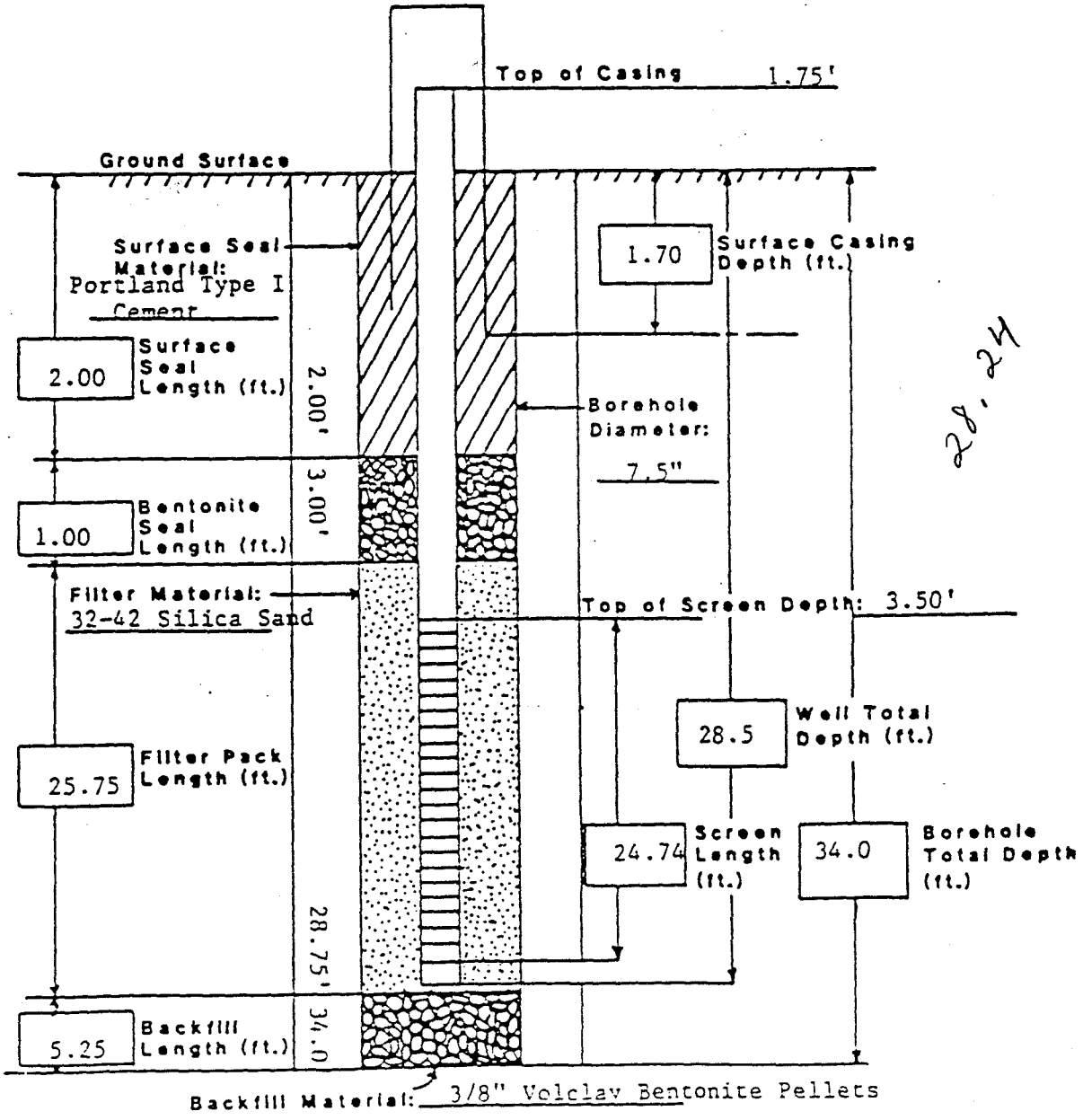
Site Manager

Installed By J. Bacchus

Geologist

CEARP Manager

Comments



28.24

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 62-87

Coordinates N 39821.22 E 19999.70

Elevation: Ground Surface 5984.16'

Total Depth: Well 26.80'

Top of Casing 5986.36'

Borehole 30.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed November 25, 1987

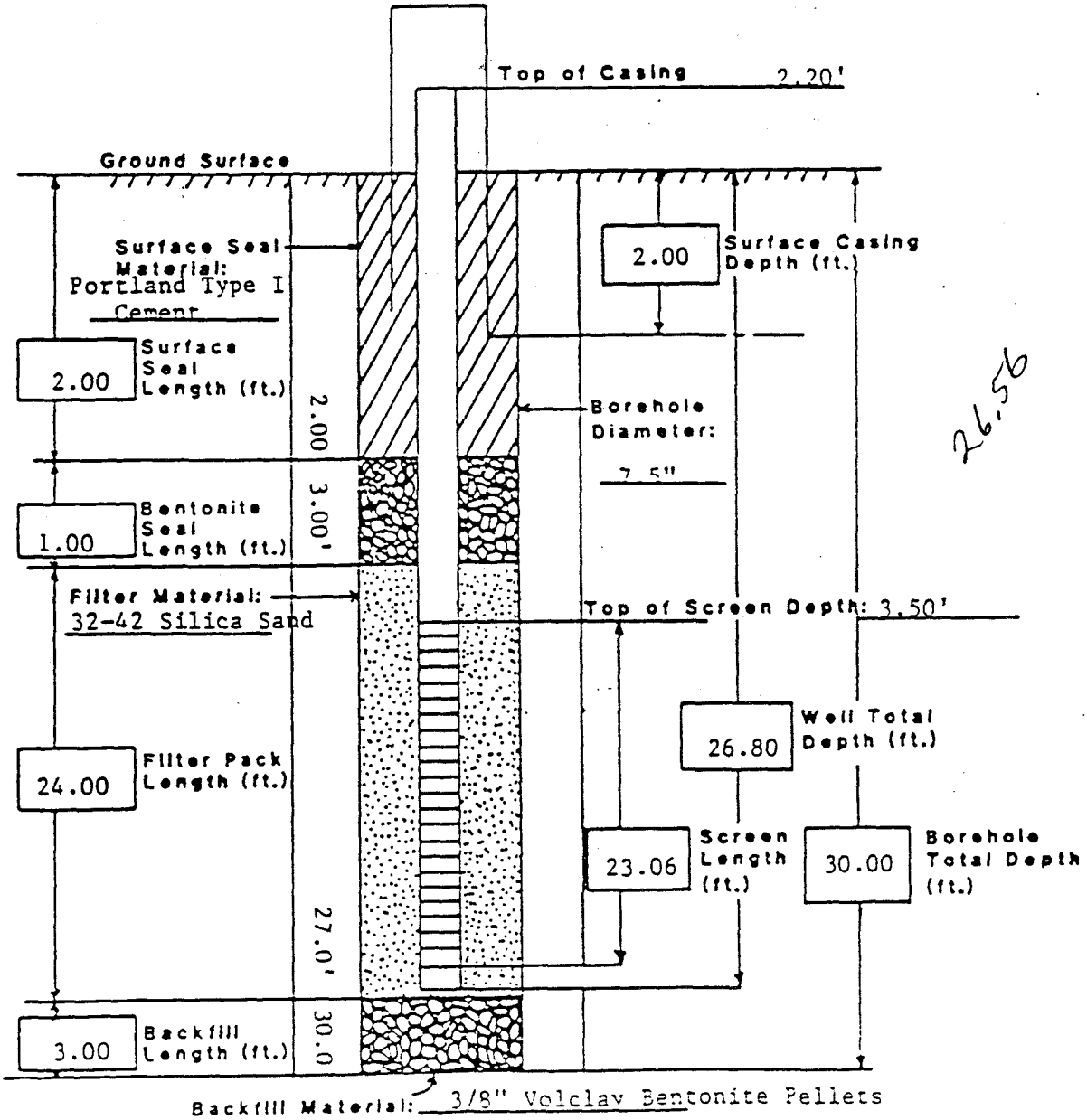
Approved By

Site Manager

Installed By R. Treat
Geologist

CEARP Manager

Comments



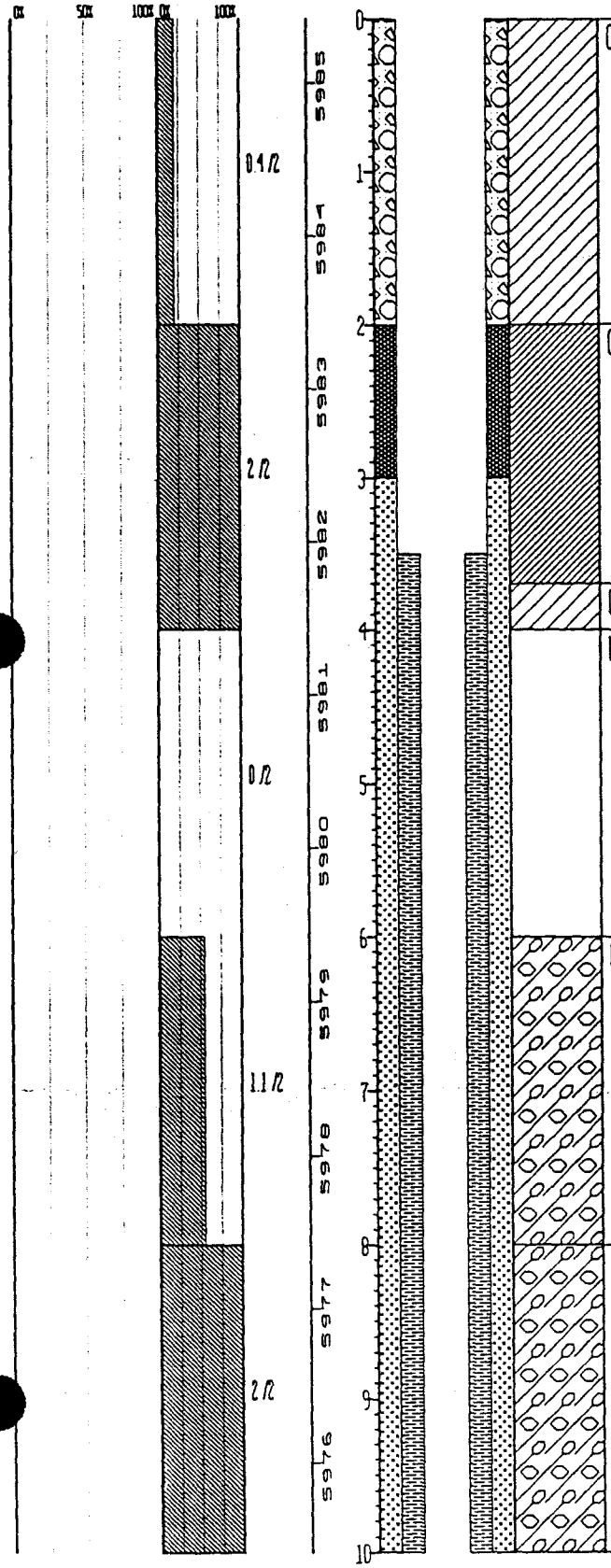
26.56

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 30	GROUND ELEVATION (FT)	5995 42	PROJECT NUMBER	667 11	LOG OF BORING NUMBER
NORTH	752717	AREA LANDFILL	CASING DIAMETER (IN)	2 ID	GEOLOGIST	DCB	63-87
EAST	2083138	LOCATOR NUMBER K12	BOREHOLE DIAMETER (IN)	7.5	DATE DRILLED	11/30/87	

REMARKS Hollow Stem Auger

GRADATION: SAMPLE DEPTH

SAMPLE N



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL	GRAVELLY CLAY - moderate brown (5YR 3/4), moderate plasticity, max. gravel size 5.5 cm., trace of organic debris
CH	Clay - grayish orange (10YR 7/4), moderately high plasticity, trace of gravel and silt -
CL	GRAVELLY CLAY - as above, calcareous
NO SAMPLE	
GC	SANDY GRAVEL - medium gray (N5), sand matrix is light brown (5YR 5/6), sub-angular to sub-rounded, moderately graded max. size 5 cm., some clay and a gradual increase in the clay content with depth
GC	Clayey Gravel - medium light gray (N6), clay matrix is moderate yellowish brown (10YR 5/4), to grayish orange (10YR 7/4), sub-angular, poorly graded, max size 3.5 cm

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 30	GROUND ELEVATION (FT): 5995.42	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER
NORTH: 752717	AREA: LANDFILL	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	63-87
EAST: 2083138	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 11/30/87	

REMARKS: Hollow Stem Auger

SAMPLE NO.	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1/1	5975	10			GC	As above.
			0/1	5974	11			NO SAMPLE	
			1/2	5973	12			GC	As above (reference interval 19.5 to 11 ft.) max. gravel size is 5 cm.
				5972	13	12/01/87			
			2/2	5971	14			GC	As above with color change in clay matrix to light brown (5YR 5/6)
60131				5970	15				
			0/2	5969	16			NO SAMPLE	
				5968	17				
			1/1	5967	18			GC	Gravelly Clayey Sand - light brown (5YR 5/6), angular to sub-rounded, moderately graded, VCG to FG sand, max. gravel size 5 cm.
			2/2	5966	19			GC	As above.
					20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 30	GROUND ELEVATION (FT) 5985.42	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH	752717	AREA LANDFILL	CASING DIAMETER (IN) 2 ID	GEOLOGIST DCB	63-87
EAST	2083138	LOCATOR NUMBER K12	BOREHOLE DIAMETER (IN) 7.5	DATE DRILLED 11/30/87	

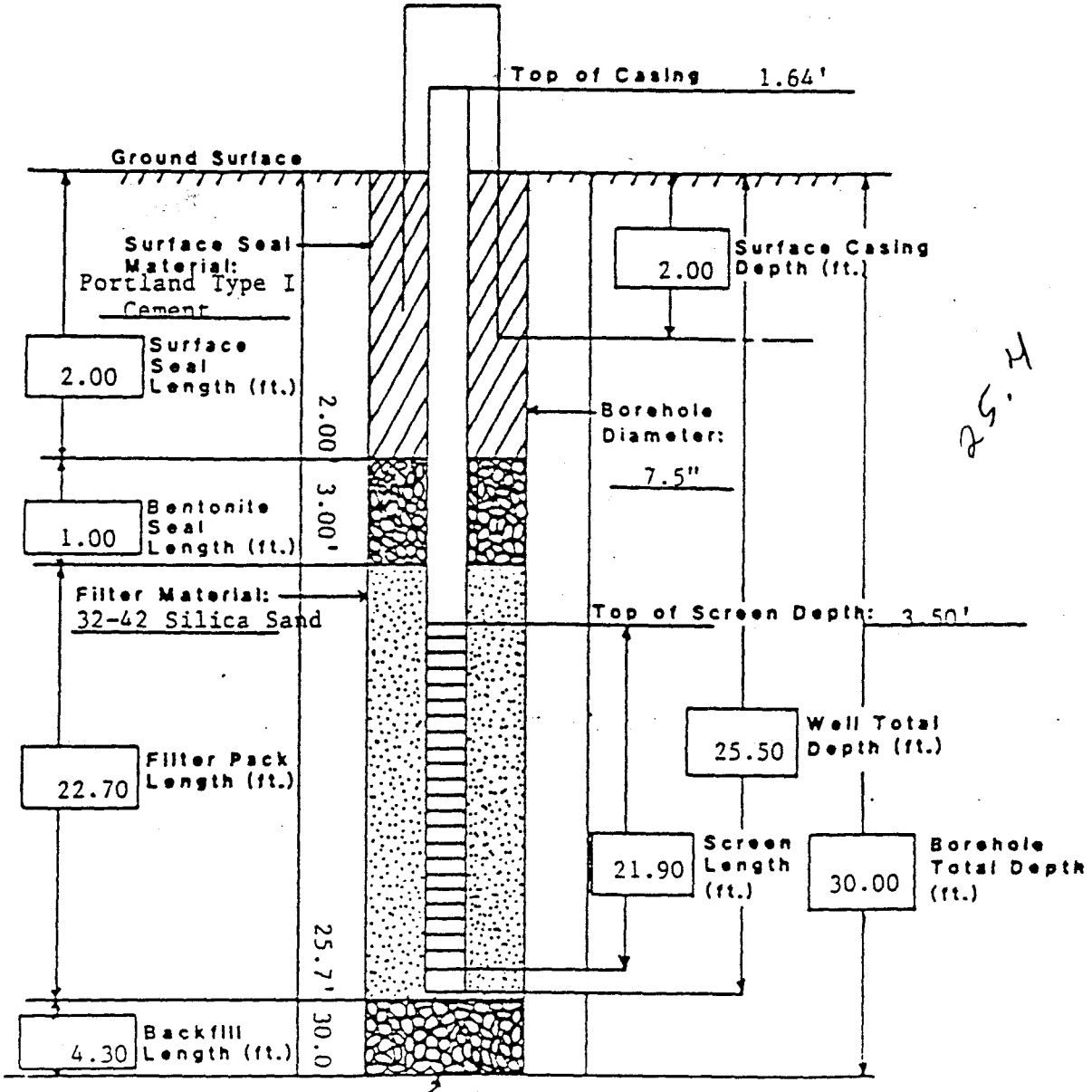
REMARKS Hollow Stem Auger

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2/2	5965	20				
			0.7/2	5964	21			CL	Interval grades SILTY CLAY, grayish orange (10 YR 7/4), low to moderate plasticity, some gravel and sand.
				5963	22				
			2/2	5962	23			CL	As above, with trace of gravel and sand, moderate plasticity.
				5961	24				
			2/2	5960	25			CLAYSTONE	Top of Bedrock Grayish orange (10YR 7/4), bedding not apparent, highly weathered moderately friable, carbonaceous mineralization occurs locally, color grades to very light gray (N8).
			0.5/0.5	5959	26			CLAYSTONE	Same as above.
			1.5/1.5	5958	27			CLAYSTONE	Same as above.
			0/1	5957	28			NO SAMPLE	
				5956	29				
					30				

ABANDONED
6/08/93

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area
Well No. 63-87
Coordinates N 39738.07 E 20040.50
Elevation: Ground Surface 5985.42'
Total Depth: Well 25.5'
Top of Casing 5987.06'
Borehole 30.0'
Formation of Completion Rocky Flats Alluvium
Casing Material Sch 5, Type 316, TFJ Stainless Steel
Casing Diameter 2" ID
Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel
Surface Casing Diameter 5" ID
Date Installed December 1, 1987
Approved By
Installed By R. Treat
Geologist
Site Manager
CEARP Manager
Comments



25.4

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 28	GROUND ELEVATION (FT):	5985.89	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 752328	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	R.T. TREAT	64-87
EAST: 2083260	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/04/87	

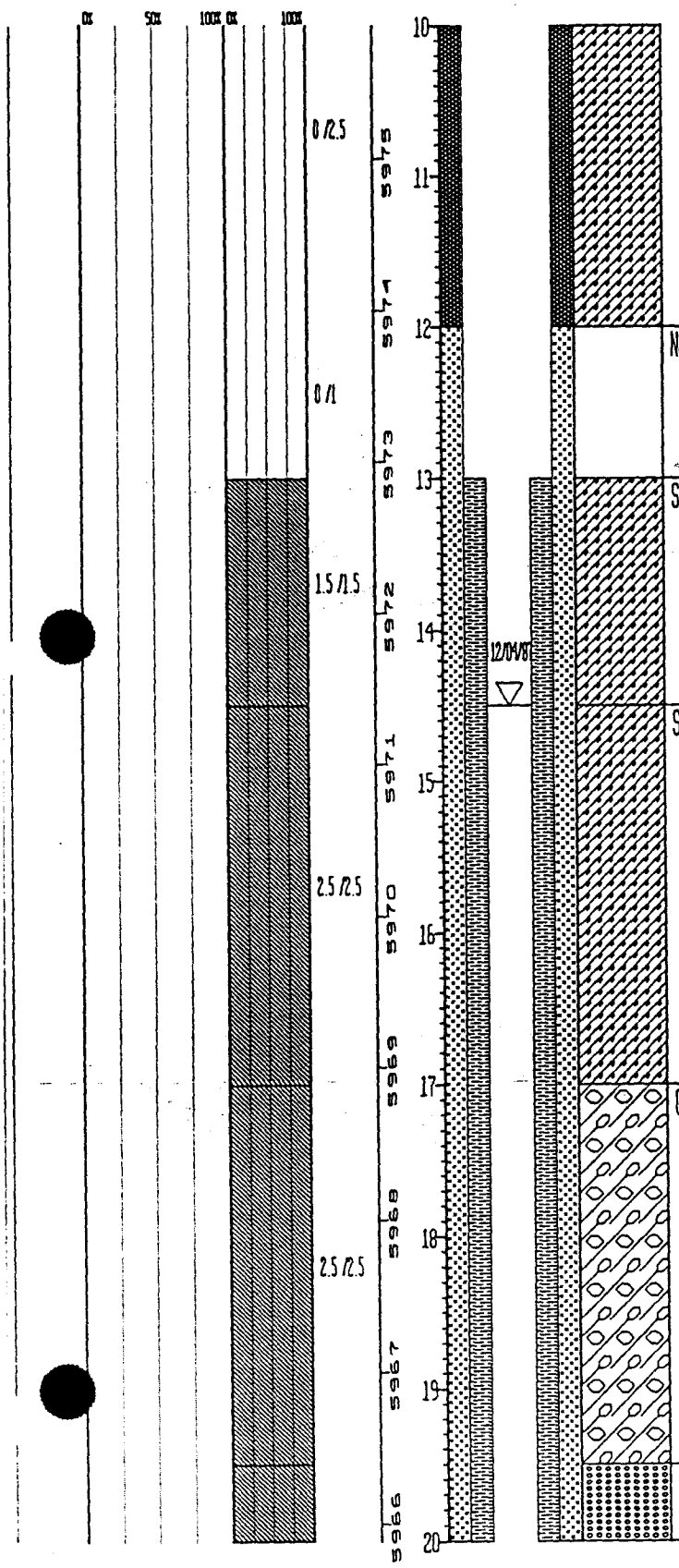
REMARKS: Hollow Stem Auger. ASI did not log this well. All information is from Weston log only.

SAMPLE Nº	SAMPLE GRAIN SIZE (0% / 50% / 100%)	PERCENT RECOVERY (0% / 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0/2	5985	0–1			NO SAMPLE:	Cuttings appeared as clay with gravel; sandy; some asphalt fragments.
			0/2	5984	1–2			NO SAMPLE:	
			0/2	5983	2–3				
			0/1	5982	3–4			NO SAMPLE:	Center bit used.
			2/2	5981	4–5	01/09/88		CL:	CLAY: moderate yellowish brown (10 YR 5/4); fine-grained sand with gravel; grayish brown (5 YR 3/2) to dusky brown (5 YR 2/2); slightly clayey, fine-, medium- and coarse-grained sand (1.0-2.5 0 to 0.5-1.00); gravel 0.15 mm up to 1.75 mm; sub-rounded, angular, and angular; weakly cemented; poorly sorted gravel; well sorted sand; few scattered asphalt fragments; light moist.
			0.6/2.5	5980	5–6	12/16/87		SM:	Silty Sand With Gravel: dusky brown (5 YR 2/2); sand ranging from 3.5-3.0 0 to 2.0-1.5 0; weakly cemented; poorly sorted; gravel ranging from 0.25-0.75 mm; light moist. Special Note: During this run, most of the cuttings now appearing as a sanitary landfill deposit. Consisting of wood particles, insulated wire fragments, construction ribbon, surgical gloves, saranex suits, and plastics.
				5979	6–7				
				5978	7–8				
				5977	8–9				
				5976	9–10			SC:	Auger cuttings during this run now appearing as a Clayey Sand or a very Sandy Clay; moderate olive brown (5 Y 4/4) to an olive (5 Y 3/2); fine-

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 28	GROUND ELEVATION (FT):	5985.89	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752328	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	R.T. TREAT	64-87
EAST:	2083260	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/04/87	

REMARKS: Hollow Stem Auger. ASI did not log this well. All information is from Weston log only.

GRADATIONAL SAMPLE DEPTH | SAMPLE # | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



grained sand (3.0-2.5 0); scattered amounts of continued trash debris.

NO SAMPLE: Center bit used.

SC: SAND: moderate yellowish brown (10 YR 5/4) to dark yellowish orange (10 YR 6/6); well sorted sand ranging from 2.5-2.0 0 to 0.0-0.5 0; rounded, sub-rounded, and some angular; weakly cemented; slightly clayey; moist to very moist at end.

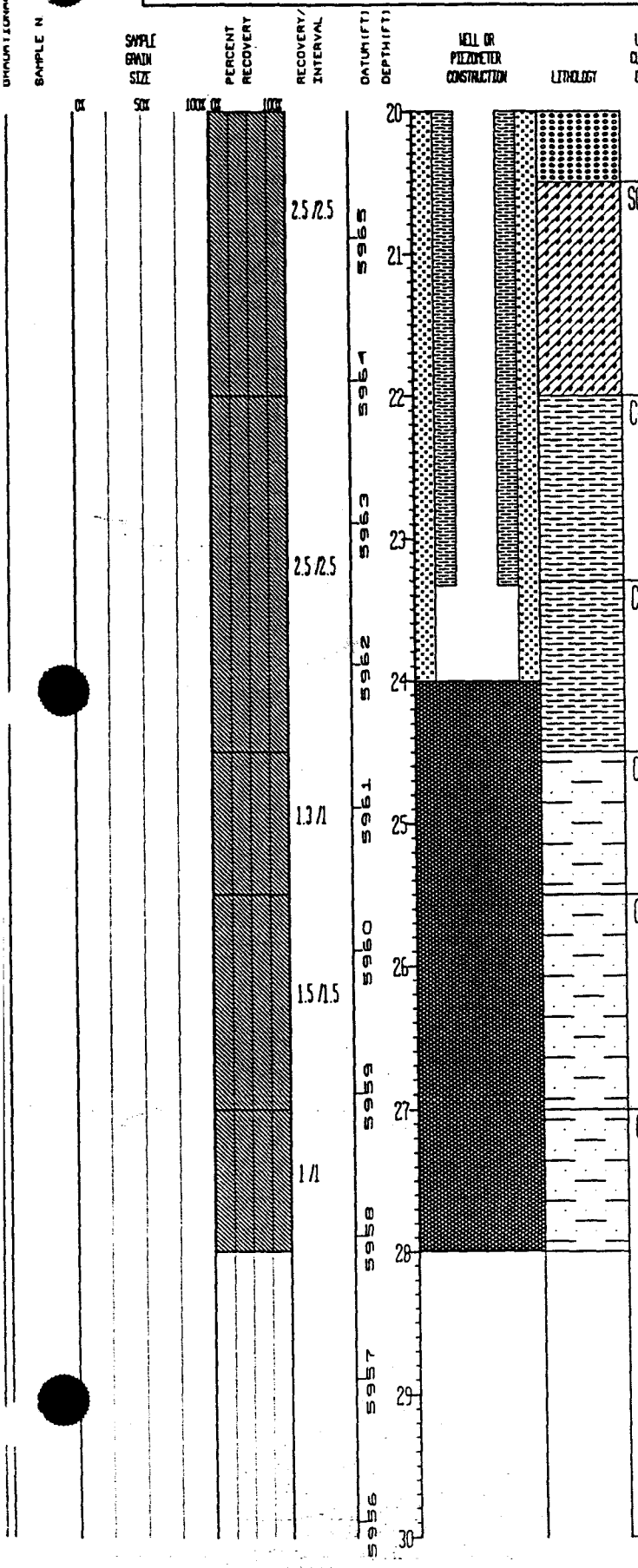
SC: SAND: light brown (5 YR 5/6), moderate brown (5 YR 4/4) to pale yellowish brown (10 YR 6/2), and dark yellowish orange (10 YR 6/6); sand ranging from 3.5-3.0 0 up to 2.0-2.5 0; weakly cemented; poorly sorted; clayey sand with coarse deposits noted from 16.5-17.0' and some scattered gravel below 16.5'; saturated sand at 14.5' to otherwise moist deposits.

GC: Sand and Gravel: colors as stated in previous run; sand grain size as above and somewhat finer; poorly sorted; clayey to very clayey; scattered gravel ranging from 0.50 mm to a few 2.25 mm; weakly to moderately cemented; moist.

SW: Sand and Gravel: as noted in previous run.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 28	GROUND ELEVATION (FT):	5985.89	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752328	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	R.T. TREAT	64-87
EAST:	2083260	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/04/87	

REMARKS: Hollow Stem Auger. ASI did not log this well. All information is from Weston log only.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Slightly Sandy Clay: pale yellowish brown (10 YR 6/2) to light gray (N 6/0); scattered sand (2.0-1.5 0); moderately cemented; low plastic; moist.
CLAYSTONE:	Top of Bedrock Moderate yellowish brown (10 YR 5/4) to dark yellowish orange (10YR 6/6) with some light brown (5 YR 5/6); fine-grained sand (3.0-2.5 0); low to medium plastic; moderately cemented; moist.
CLAYSTONE:	Light brown (5 YR 6/4 to 5 YR 5/6) to moderate brown (5 YR 4/4); sandy to very sandy streaks; fine-grained sand (3.0-2.5 0); moderately cemented; severely oxide stained; low plastic; poorly sorted; highly weathered; moist.
CLAYEY SANDSTONE:	Dark yellowish orange (10 YR 6/6) to light brown (5 YR 5/6) and pale brown (5 YR 5/2); fine-grained sand (3.5-3.0 0 to 3.0-2.5 0); severely oxide stained; weakly cemented; poorly sorted; weathered; moist.
CLAYEY SANDSTONE:	Yellowish orange (10 YR 6/6) to light brown (5 YR 5/6) with blotches of light gray (N 7/0); streaky; fine-grained sand (3.0-2.5 o to 2.5-2.0 0); weakly cemented; poorly sorted; massive; highly weathered; moist to very moist at bottom of run.
CLAYEY SANDSTONE:	As noted in previous run.

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 64-87

Coordinates N 39349.01 E 20162.23

Elevation: Ground Surface 5985.89'

Total Depth: Well 23.8'

Top of Casing 5987.33'

Borehole 28.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed December 4, 1987

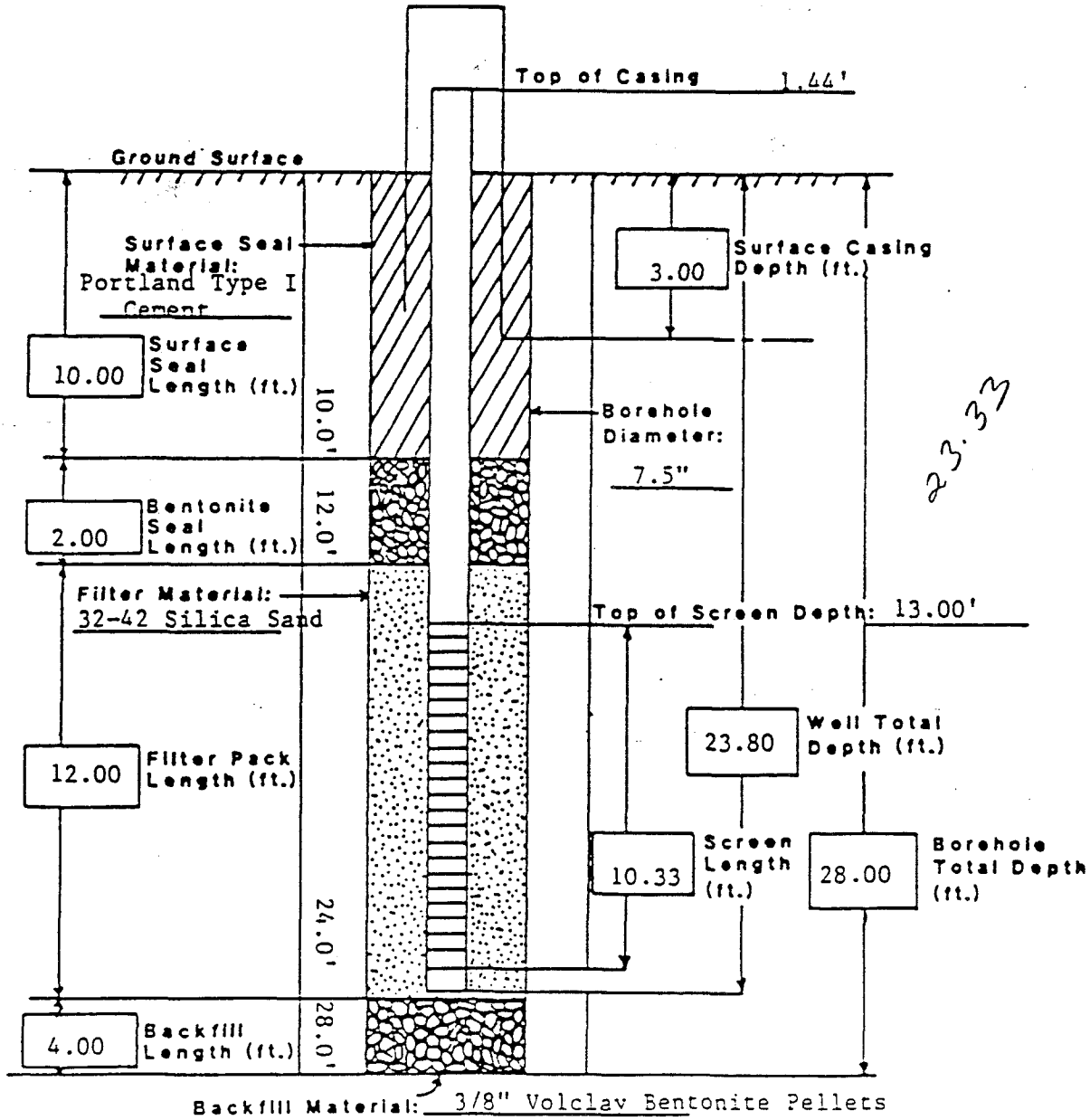
Approved By

Installed By R. Treat
Geologist

Site Manager

CEARP Manager

Comments



23.33

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 26	GROUND ELEVATION (FT):	5983.08	PROJECT NUMBER:	667.11
NORTH: 752230	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB
EAST: 2083299	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/08/87

REMARKS: Hollow Stem Auger.

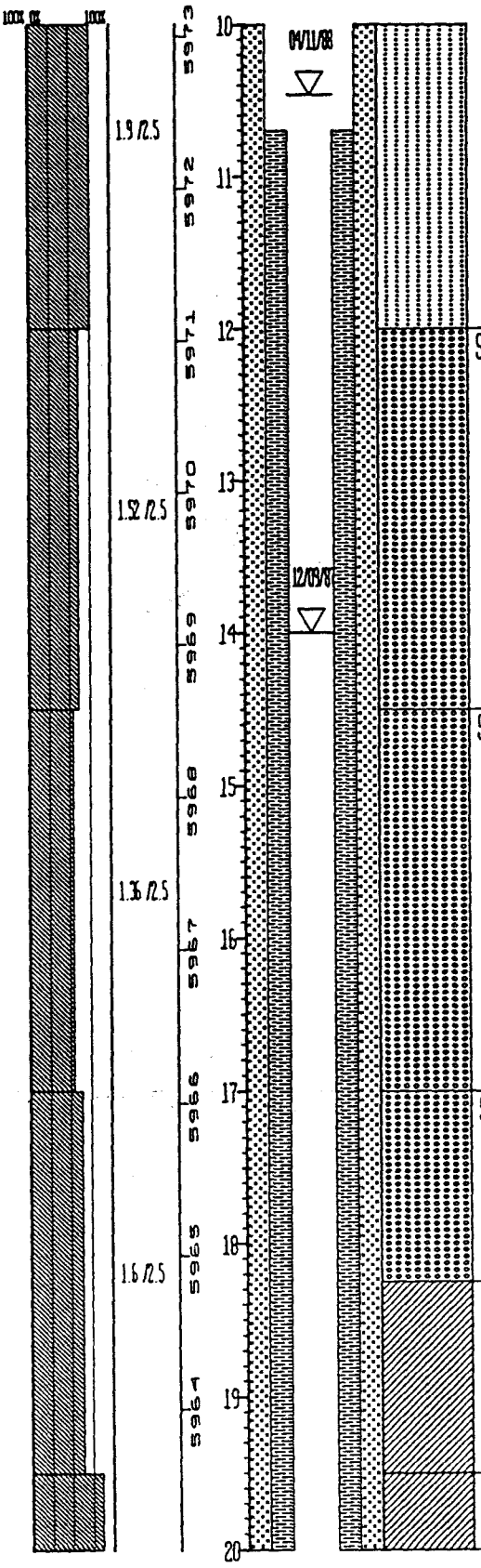
LOG OF BORING NUMBER: 65-87

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.7/2	5983 5982	0 1			GC:	Sandy Clayey Gravel - medium gray (N5) sub-angular to sub-rounded moderately graded, clay color is dark yellowish brown (10YR 4/2).
			1.75/2	5981 5980	2 3			CL:	GRAVELLY CLAY - yellowish gray (5Y 8/1) medium plasticity, some silt and sand.
			2.4/3	5979 5978 5977 5976	4 5 6 7			CL:	Same as above.
			1.25/2.5	5975 5974	8 9			GW:	GRAVEL - light gray (N7) angular to well rounded, well graded some sand, trace of clay and silt.
					10			SP:	GRAVELLY SAND - moderate yellowish brown (10YR 5/4, angular to sub-rounded, poor to moderately graded, some clay and silt. Gradational

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 26	GROUND ELEVATION (FT): 5983.08	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 752230	AREA: LANDFILL	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD/DCB	65-87
EAST: 2083299	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 12/08/87	

REMARKS: Hollow Stem Auger.

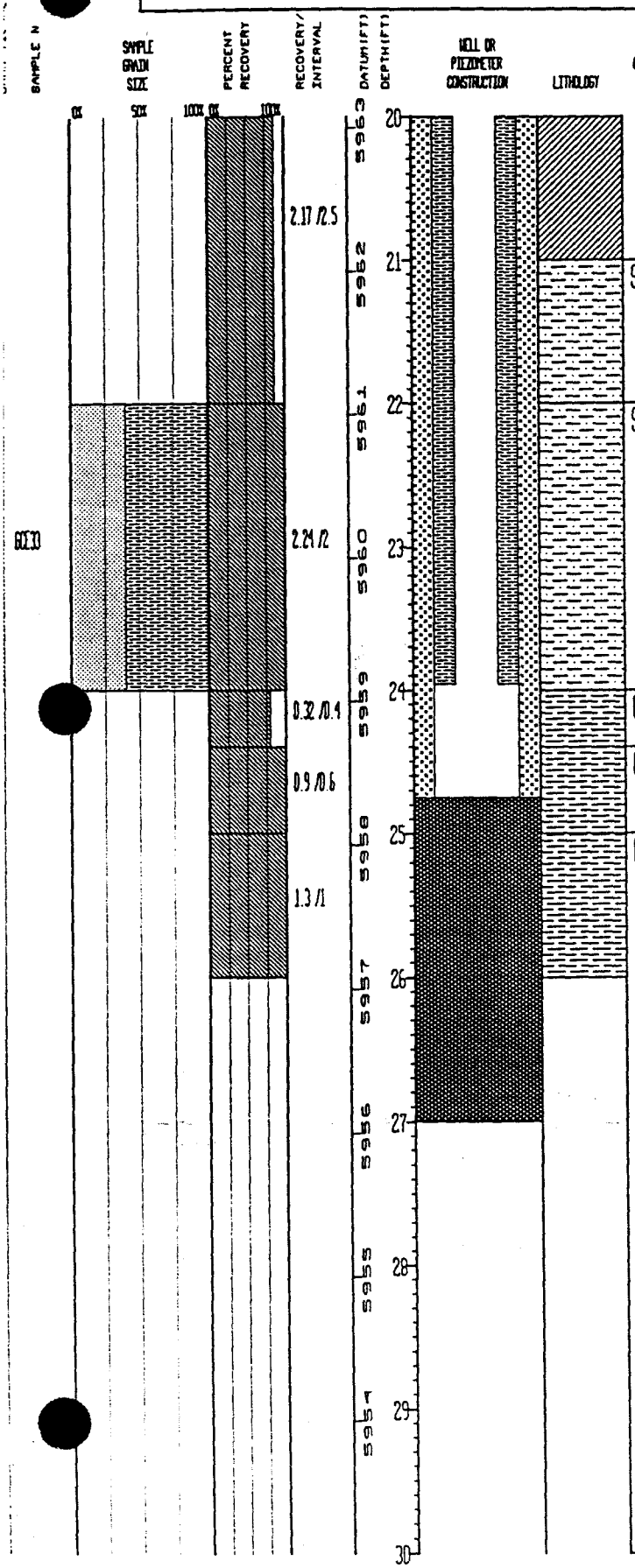
GRADATIONAL SAMPLE DEPTH | SAMPLE # | SAMPLE GRAIN SIZE (0% 50%) | PERCENT RECOVERY (100% 0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	change occurs in lower 1/3 of interval to a clayey medium to very fine grained sand yellowish gray (5Y 8/1) angular to sub-angular well graded some gravel.
SW:	Gravelly Clayey Sand - dark yellowish orange (10YR 6/6) and very pale orange (10YR 8/2), sub-angular to rounded well graded, trace of silt.
SW:	Same as above with the color being only dark yellowish orange (10YR 6/6) and max. gravel size = 5 cm.
SW:	Same as above.
CH:	Sandy Gravelly Clay - very light gray (N8) and grayish orange (10YR 7/4), medium to high plasticity, trace of silt.
CH:	Sandy Clay - yellowish gray (5Y 7/2), medium to high plasticity, some gravel, trace of silt.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 26	GROUND ELEVATION (FT):	5983.08	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752230	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB	65-87
EAST:	2083299	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/08/87	

REMARKS: Hollow Stem Auger.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDY CLAYSTONE:	Top of Bedrock
SANDY CLAYSTONE:	Medium to fine, yellowish gray (5Y 7/2) medium to high plasticity, trace of silt and gravel. Sand occurs in lenses and pockets and is mainly fine clean sand.
CLAYSTONE:	Light olive gray (5Y 6/1) high plasticity, trace of sand and silt.
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above.

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 65-87

Coordinates N 39250.14 E 20200.22

Elevation: Ground Surface 5983.08'

Total Depth: Well 24.2'

Top of Casing 5985.02'

Borehole 27.0'

Formation of Completion Rocky Flats Alluvium/ Weathered Arapahoe Formation

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed December 9,10, 1987

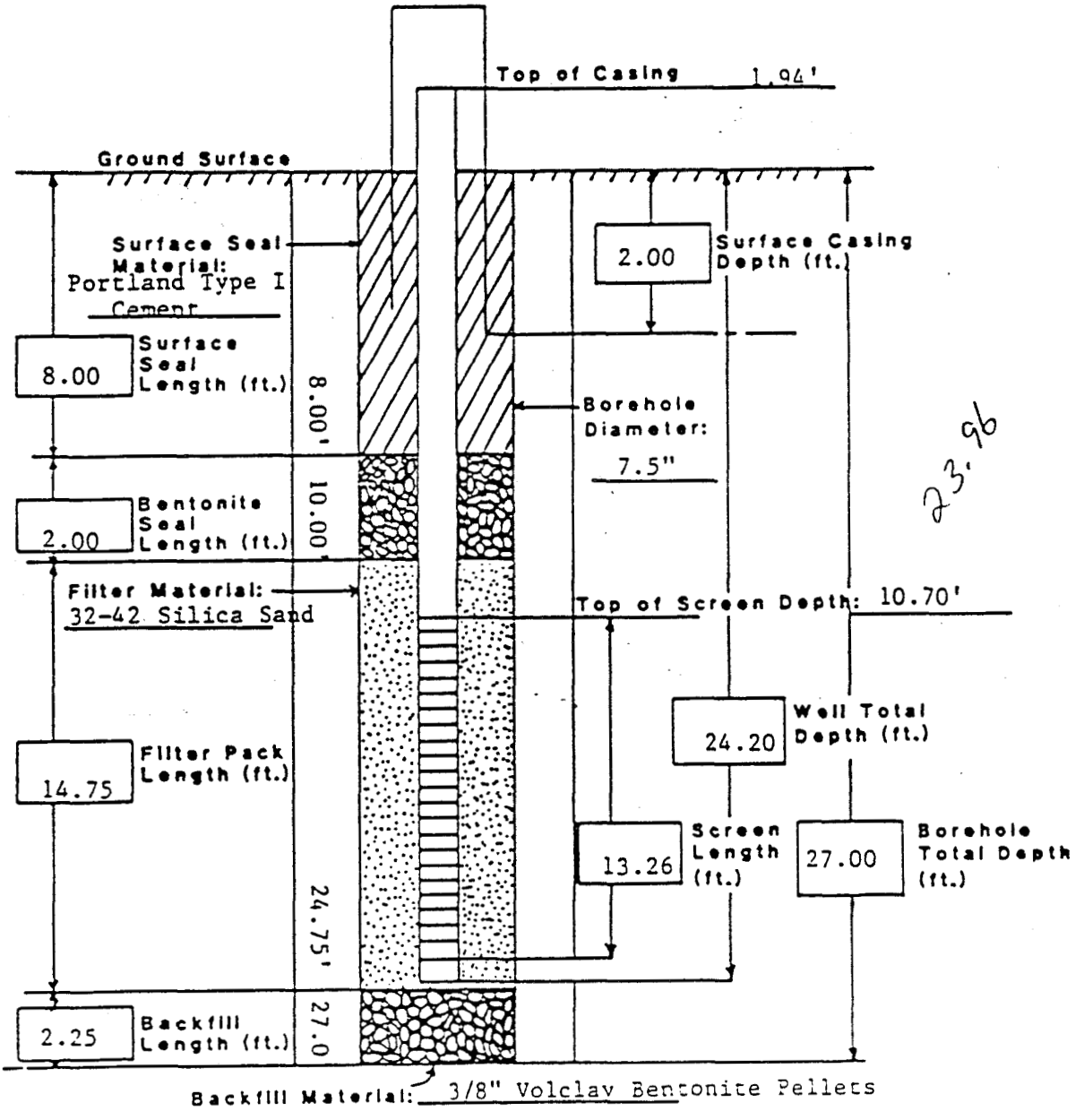
Approved By

Site Manager

Installed By R. Treat
Geologist

CEARP Manager

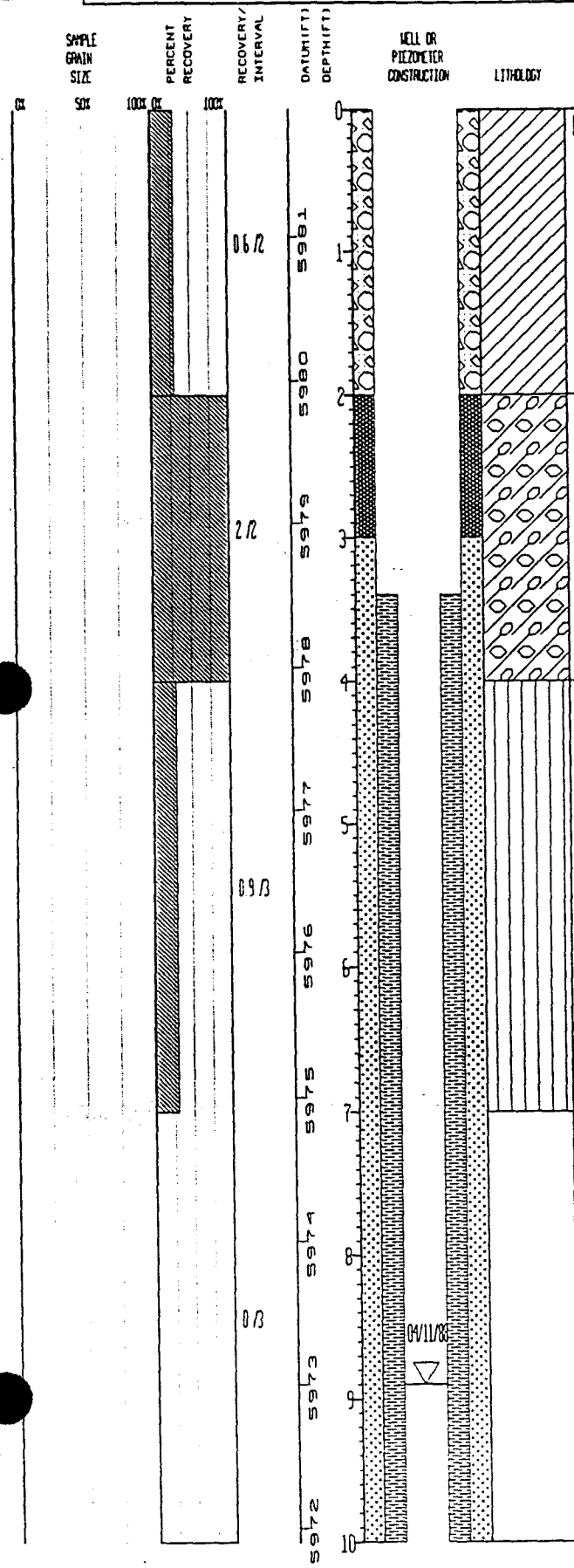
Comments



23.96

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 23	GROUND ELEVATION (FT)	5981 9	PROJECT NUMBER	667.11	LOG OF BORING NUMBER:
NORTH:	752150	AREA LANDFILL	CASING DIAMETER (IN)	2 ID	GEOLOGIST:	DCB/DAT	66-87
EAST:	2083325	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN)	7 5	DATE DRILLED:	11/23/87	

REMARKS: Hollow Stem Auger.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL	GRAVELLY CLAY - dark yellowish brown (10YR 4/2), moderate plasticity, some roots and part debris, some silt
GC	Clayey Gravel - medium light gray (N6), clay matrix is moderate reddish brown (10R 4/6), angular to sub-rounded, poorly graded, some silt, clay matrix grades to light brown, (5YR 6/4), and increases in volume below 3 ft
ML	GRAVELLY, SANDY SILT - grayish orange (10YR 7/4), trace of clay.
	NO SAMPLE

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 23	GROUND ELEVATION (FT): 5981.9	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 752150	AREA: LANDFILL	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB/DAT	66-87
EAST: 2083325	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 11/23/87	

REMARKS: Hollow Stem Auger.

CHEMICAL SAMPLE DEPTH / GRADATIC SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2/2	5971	10–11	01/05/88		CL:	GRAVELLY CLAY - moderate yellowish brown (10YR 5/4) moderate plasticity, some silt, trace of sand, color grades to grayish orange (10YR 7/4) below 11 ft.
					5970	12			SP:	SAND - grayish orange (10YR 7/4), moderately graded, angular to sub-angular, med. to very fine grained, trace of silt and clay.
				2.5/2.5	5969	13			SP:	GRAVELLY SAND - angular to sub-rounded, moderately graded, very coarse grained, to very fine grained.
					5968	14			CL:	Grades to a GRAVELLY SANDY CLAY - grayish orange (10YR 7/4) low plasticity.
					5967	15	11/23/87		CH:	Clay - light gray (N7), high plasticity, trace of sand and silt.
				2.5/2.5	5966	16			CLAYSTONE:	Top of Bedrock.
	60126			1.6/1	5965	17			SANDSTONE:	Grayish orange (10YR 7/4), sub-rounded to rounded, poorly graded, medium grained, very clean.
				1.5/1	5964	18			CLAYSTONE:	Dark yellowish orange (10YR 6/6) grading to yellowish gray (5Y 8/1) with depth, bedding not apparent, highly weathered, highly to slightly friable, localized iron staining.
				1/1	5963	19			CLAYSTONE:	Same as above.
					5962	20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 23	GROUND ELEVATION (FT) 5981.9	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH	752150	AREA LANDFILL	CASING DIAMETER (IN) 2 ID	GEOLOGIST DCB/DAT	66-87
EAST	2083325	LOCATOR NUMBER K12	BOREHOLE DIAMETER (IN) 7.5	DATE DRILLED 11/23/87	

REMARKS: Hollow Stem Auger.

SAMPLE	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0/0.7		20			NO SAMPLE	
			0.2/0.29	5961	21			SANDY CLAYSTONE	VFG grayish orange (10YR 7/4) massive bedding, well weathered, mod.-highly friable some iron staining as mottles abundant micro fractures, trace of Mg staining.
			1.4/1	5960	22			SANDY CLAYSTONE	Same as above: floury texture
			1.3/1	5959	23			SANDY CLAYSTONE	Same as above: consolidated texture.
				5958	24				
				5957	25				
				5956	26				
				5955	27				
				5954	28				
				5953	29				
				5952	30				

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 66-87

Coordinates N 39170.26 E 20226.01

Elevation: Ground Surface 5981.90'

Total Depth: Well 18.20'

Top of Casing 5983.64'

Borehole 23.00'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed November 24, 1987

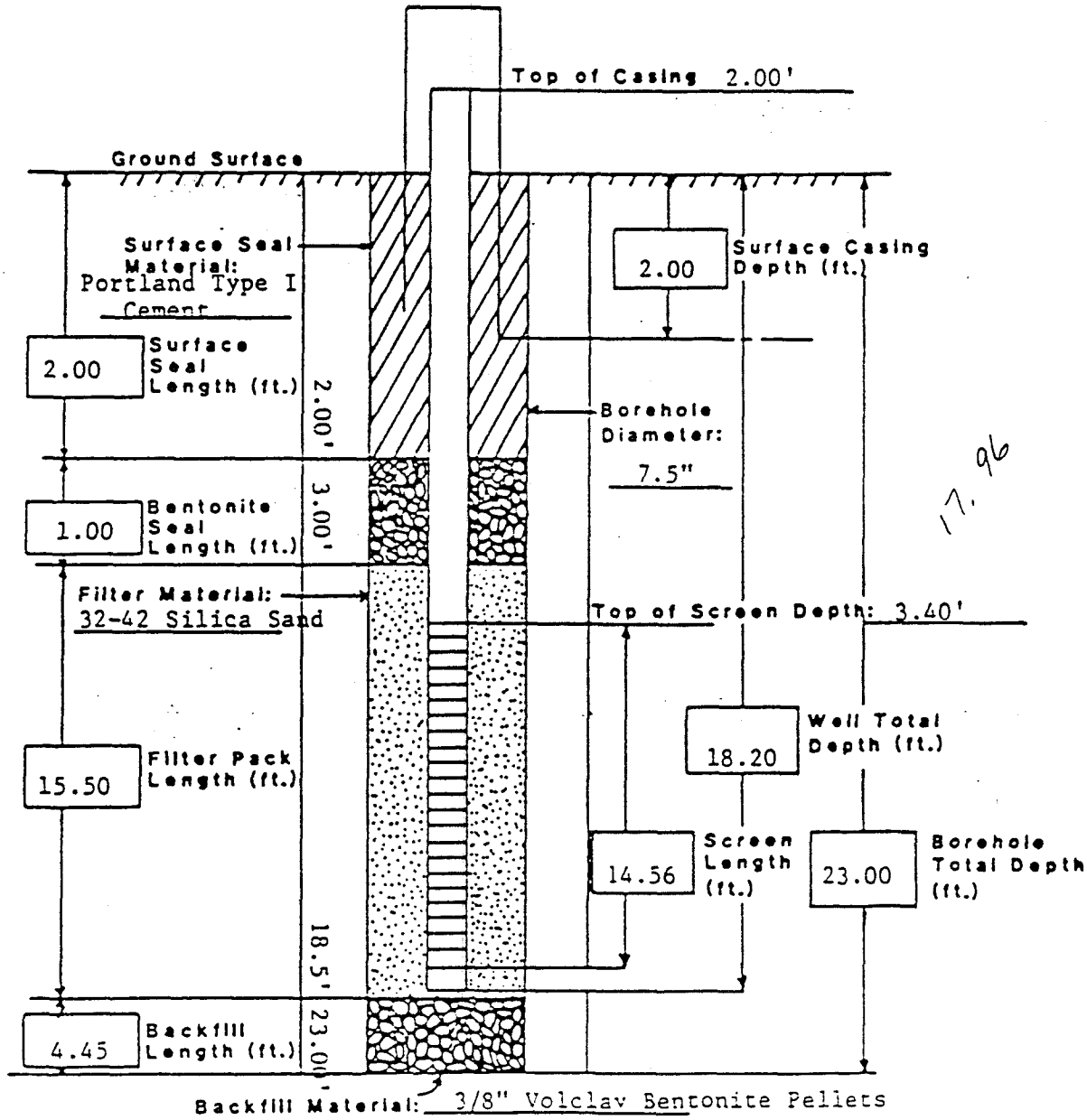
Approved By _____

Installed By R. Treat
Geologist

Site Manager

CEARP Manager

Comments _____



17.96

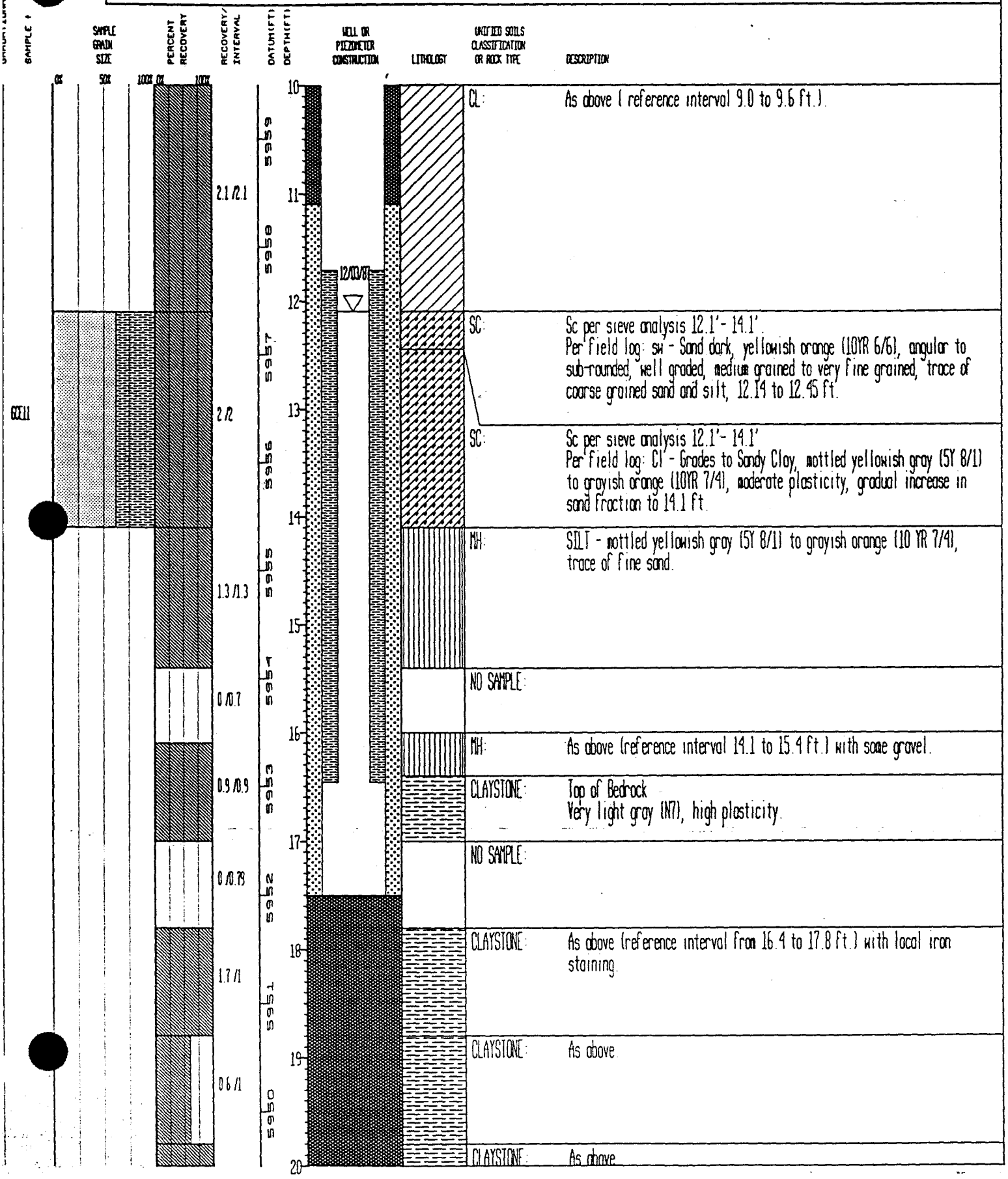
STATE PLANE COORDINATE	TOTAL DEPTH (FT): 21.4	GROUND ELEVATION (FT):	5969.5	PROJECT NUMBER:	667.11
NORTH: 753164	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB
EAST: 2083774	LOCATOR NUMBER: K13	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/03/87

REMARKS: Hollow Stem Auger.

LOG OF BORING NUMBER: 67-87

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%	0.5/0.5	5969	0			CL:	GRAVELLY CLAY - dark yellowish brown (10YR 4/2), moderate plasticity, some sand and silt.
			0/1.5	5968	1	01/06/88		NO SAMPLE:	
			1.1/1.1	5967	2			GC:	Clayey Gravel - medium light gray (N7), clay matrix is (10R 3/4), angular to sub-angular poorly graded, max. size = 7 cm. Some silt, trace of sand.
			0/0.9	5966	3			NO SAMPLE:	
			1.6/1.6	5965	4			GC:	As above (reference interval 2.0 to 3.4 ft.), matrix color grades to very pale orange (10YR 8/2), max. gravel size is 6 cm.
			0/0.4	5964	5			NO SAMPLE:	
			0.9/0.9	5963	6			CL:	GRAVELLY CLAY - very pale orange (10YR 8/2), moderate plasticity, some silt and fine sand.
			0/1.1	5962	7	04/11/88		NO SAMPLE:	
			1.6/1.6	5961	8			CL:	As above (reference interval 6.0 to 6.9 ft.) color is grayish orange (10 YR 7/4).
					9			CH:	Grades to Clay - yellowish gray (5Y 8/1), high plasticity some sand and silt
			0/0.4	5960	10			NO SAMPLE:	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT) 21.4	GROUND ELEVATION (FT):	5959.5	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	753164	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	67-87
EAST:	2083774	LOCATOR NUMBER: K13	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/03/87	
REMARKS:	Hollow Stem Auger						



STATE PLANE COORDINATE		TOTAL DEPTH (FT) 21.4	GROUND ELEVATION (FT)	5969.5	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH:	753164	AREA LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	67-87
EAST:	2083774	LOCATOR NUMBER: K13	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/03/87	

REMARKS: Hollow Stem Auger.

SAMPLE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0%	50%	100% 0% 100%	1.6/1.6	5949	20			CLAYSTONE:	As above
				5948	21				
				5947	22				
				5946	23				
				5945	24				
				5944	25				
				5943	26				
				5942	27				
				5941	28				
				5940	29				
					30				

ABANDONED
6/03/93

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 67-87

Coordinates N 40182.78 E 20678.79

Elevation: Ground Surface 5969.50'

Total Depth: Well 16.8'

Top of Casing 5971.72'

Borehole 21.4'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

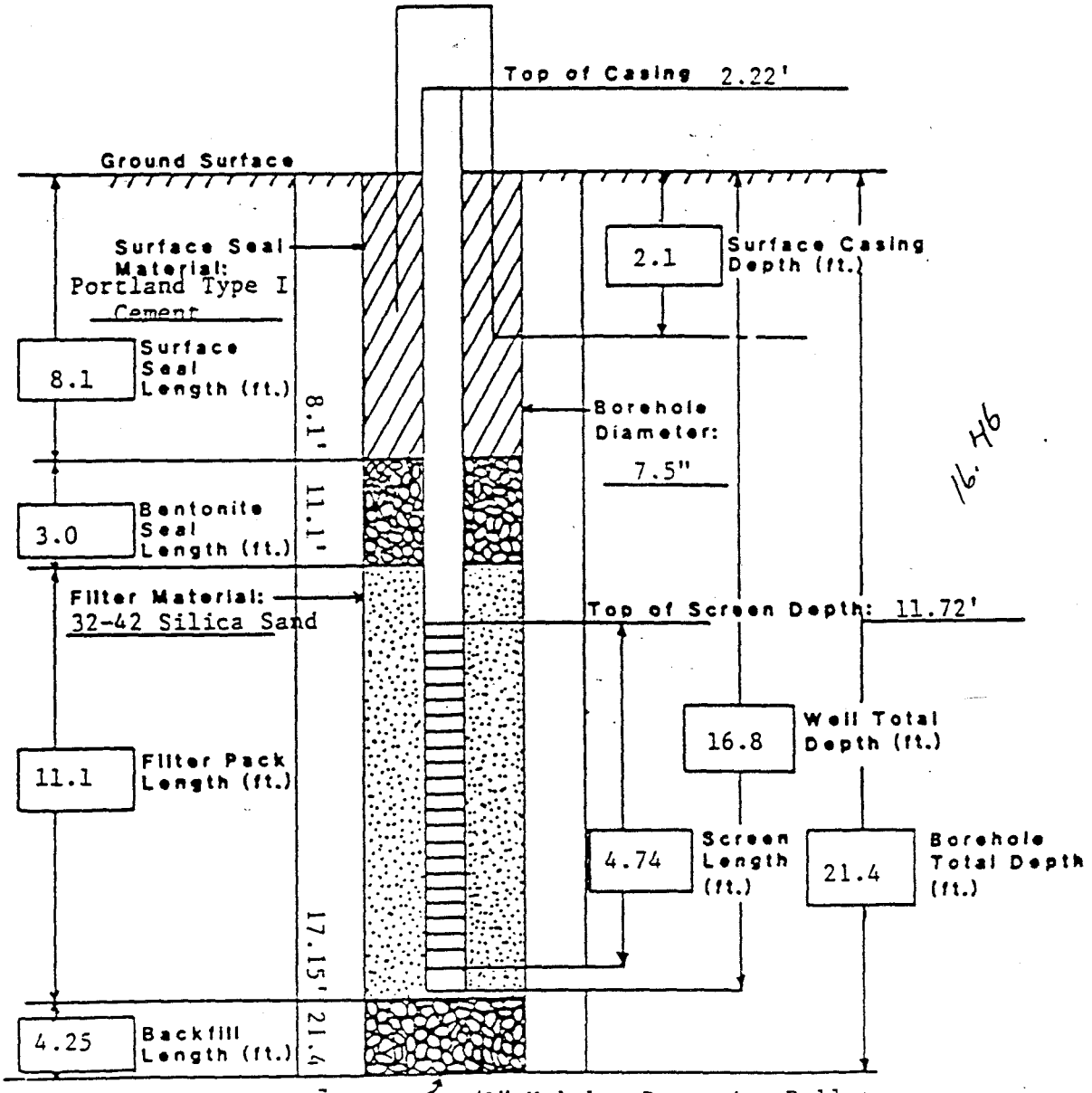
Date Installed December 4, 1987

Approved By _____
Site Manager

Installed By J. Bacchus
Geologist

_____
CEARP Manager

Comments _____



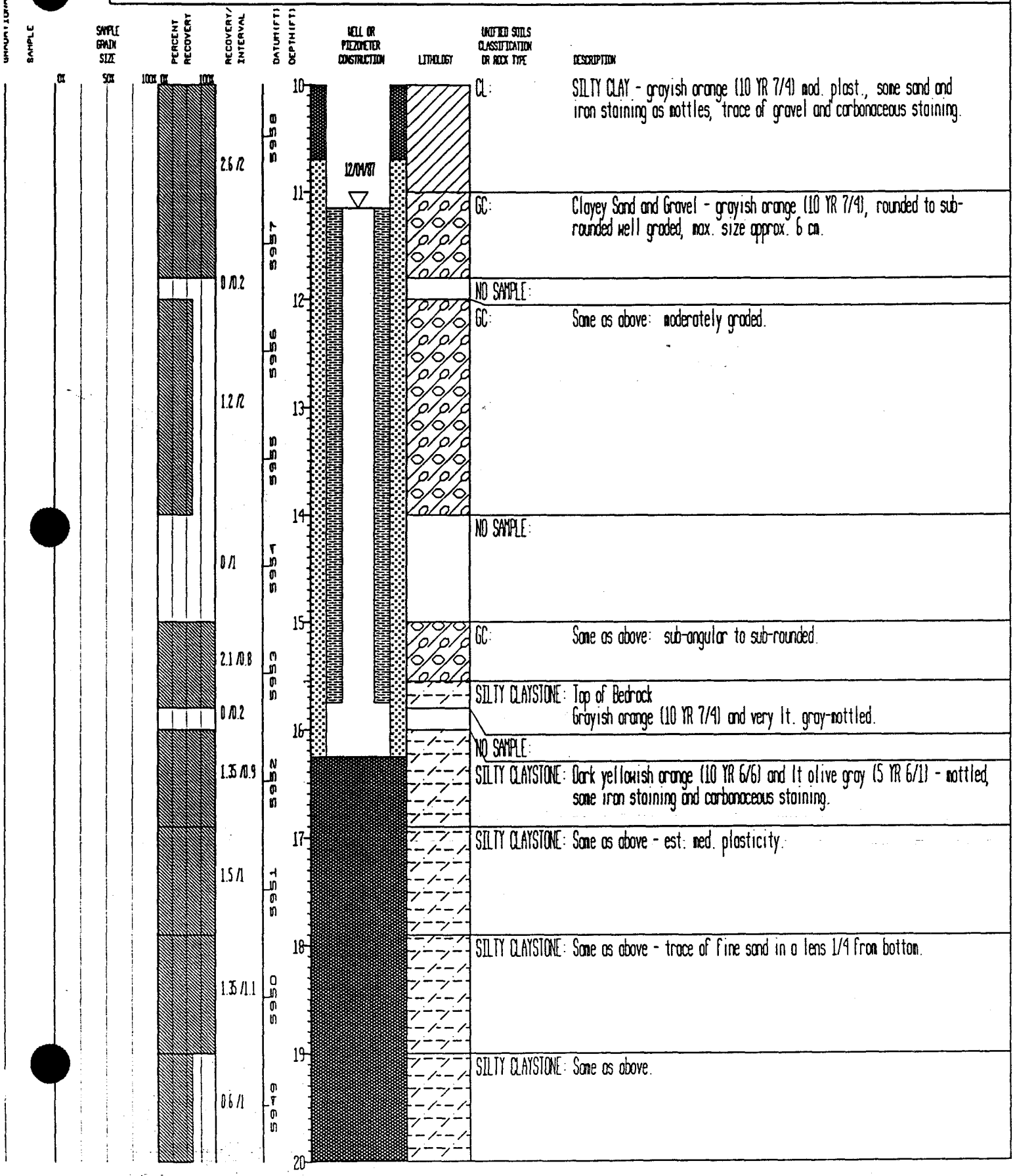
16.46

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 20	GROUND ELEVATION (FT): 5968.48	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:	
NORTH: 753145	AREA: LANDFILL	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD	68-87	
EAST: 2083777	LOCATOR NUMBER: K13	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 12/04/87		
REMARKS: Hollow Stem Auger.					

SAMPLE NO.	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.8/1.8	5968	0–1			GC:	Sandy Clayey Gravel - dark reddish brown (10 YR 3/4) (clay matrix) sub-angular to sub-rounded mod. well graded, max. size approx. 5 cm., some silt.
			0/0.2	5967	1–2			NO SAMPLE:	
			0.8/0.8	5966	2–3			CL:	Grades into a GRAVELLY CLAY, moderate reddish brown (10 YR 4/6) to a moderate yellowish brown (10 YR 5/4), est. low plast., some sand.
			0/1.2	5965	3–4			NO SAMPLE:	
			0.5/0.7	5964	4–5			CL:	SANDY GRAVELLY CLAY - Grayish orange (10 YR 7/4), est. low plasticity, some silt, max. gravel size = 3.5 cm.
			0/1.3	5963	5–6			NO SAMPLE:	
			0.8/0.8	5962	6–7	04/11/88 ▽		CL:	Same as above: max. gravel size = 5 cm.
			0/0.6	5961	7–8			NO SAMPLE:	
			0/0.6					NO SAMPLE:	
			1.3/0.7	5960	8–9			CL:	Same as above.
			0/1.1	5959	9–10			NO SAMPLE:	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 20	GROUND ELEVATION (FT):	5958.48	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	753145	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD	68-87
EAST:	2083777	LOCATOR NUMBER: K13	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/04/87	

REMARKS: Hollow Stem Auger.



WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 68-87

Coordinates N 40163.59 E 20680.82

Elevation: Ground Surface 5968.48'

Total Depth: Well 16.0'

Top of Casing 5970.31'

Borehole 20.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed December 4 & 7, 1987

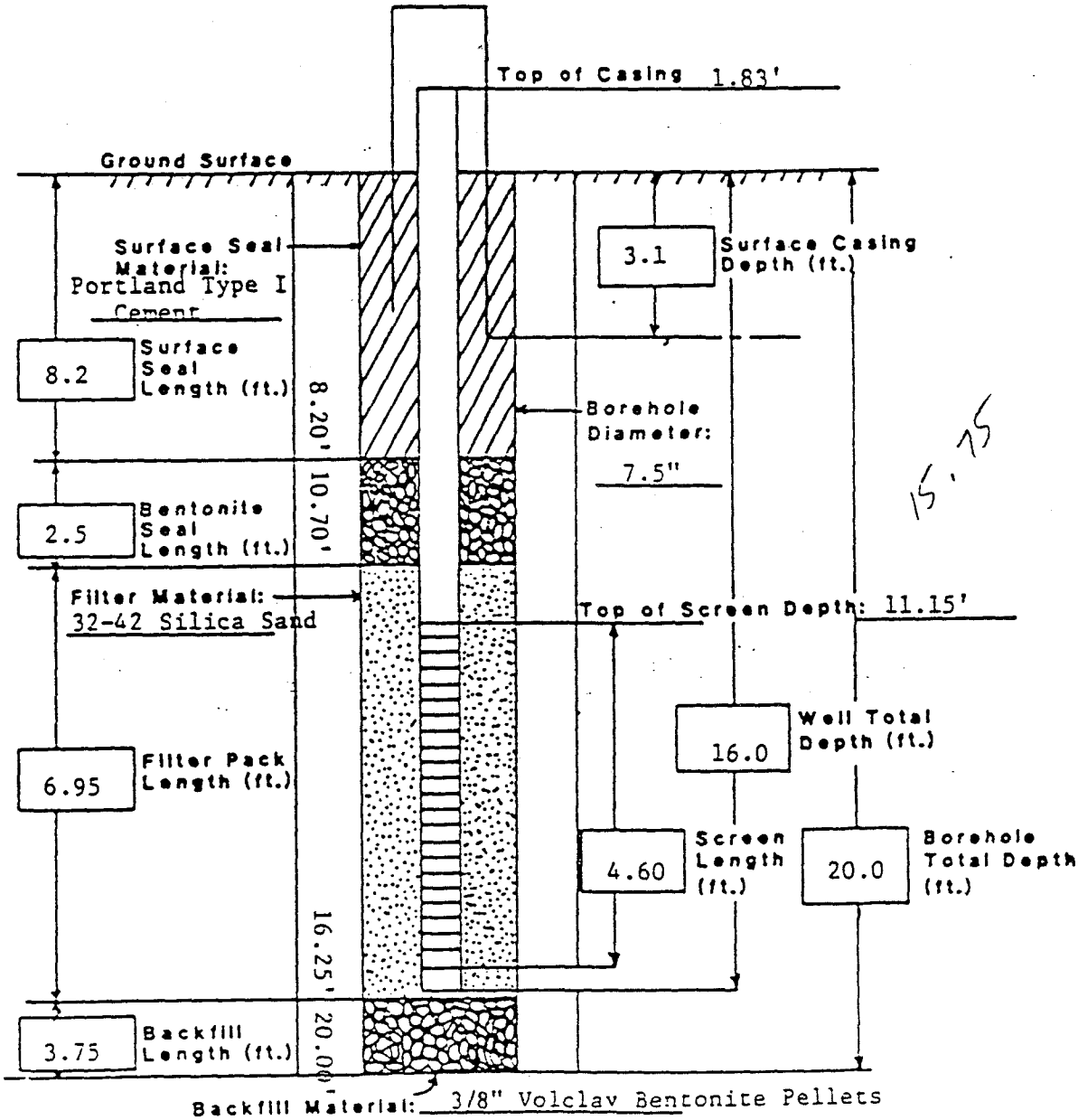
Approved By

Site Manager

Installed By J. Bacchus
Geologist

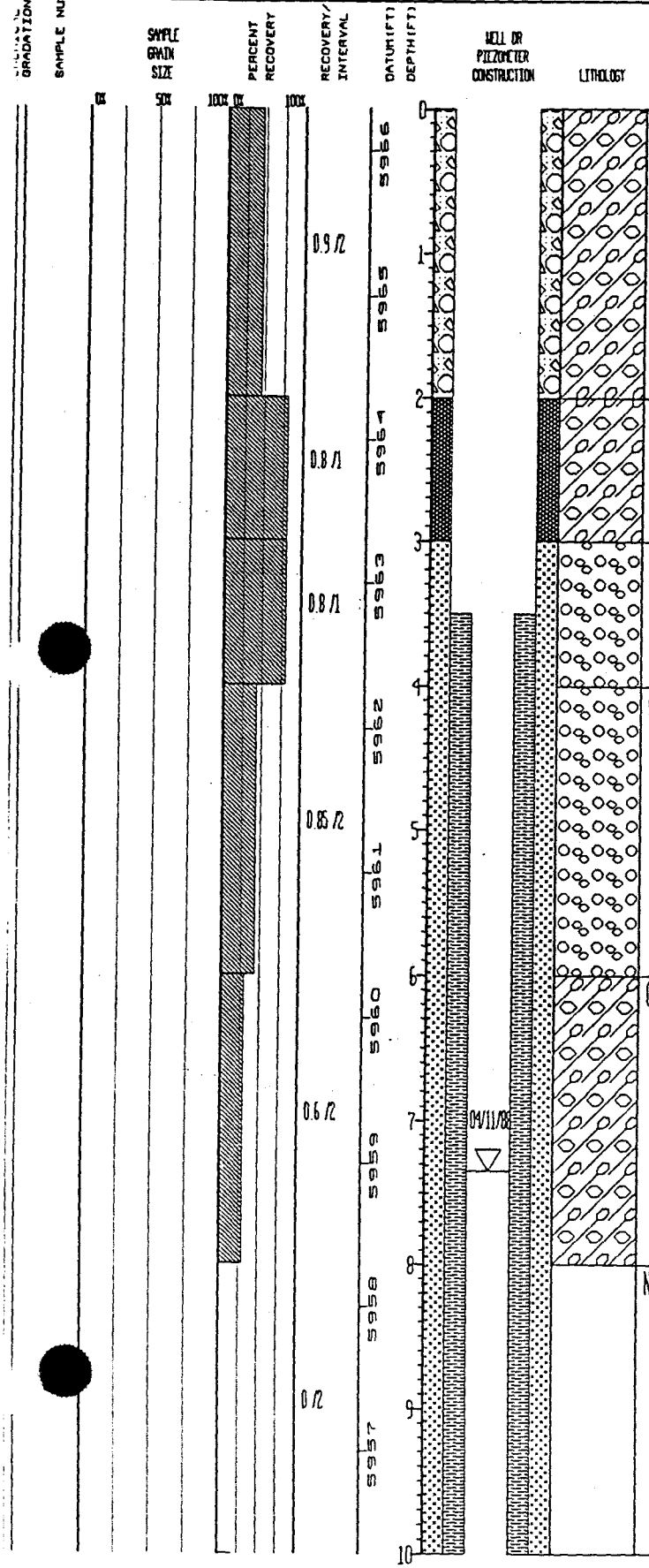
CEARP Manager

Comments



15.75

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 17	GROUND ELEVATION (FT): 5966.3	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 752571	AREA: LANDFILL	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB/TSD	70-87
EAST: 2084196	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 07/17/87	
REMARKS: Hollow Stem Auger.				



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	GRAVEL - very light gray (N8) angular to sub-rounded, low sphericity, 4 cm. is max. size, moderately well graded. Some clay and sand moderate brown (5 YR 3/4).
GC:	Clayey Gravel - very light gray (N8) angular to sub-rounded, low sphericity, 3.5 cm. is max. size, moderately well graded, clay is moderate brown (5 YR 3/4) some sand.
GW:	SANDY GRAVEL - medium light gray (N6) angular to sub-rounded, low to moderate sphericity, 3 cm. is max. size, moderately graded, some clay.
GW:	Same as above.
GC:	SILTY GRAVEL - medium gray (N5) (grayish orange (10 YR 7/4)-silt) angular to sub-angular, low to moderate sphericity, 1.5 cm. is max. size, well graded, some sand.
NO SAMPLE:	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 17	GROUND ELEVATION (FT):	5966.3	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER
NORTH:	752571	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB/TSD	70-87
EAST:	2084196	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	07/17/87	

REMARKS: Hollow Stem Auger

GRADATIONAL SCALE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%	0.35/2	5956 5955	10 11			CH:	Gravelly Silty Clay - light gray (N7), high plasticity, gravel max. size = 7 cm. and is dark gray (N3).
				2.7/2	5954 5953	12 13			SILTY CLAYSTONE:	Top of Bedrock Mottled very light gray (N8) and dark yellowish orange (10 YR 6/6), high plasticity, trace of fine sand.
				1.9/2	5952 5951	14 15			SILTY CLAYSTONE:	Same as above.
				1.5/1	5950 5949 5948 5947	16 17 18 19 20	01/06/88		SILTY CLAYSTONE:	Medium gray (N5), medium plasticity, trace of fine sand.

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 70-87

Coordinates N 39588.09 E 21098.79

Elevation: Ground Surface 5966.30'

Total Depth: Well 16.5'

Top of Casing 5968.35'

Borehole 17.0'

Formation of Completion Rocky Flats Alluvium/ Weathered Arapahoe Formation

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed December 14, 1987

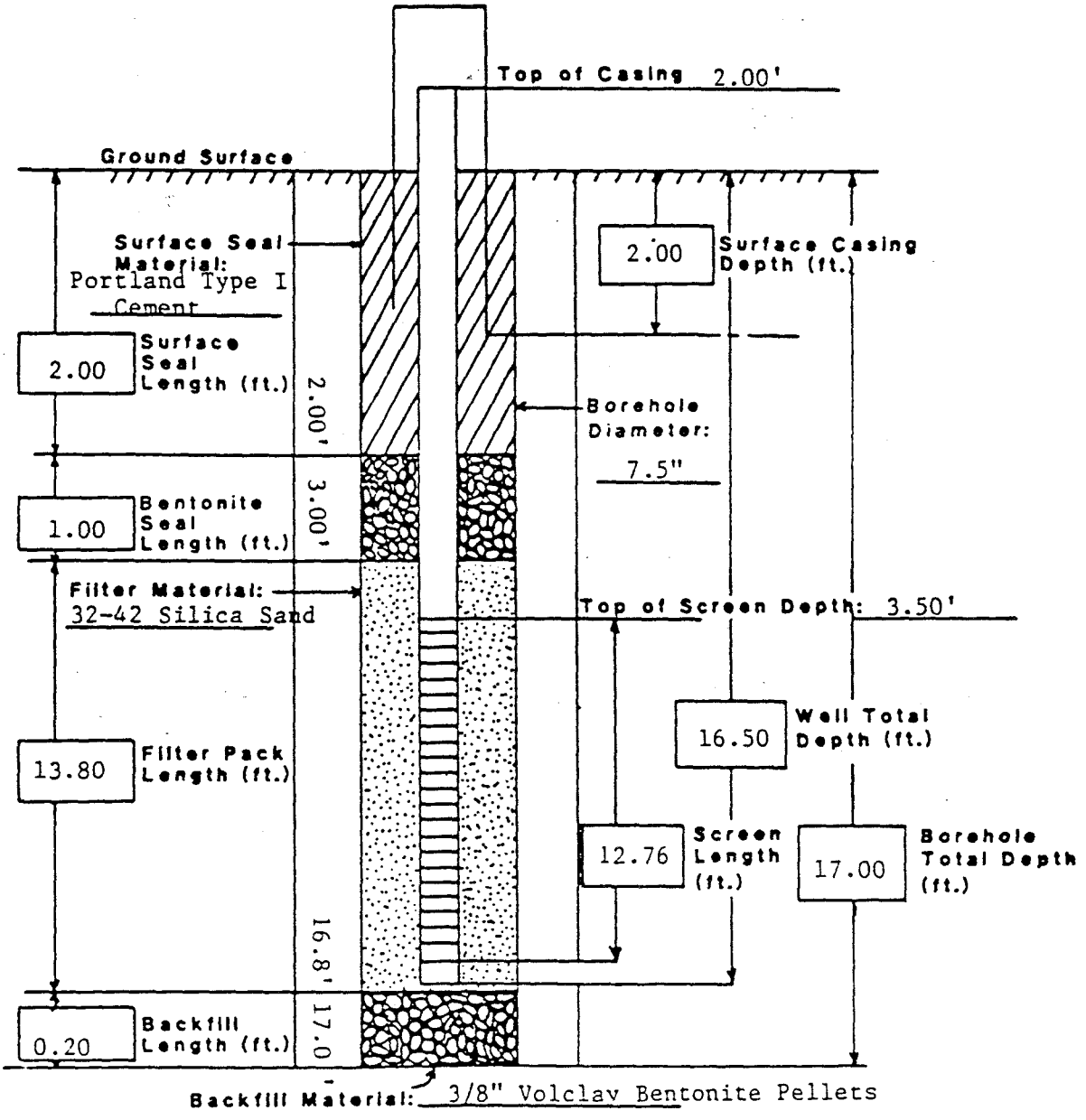
Approved By

Installed By R. Treat
Geologist

Site Manager

CEARP Manager

Comments



STATE PLANE COORDINATE		TOTAL DEPTH (FT) 19	GROUND ELEVATION (FT) 5963 39	PROJECT NUMBER 657 11	LOG OF BORING NUMBER
NORTH	753322	AREA LANDFILL	CASING DIAMETER (IN) 2 ID	GEOLOGIST DCB/TSD	71-87
EAST	2084087	LOCATOR NUMBER L13	BOREHOLE DIAMETER (IN) 7 5	DATE DRILLED 12/10/87	

REMARKS Hollow Stem Auger

SAMPLE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0 4/0 6	5963	0			GP	GRAVEL - Medium gray (N5) angular to sub-rounded, low sphericity, 4.5 cm. is max size, poorly graded, some clay grayish brown (5 YR 3/2), trace of roots
			0 66/1.4	5962	1			GP	Same as above with an increase in clay fraction and roots
			1.2/2	5961	2			CALICHE	Fine to very coarse Sandy Gravelly Caliche (calcareous cement) very light gray (N8) to dark gray (N3). Sand and gravel is sub-rounded to rounded, moderate sphericity well graded, max size = 5 cm.
			0.74/0 6	5960	3	03/14/88		CALICHE	Same as above
			0/0.4	5959	4	12/10/87		NO SAMPLE	
			0/0.95	5958	5			NO SAMPLE	
			0.93/2	5957	6			GW	Clayey Sandy Gravel - dark yellowish orange (10 YR 6/6) to grayish orange (10 YR 7/4), sub-angular to rounded, low to moderate sphericity, 3 cm. is max size, well graded, some silt.
			0/1.05	5956	7			NO SAMPLE	
			1 83/1.6	5955	8			CL	SANDY CLAY - fine to very coarse, mottled grayish orange (10 YR 7/4) and very light gray (N8) low plasticity, trace of gravel
				5954	9				
					10				

5323

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 19	GROUND ELEVATION (FT) 5963.39	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH	753322	AREA LANDFILL	CASING DIAMETER (IN) 2 ID	GEOLOGIST DCB/TSD	71-87
EAST	2084087	LOCATOR NUMBER L13	BOREHOLE DIAMETER (IN) 7.5	DATE DRILLED 12/10/87	

REMARKS Hollow Stem Auger

SAMPLE	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0/0.4	5963	10			NO SAMPLE	
			1.82/1.6	5962	11			CL	Same as previous description
			0/0.4	5961	12			NO SAMPLE	
			0.9/1.1	5960	13			CL	CLAY - dark yellowish orange (10 YR 6/6), moderate plasticity, trace of fine to coarse gravel. Contains a mineralize iron nodule (siderite, limonite?) is approx. 5 cm. in size.
			0/0.9	5959	14			CLAYSTONE	Top of Bedrock
								NO SAMPLE	
			0.77/1.1	5958	15			CLAYSTONE	Very light gray (N8) highly plastic, trace of medium grained sand.
			0/0.9	5957	16			NO SAMPLE	
			1/0.6	5956	17			CLAYSTONE	Same as previous sample.
			0/1.4	5955	18			NO SAMPLE	
				5954	19				
					20				

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 71-87

Coordinates N 40339.90 E 20991.74

Elevation: Ground Surface 5963.39'

Total Depth: Well 13.85'

Top of Casing 5965.47'

Borehole 18.50'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed December 11, 1987

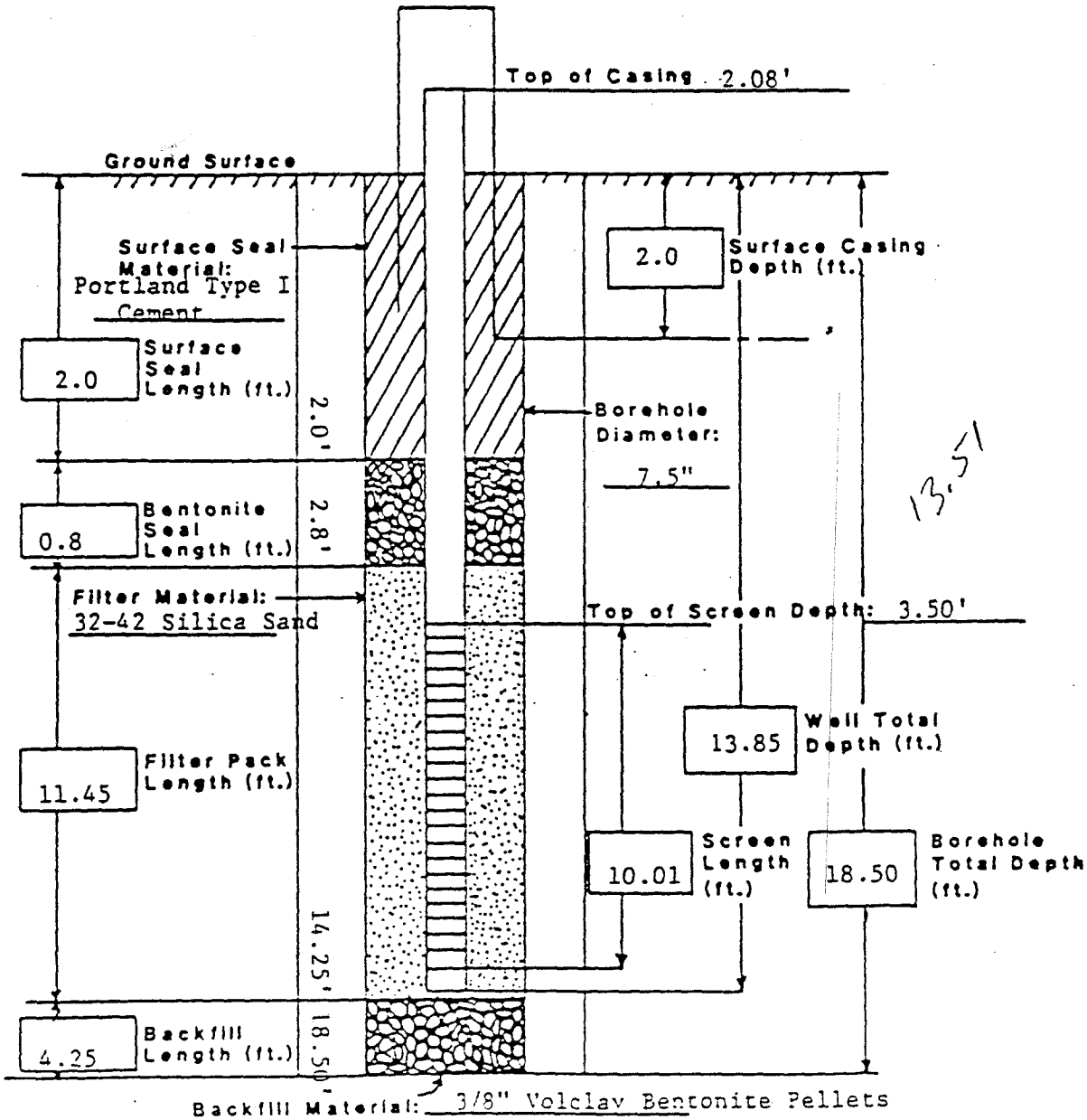
Approved By

Site Manager

Installed By J. Bacchus
Geologist

CEARP Manager

Comments



13.51

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 15		GROUND ELEVATION (FT):	5969.11	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	752441	AREA: LANDFILL		CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD	72-87
EAST:	2083953	LOCATOR NUMBER: K12		BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/16/87	
REMARKS:	Hollow Stem Auger							

GRADATIONAL S DEPTH / SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
72870000H			0.93/2	5969, 5968	0, 1			GP:	CALCAREOUS GRAVEL-predominantly very light gray (N 8), angular to sub-rounded, mod. grading max size = 6.5 cm., some clay and roots at top 3" of interval, trace of sand. (Gp/Gw).
72870002H			0.9/1.5	5967, 5966	2, 3	02/04/88		GP:	Same as above; except no clay and roots and increased sand fraction, max size = 6.5 cm. (Gp/Gw).
			0/0.5			01/06/88		NO SAMPLE:	
72870004UC			0.2/2	5965, 5964	4, 5	12/16/87		GP:	Same as above. Max gravel size = 2.5 cm., some silt. (Gp/Gw).
72870006WT			1.55/2	5963, 5962	6, 7			CL:	SILTY CLAY - grayish orange (10 YR 7/4) to pinkish gray (5YR8/1) - low plast. some fine sand, trace of calcite in pockets.
			1.75/2	5961, 5960	8, 9, 10			SILTY CLAYSTONE:	Top of bedrock Same as above

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 15	GROUND ELEVATION (FT): 5969.11	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER
NORTH: 752441	AREA: LANDFILL	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD	72-87
EAST: 2083953	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 12/16/87	
REMARKS: Hollow Stem Auger				

GRADATIONAL SA DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				0/2	5959	10				NO SAMPLE:
					5958	11				
				0/2	5957	12				NO SAMPLE:
				0.3/2	5956	13				SILTY CLAYSTONE: Grayish orange (10 YR 7/4) to a pinkish gray (5 YR 8/1) - low plast, some fine sand.
					5955	14				
					5954	15				
					5953	16				
					5952	17				
					5951	18				
					5950	19				
						20				

WELL COMPLETION INFORMATION

Location Rocky Flats Plant; Landfill Area

Well No. 72-87

Coordinates N 39459.12 E 20855.24

Elevation: Ground Surface 5969.11'

Total Depth: Well 7.0'

Top of Casing 5971.18'

Borehole 15.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter 2" ID

Screen Material 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter 5" ID

Date Installed December 17, 1987

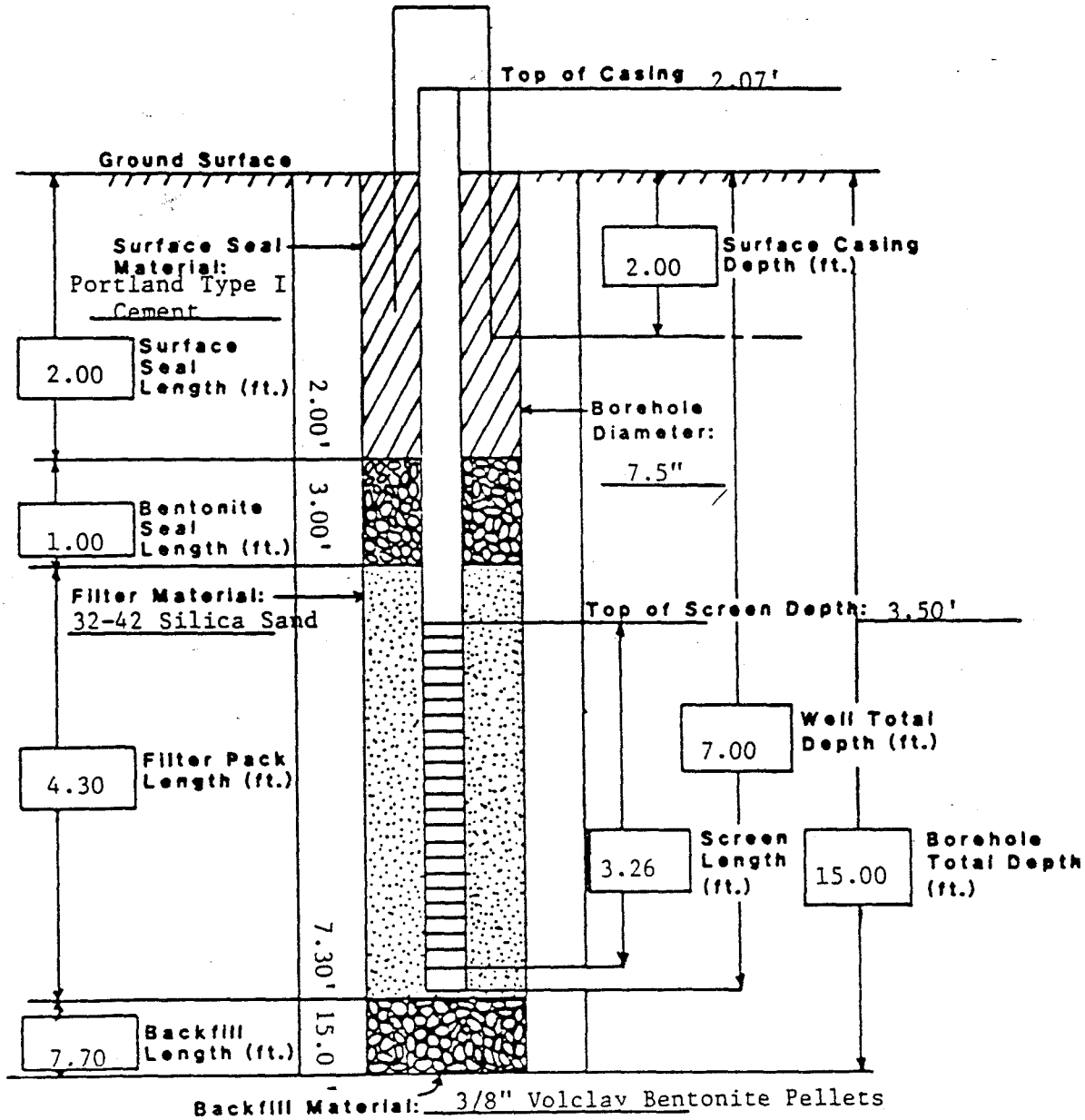
Approved By

Site Manager

Installed By R. Treat
Geologist

CEARP Manager

Comments



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 27.0	GROUND ELEVATION (FT):	5985.50	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	752450	AREA: SITEWIDE	CASING DIAMETER (IN):	4.0 I.D.	GEOLOGIST:	F. GRIGSBY	44492
EAST:	2083405	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	14.0	DATE DRILLED:	06/08/92	

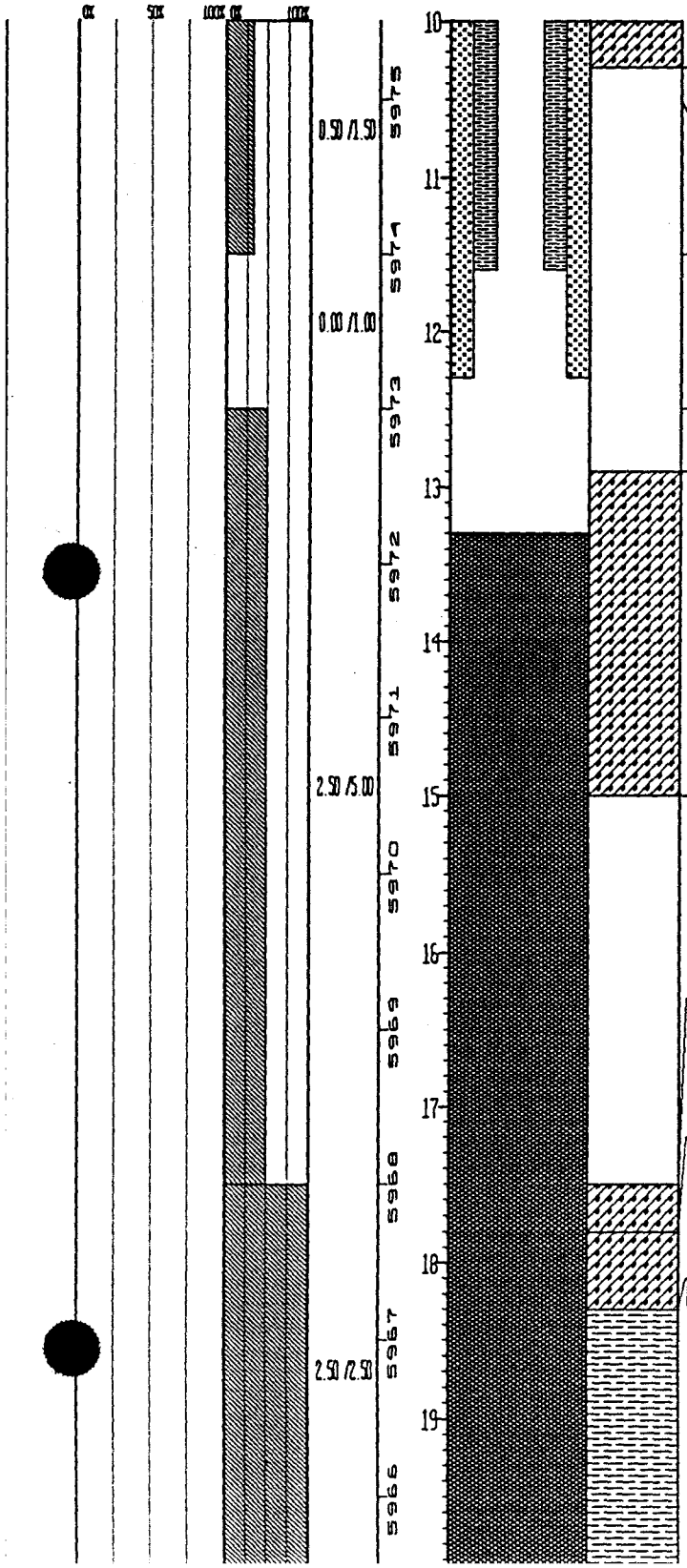
REMARKS: ASI Geologist: Fred Grigsby. ASI Log. EBASCO Geologist: K. Tegtmeyer. Soil Gas Monitoring Well.

CHEMICAL SAMPLE ID / GEOTECHNICAL SAMPLE ID	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5985	0			SC:	Sandy Clay with some Gravel. Mod. brown (5 YR 4/4) to light brown (5 YR 6/4) fill. Calcareous. Apparent med. plasticity. Core dry, well cemented (argillaceous). +/-25% gravel.
				1.00 /3.70	5984	1			NO SAMPLE:	No recovery.
					5983	2				
					5982	3				
				0.00 /1.30	5981	4			NO SAMPLE:	No recovery. Center bit drilled.
					5980	5			GC:	Clayey Gravel with some Sand. Alluvial fill material. Mod. yellowish brown (10 YR 5/4) to dark yellowish brown (10 YR 4/2) matrix. Calcareous. Core dry and well cemented and compacted. Apparent med. plasticity. Gravel to max. pebble size of 2.5 in., dom. lithology quartzite (Rocky Flats Alluvium). Appears mod. well graded. No trash this interval except 0.2" segment of asphalt at approx. 7.4'. +/-50% gravel.
				3.00 /3.80	5979	6				
					5978	7				
					5977	8			NO SAMPLE:	No recovery.
										Asphaltic material. Black (N1). Very slight odor on fresh break. 2.25 in. pebble at top of this interval.
				1.20 /1.20	5976	9			SC:	Sandy Clay with some Gravel. Dark yellowish brown (10 YR 4/2). Extensively broken by drilling. Core dry, fragments appeared mod. well cemented (argillaceous). Apparent med. plasticity. Smaller well graded gravel. Some trash at base of interval. Calcareous. +/-25% gravel

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 27.0	GROUND ELEVATION (FT): 5985.50	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 752450	AREA: SITEWIDE	CASING DIAMETER (IN): 4.0 I.D.	GEOLOGIST: F. GRIGSBY	44492
EAST: 2083405	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN): 14.0	DATE DRILLED: 06/08/92	

REMARKS: ASI Geologist: Fred Grigsby. ASI Log. EBASCO Geologist: K. Tegtmeyer. Soil Gas Monitoring Well.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
TRASH:	Wood. Dry.
NO SAMPLE:	No recovery.
NO SAMPLE:	No recovery. Center bit drilled.
TRASH:	Wood, plastic. Slightly damp.
SC:	Clayey Sand with some Gravel. Mod. yellowish brown (10 YR 5/4) to light brown (5 YR 5/6). Pred. unconsol., slightly damp in top foot of interval. Some trash in top 0.4' of core. Apparent low plasticity. Slightly more compacted and better cemented (argillaceous) at bottom of interval. Gravel small, poorly graded. Interval non-calcareous. 10-15% gravel.
NO SAMPLE:	No recovery.
SC:	Clayey Sand with trace Gravel. Light brown (5 YR 5/6). Sand appears poorly graded. Mod. well cemented, slightly damp. Possibly in place (aquifer?). >5% gravel.
SC:	Clayey Sand with trace Gravel. Same as above (reference interval 17.5' to 17.8'), except coarser sand and higher gravel content. +/-20% gravel.
CLAYSTONE:	Top of Bedrock at 18.3'. Claystone with some Silt. Light olive gray (5 Y 4/1) with grayish orange (10 YR 7/4) to dark yellowish orange (10 YR 6/6) lenses (Fe stained). Overall mottled appearance, some Mn staining. Silt occurs pred. in lenses as silty claystone. Core dry, dense, and indurated. Non-friable to slightly friable in silty intervals. Overall interval massive, no bedding or apparent fractures. 15% silt, 85% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 27.0	GROUND ELEVATION (FT):	5985.50	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	752450	AREA: SITEWIDE	CASING DIAMETER (IN):	4.0 I.D.	GEOLOGIST:	F. GRIGSBY	44492
EAST:	2083405	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	14.0	DATE DRILLED:	06/08/92	

REMARKS: ASI Geologist: Fred Grigsby. ASI Log. EBASCO Geologist: K. Tegtmeyer. Soil Gas Monitoring Well.

CHEMICAL SAM GEOTECHNICAL	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%		5965	20				
				2.50 /2.50	5964	21			SANDY CLAYSTONE:	Sandy Claystone with some Silt. Grayish orange (10 YR 7/4). Core slightly damp. Mod. well cemented (argillaceous). Slightly to mod. friable. Sand mod. sorted. Trace m.g. to c.g. sand, pred. f.g. to v.f.g., pred. sub-rounded to sub-angular, trace well rounded grains. Dom. lithology quartz with trace dark (black) minerals and feldspar. No mica. Visible porosity 10% or less. 41% Sand 12% silt, 47% clay. NOTE: Possible Arapahoe #1 Sandstone.
					5963	22				
					5962	23			SANDY CLAYSTONE:	Sandy Claystone with some Gravel (conglomerate) and silt. Grayish orange (10 YR 7/4) with some dark yellowish orange (10 YR 6/5) stain and apparent hematite nodules. Gravel consists of quartz, feldspar, some black clasts. Core slightly damp, well cemented. Non-friable. 25% gravel, 31% sand, 9% silt, 35% clay.
				4.50 /4.50	5961	24			CLAYSTONE:	Claystone with some Silt. Same as lithology of interval from 18.3' to 20.9'. Apparent gravelly stuff material near top of interval (approx. 22.5'). 60 degree fracture (healed and refractured) at approx. 25.7'. No apparent bedding.
					5960	25				
					5959	26				
					5958	27				Total Drilled Depth = 27.0'. NOTE: Total Depth of Casing = 12.3'. Bottom Depth of Filter Pack = 13.0' Top of bentonite Backfill = 13.0'.
					5957	28				
					5956	29				
						30				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 15.0	GROUND ELEVATION (FT):	5984.50	OLD WELL NUMBER:	LF02-89BR	LOG OF BORING NUMBER:
NORTH:	752332	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC	B206189
EAST:	2083301	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN):	11.0	DATE DRILLED:	05/25/89	

REMARKS: Hollow Stem Auger. Dry ice was placed in and around the auger to inhibit the ventilation on methane gas emanating from the landfill soils. Weston Log.

GEOTECHNICAL SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0.30 /1.00	5984	0			SC:	Sand and Clay - mod. yellowish brown (10 YR 5/4). Some 1 cm. to 2 cm. gravel. F.g. to v.c.g. sand, poorly sorted, angular, quartzose. Non-stratified. unconsol., non-cemented, loose, dry. (sc-cl?)
LF02SB0002					1			SC:	Gravelly Clayey Sand - mod. yellowish brown (10 YR 5/4). F.g. to v.c.g. sand. 1 cm. to 2 cm. gravel, poorly sorted, angular to sub-angular, quartzose. Non-stratified, unconsol., non-cemented, loose, dry.
LF02SB0003				5983					
			1.10 /2.00	5982	2				
					3			CL:	Sandy Gravelly Clay - pale yellowish brown (10 YR 6/2). F.g. to c.g. sand. 2 cm. to 7 cm. gravel to trace pebbles, poorly sorted, sub-angular, quartzose. Non-stratified, unconsol., non-cemented, med. dense to loose, dry.
			0.20 /1.00	5981					
					4			CL:	Sandy Gravelly Clay - mod. yellowish brown (10 YR 5/4). F.g. to v.c.g. sand. 1 cm. to 5 cm. gravel, poorly sorted, sub-angular, granite and quartzites. Non-stratified, mod. consol., stiff, low plasticity, slightly calcareous, moist.
				5980					
LF02SB0006			2.00 /2.00		5				
				5979					
LF02SB0009					6			CL:	Sandy Gravelly Clay - same as above. Mod. yellowish brown (10 YR 5/4), mod. olive brown (5 Y 4/4), mod. reddish brown (10 YR 4/6). 1 cm. to 8 cm. gravel.
				5978					
			1.40 /2.00		7				
				5977					
					8			CL:	Sandy Gravelly Clay - same as above. Mod. yellowish brown (10 YR 5/4) to black (N 1/0). 1 cm. to 4 cm. gravel, wood, plastic and metal debris.
				5976					
LF02SB0010			2.00 /2.00		9				
				5975					

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 45.0	GROUND ELEVATION (FT) 5984.50	OLD WELL NUMBER LF02-89BR	LOG OF BORING NUMBER
NORTH: 752332		AREA LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: SPC	B206189
EAST: 2083001		LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN): 11.0	DATE DRILLED: 05/25/89	

REMARKS: Hollow Stem Auger. Dry ice was placed in and around the auger to inhibit the ventilation on methane gas emanating from the landfill soils. Weston Log

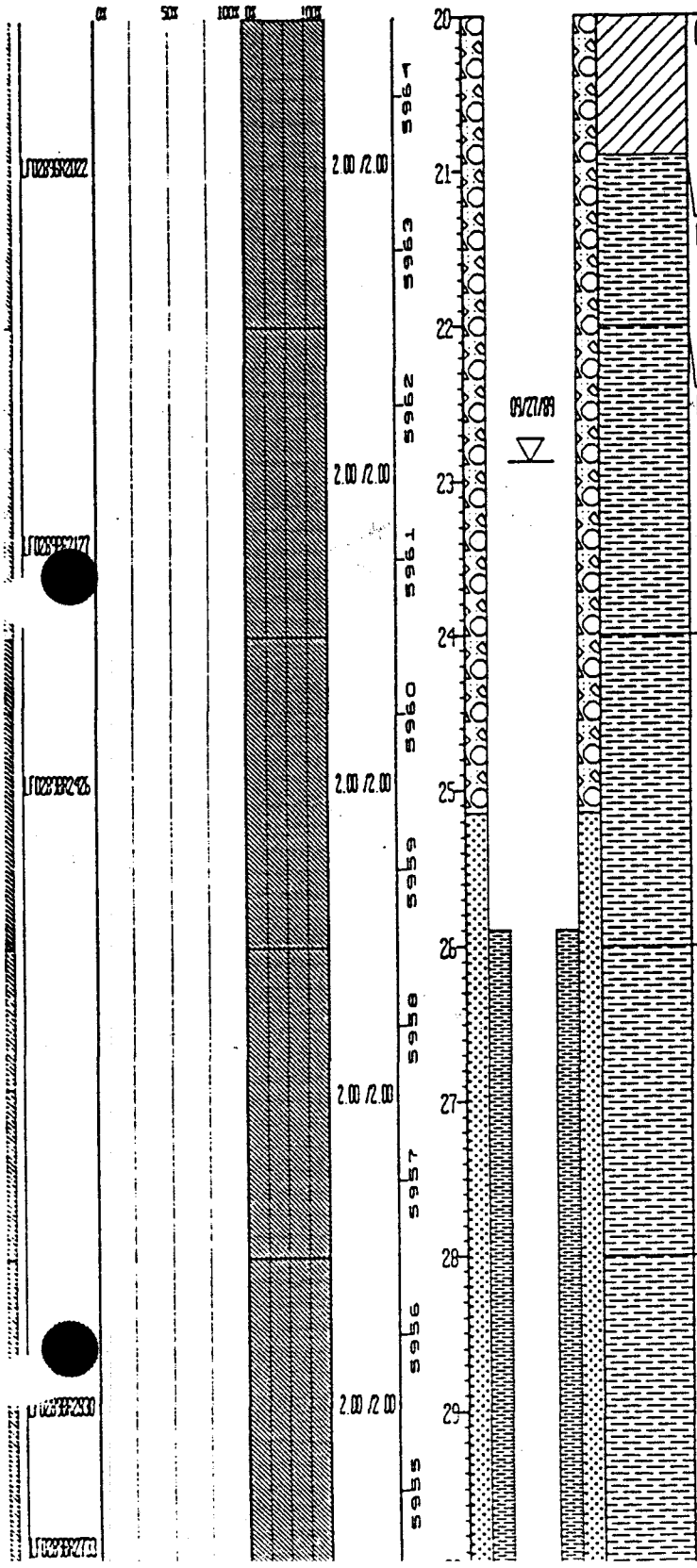
GEOTECHNICAL SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.00 /2.00	5974	10			SC:	Clayey Sand - grayish green (10 GY 5/2) to yellowish gray (5 Y 7/2). some iron oxide stain, dark yellowish orange (10 YR 6/6). F.g. to c.g. sand. 1 cm. to 2 cm. gravel, poorly sorted, sub-angular, quartzose. Slightly stratified to laminated, mod. consol., weakly cemented, med. dense, low plastic, moist.
				5973	11				
				5972	12			SC:	Clayey Sand - light brown (5 YR 5/6). F.g. to v.c.g. sand. Trace 1 cm. to 2 cm. gravel, poor sorting, sub-angular. Quartzose lenses to non-stratified. Mod. consol., weakly cemented, med. dense, low plastic, iron oxide staining, moist.
U029SB1016			2.00 /2.00						
U029SB1214				5971	13				
				5970	14			SC:	Clayey Sand - same as above. Dark yellowish orange (10 YR 6/6) to dark yellowish brown (10 YR 4/2). Low to non-plastic, med. dense to dense.
			1.70 /2.00		15				
				5969					
				5968	16			SC:	Clayey Gravelly Sand - light brown (5 YR 5/6) to mod. yellowish brown (10 YR 5/4). F.g. to v.c.g. sand. 1 cm. to 2 cm. gravel, poorly sorted, sub-angular, quartzose. Slightly stratified, very thin (.5 cm.) clean sand lenses. Mod. consol., weakly cemented, med. dense to dense, med. to low plastic, moist.
U029SB1618			2.00 /2.00		17				
				5967					
U029SB1820					18	05/25/89 ▽		SC:	Clayey Gravelly Sand - same as above.
				5966					
			1.99 /2.00		19			SC:	Sand - dark yellowish orange (10 YR 6/6). Trace silt. F.g. to c.g. sand. Some (1 cm. to 3 cm.) gravel, poorly sorted, sub-angular, quartzose to arkosic. Unconsol., non-stratified, non-plastic, med. dense, wet.
				5965	20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 45.0	GROUND ELEVATION (FT):	5984.50	OLD WELL NUMBER:	LF02-89BR
NORTH: 752332	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC
EAST: 2083301	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN):	11.0	DATE DRILLED:	05/25/89

LOG OF BORING NUMBER: B206189

REMARKS: Hollow Stem Auger. Dry ice was placed in and around the auger to inhibit the ventilation on methane gas emanating from the landfill soils. Weston Log.

GEOTECHNICAL SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	Sandy Gravelly Clay - dark yellowish orange (10 YR 6/6). F.g. to c.g. sand. 1 cm. to 8 cm. gravel and pebbles, poorly sorted, sub-angular, granite and quartzite. Non-stratified, mod. consol., non-cemented, med. plastic, very stiff to hard. A 4 cm. sandy gravel lense at contact with Claystone bedrock. Very moist.
CLAYSTONE:	Top of Bedrock at 21.0'. Light olive brown (5 Y 5/6) to light olive gray (5 Y 5/2). Non-stratified, blocky, well consol., non-cemented, iron oxide banding, hard, med. to high plastic, weathered, moist.
CLAYSTONE:	Same as above - light to heavy iron oxide staining at 23.9'.
CLAYSTONE:	Same as above - grayish brown (5 YR 3/2). Pale yellowish brown (10 YR 6/2), grayish orange (10 YR 7/4), very mottled. Abundt. iron oxide staining.
CLAYSTONE:	Same as above - maganese oxide and iron oxide staining, very thin silty sand interbeds.
CLAYSTONE:	Same as above - dark yellowish orange (10 YR 6/6), light olive gray (5 Y 5/2), dusky yellowish brown (10 YR 2/2). Very hard to hard, no sand, mottled to 29.1'.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 45.0	GROUND ELEVATION (FT): 5984.50	OLD WELL NUMBER: LF02-89BR	LOG OF BORING NUMBER:	
NORTH: 752332	AREA: LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: SPC	B206189	
EAST: 2083301	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN): 11.0	DATE DRILLED: 05/25/89		

REMARKS: Hollow Stem Auger. Dry ice was placed in and around the auger to inhibit the ventilation on methane gas emanating from the landfill soils. Weston Log.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%			30			CLAYSTONE:	Same as above - light olive brown (5 Y 5/6), med. gray (N 5/0), light olive gray (5 Y 5/2), very mottled. Highly plastic, trace iron oxide staining.
			2.00 /2.00	5954 5953	31				
					32			CLAYSTONE:	Same as above - olive gray (5 Y 4/1), light olive brown (5 Y 5/6), dark gray (N 3/0). Laminated, dark gray zone due to manganese oxide staining.
LF0289BR0234			2.00 /2.00	5952 5951	33				
					34			CLAYSTONE:	Same as above - brownish black (5 YR 2/1), med. gray (N 5/0), med. dark gray (N 4/0), mottled.
			1.00 /1.00	5950					
					35			CLAYSTONE:	Same as above - dark gray (N 3/0) to light olive gray (5 Y 6/1). Slightly silty, trace v.f.g. sand, slightly mottled.
			1.00 /1.00	5949					
					36			CLAYSTONE:	Same as above - med. gray (N 6/0) to med. dark gray (N 4/0). Blocky to platey, very hard.
			1.00 /1.00	5948					
					37			CLAYSTONE:	Same as above.
			1.00 /1.00	5947					
					38			CLAYSTONE:	Same as above - med. gray (N 5/0) to light gray (N 7/0).
			1.00 /1.00	5946					
					39			CLAYSTONE:	Same as above - dark gray (N 3/0) to light olive gray (5 Y 6/1). Laminated, manganese oxide staining in discrete layers.
			1.00 /1.00	5945					
					40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 45.0	GROUND ELEVATION (FT)	5984.50	OLD WELL NUMBER:	LF02-89BR	LOG OF BORING NUMBER:
NORTH:	752332	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC	B206189
EAST:	2083301	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN):	11.0	DATE DRILLED:	05/25/89	

REMARKS: Hollow Stem Auger. Dry ice was placed in and around the auger to inhibit the ventilation on methane gas emanating from the landfill soils. Weston Log.

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.00/1.00	5944	40			CLAYSTONE:	Same as above.
			1.00/1.00	5943	41			CLAYSTONE:	Same as above - brownish gray (5 YR 4/1) to med. dark gray (N 4/0).
			1.00/1.00	5942	42			CLAYSTONE:	Same as above - increasing silt content, increasing manganese oxide staining.
			0.40/1.00	5941	43			CLAYSTONE:	Same as above - trace v.f.g. sand.
			0.00/1.00	5940	44			NO SAMPLE:	NO SAMPLE.
				5939	45			:	Total Drilled Depth = 45.0'.
				5938	46				
				5937	47				
				5936	48				
				5935	49				
					50				

WELL COMPLETION INFORMATION

QA By/Date Janet Sullivan 11-2-89

Location Rocky Flats Plant; Landfill Area

Well No. 8206189

Coordinates N 39382.08 E 20202.58 (RFP)

Elevation: Ground Surface 5984.5'

Total Depth: Well 36.61'

Top of Casing 5986.57'

Borehole 45.0'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

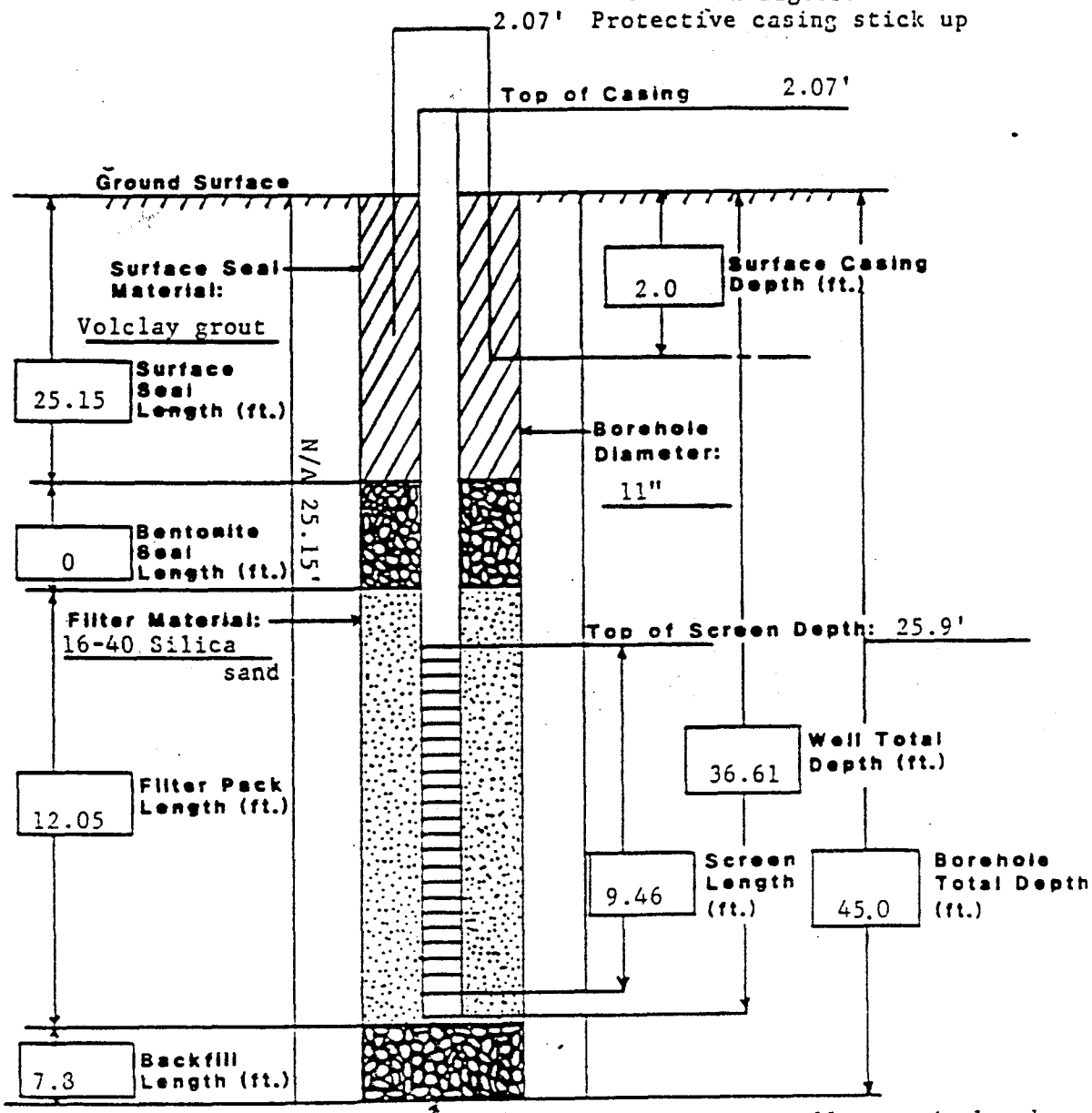
Date Installed 06/01/1989

Approved By Janet Sullivan
Site Manager

Installed By S.P. Carpenter
Geologist

CEARP Manager

Comments Unable to set an upper bentonite pellet seal due to colloidial mixture above sand pack; volclay grout was placed above sand pack. No centralizer used. Well was constructed in augers.

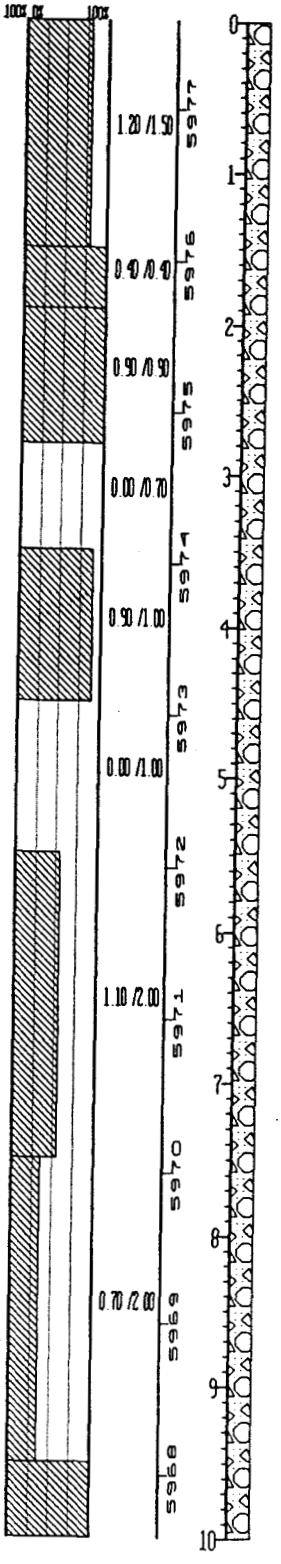


Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 47.5	GROUND ELEVATION (FT):	5977.59	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752253	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: LAH	B206289
EAST: 2083564	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/02/89	

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. ASI Log.

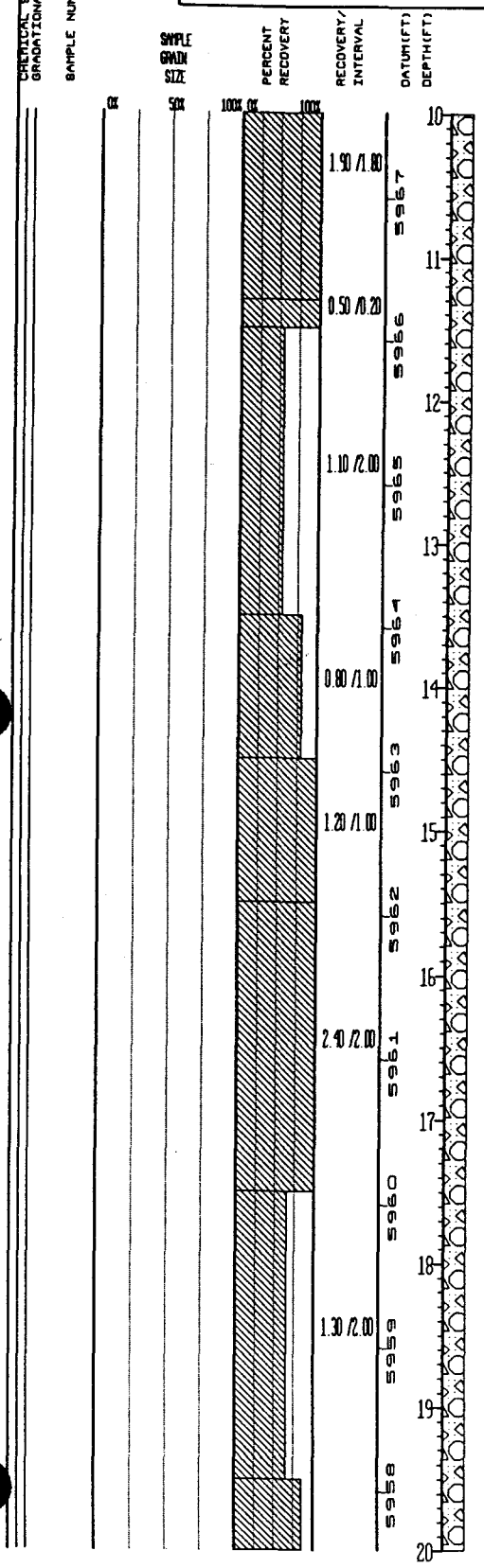
CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50%) | PERCENT RECOVERY (100% 0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL	Silty Clay (topsoil) - pale yellowish brown (10 YR 6/2). Mod. plasticity, bedding not evident. Some sand, v.f.g. to c.g. Trace gravel and root material, grades to gravel. Granules to cobbles (7 cm).
GC	Clayey Sand and Gravel - matrix dark reddish brown (10 R 3/4). Gravel poorly sorted, granules to 3 cm. Sub-angular
CL	Sandy Gravelled Clay and some gas to granules, larger silty con- 25% gravel, 25% sand in sandy silty clay matrix.
NO SAMPLE	NO SAMPLE.
GC	Clayey Gravel - matrix grayish orange to mod. yellowish brown. Gravel angular, poorly sorted, well graded, granules to 7 cm. Silty clay matrix, some sand v.f.g. to c.g. 70% gravel.
NO SAMPLE	NO SAMPLE.
CL	Silty Clay - grayish orange (10 YR 7/4) to dark yellowish orange (10 YR 6/6). Low plasticity. Abundant gravel, granules to 5 cm., gravel sub-rounded, some sand v.f.g to v.c.g. Mod. well sorted.
CL	Sandy Clay - very pale orange (10 YR 8/2). Mod. plasticity. Sand v.f.g. to f.g., well sorted. Some gravel at top of interval. (Gravel as above). Some silt.
CL	Same as above. Grades to clayey sand toward bottom. Clayey Sand - light brown (5 YR 5/6). Sand poorly sorted v.f.g. to

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 47.5	GROUND ELEVATION (FT):	5977.59	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752253	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	LAH	B206289
EAST:	2083564	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/02/89	

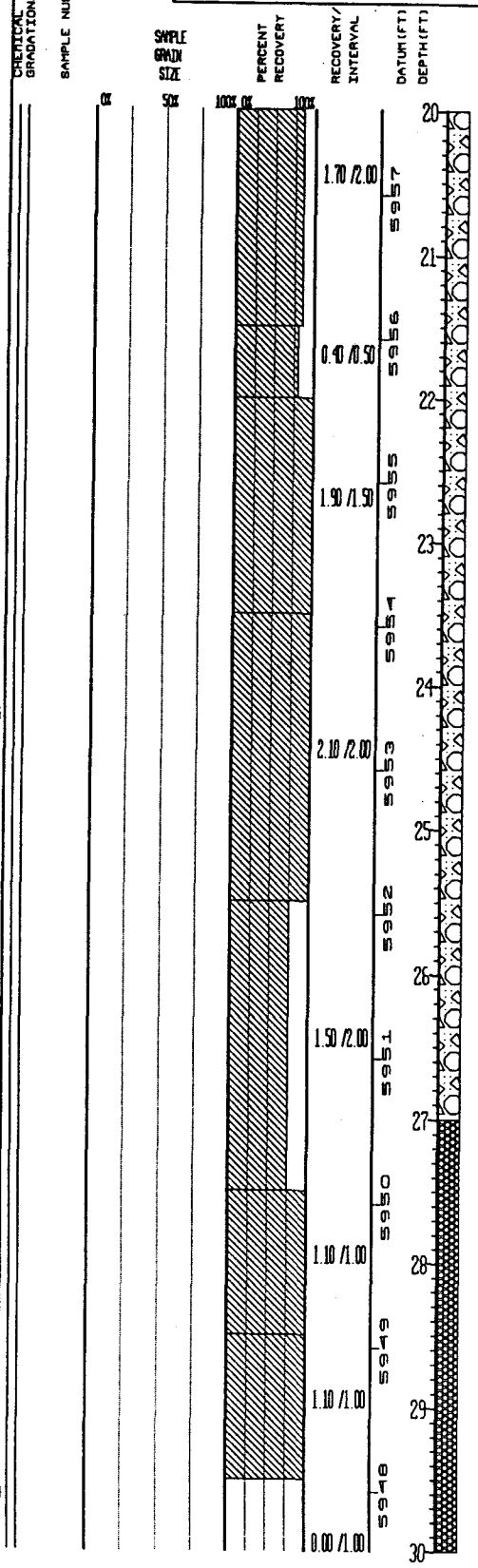
REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. ASI Log.

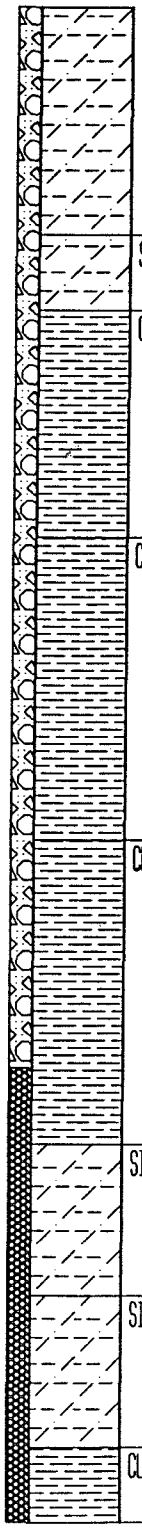


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	v.c.g. Sub-angular to sub-rounded. Some silt. >50% sand, >40% clay.
SC:	Same as above, with some gravel
SC:	Same as 9.5'-11.3' with some gravel. Sub-rounded, .5 cm.-3 cm.
SC:	Clayey Sand and Gravel - light brown (5 YR 6/4). Sand, poorly sorted, v.f.g. to v.c.g. Angular to sub-rounded, gravel granules to ¾ cm. (Gravelly Clayey Sand). 30% gravel, 40% sand, 30% clay.
SC:	Same as above.
CLAYSTONE:	Top of Bedrock. Claystone - light brownish gray (5 Y 4/1), highly weathered, mod. friable, some dark yellowish orange mottling.
CLAYSTONE:	Same as above, trace iron staining.
CLAYSTONE:	Same as above, trace silt.
SILTY CLAYSTONE:	Grayish orange (10 YR 7/4), highly weathered, mod. friable, bedding not evident.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 47.5	GROUND ELEVATION (FT):	5977.59	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752253	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	LAH	B206289
EAST:	2083564	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/02/89	

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. ASI Log.





UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Same as above, some iron staining.
CLAYSTONE:	Light brownish gray (5 YR 6/1), mod. friable, bedding not evident, some silt.
CLAYSTONE:	Same as above. Some dark yellowish orange (10 YR 6/6) mottling, some staining.
CLAYSTONE:	Dusky yellowish brown (10 YR 2/2), bedding not evident, mod. friable, trace staining.
SILTY CLAYSTONE:	Mottled light brownish gray. Bedding not evident. Trace silt, slightly friable. Trace iron staining. Trace carbonaceous material.
SILTY CLAYSTONE:	Brownish gray (5 YR 4/1), highly weathered, highly friable, bedding not evident.
CLAYSTONE:	Light brownish gray (5 YR 4/1), highly friable, highly weathered, bedding not evident, some silt.

STATE PLANE COORDINATE:
NORTH: 752253
EAST: 2083564

TOTAL DEPTH (FT): 47.5
AREA: LANDFILL
LOCATOR NUMBER: K12

GROUND ELEVATION (FT): 5977.59
CASING DIAMETER (IN): 4.5 O.D.
BOREHOLE DIAMETER (IN): 7.25

OLD WELL NUMBER: LF03898R
GEOLOGIST: LAH
DATE DRILLED: 05/02/93

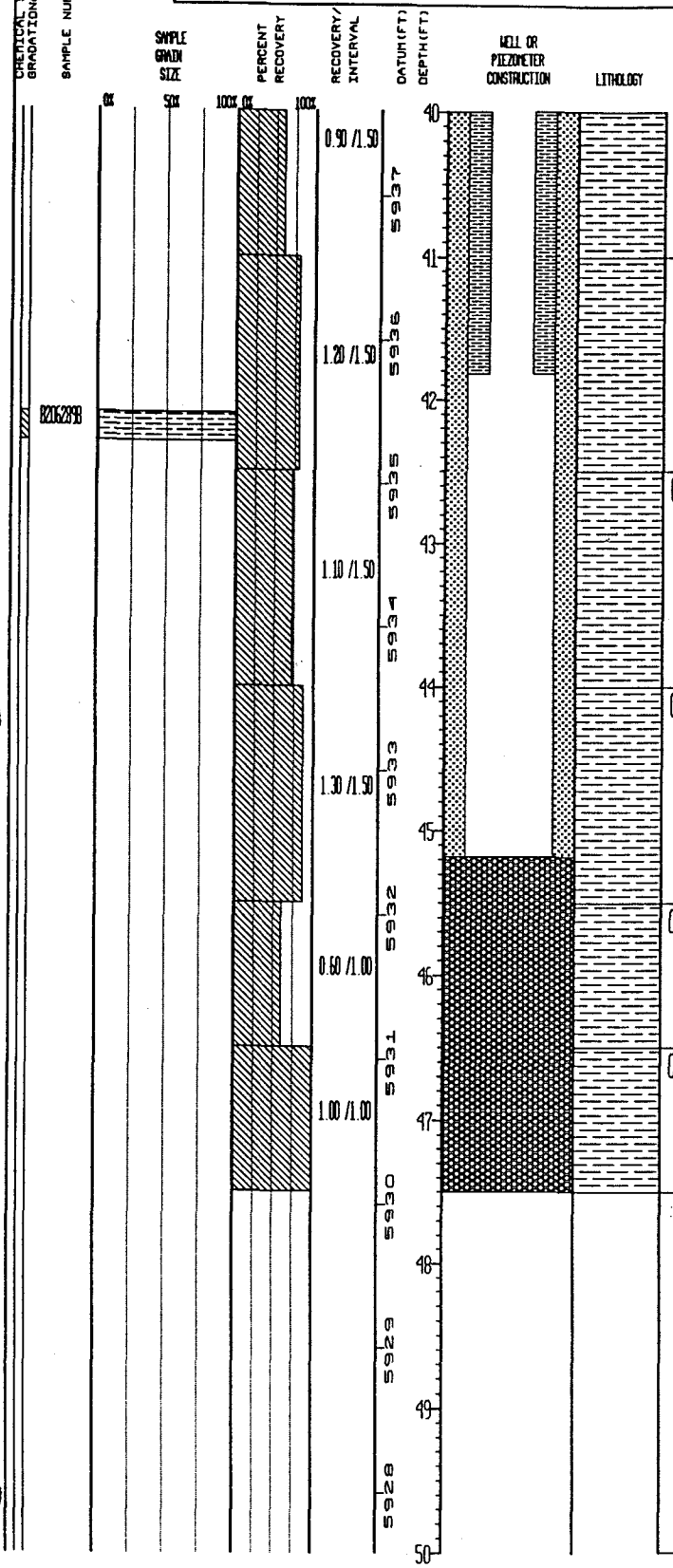
LOG OF BORING NUMBER: B206289

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. AGI Log.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT) DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0.00 /1.00	30	05/20/93			
			1.20 /1.00	31			CLAYSTONE:	Brownish gray (5 YR 4/1), mod. friable, bedding not evident, some silt, dark yellowish orange silt.
			2.40 /2.00	32			CLAYSTONE:	Same as above, trace carbonaceous material. Color change to light olive gray (5 Y 6/1), becomes silty toward bottom of interval.
			1.30 /1.00	33			SILTY CLAYSTONE:	Same as above.
			1.20 /1.00	34			SILTY CLAYSTONE:	Same as above.
			1.10 /1.00	35			CLAYSTONE:	Same as above, mod. friable.
			1.00 /1.00	36			SILTY CLAYSTONE:	Same as above. 20% silt.
			0.80 /1.00	37			SILTY CLAYSTONE:	Same as above. 45% silt.
			0.90 /1.00	38			CLAYSTONE:	Same as above, trace carbonaceous material, less silty. (Claystone with some Silt). 10% silt
				39			CLAYSTONE:	Brownish gray (5 YR 4/1), mod. friable, bedding not evident, trace silt.
				40				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 47.5	GROUND ELEVATION (FT): 5977.59	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752253	AREA: LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST:	LAH	B206289
EAST:	2083564	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	05/02/89	

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. ASI Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above, unconsol.
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above. Color change to olive black. Trace carbonaceous material.
CLAYSTONE:	Same as above. Color change to brownish black (5 YR 2/1). Some carbonaceous material.
CLAYSTONE:	Same as above. Color change to brownish gray (5 YR 4/1). No carbonaceous material.
	Total Drilled Depth = 47.5'.

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-2-89

Location Rocky Flats Plant; Landfill Area

Well No. B206289

Coordinates N 39272.29 E 20465.42 (RFP)

Elevation: Ground Surface 5977.59'

Total Depth: Well 43.05'

Top of Casing 5979.49'

Borehole 47.5'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

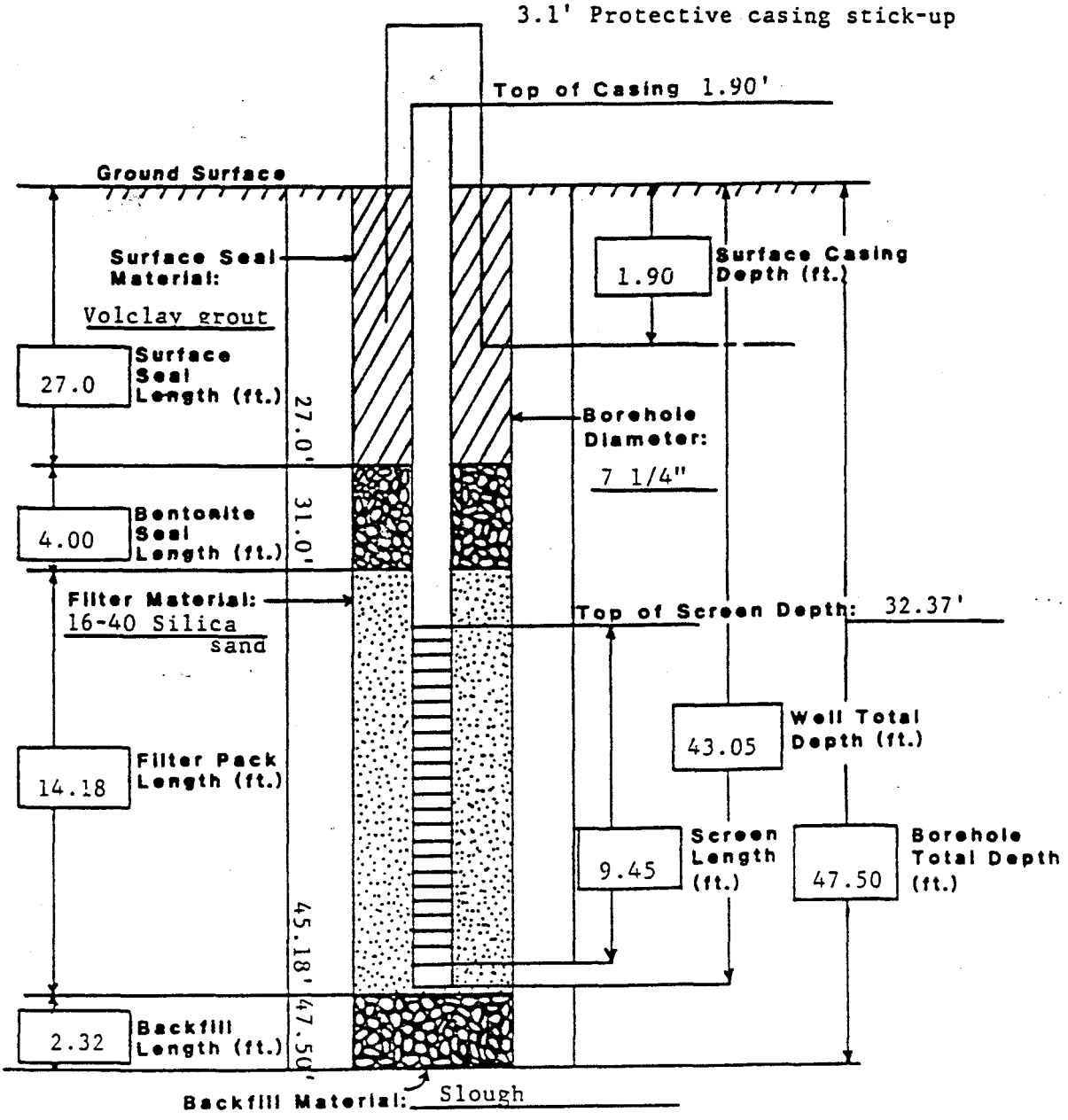
Date Installed 05/02/1989

Approved By Jarell Burman
Site Manager

Installed By R.T. Treat
Geologist

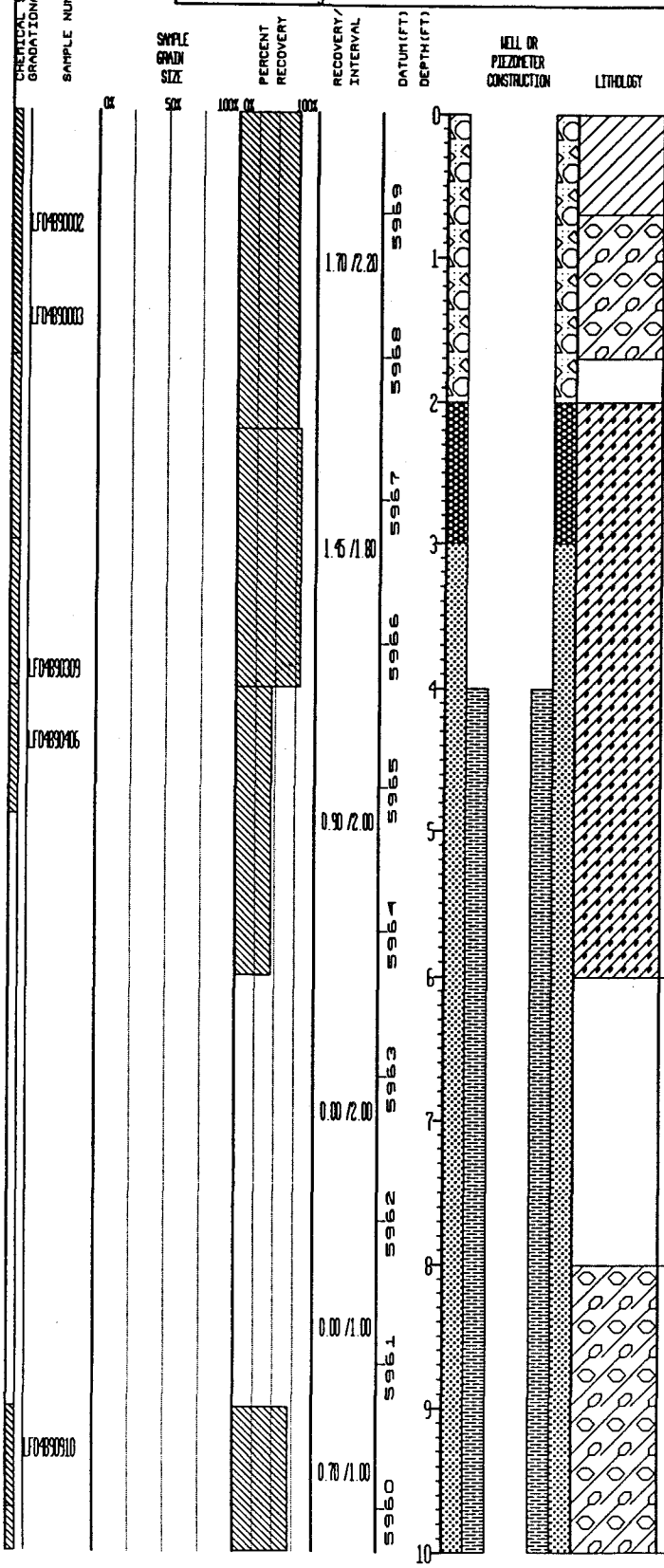
CEARP Manager

Comments Set stainless steel centralizer from 41.45' to 42.65' below ground surface.



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 20	GROUND ELEVATION (FT):	5969.70	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752548	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC	B206389
EAST:	2083926	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/19/89	

REMARKS: Hollow Stem Auger. Dry ice was used to eliminate the threat of explosion of the methane gas emanating from the landfill. Weston Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	Sandy Clay - mod. yellowish brown (10 YR 5/4). Some gravel, very stiff to stiff, moist.
GC:	Gravelly Sand and Clay - dusky yellowish brown (10 YR 2/2). Med. dense with asphalt and scattered metal debris, moist.
NO SAMPLE:	NO SAMPLE.
SC:	Sand and Clay - dark yellowish brown (10 YR 4/2). Some gravel, non-stratified. F.g. to c.g. sands, sub-angular, quartzites, med. dense. Some paper and wood trash, moist.
NO SAMPLE:	Drilled with center bit. No sample recovery.
GC:	Sand and Gravel - dark yellowish orange (10 YR 6/6). Clayey, non-stratified, homogeneous. V.f.g. to v.c.g. sand, poor sorting, sub-angular, quartzites. Non-cemented, mod. consol., med. dense to dense. Moist to slightly moist.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 20	GROUND ELEVATION (FT):	5969.70	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752548	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC	B206389
EAST:	2083926	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/19/89	

REMARKS: Hollow Stem Auger. Dry ice was used to eliminate the threat of explosion of the methane gas emanating from the landfill. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	LF0489913			0.00 /2.00	5959	10–11			NO SAMPLE:	Drilled with center bit. No sample recovery.
	LF0489214			1.90 /2.00	5958, 5957	12–13			GC:	Sand and Gravel - same as above (reference intrval 9.0' to 10.0').
	LF0489416			1.90 /2.00	5956, 5955, 5954	13–16			CLAYSTONE:	Top of Bedrock. Light olive gray (5 Y 6/1) to med. gray (N 5/0). Some silt, trace sand. High to med. plasticity, mod. cemented, mod. consol. Iron oxide stained, weathered, moist.
	LF0489319			1.90 /2.00	5953, 5952	16–18			CLAYSTONE:	Dark yellowish orange (10 YR 6/6) to light olive gray (5 Y 5/2). Trace silt. Laminated, homogeneous, med. to high plasticity, very hard. Some iron oxide stain, highly weathered.
				2.10 /2.00	5951, 5950	18–20			CLAYSTONE:	Same as above - increased iron oxide staining at 19.0' to 20.0'. Total Drilled Depth = 20.0'.

WELL COMPLETION INFORMATION

QA By/Date Farell Burman 15-24-89

Location Rocky Flats Plant: Landfill Area

Well No. B206389

Coordinates N 39566.50 E 20828.68

Elevation: Ground Surface 5969.7'

Total Depth: Well 14.74'

Top of Casing 5971.56'

Borehole 20.0'

Formation of Completion Rocky Flats Alluvium/Artifical Fill

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

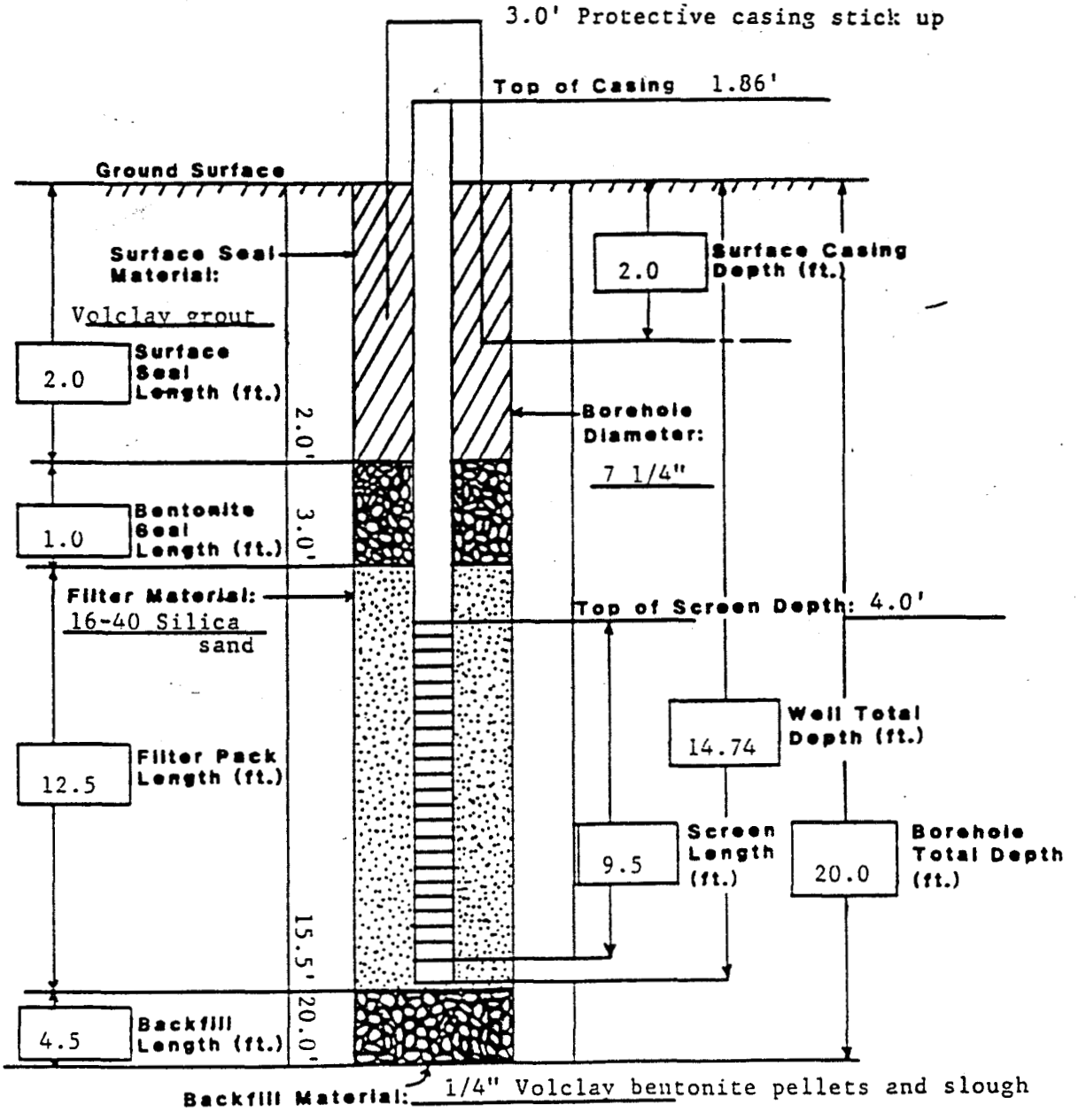
Date Installed 05/22/1989

Approved By Farell Burman
Site Manager

Installed By S.P. Carpenter
Geologist

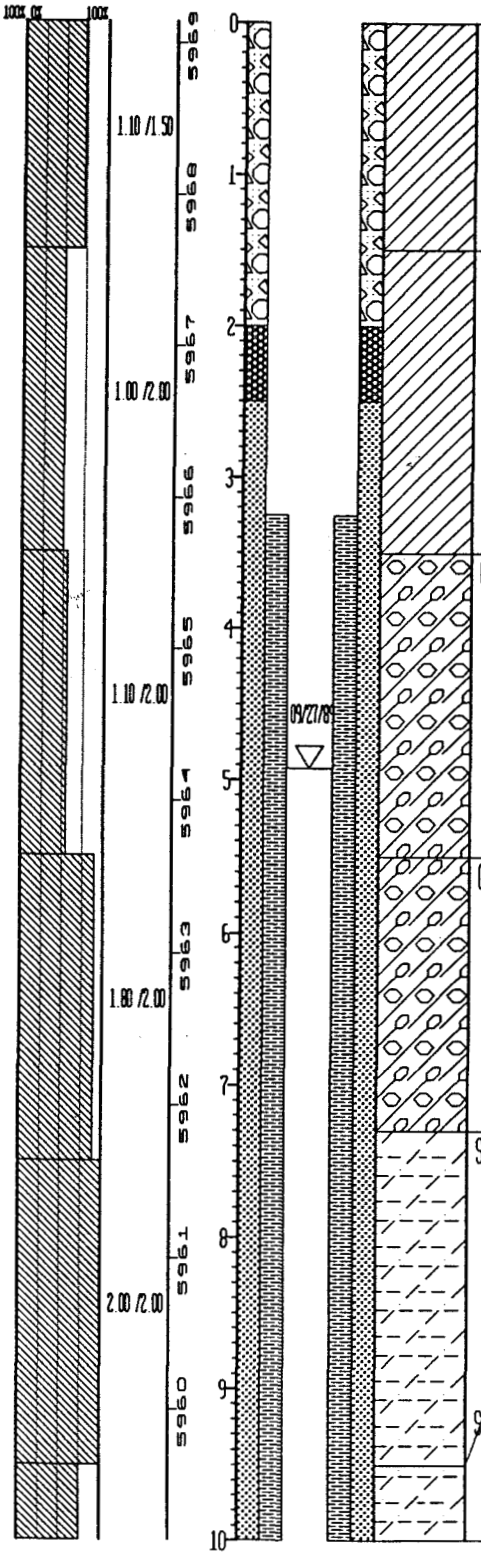
CEARP Manager

Comments Set stainless steel centralizer from 13.27' to 14.47' below ground surface.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5969.14	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752427	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: LAH	B206489
EAST: 2083964	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/03/89	
REMARKS: Hollow Stem Auger. ASI Log.					

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

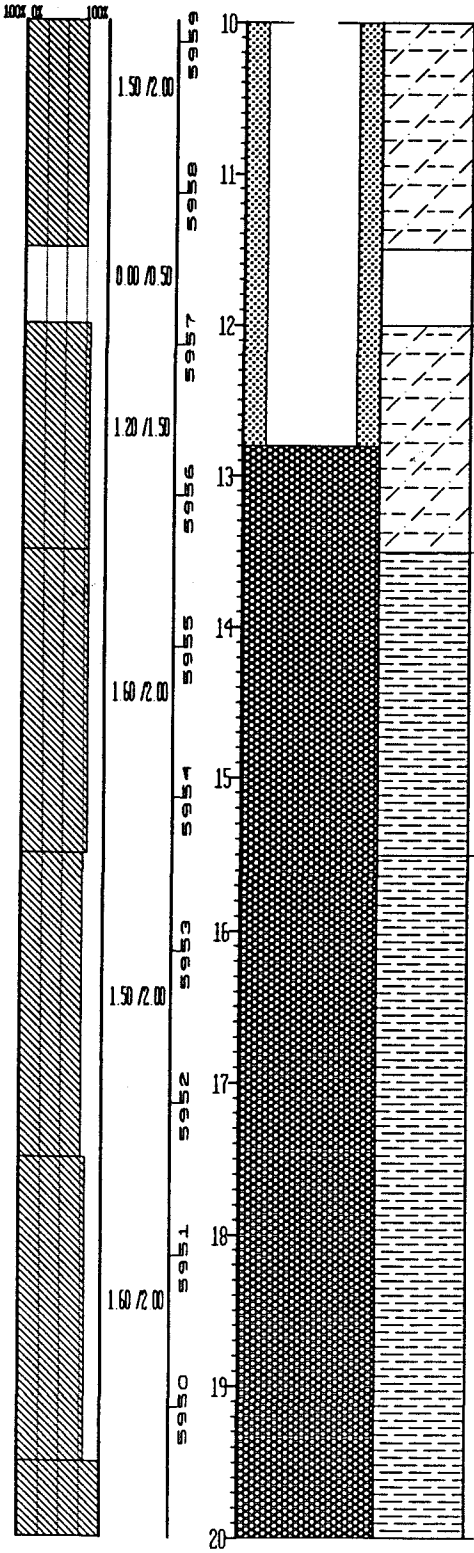


CL:	Silty Clay (topsoil) - Dark yellowish brown (10 YR 4/2) to dusky yellowish brown, (10 YR 2/2). Mod. plasticity, trace sand, v.f.g. to m.g. Trace gravel (2 cm). Slightly calcareous, trace root material. >50% clay.
CL:	Silty Clay - same as above. Becomes Caliche with Gravel. Very pale orange (10 YR 8/2). Gravel granules to 7 cm., sub-angular to sub-rounded. Poorly graded. Some sand, v.f.g. to f.g.
GC:	Clayey Sandy Gravel. Very pale orange (10 YR 8/2) to grayish orange (10 YR 7/4). Gravel granules to 6 cm., sub-angular, med. graded. Sand v.f.g. to v.c.g., well graded. Mildly calcareous. (Sandy Gravel with some Clay). 45% gravel, 40% sand, 15% clay.
GC:	Clayey Sandy Gravel - Same as above. Gravel to 5 cm., sub-rounded, mod. graded. More clay toward bottom. Trace caliche toward bottom.
SILTY CLAYSTONE:	Top of Bedrock at 7.3'. Very pale orange (10 YR 8/2). Some dark yellowish orange (10 YR 6/6) mottles, especially toward bottom. 30% silt, >60% clay.
SILTY CLAYSTONE:	Very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6), mottled. Highly weathered, bedding not evident. Some iron staining, some caliche. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5969.14	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752427	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: LAH	B206489
EAST: 2083964	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/03/89	

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SMPLE GRADI SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

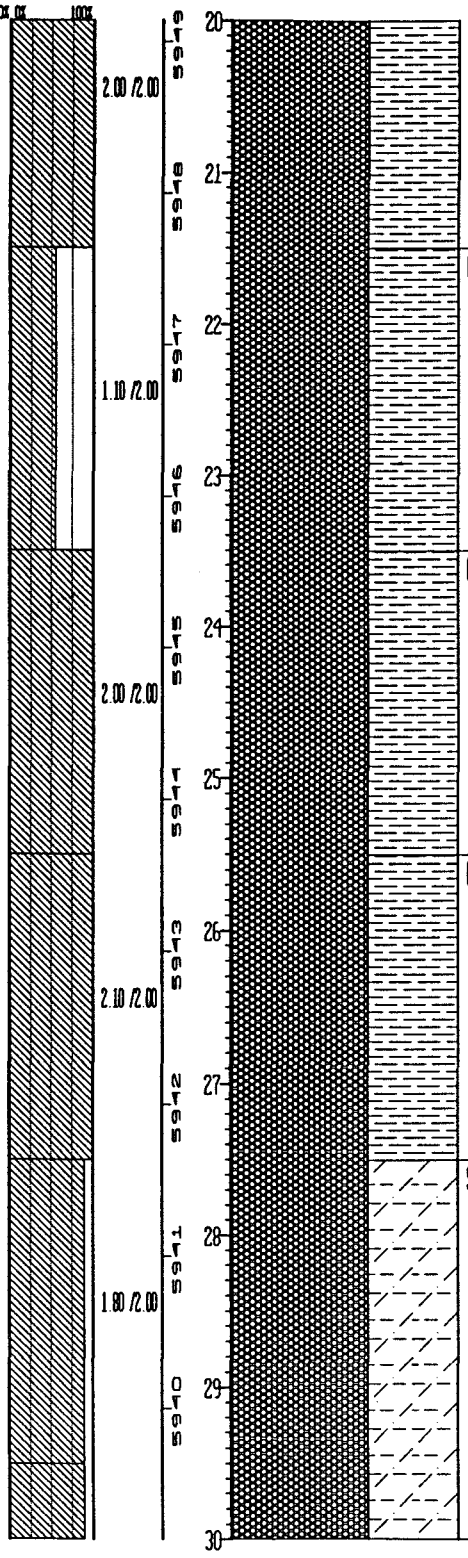


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	NO SAMPLE.
SILTY CLAYSTONE:	Same as 9.5' - 11.5'. Color change at bottom to light brownish gray (5 YR 6/1). >70% clay.
CLAYSTONE:	Pinkish gray (5 YR 8/1) to light brownish (5 YR 6/1). Mod. friable to friable. Bedding not evident. Some dark yellowish orange (10 YR 6/6). Mottles, weathered, trace silt.
CLAYSTONE:	Same as above. Trace carbonaceous material, more dark yellowish orange (10 YR 6/6) mottles. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5969.14	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752427	AREA: LANDFILL	CASING DIAMETER (IN):	4.500	GEOLOGIST: LAH	B206489
EAST: 2083964	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/03/89	

REMARKS: Hollow Stem Auger. ASI Log.

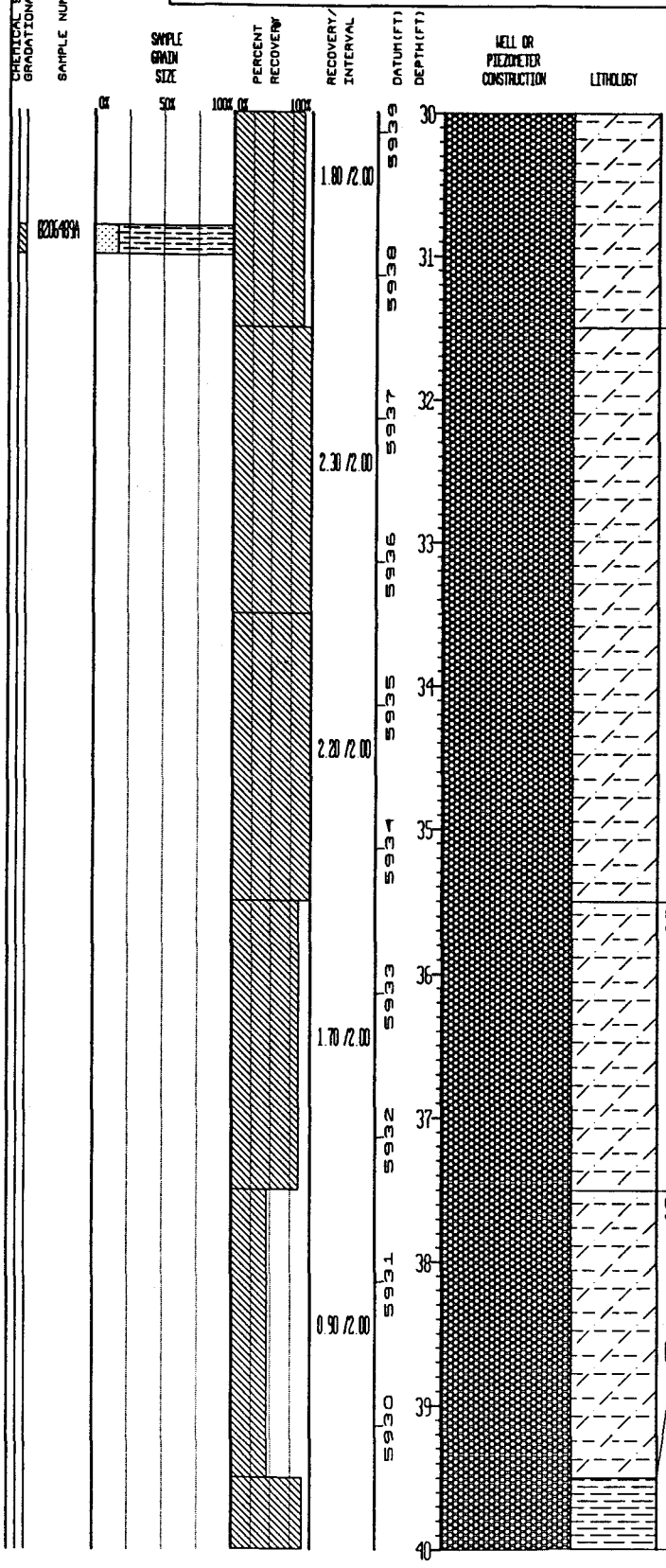
CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6). Highly weathered, mod. to highly friable. Bedding not evident. >70% clay.
CLAYSTONE:	Same as above. Very pale orange (10 YR 8/2) to pale yellowish brown (10 YR 6/2). Trace carbonaceous material. >70% clay.
CLAYSTONE:	Same as above. More friable. Color changes to light olive gray (5 YR 6/1). >70% clay.
SILTY CLAYSTONE:	Grayish orange (10 YR 7/4) to pinkish gray (5 YR 8/1). Bedding not evident. Mod. to slightly friable. Trace carbonaceous material and iron staining. >70% clay, 20-25% silt.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5969.14	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752427	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	LAH	B206489
EAST:	2083964	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/03/89	

REMARKS: Hollow Stem Auger. ASI Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Very pale orange (10 YR 8/2) to grayish orange (10 YR 7/4), slightly friable. Bedding not evident. Iron staining in high angle fractures. Trace carbonaceous material. Some v.f.g. sand. (Silty Claystone with some Sand). 10% sand, 30% silt, >50% clay.
SILTY CLAYSTONE	Same as above, more friable. Staining still in fractures, but more irregular fractures. Less silt toward bottom. >65% clay.
SILTY CLAYSTONE	Same as above. Abundt. iron staining and some iron precipitation in middle of interval. Some carbonaceous material. >60% clay.
CLAYSTONE	Dark yellowish brown (10 YR 4/2) to dark yellowish orange (10 YR 6/6), friable, weathered. Bedding not evident. Trace carbaceous material. Color changes to light olive gray (5 YR 6/1). Less friable. Iron stains in fractures. >70% clay.

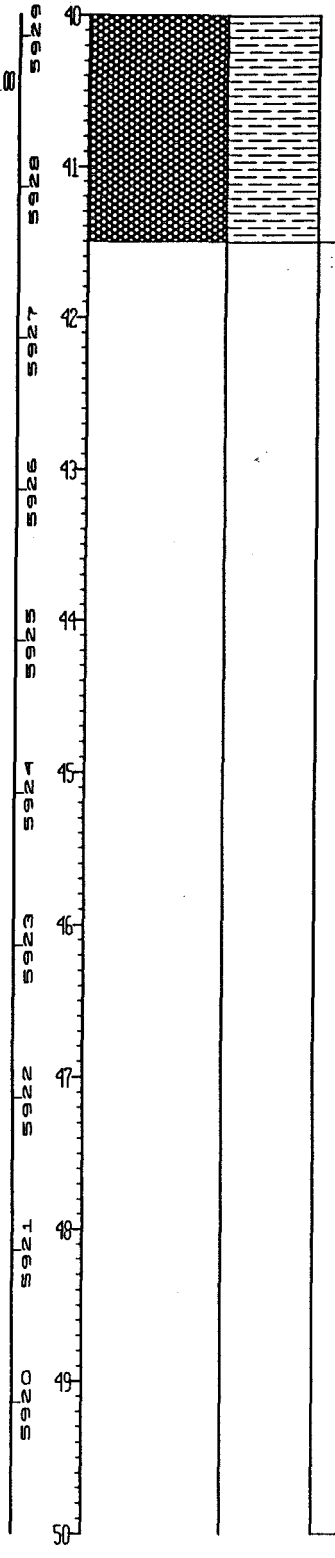
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5969.14	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752427	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	LAH	B206489
EAST:	2083964	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/03/89	

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRADA SIZE
PERCENT RECOVERY
RECOVERY/ INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

0% 50% 100% 0% 100%

1.80 /2.00



Total Drilled Depth = 41.5'.

WELL COMPLETION INFORMATION

QA By/Date Janet Burman 5-3-89

Location Rocky Flats Plant: Landfill Area

Well No. B206489

Coordinates N 39445.20 E 20865.79 (RFP)

Elevation: Ground Surface 5969.14'

Total Depth: Well 11.35'

Top of Casing 5971.46'

Borehole 41.50'

Formation of Completion Rocky Flats Alluvium/ Weathered Sandstone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

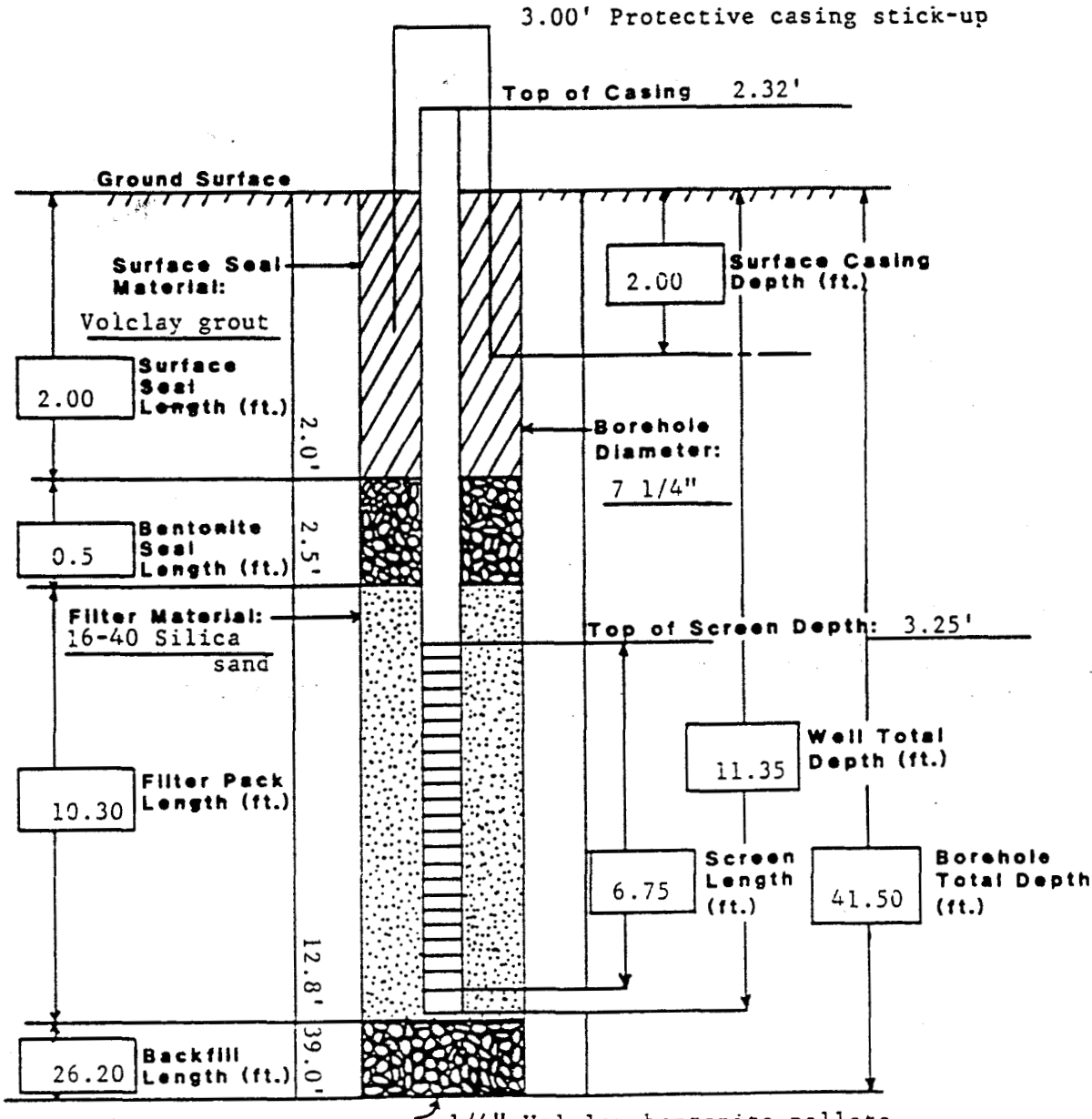
Date Installed 05/04/1989

Approved By Janet Burman
Site Manager

Installed By R.T. Treat
Geologist

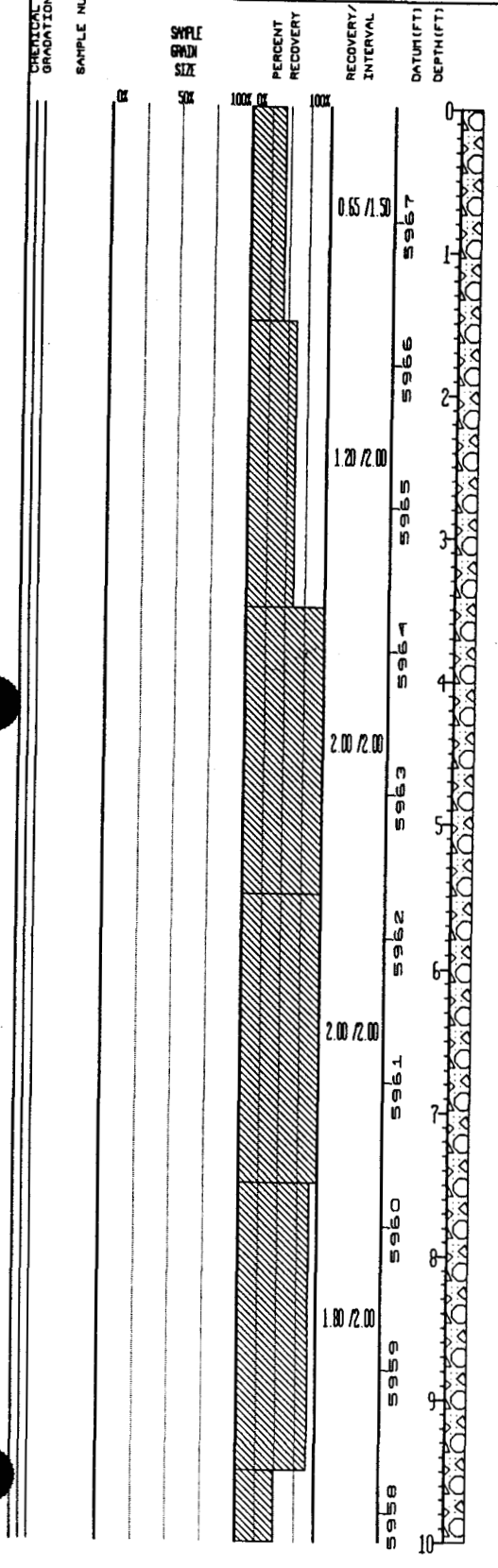
CEARP Manager

Comments Set stainless steel centralizer from 9.85' to 11.05' below ground surface.



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5967.80	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752458	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	F. GRIGSBY	B206589
EAST:	2084121	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/05/89	

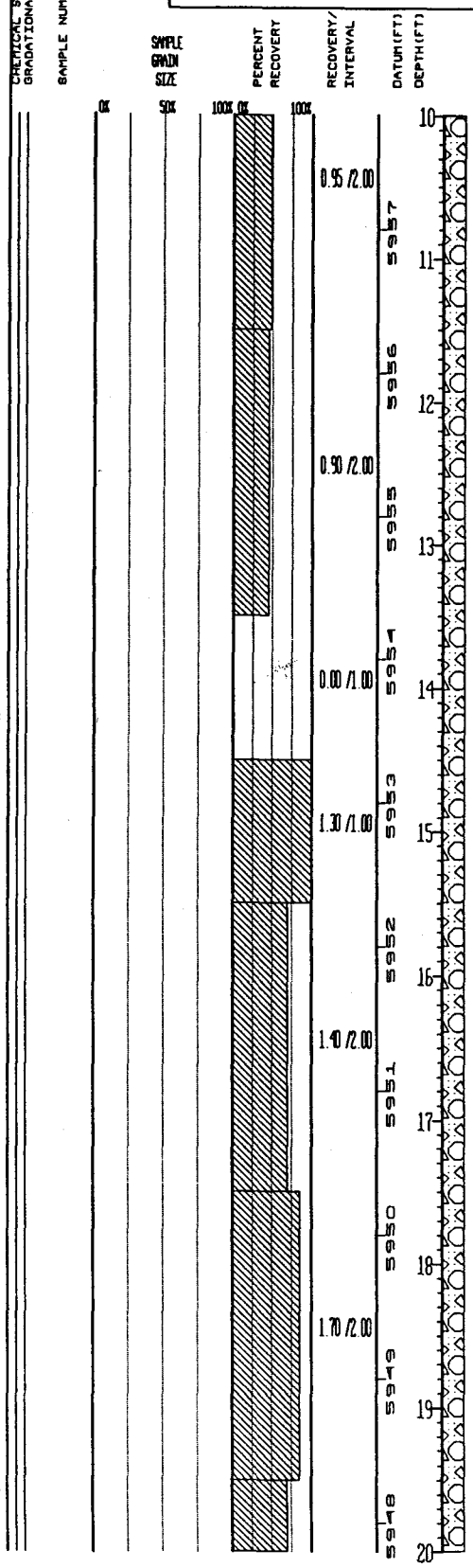
REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 34.62' to 35.82' below ground surface. ASI Log.



WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		GM	Gravel with silty topsoil and caliche color from dusky yellowish brown (10 YR 2/2) to yellowish gray (5 Y 8/1). Gravel to 2.5 in. Pred. lithology dark gray quartzite, well graded, sub-angular, mod. root development. Soil, low plasticity, some clay. (gm-gc). 75% gravel, 10% caliche, 10% clay, 10% silt.
		SW	Well graded Sand with Gravel-calcareous cemented (caliche), yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Gravel to 1.5 in., pred. lithology quartzite to quartz sand, pred. quaczite & quartz, sub-angular to angular, weathered. 40% gravel, 55% sand, 5% fines.
		GW	Well graded Gravel with Sand - yellowish gray (5 Y 7/2) to very pale orange (10 YR 8/2), calcareous. Gravel to 2.5 in., pred. lithology quartzite with some quartz, sub-angular to angular, some large pieces sub-rounded, sand pred. sub-angular to sub-rounded, quartzose, weathered. 70% gravel, >25% sand, <5% fines.
		GW	Well graded Gravel - same as above. 70% gravel, >25% sand, <5% fines.
		CLAYSTONE	Grayish yellow (5 Y 8/4) to yellowish gray (5 Y 7/2) - some gravel imbedded in top 2 in. +/-. Some caliche fragments imbedded in clay, (may be sluff from upper zone). Some mica flakes throughout interval. Clay apparently very pliable when fresh (now very deformed), calcareous interval weathered.
		CLAYSTONE	Same as above, color pred. yellowish gray (5 Y 7/2) with grayish orange (10 YR 7/4), mottling (Hematite), interval mod. weathered, slightly calcareous in upper 6 in. Clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5967.80	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752458	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	F. GRIGSBY	B206589
EAST:	2084121	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/05/89	

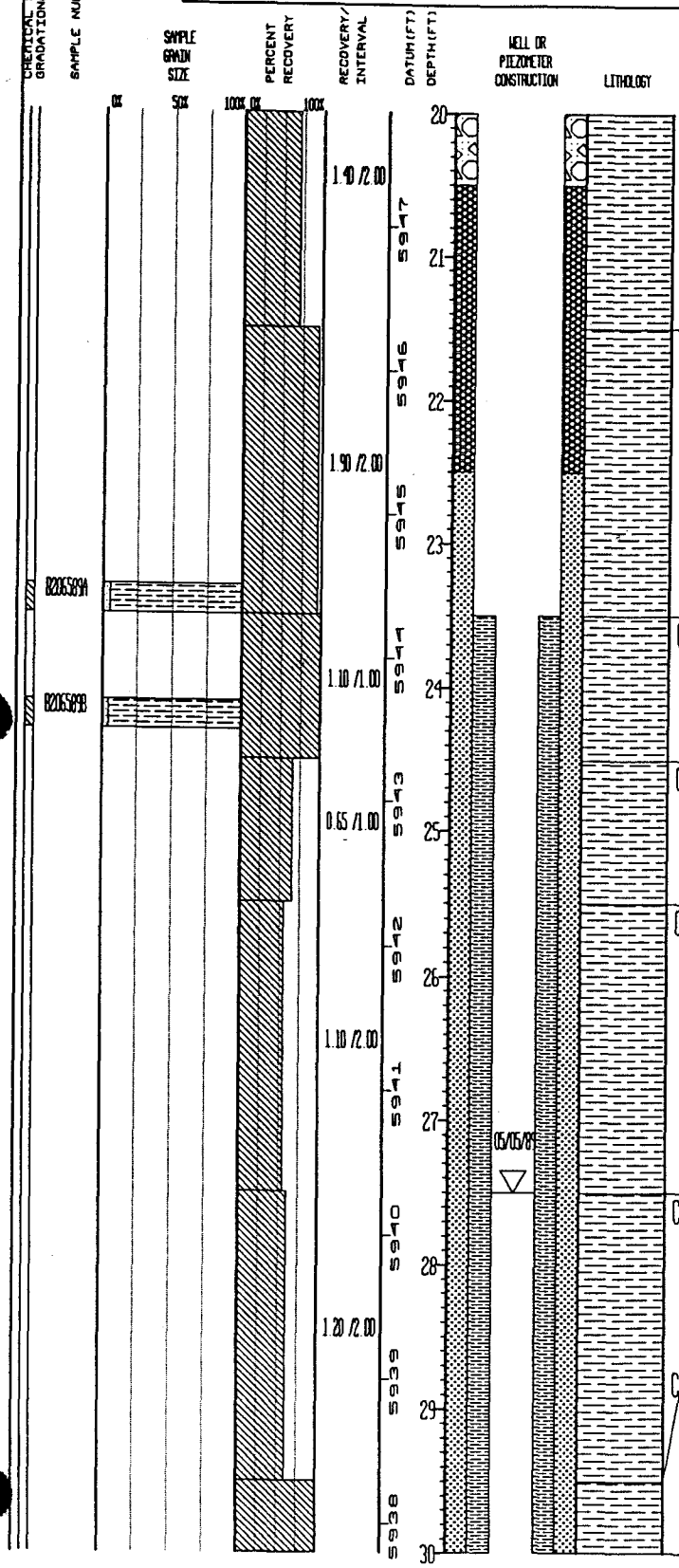
REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 34.62' to 35.82' below ground surface. ASI Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Color change to light gray (N7), trace amounts of carbonaceous material. Clay.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Pred. pale yellowish brown (10 YR 6/2) with dark yellowish orange (10 YR 6/6), mottling (Hematite), clays indurated when dry, mod. weathered, med. plasticity, no silt. Clay.
CLAYSTONE:	Same as above. Trace amounts of carbonaceous material. Abundt. hematite staining. Clay.
CLAYSTONE:	Same as above. Trace of carbonaceous material, mod. plasticity, no silt, mod. weathered. Clay.
CLAYSTONE:	Color change to pred. dark yellowish orange (10 YR 6/6). Trace carbonaceous material, interval well weathered (oxidized), no silt, abundt. hematite staining, med. plasticity. >95% fines.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5967.80	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752458	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: F. GRIGSBY	B206589
EAST: 2094121	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/05/89	

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 34.62' to 35.82' below ground surface. ASI Log.

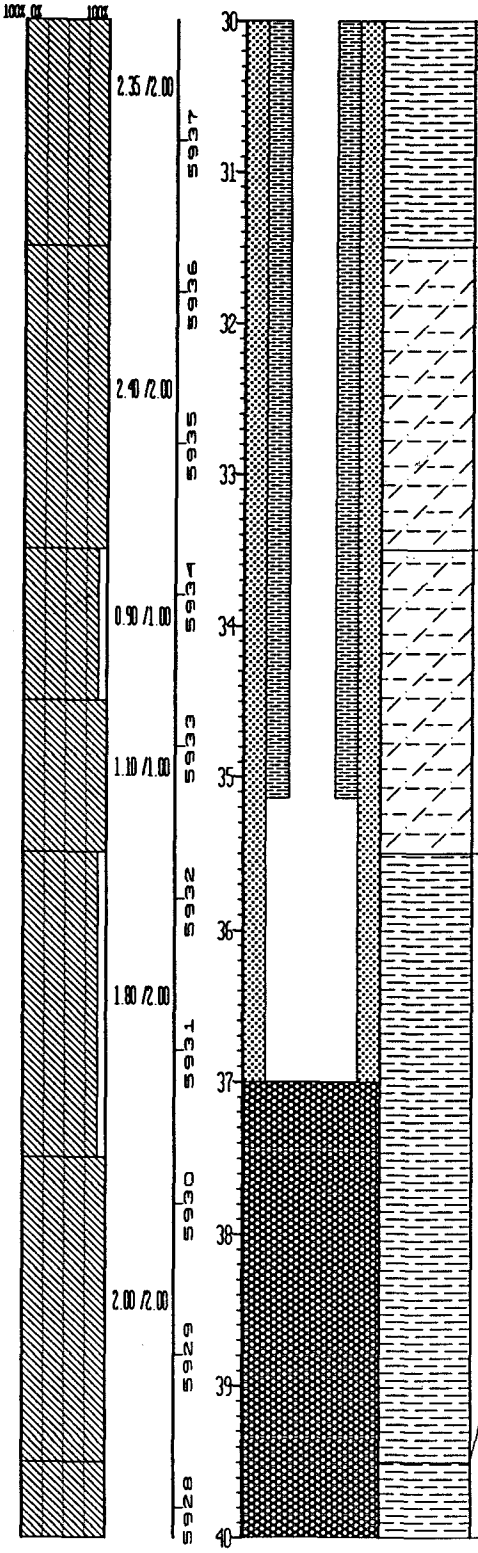


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Color change to light olive gray (5 Y 6/1) to approx. 22.8' grades into pale yellowish brown (10 YR 6/2) at lower end of interval, entire interval clay with med. plasticity, no silt. >95% fines.
CLAYSTONE:	Color change to pred. yellowish gray (5 Y 7/2), med. plasticity, no silt, trace carbonaceous material, some Fe (Hematite) staining. >95% fines.
CLAYSTONE:	Light olive gray (5 Y 5/2) to dusky yellow (5 Y 6/4), mottled, no apparent bedding, some convoluted structure, zones of hematitic or limonitic staining.
CLAYSTONE:	Screen sampled this interval, 100% passed 200 screen, no apparent silt in 200 fractions, fines, med. plasticity.
CLAYSTONE:	Claystone with some silt. Color light olive gray (5 Y 5/2) to dark yellowish orange (10 YR 6/6) in hematite rich zones at bottom of interval. Core badly broken by drilling and drying. No apparent bedding. >95% fines.
CLAYSTONE:	Claystone with some Silt. Light olive gray (5 Y 5/2) to dark yellowish orange (10 YR 6/6) in hematite stained zones. Possible poorly developed horizontal bedding planes. Indications of heated fractures (vertical?) with hematite filling or coatings. >95% fines.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT): 5967.80	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752458	AREA: LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST:	F. GRIGSBY	B206589
EAST:	2084121	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	05/05/89	

REMARKS: Hollow Stem Auger. Set stainless steel centrolizer from 34.62' to 35.82' below ground surface. ASI Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



SILTY CLAYSTONE: Light olive gray (5 Y 5/2) to dark yellowish orange (10 YR 6/6). More abundt. hematite. Some carbon along 45-50 degree fractures in lower part of core.
>95% fines.

SILTY CLAYSTONE: Light olive gray (5 Y 5/2) to dark yellowish orange. Brittle, vertically fractured with heavy hematite coating along fracture planes, some Mn also on fracture surfaces. Abundt. disseminated hematite extending into rock from fracture planes.
>95% fines.

CLAYSTONE: Light olive gray (5 Y 6/1) with grayish orange (10 YR 7/4), mottling where hematite present, no apparent bedding. Healed fracture zones with hematite coating on surfaces, some carbonaceous material, unweathered.
>95% fines.

CLAYSTONE: Color change to dark yellowish brown (10 YR 4/2) with dark yellowish brown (10 YR 6/6) in hemitite rock zones, healed fractures (+/-45 degrees) with slickensides on some surfaces. Mn mod. abundt., some carbonaceous material, unweathered.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 41.5	GROUND ELEVATION (FT):	5967.80	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752458	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: F. GRIGSBY	B206589
EAST: 2094121	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/05/99	

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 34.62' to 35.82' below ground surface. ASI Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	2.00 /2.00	5927	40				
						41				
					5926					Total Drilled Depth = 41.5'.
						42				
					5925	43				
					5924	44				
					5923	45				
					5922	46				
					5921	47				
					5920	48				
					5919	49				
					5918	50				

WELL COMPLETION INFORMATION

QA By/Date Janell Burman 15-10-89

Location Rocky Flats Plant; Landfill Area

Well No. B206589

Coordinates N 39475.67 E 21023.37 (RFP)

Elevation: Ground Surface 5967.80'

Total Depth: Well 36.24'

Top of Casing 5969.72'

Borehole 41.50'

Formation of Completion Weathered Sandstone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

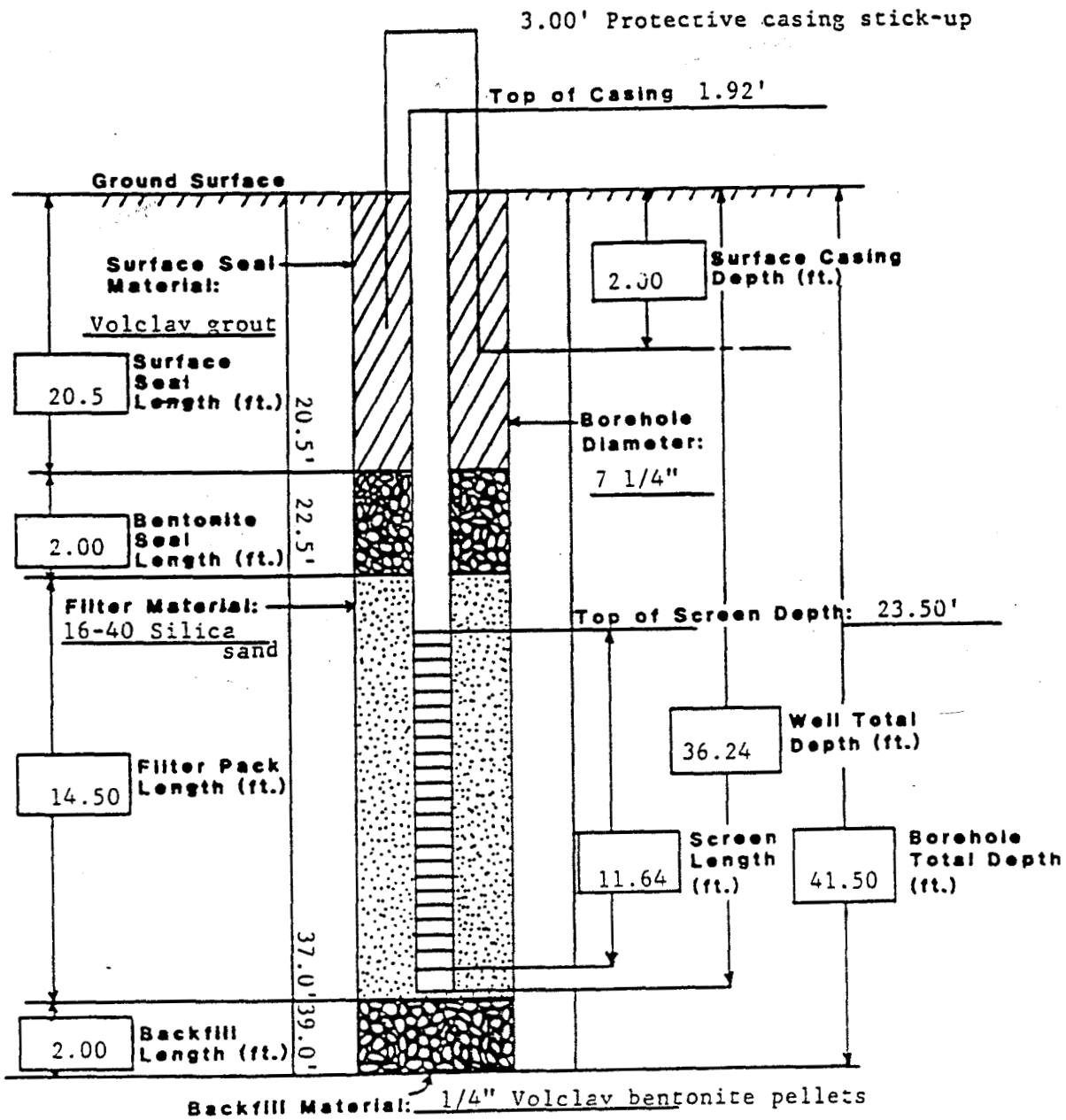
Date Installed 05/05/1989

Approved By Janell Burman
Site Manager

Installed By R.T. Treat
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 34.62' to 35.82' below ground surface.

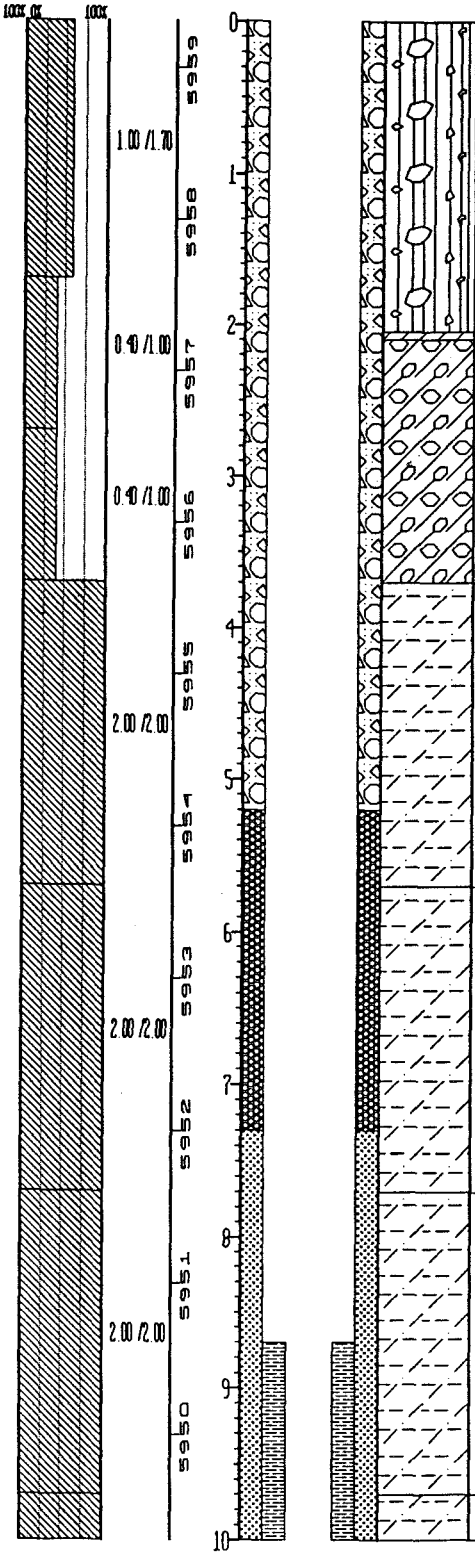


Backfill Material: 1/4" Volclay bentonite pellets

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 21.7	GROUND ELEVATION (FT):	5959.31	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752588	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DMH	B206689
EAST:	2084361	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	04/28/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

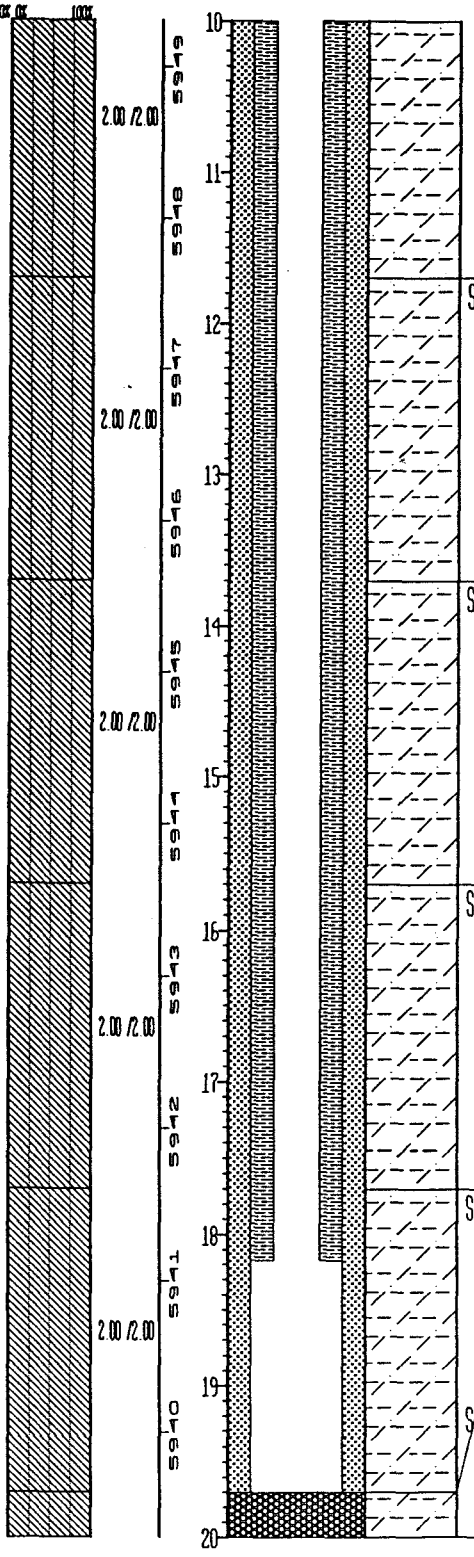


GM:	Silt, Sand and Gravel - grayish brown (5 YR 3/2). V.f.g. to c.g. sand. Fine to coarse gravel, sub-angular, granitic very loose. Humic, grass and roots, damp.
CL:	Silty Clay - pale brown (5 YR 5/2), mod. plastic, soft, moist.
GC:	Gravel, Cobbles and Clay - pinkish gray (5 YR 8/1), mottled with yellowish gray (5 Y 7/2). Clay is plastic, high calcite content (calcareous). Sticky, silt, moist, soft.
SILTY CLAYSTONE:	Top of Bedrock. Light olive gray (5 Y 6/1), mottled with dark yellowish orange (10 YR 6/6). Trace v.f.g to f.g. sand. 1 mm. to 2 mm. lenses of caliche. Highly weathered, very soft, mod. plastic, moist.
SILTY CLAYSTONE:	Brownish gray (5 YR 4/1), mottled with dark yellowish orange (10 YR 6/6). Trace v.f.g. to f.g. sand. 1 mm. to 40 mm. lenses of caliche. Blocky to fissile. Highly weathered, very soft, moist.
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1), mottled with dark yellowish orange (10 YR 6/6). Trace v.f.g. to f.g. sand. Trace organics. Few 1 mm. to 2 mm. caliche lenses. Blocky, fractured, very soft, slightly moist.
SILTY CLAYSTONE:	Same as above - Few Sandy Silty Claystone partings.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 21.7	GROUND ELEVATION (FT): 5959.31	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	752588	AREA: LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: EMH	B206689
EAST:	2084361	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 04/28/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Brownish gray (5 YR 4/1), mottled with light brownish gray (5 YR 6/1) and dark yellowish orange (10 YR 6/6). Trace v.f.g. to f.g. sand. Lignite partings (<1 mm.). Iron-filled fractures. Blocky, highly weathered, very soft, damp.
SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Trace v.f.g. to f.g. sand. Trace organics, few iron-filled fractures. Trace calcite filled fractures. Soft, mod. weathered, blocky, mod. plastic, damp.
SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Trace v.f.g. to f.g. sand. Occasional lignite partings. Trace iron-stained fractures. Blocky, mod. weathered, damp, soft.
SILTY CLAYSTONE	Same as above - blocky to fissile.
SILTY CLAYSTONE	Mottled light brownish gray (10 YR 6/1), brownish gray (10 YR 4/1), and mod. yellowish brown (10 YR 5/4). Trace v.f.g. sand. Trace organics. Blocky, mod. plastic, mod. weathered, soft, damp.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 21.7	GROUND ELEVATION (FT):	5959.31	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752588	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	EMH	B206689
EAST:	2084361	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	04/28/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5939	20				
					5938	21				
					5937	22				Total Drilled Depth = 21.7'
					5936	23				
					5935	24				
					5934	25				
					5933	26				
					5932	27				
					5931	28				
					5930	29				
						30				

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-2-89

Location Rocky Flats Plant; Landfill Area

Well No. B206689

Coordinates N 39605.08 E 21263.69 (RFP)

Elevation: Ground Surface 5959.31'

Total Depth: Well 19.41'

Top of Casing 5961.20'

Borehole 21.7'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

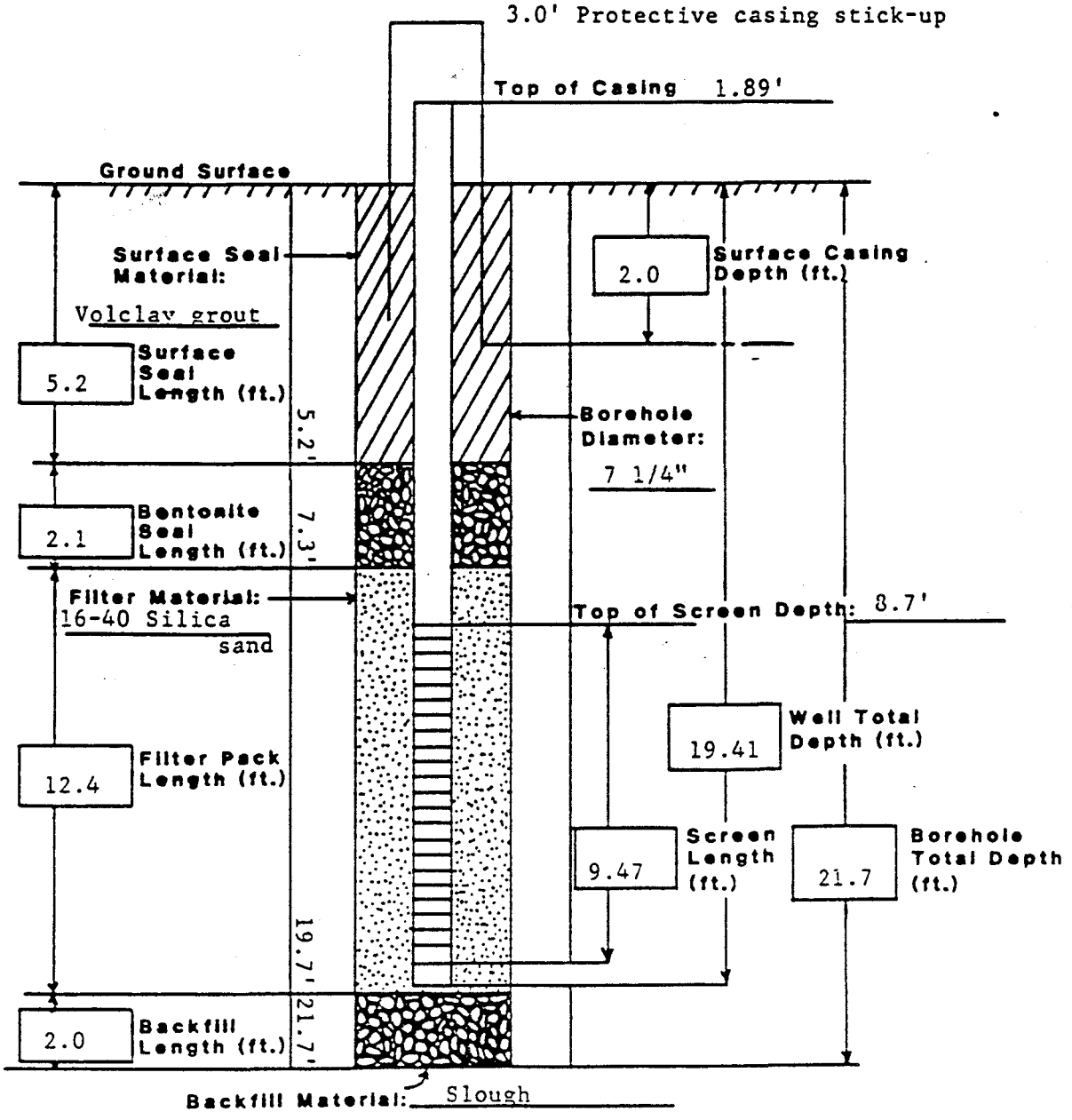
Date Installed 04/28/1989

Approved By Jarell Burman
Site Manager

Installed By E.M. Hill
Geologist

CEARP Manager

Comments Placed stainless steel centralizer from 18.09' to 19.29' below ground surface.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30	GROUND ELEVATION (FT): 5927.90	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752818	AREA: LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: SPC	B206789
EAST: 2084161	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 05/23/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	LT098980002			1.50 /2.00	5927	0–1			CL:	Clay - mod. brown (5 YR 4/4). Some f.g. to v.c.g. sand (fill), poorly sorted, angular to sub-angular, quartzite. Non-stratified, uncemented, stiff, med. plastic, moist.
	LT098980003				5926	1–2			CL:	Clay - dusky yellowish brown (10 YR 2/2). Trace f.g. to c.g. sand (fill), poorly sorted, sub-angular, quartzite. Non-stratified, non-cemented, very stiff, med. plastic, moist.
				1.60 /2.00	5925	2–3			SC:	Sand and Clay - dark yellowish orange (10 YR 6/6). Trace gravel. M.g. to v.c.g. sand. 1 cm. to 4 cm. gravel. Poorly sorted, sub-angular, granite-quartzite. Non-stratified, weakly cemented, poorly consol., med. dense, low plasticity, moist. (sc-cl?)
					5924	3–4			CL:	Clay - med. gray (N 5/0). Trace sand to sandy at shoe. M.g. to c.g. sand (fill), poorly sorted, sub-angular, quartzose. Slightly stratified, blocky, weakly cemented. High to med. plastic, abundt. calcium carbonate (calcareous), moist.
									CL:	Clay - same as above, with some gravel, fill.
	LT098980406			1.90 /2.00	5923	4–5			CLAYSTONE:	Top of Bedrock. Med. gray (N 5/0) to dark yellowish orange (10 YR 6/6). Color due to banding and marbling by iron oxide staining. Non-stratified, blocky, poorly cemented, med. hard, weathered. Med.-high plastic. Trace calcium carbonate (slightly calcareous), moist.
					5922	5–6			CLAYSTONE:	Light olive gray (5 Y 5/2) to dark yellowish orange (10 YR 6/6). Some to trace v.f.g. to f.g. sand, rounded, well sorted. Non-stratified, blocky, weathered, med. hard to hard. Med. high to high plastic. Abundt. iron oxide staining, moist.
				2.00 /2.00	5921	6–7				
	LT098980511				5920	7–8			SANDSTONE:	Dark yellowish orange (10 YR 6/6) to light gray (N 7/0). Some clay. F.g. sand, well sorted, rounded. Non-stratified. Banded with iron oxide staining, slightly to poorly cemented. Mod. to poorly consol., med. hard, weathered, low plastic, moist.
	LT098980810			2.00 /2.00	5919	8–9			CLAYSTONE:	Olive gray (5 Y 4/1), banded dark yellowish orange (10 YR 6/6). Trace silt. Non-stratified, homogeneous, blocky, well consol. Weakly cemented, slightly weathered. Med. to high plastic. Iron oxide staining in part, moist.
					5918	9–10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 30	GROUND ELEVATION (FT):	5927.90	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752818	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC	B206789
EAST:	2084161	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/23/89	

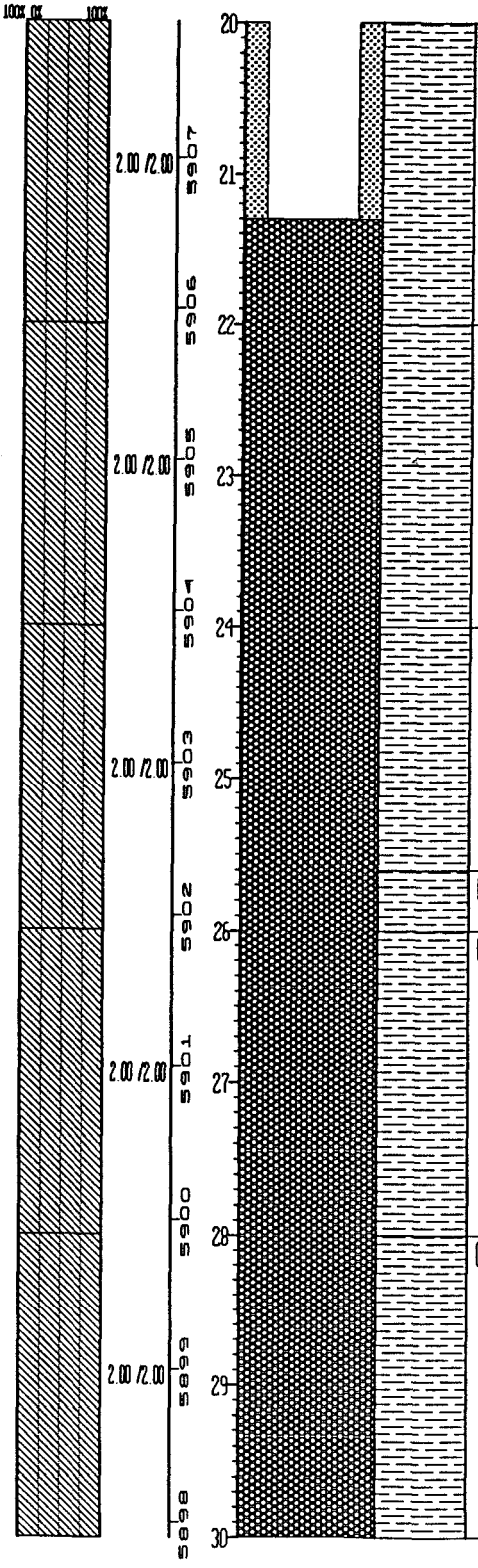
REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5917	10–11	09/27/89		CLAYSTONE:	Same as above - med. gray (N 5/0) and banded dark yellowish orange (10 YR 6/6).
				2.00 /2.00	5916	11–12			CLAYSTONE:	Same as above - med. gray (N 5/0) to light olive brown (5 Y 4/4) with dark yellowish orange (10 YR 6/6) mottling.
	LF0989R1214			2.00 /2.00	5915	12–13			CLAYSTONE:	Same as above - med. gray (N 5/0) to light olive gray (5 Y 5/2) with occasional bands of iron oxide staining.
	LF0989R1117			2.00 /2.00	5914	13–14			CLAYSTONE:	Same as above - med. dark gray (N 4/0) with dark yellowish orange (10 YR 6/6) iron oxide staining.
				2.00 /2.00	5913	14–15			CLAYSTONE:	Dark yellowish orange (10 YR 6/6) to light brown (5 YR 5/6), very mottled. Some f.g. to v.f.g. sand. Non-stratified. Some platiness due to iron oxide cementation. Well consol., hard, weathered, moist.
	LF0989R1618			2.00 /2.00	5912	15–16			CLAYSTONE:	Same as above (reference interval 18.0' to 18.4'). Light olive brown (5 Y 5/6) to med. gray (N 5/0).
				2.00 /2.00	5911	16–17				
				2.00 /2.00	5910	17–18				
				2.00 /2.00	5909	18–19				
					5908	19–20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30	GROUND ELEVATION (FT):	5927.90	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752818	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: SPC	B206789
EAST: 2084161	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/23/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Med. dark gray (N 4/0) to mod. olive brown (5 Y 4/4) banded coloring. Trace iron staining. Non-stratified, blocky, non-cemented, well consol. Highly plastic, hard, slightly weathered, moist.
CLAYSTONE:	Same as above - light olive gray (5 Y 5/2) to med. gray (N 5/0).
CLAYSTONE:	Same as above - dark gray (N 4/0).
CLAYSTONE:	Same as above - light olive brown (5 Y 5/6) to dark gray (N 4/0). Banded due to iron oxide staining.
CLAYSTONE:	Same as above - light olive brown (5 Y 5/6), grading to olive/black (5 Y 2/1).
CLAYSTONE:	Same as above - light olive brown (5 Y 5/6) to med. dark gray (N 4/0). Total Drilled Depth = 30.0'

WELL COMPLETION INFORMATION

QA By/Date Janell Burman 15-24-89

Location Rocky Flats Plant; Landfill Area

Well No. B206789

Coordinates N 39836.16 E 21064.34 (RFP)

Elevation: Ground Surface 5927.9'

Total Depth: Well 20.52'

Top of Casing 5930.19'

Borehole 30.0'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

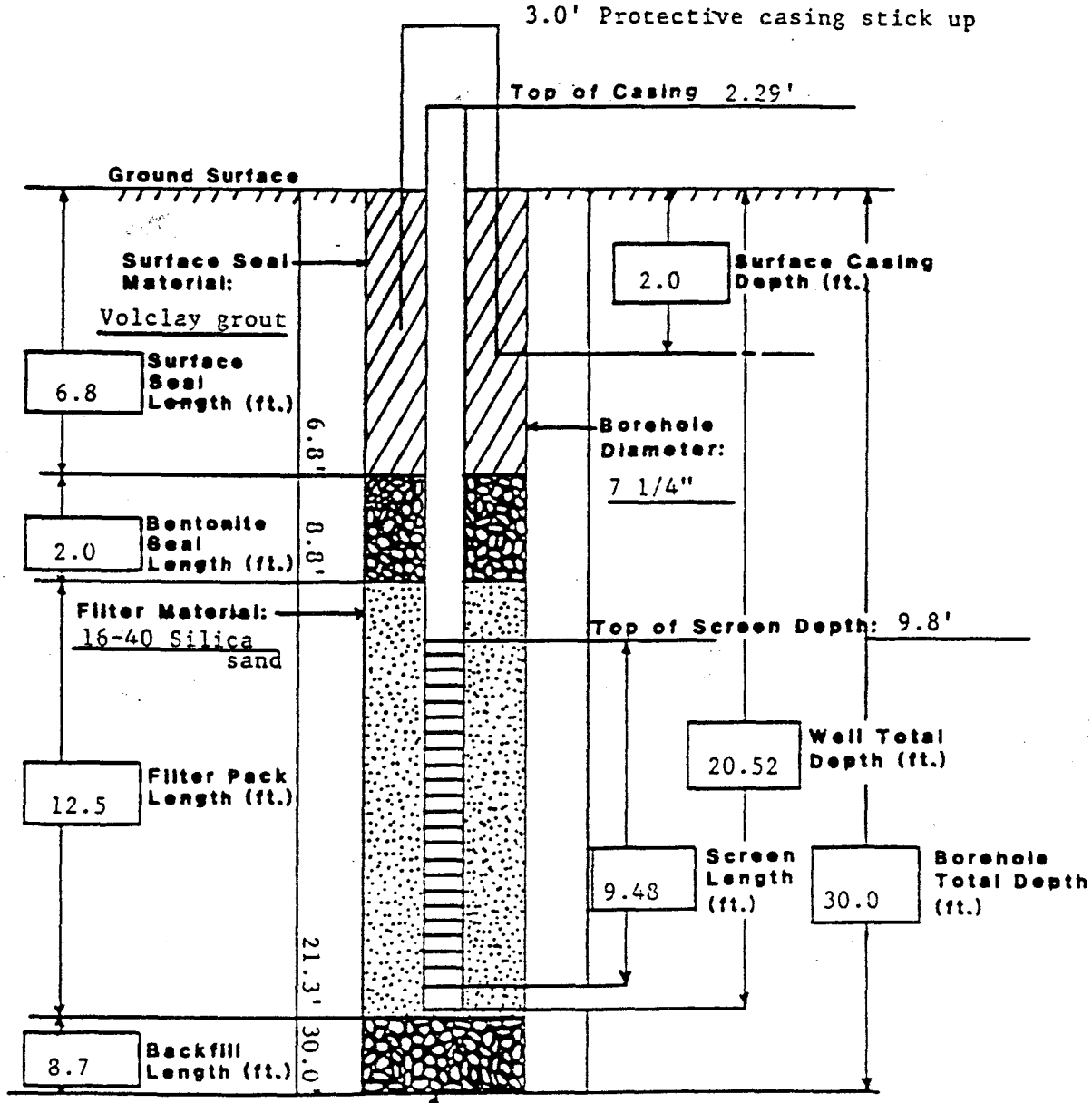
Date Installed 05/23/1989

Approved By Janell Burman
Site Manager

Installed By S.P. Carpenter
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 19.01' to 20.24' below ground surface.

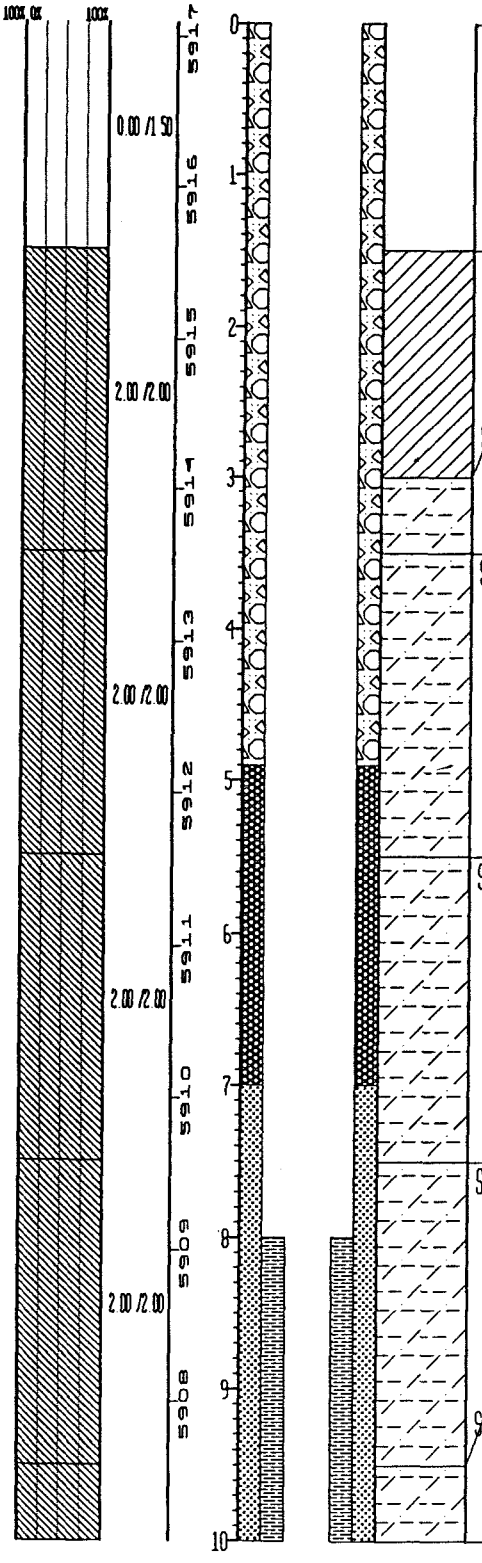


Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 19.5	GROUND ELEVATION (FT):	5917.09	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 752823	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: EMH	B206889
EAST: 2084781	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 04/27/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

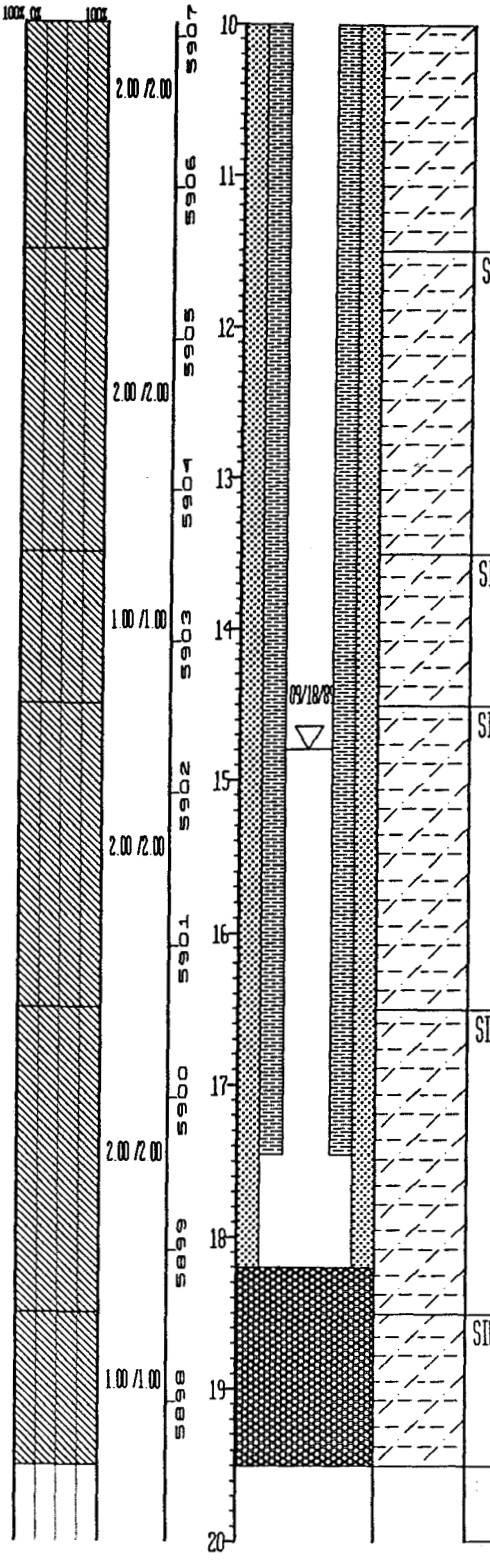


NO SAMPLE:	Note: 2.5' cobble in shoe, no recovery.
CL:	Silty Clay - dark yellowish brown (10 YR 4/2). Some v.f.g. to m.g. sub-angular sand. Fine roots, stiff, damp.
SILTY CLAYSTONE:	Top of Bedrock. Brownish gray (5 YR 4/1). Laminated, frequent Lignite layers (<1 mm.), occasional calcite (calcareous) streaks. Abundt. iron staining.
SILTY CLAYSTONE:	Some v.f.g. to f.g. sand at bottom of sample. Blocky fractures, highly weathered, very soft, extensive iron staining, decreasing with depth. Lignite layers (<1 mm. to 5 mm.).
SILTY CLAYSTONE:	Some v.f.g to f.g. sand, angular, quartz. Blocky fractures, highly weathered, very soft, occasional iron-stained fractures. Few Lignite layers (<1 mm.).
SILTY CLAYSTONE:	Brownish gray (5 YR 4/1). Trace to some v.f.g to f.g. sand. Laminated to no visible bedding, highly weathered, very soft, occasional iron-stained fractures. Very few thin organic streaks, damp.
SILTY CLAYSTONE:	Brownish gray (5 YR 4/1). Trace to some v.f.g. to f.g. sand. Layer of extremely weathered Sandstone. Heavy iron staining, continuous iron-filled fractures, blocky to laminated, mod. weathered, very soft, damp.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 19.5	GROUND ELEVATION (FT):	5917.09	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752823	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	EMH	B206889
EAST:	2084781	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	04/27/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Trace v.f.g. sand. Continuous iron-filled and very thin carbon-filled fractures, slightly weathered, soft.
SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Trace v.f.g. sand. Few continuous iron-filled fractures, mod. weathered, soft, damp.
SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Some v.f.g. to f.g. sand. 0.3' zone of laminated, severely weathered, sandier Claystone. Few continuous iron-filled fractures, mod. weathered, soft, damp.
SILTY CLAYSTONE	Trace to some v.f.g. to f.g. sand. Grain size increasing with depth to Sandy Silty Claystone, blocky. Few iron-filled fractures, mod. weathered, grading to highly weathered with extensive fractures. Iron mottling friable. Trace organic spots in fractures, soft to very soft, damp.
SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Trace to some v.f.g. to f.g. sand. Thin sand partings. Top strongly weathered, fractured, friable. Very soft grading to mod. weathered, blocky. Few iron-filled and organic-filled fractures, soft, damp.
	Total Drilled Depth = 19.5'

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-8-89

Location Rocky Flats Plant; Landfill Area **Well No.** B206889

Coordinates N 39838.69 E 21684.46 (RFP) **Elevation: Ground Surface** 5917.09'

Total Depth: Well 18.2' **Top of Casing** 5919.15'

Borehole 19.5'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC **Casing Diameter** 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC **Surface Casing Diameter** 8 5/8" O.D.

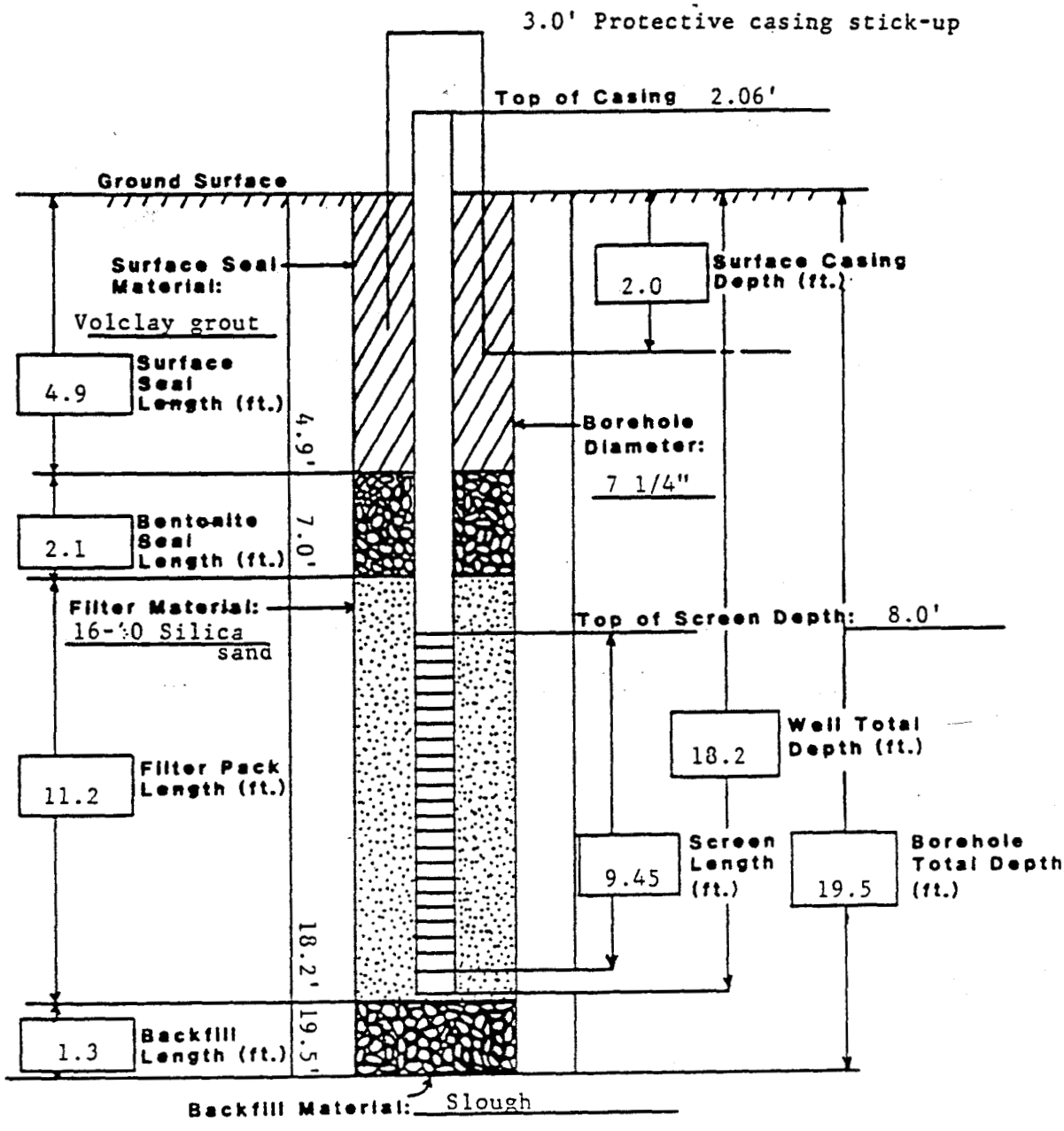
Date Installed 04/27/1989 **Approved By** Jarell Burman

Installed By E.M. Hill
Geologist

Site Manager

CEARP Manager

Comments Placed stainless steel centralizer from 16.75' to 18.0' below ground surface.



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 19.5	GROUND ELEVATION (FT): 5948.27	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	753267	AREA: LANDFILL	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST:	EMH/RTT	B207289
EAST:	2084360	LOCATOR NUMBER: L13	BOREHOLE DIAMETER (IN): 8-5/8	DATE DRILLED:	04/27/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5948	0			ML	Silt - grayish brown (5 YR 3/2). Humic, rooted, loose, damp.
				1.50 /1.50	5947	1			SILTY CLAYSTONE	Top of Bedrock. Pale yellowish brown (10 YR 6/2). Some v.f.g. sand, highly weathered, blocky, friable. Frequent iron staining in distinct fractures, very soft, damp.
				1.90 /2.00	5946	2			SILTY CLAYSTONE	Pale yellowish brown (10 YR 6/2). Abundt. streaks and mottles, dark yellowish brown (10 YR 6/6). Trace to some v.f.g. to f.g. sand, highly weathered, very soft. Few calcite (calcareous) streaks up to 3 mm. Rooted, trace organic partings, blocky, friable, damp.
					5945	3				
				2.00 /2.00	5944	4			SILTY CLAYSTONE	Light olive gray (5 Y 6/1) mottled with dark yellowish orange (10 YR 6/6). Mod. weathered, very soft, few calcite (calcareous) lenses, damp.
					5943	5				
				2.00 /2.00	5942	6			SILTY CLAYSTONE	Pale yellowish brown (10 YR 6/2) mottled with dark yellowish orange (10 YR 6/6) decreasing with depth. Trace v.f.g. sand. Laminate lignite partings (< 1 mm.) increasing with depth. Highly weathered, very soft, damp.
					5941	7				
				2.00 /2.00	5940	8			SILTY CLAYSTONE	Pale yellowish brown (10 YR 6/2), occasional dark yellowish orange (10 YR 6/6) mottling. Trace v.f.g. sand, few lignite partings, few very small calcite (calcareous) lenses, highly weathered, very soft, damp.
					5939	9			SILTY CLAYSTONE	Pale yellowish brown (10 YR 6/2) with occasional dark yellowish orange (10 YR 6/6) mottling and fractures. Trace to some sand, few thin lignite partings and streaks, blocky to fissile, highly weathered, very soft, damp.
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 19.5	GROUND ELEVATION (FT):	5948.27	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	753267	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	EMH/RTT	B207289
EAST:	2084360	LOCATOR NUMBER: L13	BOREHOLE DIAMETER (IN):	8-5/8	DATE DRILLED:	04/27/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%	2.00 /2.00	5938	10				
					5937	11				
				2.00 /2.00	5936	12				SILTY CLAYSTONE: Pale yellowish brown (10 YR 6/2), mottled with grayish orange (10 YR 7/4). Trace to some v.f.g. to f.g. sand, occasional (<1 mm.) lignite partings, iron stained fractures; blocky, very soft, highly weathered, damp.
					5935	13				
				2.00 /2.00	5934	14				SILTY CLAYSTONE: Pale yellowish brown (10 YR 6/2), mottled with decreasing dark yellowish orange (10 YR 6/6). Trace v.f.g. to f.g. sand, iron filled fractures, increasing lignite partings, blocky to fissile, mod. weathered, very soft, damp.
					5933	15				
				2.00 /2.00	5932	16				
					5931	17				
				2.00 /2.00	5930	18				SILTY CLAYSTONE: Pale yellowish brown (10 YR 6/2) to med. gray (N 5/0). Massive, homogeneous, blocky, iron-stained, med. hard, med. consol., med. plastic, damp.
					5929	19				
						20				Total Drilled Depth = 19.5'

WELL COMPLETION INFORMATION

QA By/Date Jodell Bryman 14-28-89

Location Rocky Flats Plant: Landfill Area **Well No.** B207289

Coordinates N 40284.53 E 21264.93 (RFP) **Elevation: Ground Surface** 5948.27'

Total Depth: Well 15.89' **Top of Casing** 5950.49'

Borehole 19.5'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC **Casing Diameter** 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC **Surface Casing Diameter** 8 5/8" O.D.

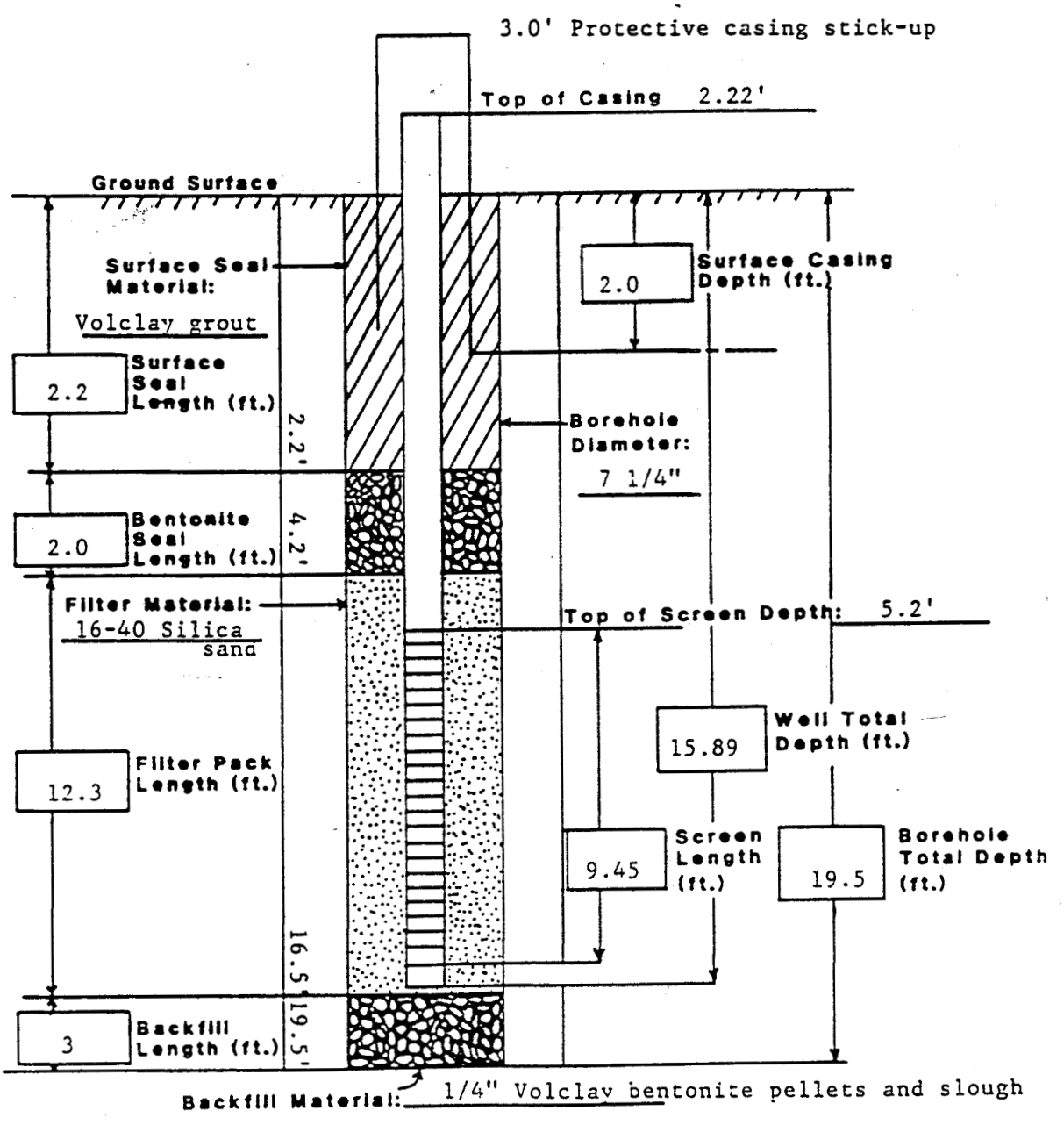
Date Installed 04/28/1989 **Approved By** Jodell Bryman

Installed By E.M. Hill
Geologist

Site Manager

CEARP Manager

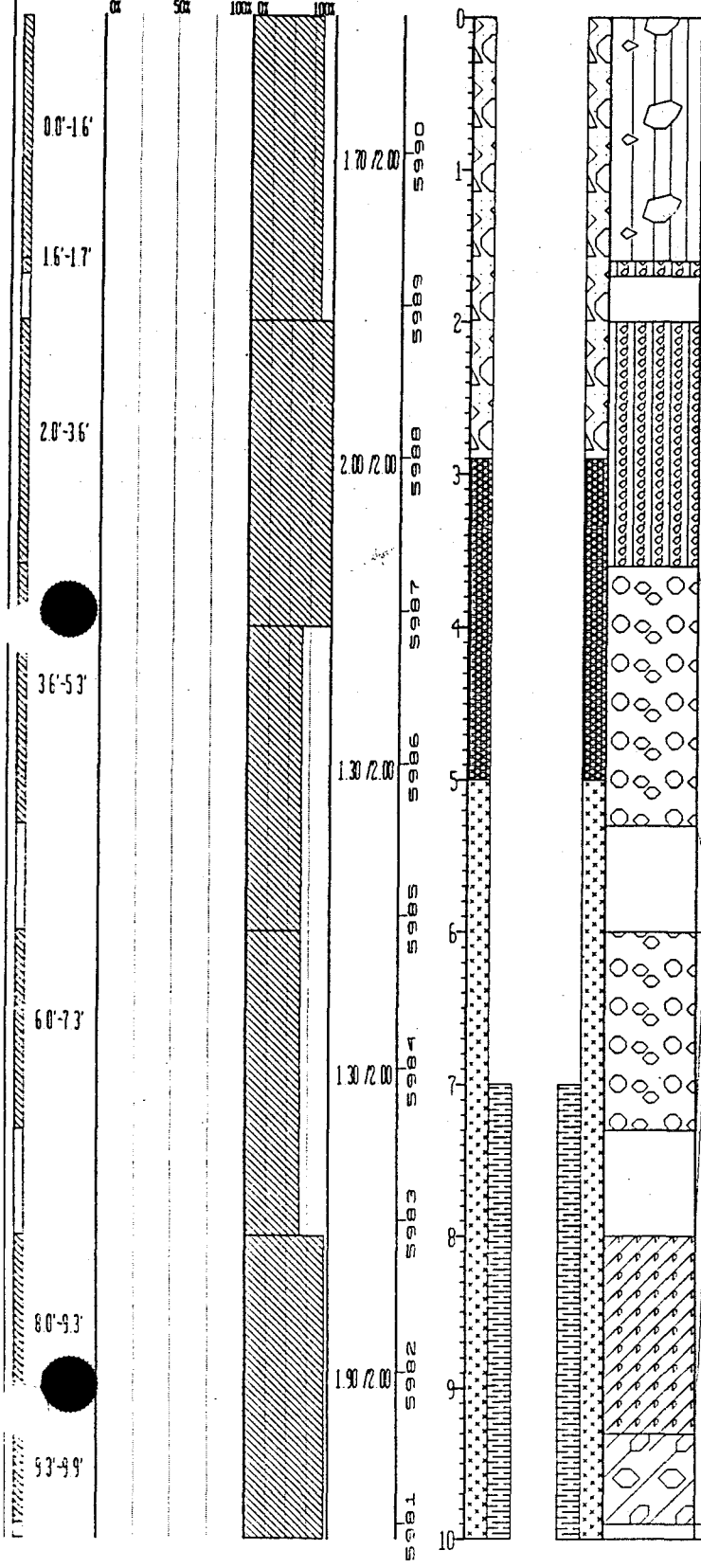
Comments Placed stainless steel centralizer from 14.36' to 15.56' below ground surface



Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 24.4	GROUND ELEVATION (FT) 5990.90	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752675	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70093
EAST	2082657	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 7	DATE DRILLED 01/12/93	

REMARKS MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-2.9', BENTONITE SEAL 2.9'-5.0', SAND 5.0'-22.1', NATURAL BACKFILL 22.1'-24.4', CENTRALIZERS PLACED 3.0' AND 23.9', 2.0' SUMP 22.0'-24.0', DEPTH TO BEDROCK 22.2'



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GM	Sandy Gravel with some silt. Dark Brown (7.5 YR 3/2) Coarse to fine gravel (max=1 1/2", mean=1" diam) and coarse to very fine sand (mean=medium) in clayey silt matrix. Well graded. Subangular to rounded gravel and sand composed mainly of quartzite and quartz with some granite, feldspar, and mica, not bedded, moist. 62% Gravel, 20% sand, 12% silt, and 5% clay.
SM	See description below (Same as 2.0'-3.6').
	No core recovery (1.7'-2.0').
SM	Gravelly Sand with some silt and clay. Reddish brown (2.5 YR 4/4). Fine to medium gravel (up to 2 1/2", mean=1/2" diam). Very fine to coarse sand (mean=medium) in a silty clay matrix. Well graded, sand and gravel, subangular to subrounded; composed of quartz, quartzite, and granite. Low plasticity. Strongly weathered gravel often ground to powder. Not bedded, slightly moist. 37% Gravel, 45% sand, 13% silt, and 5% clay.
GW	Sandy Gravel. Light olive brown (2.5 Y 5/3). Gravel is fine to coarse (max=2", mean=3/4" diam) angular to subrounded. Sand is very fine to coarse (mean=coarse). Subangular to subrounded. Silty matrix, well graded. Gravel and sand composed of rock frags of weathered schist, granite and quartzite. Not bedded, slightly moist. 45% Gravel, 44 % sand, 8 % silt, and 3 % clay.
	No core recovery (5.3'-6.0').
GW	Same as above
	No core recovery (7.3'-8.0')
SC	Clayey Sand with some silt and gravel. Light yellowish brown (2.5 Y 6/4). Coarse to fine gravel (max=2", mean=1/2" diam), very fine to coarse sand (mean=fine) in silty clay matrix, well graded. Gravel and sand angular to subangular composed of quartzite, quartz, granite, and feldspar. Moist. 21% Gravel, 38% sand, 25% clay, and 16% silt.
GC	Sandy Gravel with some clay. Light yellowish brown (2.5 Y 6/4) to strong brown (7.5 YR 5/6). Gravel coarse to fine (max=2", mean=1 1/4" diam), angular to rounded, composed of granite, quartzite, and some schist. Sand very fine to coarse (mean=fine), subangular to subrounded, composed of quartz rock frags, feldspar, micas, and others. Silty clay matrix, well graded, not bedded, moist. 43% Gravel, 38% sand, 12% clay, and 7% silt.

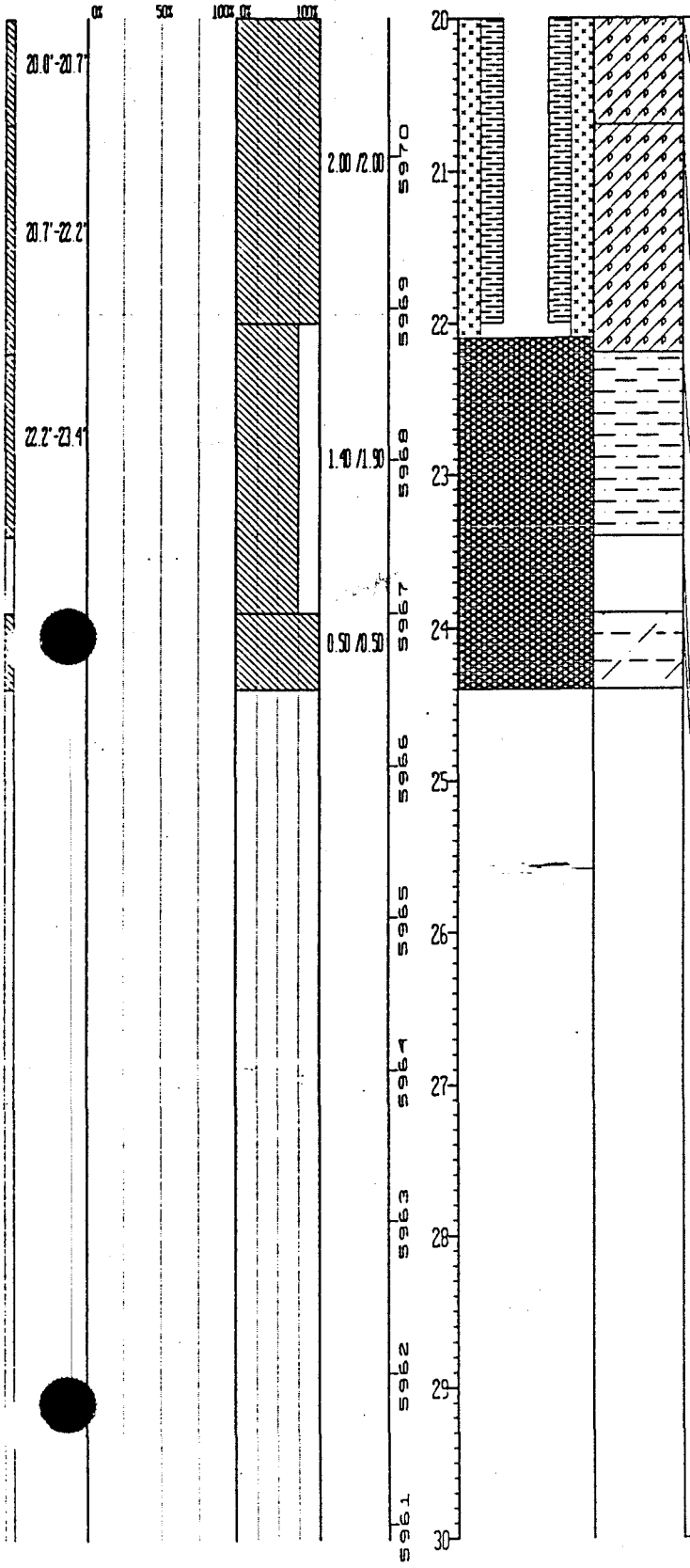
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 24.4	GROUND ELEVATION (FT) 5990.90	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752675	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70093
EAST	2082657	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 7	DATE DRILLED 01/12/93	

REMARKS: MOBIL DRILL B-57; HSA, CEMENT GROUT 0.0'-2.9', BENTONITE SEAL 2.9'-5.0', SAND 5.0'-22.1'; NATURAL BACKFILL 22.1'-24.4'; CENTRALIZERS PLACED 3.0' AND 23.9'; 2.0' SUMP 22.0'-24.0'; DEPTH TO BEDROCK 22.2'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					10				No core recovery (9.9'-10.0')
10.0'-11.8'			1.80 /2.00	5980	11			GC	Same as above
									No core recovery (11.8'-12.0')
12.0'-13.1'			1.10 /2.00	5978	12			GC	Same as above Strong brown (7.5 YR 5/6) below 12.0'.
					13				No core recovery (13.1'-14.0').
14.0'-17.8'			2.00 /2.00	5976	14	01/28/93 01/12/93		GC	Sandy Gravel with some clay. Variable color: light yellowish brown to (2.5 Y 6/4) to light olive brown (2.5 Y 5/4) and strong brown (7.5 YR 5/6). Gravel very coarse to fine (max= 3", mean=1" to 1/2" diam.), angular to subrounded, composed of quartzite, pegmatite quartz, granite and schist. Sand very fine to coarse (mean=coarse), subangular to subrounded, composed of quartz, feldspar, quartzite, granite, micas, and mafic minerals. Silty clay matrix; well graded; moist to wet. Black residue staining matrix @14.2'. 45% Gravel, 35% sand, 12% clay, and 8 % silt.
			1.80 /2.00	5974	17				
					18				No core recovery (17.8'-18.0')
18.0'-19.6'			1.60 /2.00	5972	19			GC	Same as above Saturated between 18.0'-18.6'
					20				No core recovery (19.6'-20.0')

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 24.4	GROUND ELEVATION (FT)	5990.90	PROJECT NUMBER	999073	LOG OF BORING NUMBER
NORTH	752675	AREA OUT PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70093
EAST	2082657	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	7	DATE DRILLED	01/12/93	

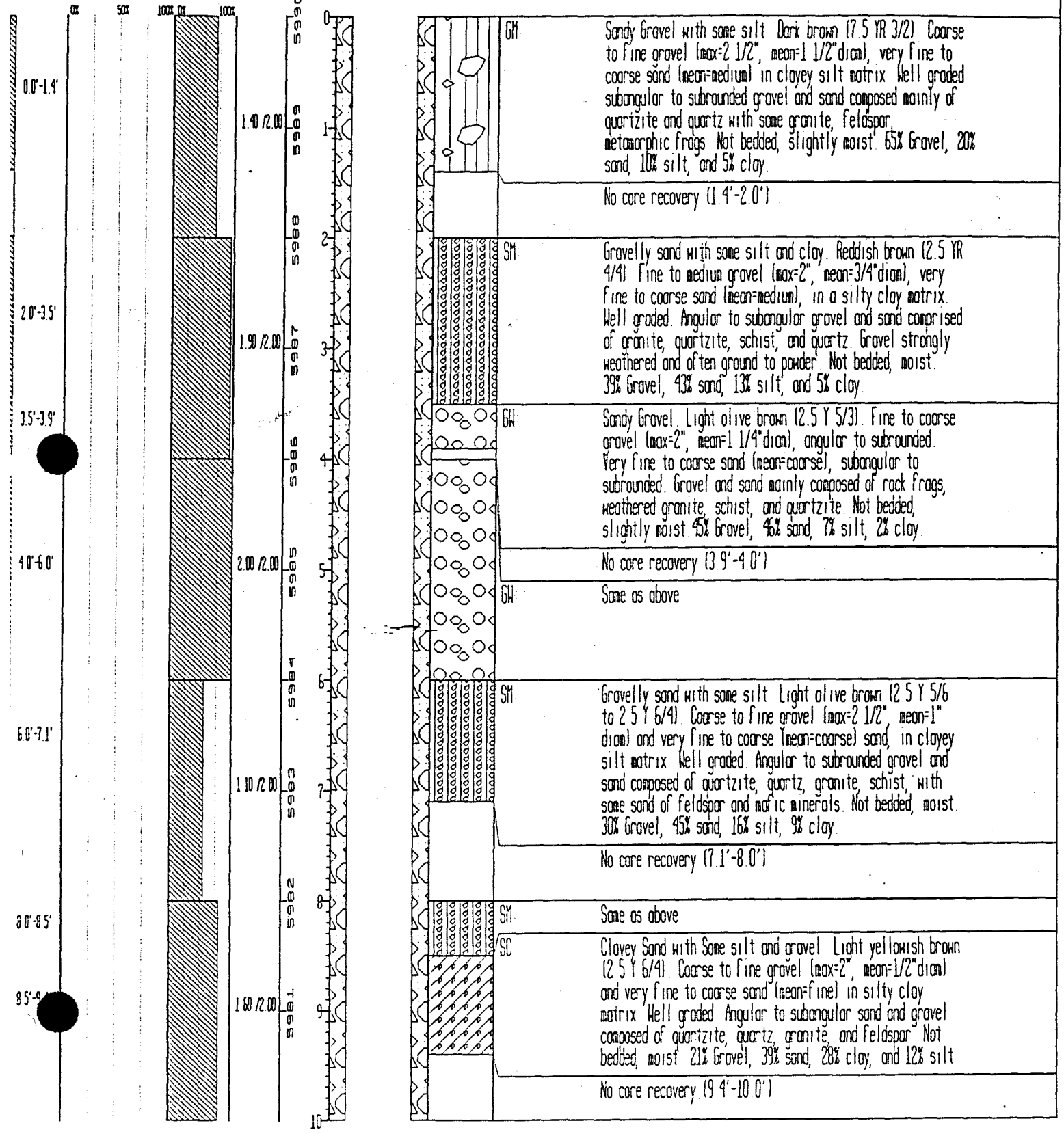
REMARKS: MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-2.9', BENTONITE SEAL 2.9'-5.0', SAND 5.0'-22.1', NATURAL BACKFILL 22.1'-24.4', CENTRALIZERS PLACED 3.0' AND 23.9', 2.0' SUMP 22.0'-24.0', DEPTH TO BEDROCK 22.2'



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	No core recovery (19.6'-20.0')
SC	Gravelly Sand with some clay. Strong brown (7.5 YR 5/6). Medium to fine gravel (mean=1" diam) and very fine to coarse sand (mean=coarse) in silty clay matrix. Moderately graded, subangular to subrounded gravel and sand composed of the same composition as above (14.0'-19.6'). Not bedded, moist. 29 % Gravel, 53% sand, 12% clay, and 6% silt.
SC	Gravelly Clayey Sand. Strong brown (7.5 YR 5/6) with black patchy stained areas. Well-graded mixture of alluvial sediments and reworked bedrock material. Gravel coarse to fine (mean=1" diam), sand very fine to coarse. Gravel is strongly weathered bedrock frags. Not bedded, moist. 30 % Gravel, 42% sand, 20% clay, and 8% silt.
SANDY CLAYSTONE	Sandy Claystone with some silt. Light gray (2.5 Y 7/2) to light olive brown (2.5 Y 5/6). Very fine grained sand. Well sorted. Porosity = 25%, no cement, friable. Sand is mainly quartz. Bedding appears reworked by weathering. Fe-oxide and Mn-oxide stains follow subhorizontal wavy surfaces (thin bedding). Moist. 30 % Sand, 50% clay, and 20% silt. Top of Bedrock 22.2'.
	No core recovery (23.4'-23.9')
SILTY CLAYSTONE	Silty Claystone. Light olive brown (2.5 Y 5/4) with black Mn-oxide staining on planar surfaces. Strongly weathered. Porosity=15%. No cement, slightly friable, moist. 35% Silt, and 65% clay. Total Depth 24.4'.

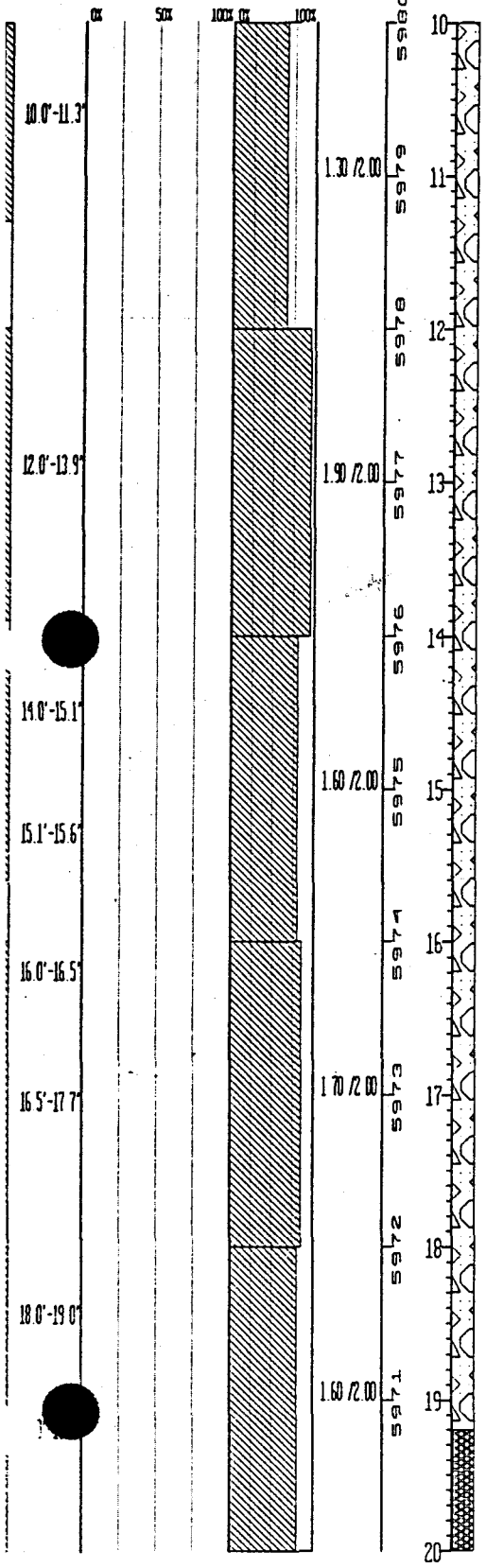
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 39.4	GROUND ELEVATION (FT) 599.00	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752688	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70193
EAST	2082674	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 10.25	DATE DRILLED 01/15/93	

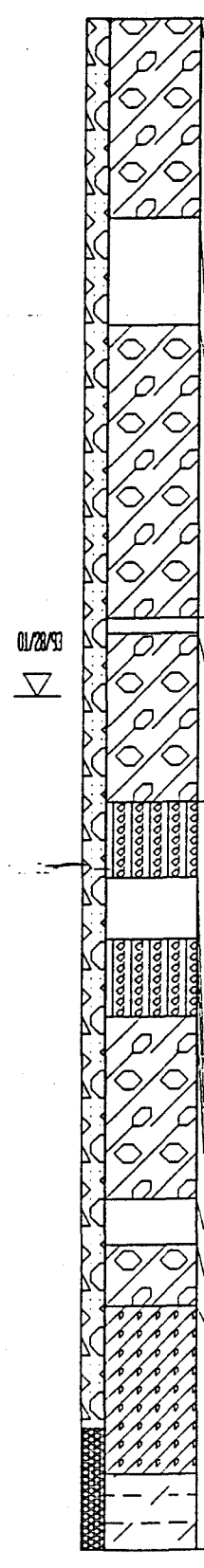
REMARKS MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-19.5', BENTONITE SEAL 19.5'-21.5', SAND 21.5'-37.6', NATURAL BACK-FILL 37.6'-39.4', CENTRALIZERS PLACED 18.5' AND 38.55'; HOLE DIAMETER 10.25" 0.0'-37.5' AND 3.0" 37.5'-39.4'. 2.0' SUMP 37.3'-39.3' DEPTH TO BEDROCK 19.5'



STATE PLANE COORDINATE		TOTAL DEPTH (FT) 39.4	GROUND ELEVATION (FT)	5990.00	PROJECT NUMBER	989073	LOG OF BORING NUMBER
NORTH	752688	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70193
EAST	2082674	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	10.25	DATE DRILLED	01/15/93	

REMARKS: MOBIL DRILL B-57. HSA, CEMENT GROUT 0.0'-19.5', BENTONITE SEAL 19.5'-21.5', SAND 21.5'-37.6', NATURAL BACK-FILL 37.6'-39.4'. CENTRALIZERS PLACED 18.5' AND 38.55'. HOLE DIAMETER 10.25" 0.0'-37.5' AND 3.0" 37.5'-39.4'. 2.0' SUMP 37.3'-39.3' DEPTH TO BEDROCK 19.5'.

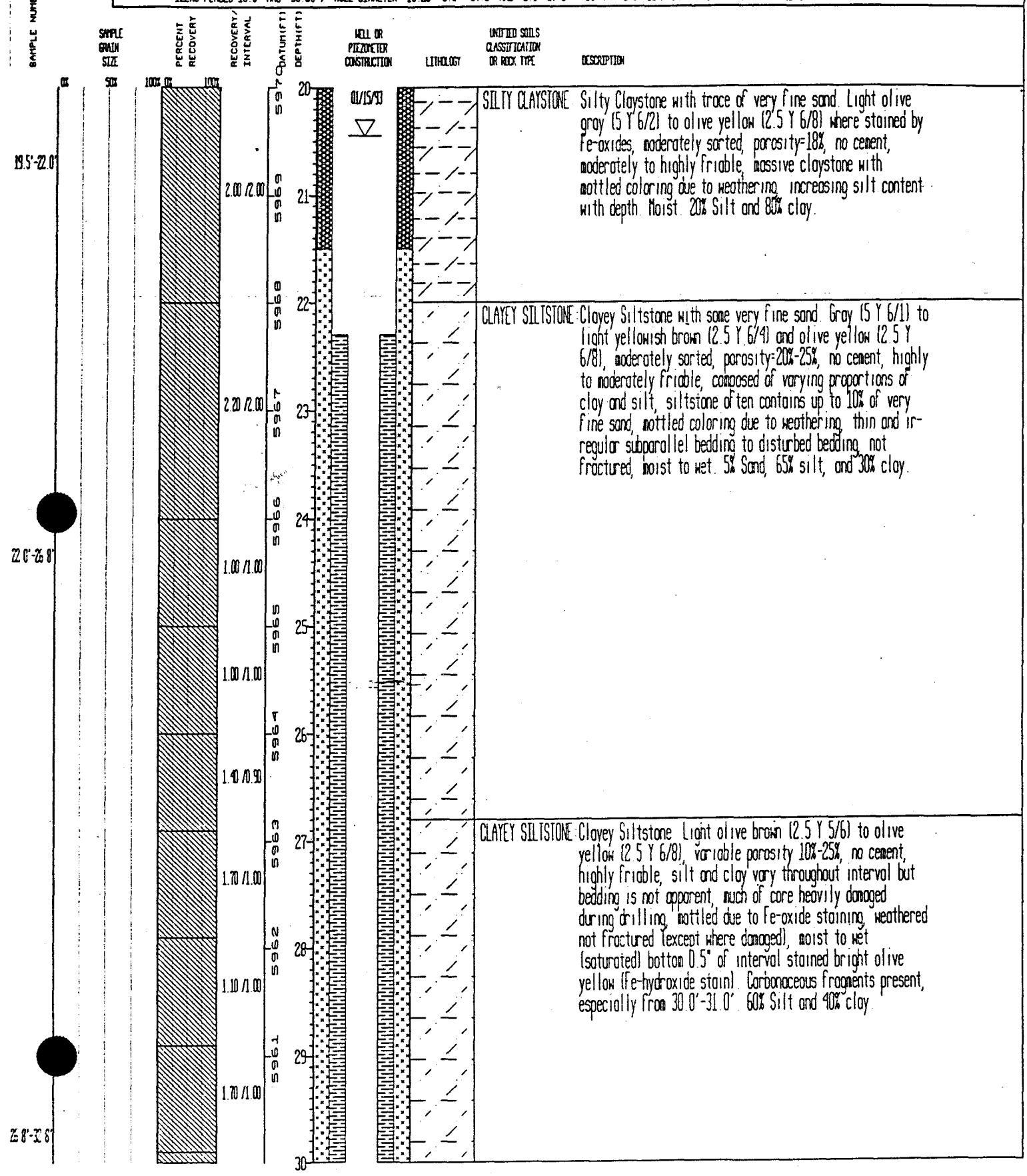




UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	No core recovery (9.4'-10.0')
GC	Sandy Gravel with some clay. Light yellowish brown (2.5 Y 6/4). Coarse to fine gravel (max=2 1/2", mean=1 1/4" diam) and very fine to coarse sand (mean=fine) in silty clay matrix. Well graded. Angular to rounded gravel, some broken by drilling, subangular to subrounded sand. Gravel composed of quartzite, granite, and some schist. Sand composed of quartz, rock fragments, feldspars and micas. Not bedded, moist. 44% Gravel, 39% sand, 12% clay, and 5% silt.
	No core recovery (11.3'-12.0')
GC	Sandy Gravel with some clay. Strong brown (7.5 YR 5/6). Very coarse to fine gravel (max=3", mean=1" diam) and very fine to coarse sand (mean=coarse) in silty clay matrix. Well graded angular to subrounded gravel and subangular to subrounded sand. Gravel composed of quartzite, quartz, granite, schist; sand composed of quartz, feldspar, quartzite, granite, micas and mafic minerals. Moist to wet. 45% Gravel, 32% sand, 15% clay, and 8% silt.
	No core recovery (13.9'-14.0')
GC	Same as above
SM	Silty Gravelly Sand. Light yellowish brown (2.5 Y 6/4) to light brown (7.5 YR 6/4). Coarse to fine gravel (max=2 1/2", mean=3/4" diam) and very fine to coarse sand (mean=coarse) in clayey silt matrix. Well graded. Angular to subrounded gravel and sand composed of quartzite, quartz, granite, and schist with some sand of feldspar, micas, mafic minerals. Not bedded, saturated. 18.5% Gravel, 55.5% sand, 20% silt, and 6% clay.
	No core recovery (15.6'-16.0')
SM	Same as above
GC	Sandy Gravel with some clay. Same as interval from 12.0' to 15.1'.
	No core recovery (17.7'-18.0')
GC	Same as above. Saturated.
SC	Clayey Gravelly Sand. Light brownish gray (2.5 Y 6/2) to dark brown (7.5 YR 4/4). Fine gravel and very fine to coarse sand (mean=medium) composed of same composition as above. Decreasing sand and gravel with depth - transition to bedrock clay. Clay is of low plasticity. Crudely bedded at boundary with reworked bedrock. Moist. 10% Gravel, 45% sand, 35% clay, and 10% silt

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 39.4	GROUND ELEVATION (FT)	5990.00	PROJECT NUMBER	999073	LOG OF BORING NUMBER
NORTH	752688	AREA OUT PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70193
EAST	2082674	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	10.25	DATE DRILLED	01/15/93	

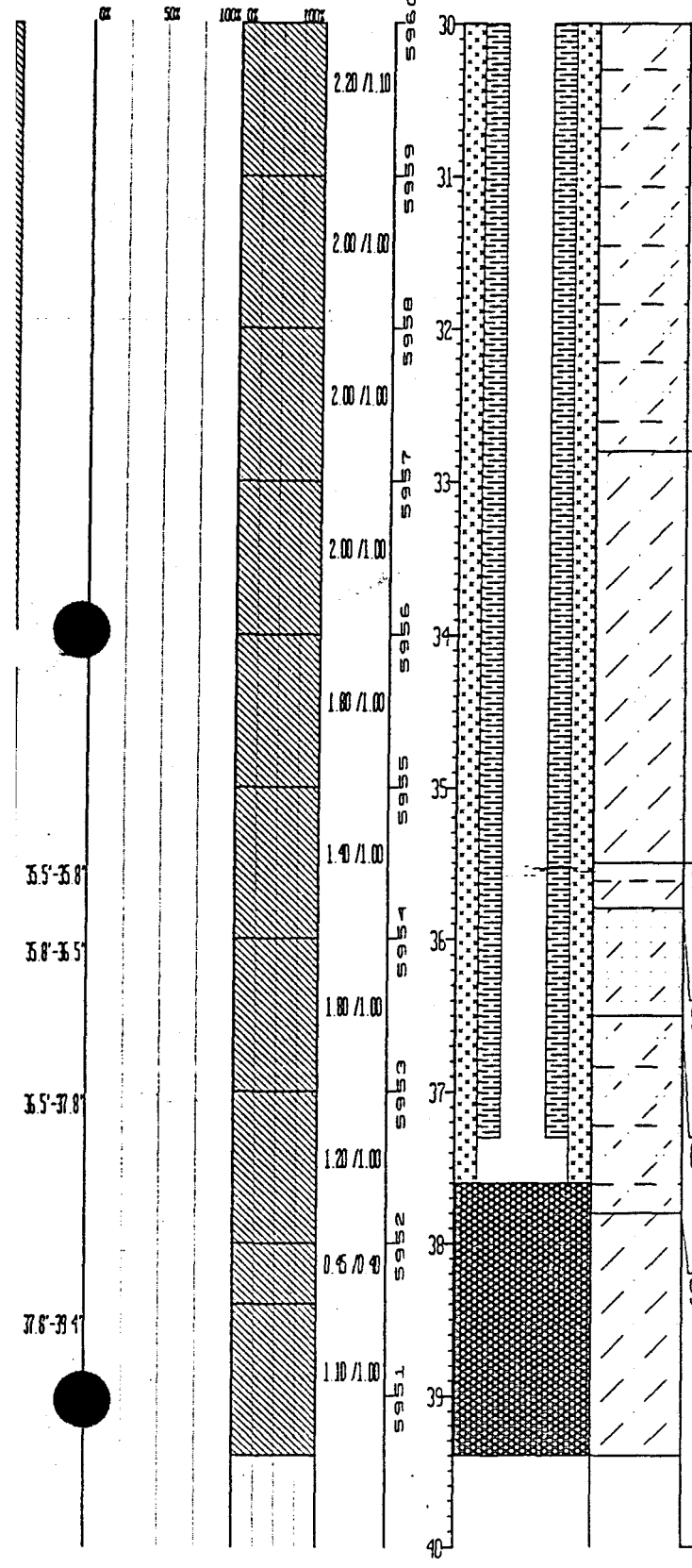
REMARKS: MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-19.5', BENTONITE SEAL 19.5'-21.5', SAND 21.5'- 37.6', NATURAL BACK- FILL 37.6'-39.4', CENTRALIZERS PLACED 18.5' AND 38.55'; HOLE DIAMETER 10.25" 0.0'- 37.5' AND 3.0" 37.5' - 39.4'. 2.0' SUMP 37.3'- 39.3' DEPTH TO BEDROCK 19.5'



STATE PLANE COORDINATE		TOTAL DEPTH (FT) 39.4	GROUND ELEVATION (FT)	5990.00	PROJECT NUMBER	959073	LOG OF BORING NUMBER
NORTH	752688	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70193
EAST	2082674	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	10.25	DATE DRILLED	01/15/93	

REMARKS: MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-19.5', BENTONITE SEAL 19.5'-21.5', SAND 21.5'-37.6', NATURAL BACK-FILL 37.6'-39.4', CENTRALIZERS PLACED 18.5' AND 38.55', HOLE DIAMETER 10.25" 0.0'-37.5' AND 3.0" 37.5'-39.4', 2.0' SUMP 37.3'-39.3' DEPTH TO BEDROCK 19.5'

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE | PERCENT RECOVERY | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



CLAYEY SILTSTONE: Clayey Siltstone. Light olive brown (2.5 Y 5/6) to olive yellow (2.5 Y 6/8), variable porosity 10%-25%, no cement, highly friable, silt and clay vary throughout interval but bedding is not apparent, much of core heavily damaged during drilling, mottled due to Fe-oxide staining, weathered not fractured (except where damaged), moist to wet (saturated) bottom 0.5" of interval stained bright olive yellow (Fe-hydroxide stain). Carbonaceous fragments present, especially from 30.0'-31.0'. 60% Silt and 40% clay.

SILTSTONE: Siltstone with some clay. Light olive brown (2.5 Y 5/4) to olive yellow (2.5 Y 6/8), porosity = 20%-25%, no cement, highly to moderately friable, clay content varies, subhorizontal bedding occurs in siltiest intervals, not fractured but damaged during drilling, moist. 85% Silt and 15% clay.

SILTY CLAYSTONE: Silty Claystone. Dark grayish brown (2.5 Y 4/2), porosity = 10%-15%, no cement, slightly to moderately friable, grades into overlying siltstone, not bedded, not fractured but broken during drilling, slightly moist. 70% Clay and 30% sand.

SILTY SANDSTONE: Silty Sandstone. Light gray (5 Y 6/1) to olive yellow (2.5 Y 6/6), very fine sand, moderately sorted, porosity = 25%, no cement, highly friable, intermixed with claystone and siltstone but not bedded. 70% Sand, 25% silt, and 5% clay.

CLAYEY SILTSTONE: Clayey Siltstone. Dark gray (5 Y 4/1) to dark grayish brown (2.5 Y 4/2), porosity varies from 10% to 25%, no cement, slightly to moderately friable, Fe-oxide stains present but limited, thin irregular planar bedding. 60% Silt and 40% clay.

SILTSTONE: Siltstone with some clay. Light olive brown (2.5 Y 5/4) to gray (5 Y 5/1), porosity=20%-25%, no cement, moderately friable, clay content varies (max=25%) in thin 1" intervals within siltstone, irregular bedding, subhorizontal, not fractured, moist. 85% Silt and 15% clay.

Total Depth 39.4'

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73.3	GROUND ELEVATION (FT)	5993.11	PROJECT NUMBER	989073	LOG OF BORING NUMBER
NORTH	752681	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	6.5	DATE DRILLED	01/11/93	

REMARKS MOBIL DRILL B-57, HSA, GROUT 0.0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69.0'-69.1'. CENTRALIZERS PLACED AT 9.6', 29.6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0.0'-69.5' AND 3.0" 69.5'-73.3'. 2' SUMP 67.1'-69.1'. DEPTH TO BEDROCK 21.5'

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0.0'-1.0'				1.00/2.00	5993	0			GC	Sandy Clayey Gravel with some silt. Dark brown (7.5 YR 3/2) coarse to fine gravel (mean=1.5"diam) and very fine to coarse sand (mean=coarse) in silty clay matrix. Well graded. Angular to subrounded gravel, and subangular sand. Gravel composed of granite, quartzite, and quartz; sand composed of quartz, feldspar, and rock fragments. Some plant material in upper 3", moist. 46% Gravel, 28% sand, 15 clay, and 11% silt
					5992	1				No core recovery (1.0'-2.0')
2.0'-3.3'				1.30/2.00	5991	2			GC	Sandy Clayey Gravel. Dark reddish brown (2.5 YR 3/4). Coarse to fine gravel (max=2.5"diam) and very fine to coarse sand (mean=medium to coarse) in silty clay matrix. Well graded. Angular to subrounded gravel, angular to subangular sand. Low plasticity, stiff clay matrix. Gravel composed of quartz, quartzite, schist, and weathered granite. Sand composed of quartz, rock fragments, feldspars, micas, and mafic minerals. Slightly moist. 40% Gravel, 38% sand, 20% clay, and 2% silt.
					5990	3				
					5989	4				No core recovery (3.3'-4.0')
4.0'-5.4'				1.40/2.00	5988	5			SM	Silty Gravelly Sand. Pink (7.5 YR 7/3) to strong brown (7.5 YR 5/6). Coarse to fine gravel (max=2.2"diam, mean=medium to fine) and very fine to coarse sand (mean=medium to fine). Subangular to subrounded gravel and subangular sand. Gravel and sand composed of quartzite, quartz, and other rock frags. Sand also includes weathered granite, feldspar, micas, and mafic minerals. Not bedded, moist to slightly moist. 16% Gravel, 50% sand, 20% silt, and 14% clay.
					5987	6				No core recovery (5.4'-6.0')
6.0'-7.0'				1.00/2.00	5986	7			SM	Same as above
					5985	8				No core recovery (7.0'-8.0')
8'-11.2'				2.00/2.00	5984	9			SM	Same as above
						10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73.3	GROUND ELEVATION (FT)	5993.11	PROJECT NUMBER	999073	LOG OF BORING NUMBER
NORTH	752681	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	6.5	DATE DRILLED	01/11/93	

REMARKS: MOBIL DRILL B-57, HSA. GROUT 0.0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69.0'-69.1'. CENTRALIZERS PLACED AT 9.6', 29.6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0.0'-69.5' AND 3.0" 69.5'-73.3'. 2' SUMP 67.1'-69.1'. DEPTH TO BEDROCK 21.5'.

GEOTECHNICAL SAMPLE NUMBER	SAMPLE DEPTH	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5983	10			SM	Same as above
				1.20 /2.00	5982	11				No core recovery (11.2'-12.0')
	12.0'-12.7'				5981	12			SM	Gravelly Sand. Strong brown (7.5 YR 5/6). Coarse to fine gravel (max=1.5", mean=3/4" diam) and very fine to coarse sand (mean=medium). Well graded, subangular to subrounded grains. Gravel composed of quartzite and other metamorphic rock and quartz. Sand composed of quartz, rock frags, quartz and a trace of feldspar. Moist. 18% Gravel, 50% Sand 16% silt, and 16% clay.
				0.70 /2.00	5980	13				No core recovery (12.7'-14.0')
	14.0'-15.2'				5979	14			SM	Gravelly Sand. Dark brown (7.5 YR 3/2). Gravel is coarse to fine (max=3", mean=3/4" diam), angular to subrounded, composed of quartzite, pegmatite quartz, other rock frags including schist, coarsest gravel at base of interval. Sand is very fine to coarse (mean=medium), subangular, composed of quartz, feldspar, and rock frags. Well graded, moist. 26% Gravel, 53% sand, 12% silt, and 9% clay.
				1.70 /2.00	5978	15				
	15.2'-15.7'				5977	16			GM	Sandy Gravel with some silt. Brown (7.5 YR 5/4). Medium to fine gravel (max=2", mean=1" diam), angular to subrounded, composed of weathered granite, schist, and pegmatite quartz. Very fine to coarse sand, subangular to subrounded, composed of quartz and feldspar rock frags, biotite, and mica. Well graded. Silty clay matrix. 47% Gravel, 36% sand, 12% silt and 5% clay
	16.0'-17.5'									No core recovery (15.7'-16.0')
				1.50 /2.00	5976	17			GM	Same as above
										No core recovery (17.5'-18.0')
	18.0'-18.3'				5975	18			SM	Silty Gravelly Sand. Dark Brown (7.5 YR 4/4). Medium to fine gravel (max=1 1/2", mean=3/4" diam), subangular to rounded, composed of highly weathered granite, quartzite, pegmatite quartz, feldspar, and schist. Very fine to coarse sand (mean =fine), subangular to subrounded, composed of quartz, schist frags, granite frags, weathered feldspar, and micas. Well to moderately graded, in clayey silt matrix, very moist to wet. 13% Gravel, 39% sand, 35% silt, and 13% clay.
				0.30 /2.00	5974	19				No core recovery (18.3'-20.0')
						20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73.3	GROUND ELEVATION (FT) 5953.11	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752681	AREA OUT PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 6.5	DATE DRILLED 01/11/93	

REMARKS MOBIL DRILL B-57, HSA. GROUT 0.0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69.0'-69.1'. CENTRALIZERS PLACED AT 9.6', 29.6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0.0'-69.5' AND 3.0" 69.5'-73.3'. 2' SUMP 67.1'-69.1'. DEPTH TO BEDROCK 21.5'.

SAMPLE NUM.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					20				No core recovery (18.3'-20.0')
20.0'-21.5'								SM	Same as above. Top of bedrock 21.5'
			2.00 /2.00	5972	21			CLAYEY SILTSTONE	Clayey Siltstone with some sand. Very finely intermixed silty sandstone and sandy claystone. Light gray (5 Y 7/1)-fresh and light olive yellow (2.5 Y 6/8)-weathered. Very fine grained sand in silty clay matrix. Well sorted. Subangular sand of 30%-40% porosity. No cement (clay). Highly friable, appears reworked and strongly weathered. Mainly quartz sand, trace of mafic minerals. No planar bedding features. Lowest 2' of interval contains more clay-rich zones with sandy silt. High angle voids filled with Fe-hydroxide (goethite or limonite between 24.0'-25.0'). Frequently Fe-hydroxide stained along irregular surfaces and in patches. Slightly moist. In general coarsens upward. 20% Sand, 50% silt, and 30% clay. **NOTE: Interval 21.5'-26.2' in a heterogeneous mixture of 2 end members (Clayey Siltstone and Sandy Silt). The mixture varies in composition depending on fraction of the 2 end members. No bedding features appear.
					22	01/28/93			
21.5'-26.2'			2.00 /2.00	5970	23				
				5969	24				
			2.00 /2.00	5968	25			CLAYEY SILTSTONE	Clayey Siltstone with some sand. Light yellowish brown (2.5 Y 6/4) to olive yellow (2.5 Y 6/8). Moderately sorted. Very fine grained, subangular sand, porosity=15%, no cement, moderately friable, mainly comprised of quartz and mafic minerals (possibly oxides), wavy banded coloring may be indicative of bedding, low angle fractures at 27.1' filled Fe-hydroxide material. Slightly moist. 12% Sand, 45% silt, and 43% clay.
				5967	26				
26.2'-28.0'			2.00 /2.00	5966	27			CLAYEY SILTSTONE	Reworked and disturbed slough from 27.5' to 29.2' of Silty Clayey Sand with trace of gravel. Light yellowish brown (2.5 Y 6/4). Fine gravel (mean=.5"), mixed with fine to very fine sand in a silt and clay matrix, subangular to subrounded grains of sand and gravel. 5% Gravel, 38% sand, 30% silt, and 27% clay. * A reworked slough at bottom of cased interval - NOT INDICATIVE OF BEDROCK LITHOLOGY.
				5965	28				
28.0'-29.2'			1.40 /1.20	5964	29			SANDY SILTSTONE	Interbedded Sandy Siltstone and Clayey Siltstone (laminated) Dark grayish brown (2.5 Y 4/2) to olive yellow (2.5 Y 6/8), sand is very fine, moderately sorted, subangular. Porosity = 20%, no cement, moderately friable, strongly Fe stained along some laminae and adjacent to Fe-hydroxide filled voids. Wavy bedding/laminae and trace of carbonaceous material present.
					30				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73 3	GROUND ELEVATION (FT)	5993 11	PROJECT NUMBER	939073	LOG OF BORING NUMBER
NORTH	752681	AREA OUT PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	6 5	DATE DRILLED	01/11/93	

REMARKS MOBIL DRILL B-57, HSA. GROUT 0.0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69 0'-69.1'. CENTRALIZERS PLACED AT 9 6', 29 6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0 0'-69.5' AND 3 0" 69 5'-73 3'. 2' SUMP 67 1'-69 1'. DEPTH TO BEDROCK 21.5'

SAMPLE NUMB	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%	2.00 /2.00	5963	30				
				5962	31			SILTY CLAYSTONE	Silty Claystone with a trace of sand. Very fine sand occurs only within silty beds. Grayish brown (2.5 Y 5/2) to olive yellow (2.5 Y 6/8) above 33.2', grayish brown to light olive brown (2.5 Y 5/4) below 33.2', more strongly Fe stained above 33.0'. Well to moderately sorted, porosity varies from 10% in clay-rich beds to 20% in silt-rich beds with sand, moderately to highly friable, mainly claystone above 32.8' and increasing silt content with depth with a max silt content of 40%. Wavy laminations, very thin beds. Moist. 5% Sand, 70% clay, and 29% silt.
			2.00 /2.00	5961	32				
30.9'-35.2'				5960	33				
			2.00 /2.00	5959	34				
				5958	35			CLAYEY SILTSTONE	Clayey Siltstone with some Sandy Siltstone. Grayish brown (2.5 Y 5/2) to olive yellow (2.5 Y 6/6), very fine sand well to moderately sorted, subangular, porosity = 25%, no cement, moderately to highly friable. No systematic structures, no planar bedding apparent, Fe stains along irregular surfaces give mottled appearance. Moist 10% Sand, 70% silt, and 20% clay.
			2.00 /2.00	5957	36				
35.2'-37.9'				5956	37				
			1.80 /1.80	5955	38			SANDY SILTSTONE	Sandy Siltstone with some clay. Dark grayish brown (2.5 Y 4/2) to light yellowish brown (2.5 Y 6/3) and olive yellow (2.5 Y 6/6). Very fine sand, well sorted, subangular, porosity=25%-30%, no cement, highly friable. No bedding or internal systematic structures are apparent, Fe stains on irregular surfaces give mottled appearance. 20% Sand, 55% silt, and 25% clay
				5954	39				
37.9'-42.0'			2.00 /2.00		40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73.3	GROUND ELEVATION (FT) 5993.11	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752681	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 6.5	DATE DRILLED 01/11/93	

REMARKS MOBIL DRILL B-57, HSA. GROUT 0.0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69.0'-69.1', CENTRALIZERS PLACED AT 9.6', 29.6', AND 47.1', BOREHOLE DIAMETER 10.25" 0.0'-69.5' AND 3.0" 69.5'-73.3', 2' SUMP 67.1'-69.1', DEPTH TO BEDROCK 21.5'

SAMPLE NUMB.	SAMPLE DEPTH	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5953	40			SANDY SILTSTONE	Sandy Siltstone with some clay. Dark grayish brown (2.5 Y 4/2) to light yellowish brown (2.5 Y 6/3) and olive yellow (2.5 Y 6/6). Very fine sand, well sorted, subangular, porosity=25%-30%, no cement, highly friable. No bedding or internal systematic structures are apparent, Fe stains on irregular surfaces give mottled appearance. 20% Sand, 55% silt, and 25% clay.
					5952	41				
				1.10 /2.00	5951	42			SILTY CLAYSTONE	See description below. Same as interval 43.0'-45.8'.
										No core recovery (42.1'-43.0')
					5950	43			SILTY CLAYSTONE	Silty Claystone. Very dark grayish brown (2.5 Y 3/2), with trace of carbonaceous material and Fe stains (olive yellow) and trace of Fe-stone nodules (around 44'), porosity = 10%-15%, slightly to moderately friable. Laminae of contrasting color (very dark and dark grayish brown) present. Moist. 20% Silt and 80% clay.
				2.00 /2.00	5949	44				
	43.0'-45.8'				5948	45				
	45.8'-46.1'			1.10 /2.00	5947	46			SILTY SANDSTONE	Silty Sandstone. Olive gray (5 Y 5/2), fine to very fine sand and silt, trace of clay, well to moderately sorted, subangular, porosity = 10%, CaCO3 cement, slightly friable. Low angle cross-laminations present. 75% Sand, 1% clay, and 24% silt
	47.0'-47.2'				5946	47				No core recovery (46.1'-47.0')
	47.2'-47.8'								SILTY SANDSTONE	Same as above
				0.80 /2.00	5945	48			SILTSTONE	Siltstone with some clay. Very dark gray (5 Y 3/1), porosity = 15%, CaCO3 cement, highly friable where cement absent, moderately friable elsewhere. No bedding, not fractured, but highly disturbed and crumbling. 85% Silt and 15% clay.
										No core recovery (47.8'-49.0')
					5944	49	01/11/93		SILTSTONE	Same as above
	49.7			0.70 /2.00		50				No core recovery (49.7'-51.0')

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73 3	GROUND ELEVATION (FT)	5993 11	PROJECT NUMBER	999073	LOG OF BORING NUMBER
NORTH	752681	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70293
EAST	2062665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	6 5	DATE DRILLED	01/11/93	

REMARKS MOBIL DRILL B-57, HSA. GROUT 0 0'-47 9', BENTONITE SEAL 47 9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69 0'-69 1'. CENTRALIZERS PLACED AT 9 6', 29 6', AND 47.1'. BOREHOLE DIAMETER 10 25" 0 0'-69 5' AND 3 0" 69.5'-73 3'. 2' SUMP 67.1'-69 1'. DEPTH TO BEDROCK 21 5'.

GEOTECHNICAL SAMPLE DEPTH / SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0.70 /2.00	5943	50				No core recovery (49 7'-51 0')
51 0'-51.9'				5942	51			SILTSTONE	Same as above, not disturbed
			0.90 /2.00	5941	52				No core recovery (51.9'-53 0')
53 0'-53.5'				5940	53			SILTSTONE	Same as above, not disturbed
			0.50 /1.00						No core recovery (53.5'-54.0')
				5939	54			SILTSTONE	Same as above, not disturbed
54 0'-57.0'				5938	55				
				5937	56				
			4.35 /5.00						
				5936	57			SILTSTONE	Siltstone with some clay Very dark gray (5 Y 3/1). Porosity <10%, no cement, slightly friable. Appears massive, not fractured, not weathered Moist 90% Silt and 10% clay
57 0'-58.35'				5935	58				
									No core recovery (58.35'-59.0')
				5934	59			SANDSTONE	See description below
					60				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73.3	GROUND ELEVATION (FT) 5993.11	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752681	AREA OU7 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 6.5	DATE DRILLED 01/11/93	

REMARKS MOBIL DRILL B-57, HSA. GROUT 0.0'-47.9', BENTONITE SEA L 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69.0'-69.1'. CENTRALIZERS PLACED AT 9.6', 29.6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0.0'-69.5' AND 3.0" 69.5'-73.3'. 2' SUMP 67.1'-69.1'. DEPTH TP BEDROCK 21.5'

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5933	60			SANDSTONE	Sandstone with some silt. Gray (5 Y 3/1) to very dark gray (5 Y 6/1), very fine to fine sand, some silt, some carbonaceous material, well sorted, subangular to subrounded, porosity = 15%-25% depending on silt/carbonaceous content, trace of CaCO3 cement, moderately to highly friable, mainly quartz and mafic minerals (pyroxene, oxides, hornblende? (green)), trace of rose quartz (no micas, feldspars). Finely laminated and cross-laminated, carbonaceous layers mark bedding surfaces, cross laminae are trough shaped and wedge shaped. CaCO3 more abundant below 65.0'. 85% Sand and 15% silt. 66.0'-66.5' Sulfides present; disseminated on bedding surface (pyrite/chalcopyrite).
				4.45/5.00	5932	61				
					5931	62				
59.0'-66.6'					5930	63				
					5929	64				
					5928	65				
				4.50/4.50	5927	66				
66.6'-67.8'					5926	67			SANDY SILTSTONE	Sandy Siltstone with some clay. Very dark gray (5 Y 3/1). Sand is fine grained, composed dominantly of quartz and mafic oxides, porosity = 15%, some to trace CaCO3 cement as caliche, some carbonaceous material. Bedding appears disturbed, convoluted. Moist. 25% Sand, 60% silt, and 15% clay
					5925	68			SILTY CLAYSTONE	Silty Claystone. Very dark gray (5 Y 3/1). Low porosity (10%) no cement, trace of CaCO3, slightly to non-friable, trace of carbonaceous material. Appears massive with rare laminae marked by carbonaceous material on bedding surface, not fractured. Moist. 70% Clay and 30% silt
					5924	69				
						70				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73 3	GROUND ELEVATION (FT)	5993 11	PROJECT NUMBER	989073	LOG OF BORING NUMBER
NORTH	752681	AREA OUT PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	JAB/KJT	70293
EAST	2082665	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	6 5	DATE DRILLED	01/11/93	

REMARKS MOBIL DRILL B-57, HSA, GROUT 0 0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69 0'-69 1'. CENTRALIZERS PLACED AT 9 6', 29.6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0 0'-69 5' AND 3.0" 69 5'-73.3'. 2' SUMP 67 1'-69.1'. DEPTH TO BEDROCK 21.5'

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
67.8'-73.3'		0% 50%	100% 0% 100%	5.60 /4.80	5923 5922 5921 5920 5919 5918 5917 5916 5915 5914	70 71 72 73 74 75 76 77 78 79 80			SILTY CLAYSTONE	Silty Claystone, same as above Total Depth 73.3'

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 26 00	GROUND ELEVATION (FT)	5997 90	PROJECT NUMBER	989073	LOG OF BORING NUMBER
NORTH	752090	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	J BOYLAN	70393
EAST	2082389	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	7	DATE DRILLED	02/02/93	

REMARKS NOBIL DRILL B-57, HSA; CEMENT GROUT 0 0'-4.25', BENTONITE SEAL 4.25'-6.5', SAND 6.5'-24.5', NATURAL BACKFILL 24.5'-26', CENTRALIZERS PLACED AT 3.8' AND 24.2', 2' SUMP 22.8'-24.8', DEPTH TO BEDROCK 22.8'

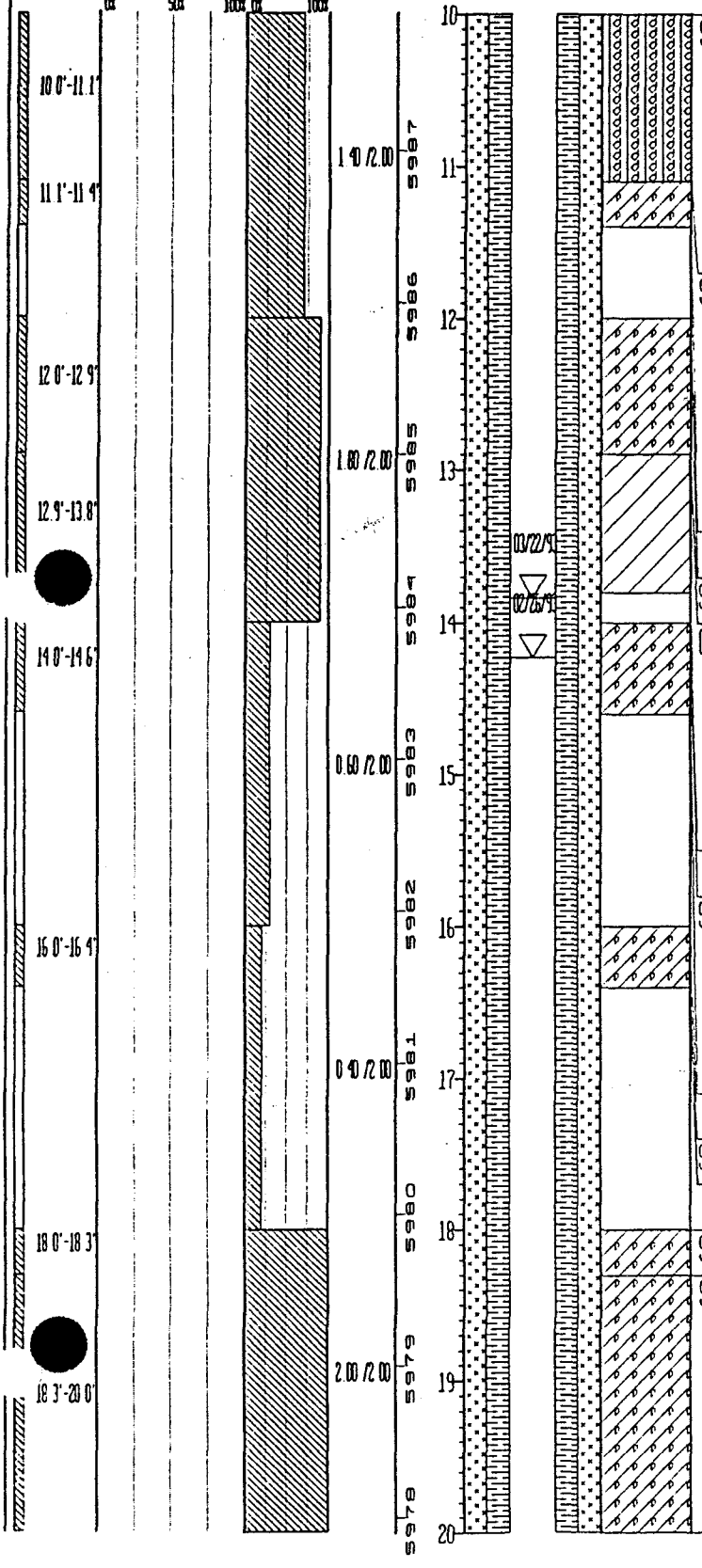
DEPTH	CHEMICAL SAMPLE GEOTECHNICAL SA	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0.0'-.7'	0% 50% 100%	0% 100%	0.70 /2.00	5997	0			SC	Gravelly Sand with silt and clay. Very dark grayish brown (10 YR 3/2). Coarse to fine sand (mean=fine) with coarse to fine gravel (max=3", mean=0.5" diam). Sand subangular to subrounded comprised of quartz, trace of dark minerals. Gravel subangular to subrounded, comprised of quartzite and igneous rock frags. Not bedded, well graded. Slightly moist. 19% Gravel, 67% sand, 7% clay, and 7% silt.
						5996	1				No core recovery (0.7'-2.0').
		2.0'-2.9'			0.90 /2.00	5995	2			SC	Gravelly Clayey Sand. Grayish brown (2.5 Y 5/2), dark grayish brown (2 Y 4/3) and dark reddish gray (2.5 YR 4/6) staining. Coarse to fine sand (mean=fine) with coarse to fine gravel. Sand subangular to subrounded, comprised of quartz and a trace of dark minerals and rock frags. Gravel subangular to subrounded, comprised of igneous rock frags and quartzite. Not bedded, poorly sorted. Slightly moist. 15% Gravel, 63% sand, 14% clay, and 8% silt
						5994	3				No core recovery (2.9'-4.0').
		4'-6.0'			2.00 /2.00	5993	4			SM	Gravelly Sand. Light olive brown (5 Y 5/3) to olive brown (5 Y 5/3), becoming dark yellowish brown (10 YR 4/6) at base. Sand coarse to fine (mean=fine). Gravel coarse to fine (max=3", mean=1" diam). Sand subangular to subrounded, comprised of quartz with a trace of dark minerals and rock frags. Gravel subangular to subrounded comprised of quartzite and igneous rock frags. Not bedded, poorly sorted. Slightly moist. 32% Gravel, 50% sand, 7% clay, and 11% silt.
						5992	5				
		6.0'-7.1'			1.10 /2.00	5991	6			GC	Sandy Gravel. Dark yellowish brown (10 YR 4/4) with very dark gray (2.5 YR N3) cobbles. Coarse to fine gravel (max=3", mean= 2" diam), fractured; subangular to subrounded; comprised of igneous frags with some smaller granite and quartzite frags. Sand coarse to fine, subangular to subrounded, comprised of quartz, trace of dark minerals, and rock frags. Fines upward, possibly two graded (fining up) sequences. Slightly moist. 50% Gravel, 35% sand, and 15% fines.
						5990	7				No core recovery (7.1'-8.0').
		8.0'-8.8'			0.80 /2.00	5989	8			GC	Same as above. See description 6.0'-7.1'.
						5988	9				No core recovery (8.8'-10.0').
							10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 26.00	GROUND ELEVATION (FT) 5997.90	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752090	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST J BOYLAN	70393
EAST	2082389	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 7	DATE DRILLED 02/02/93	

REMARKS MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-4.25', BENTONITE SEAL 4.25'-6.5', SAND 6.5'-24.5', NATURAL BACKFILL 24.5'-26', CENTRALIZERS PLACED AT 3.8' AND 24.2', 2' SUMP 22.8'-24.8', DEPTH TO BEDROCK 22.8'

CHEMICAL SAMPLE GEOTECHNICAL SAMPLE DEPTH

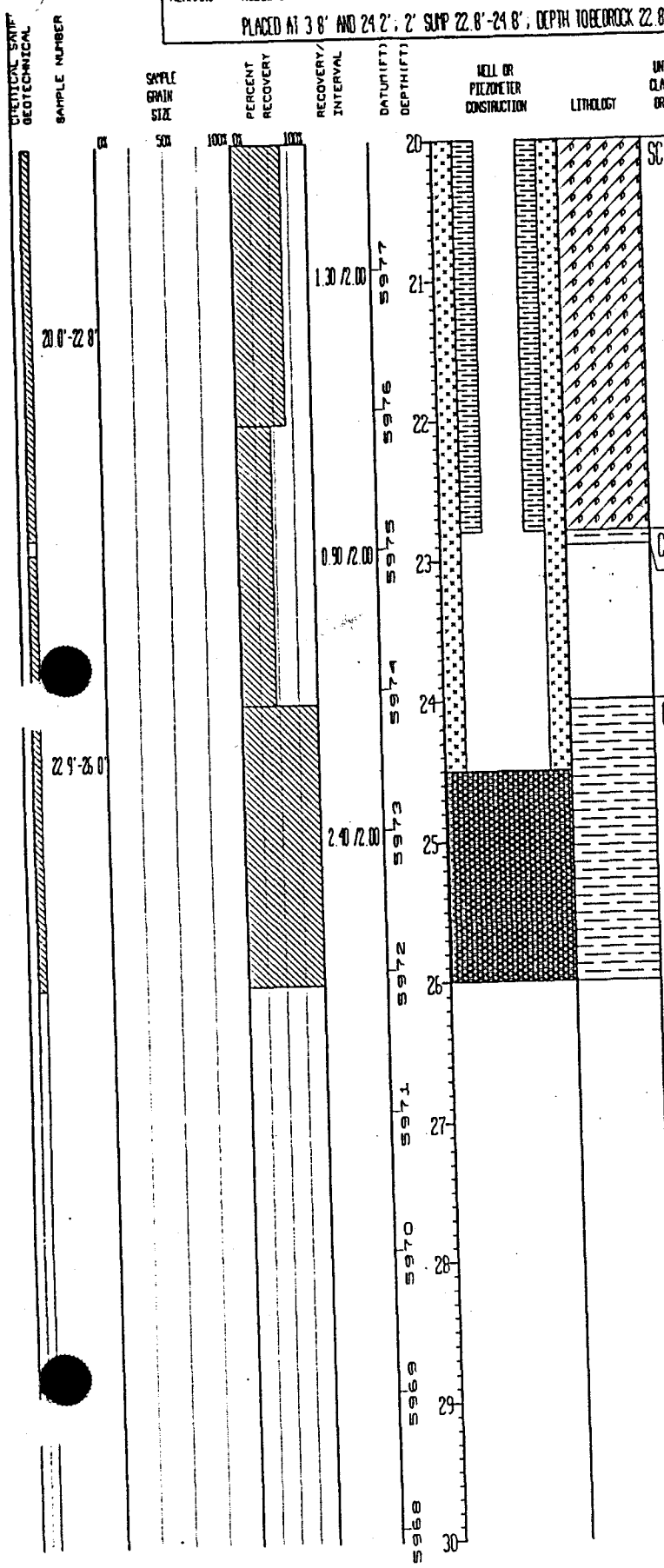
SAMPLE NUMBER | SAMPLE GRAIN SIZE | PERCENT RECOVERY | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SM	Gravelly Sand. Dark yellowish brown (10 YR 4/4) to olive gray (5 Y 5/2) with reddish brown (5 YR 4/4) staining. Fine to coarse sand (mean=fine) and coarse to fine gravel (max=2", mean=0.5" diam). Sand subangular to subrounded, comprised of quartz with a trace of mica and dark minerals. Gravel subangular to subrounded, comprised of igneous rock frags and pegmatitic quartzite. No bedding. Slightly moist. 30% Gravel, 50% sand, and 20% fines.
SC	Sand with some gravel and clay. Light olive brown (5 Y 5/4) to brown (10 YR 5/3). Coarse to fine (mean=fine) sand and coarse to fine gravel (max=2", mean=0.5" diam). Sand subangular to subrounded, comprised of quartz with a trace of mica and dark minerals. Gravel subangular to subrounded, comprised of granitic, mafic, igneous, arkosic, and quatzite rock frags. No bedding. Slightly moist. 14% Gravel, 71% sand, and 10% clay, and 5% silt.
	No core recovery (11.4'-12.0').
SC	Same as above. See description 11.0'-11.4'.
CL	Sandy Clay with some gravel and silt. Mottled dark yellowish brown (10 YR 4/6) and light olive gray (5 Y 6/2). Coarse to fine gravel (max=2.5", mean=0.5" diam) and coarse to fine (mean=medium) sand. Gravel and sand angular to subrounded, comprised mainly of quartzite and schist. Low to moderate plasticity. Moderately well graded. No bedding. Slightly moist. 15% Gravel, 35% sand, 35% clay, and 15% silt.
	No core recovery (13.8'-14.0')
SC	Gravel, sand, clay mixture. Strong brown (7.5 YR 5/6) to yellowish brown (10 YR 5/4). Gravels broken during drilling (>3" diam) and very coarse to very fine sand (mean=medium). Sand angular to subrounded. Poorly to moderately graded. Igneous and metamorphic gravels, sand is predominantly quartz. No bedding. Slightly moist. 20% Gravel, 50% sand, and 30% fines.
	No core recovery (14.6'-16.0').
SC	Same as above. See description 14.0'-14.6'.
	No core recovery (16.4'-18.0')
SC	Same as above. See description 14.0'-14.6'.
SC	Sand with gravel and clay. Light yellowish brown (2.5 Y 6/3) dominates to 20.0'. Fine to coarse gravel (max=2", mean=.25"-.5") and very fine to very coarse sand (mean=fine to medium). Grains subangular to subrounded, comprised of quartz and quarztitic metamorphic rock frags with abundant Fe-oxide grains below 20.0'. Moderately well graded, no bedding. Coarser below 21.0'. Slightly moist. 7% Gravel, 82% sand, 4% silt, and 7% clay.

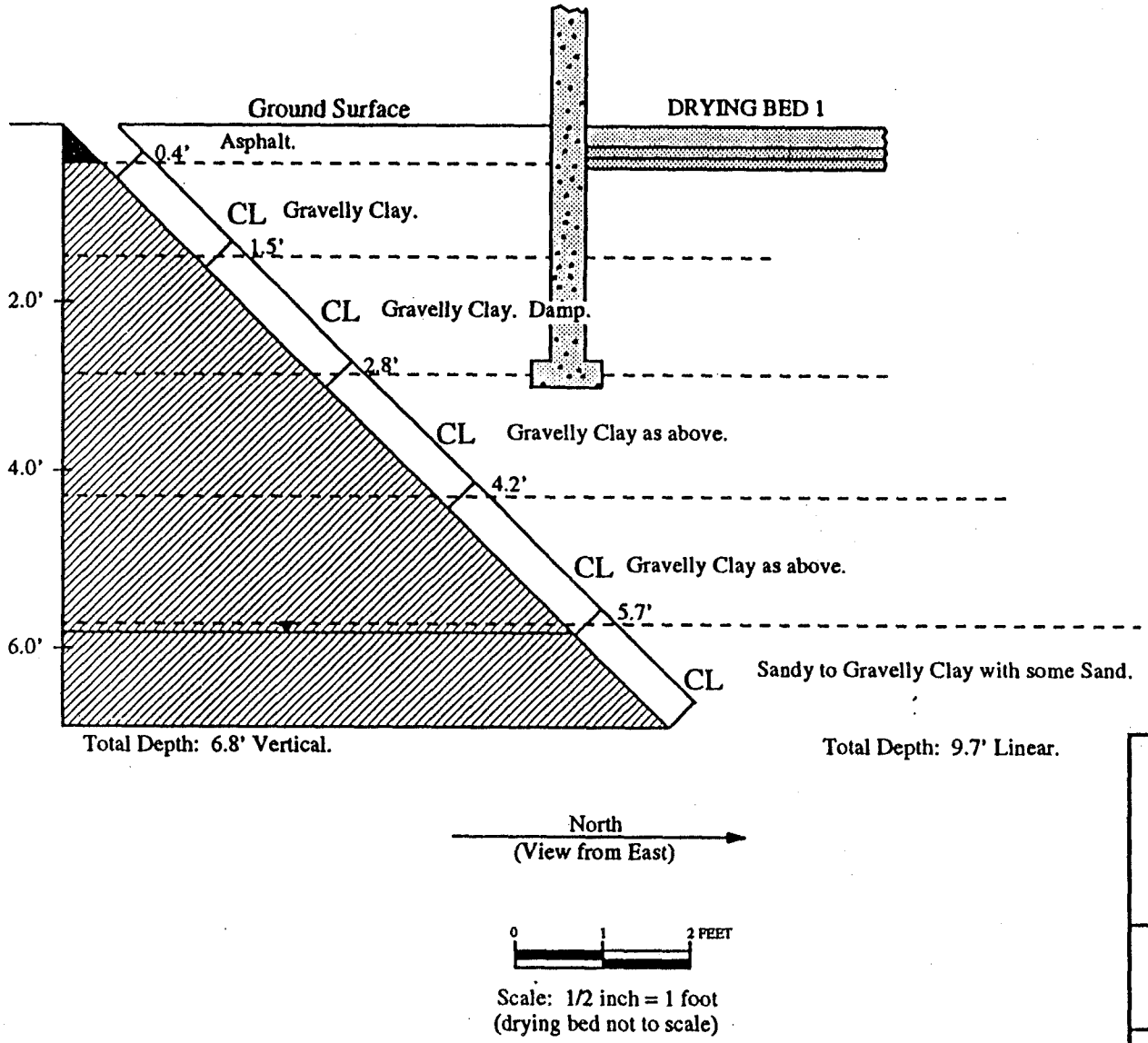
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 26.00	GROUND ELEVATION (FT)	5997.90	PROJECT NUMBER	989073	LOG OF BORING NUMBER
NORTH	752090	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN)	2	GEOLOGIST	J BOYLAN	70393
EAST	2082389	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN)	7	DATE DRILLED	02/02/93	

REMARKS MOBIL DRILL B-57, HSA, CEMENT GROUT 0.0'-4.25', BENTONITE SEAL 4.25'-6.5', SAND 6.5'-24.5', NATURAL BACKFILL 24.5'-26', CENTRALIZERS PLACED AT 3.8' AND 24.2'; 2' SUMP 22.8'-24.8'; DEPTH TO BEDROCK 22.8'



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC	Same as above. See description 18.3'-20.0', with a color change to strong brown (7.5 YR 5/6, 4/6) to reddish yellow (7.5 YR 6/6). Coarsens below 21.0'.
CLAYSTONE	Claystone. Top of bedrock 22.8'. See description below.
	No core recovery (22.9'-24.0').
CLAYSTONE	Claystone. Light brownish gray (2.5 Y 6/2) above 25.0' to light olive brown (2.5 Y 5/3), yellowish brown (10 YR 5/6, 5/8) and dark yellowish brown (10 YR 4/6, 3/6). Core is thin, extruded due to gravel clast pushed by auger. Trace to some silt. Porosity=5%-10%. Argillaceous cement plus Fe-oxide in yellowed areas. Non- to slightly- friable. No apparent bedding. Slightly moist. 95% Clay and 5% silt. Total Depth 26.0'.

APPENDIX C3.5
IHSS 141 VADOSE ZONE DATA



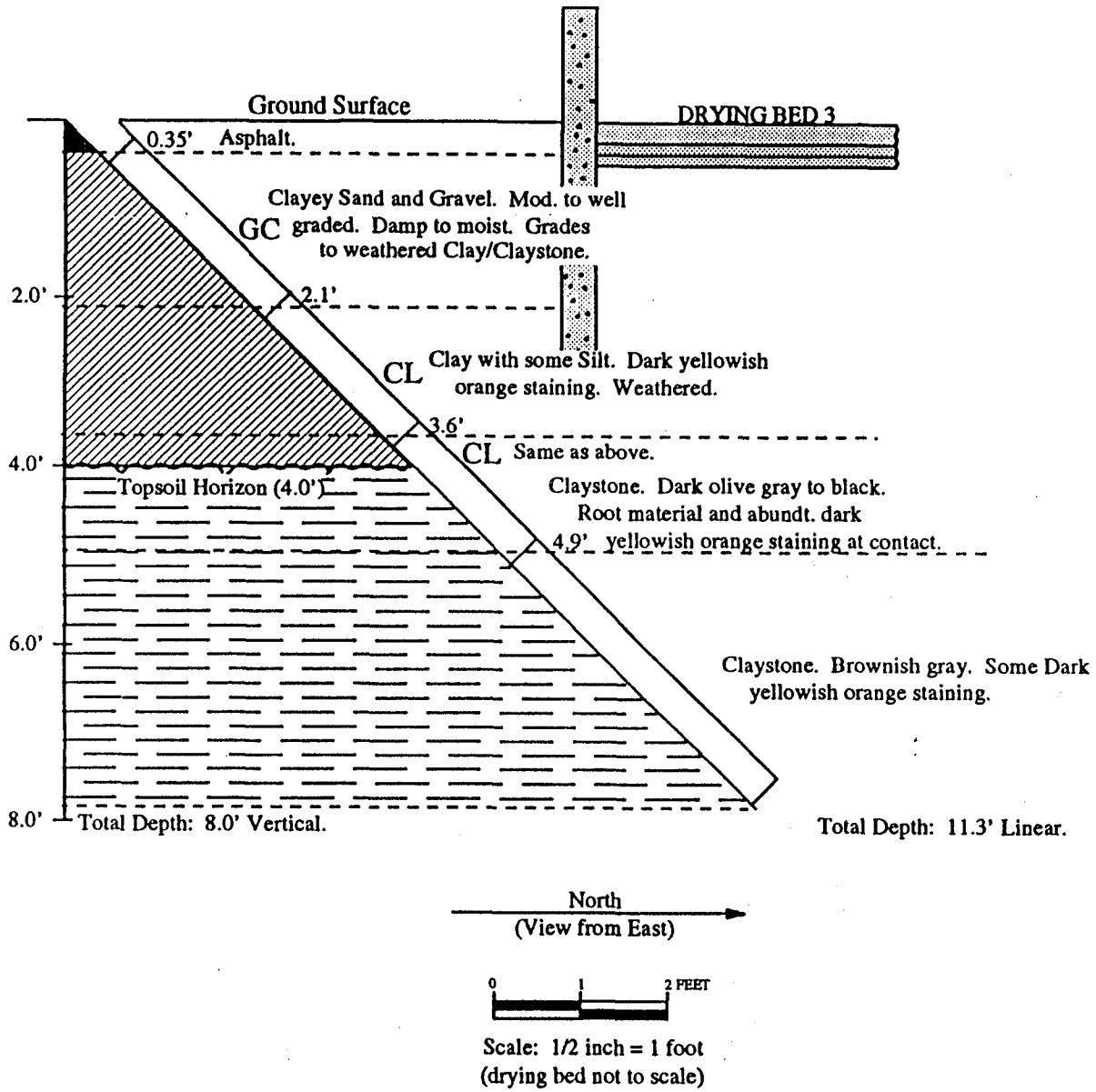
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

VADOSE ZONE MONITORING
SANITARY TREATMENT PLANT
SLUDGE DRYING BEDS
BUILDINGS 995 AND 910

LOG OF BOREHOLE AB-1

MARCH 1993

(From DOE 1993b)



LEGEND

CL
Unified Soil Classification

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

VADOSE ZONE MONITORING
SANITARY TREATMENT PLANT
SLUDGE DRYING BEDS
BUILDINGS 995 AND 910

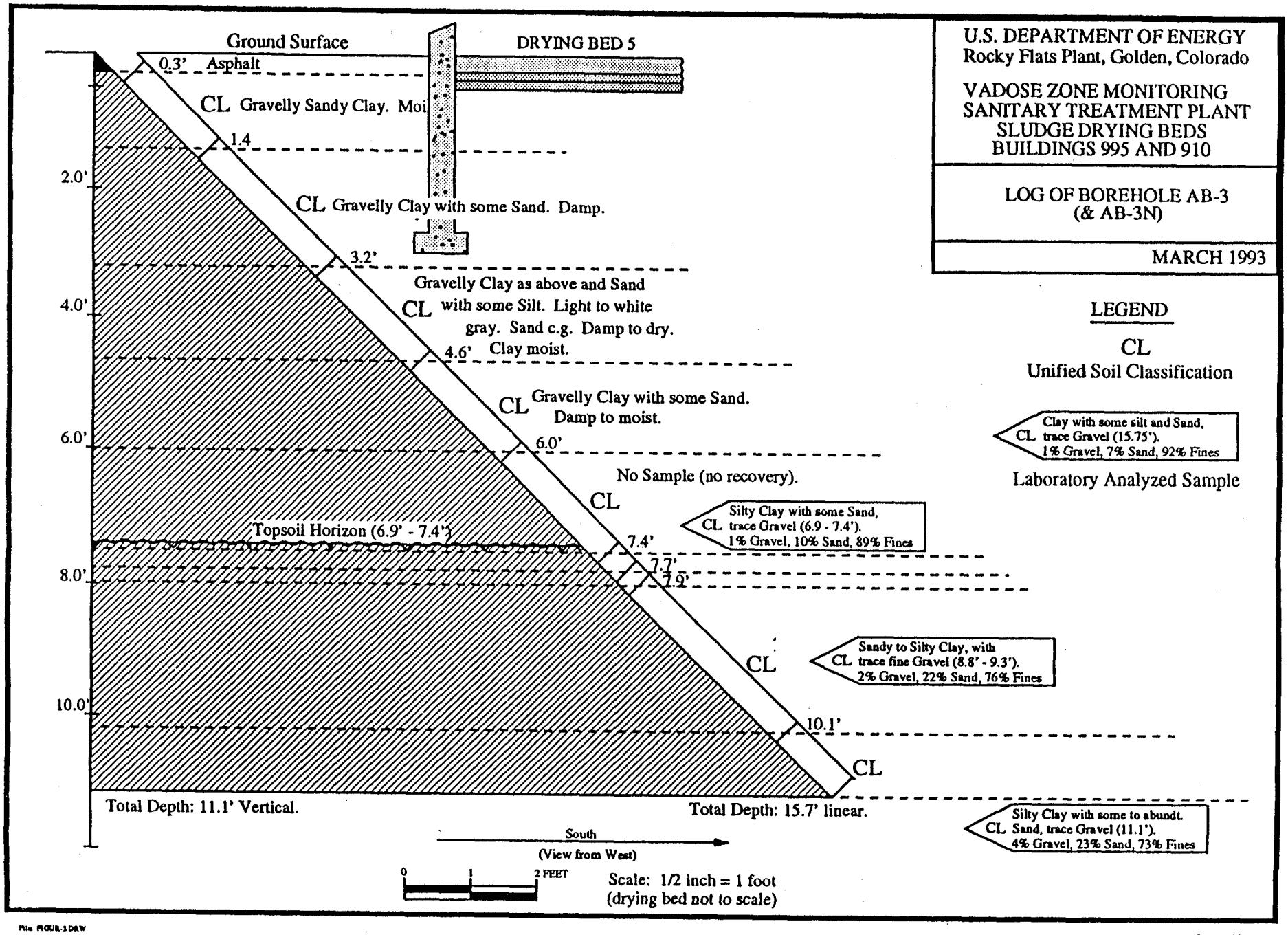
LOG OF BOREHOLE AB-2

MARCH 1993

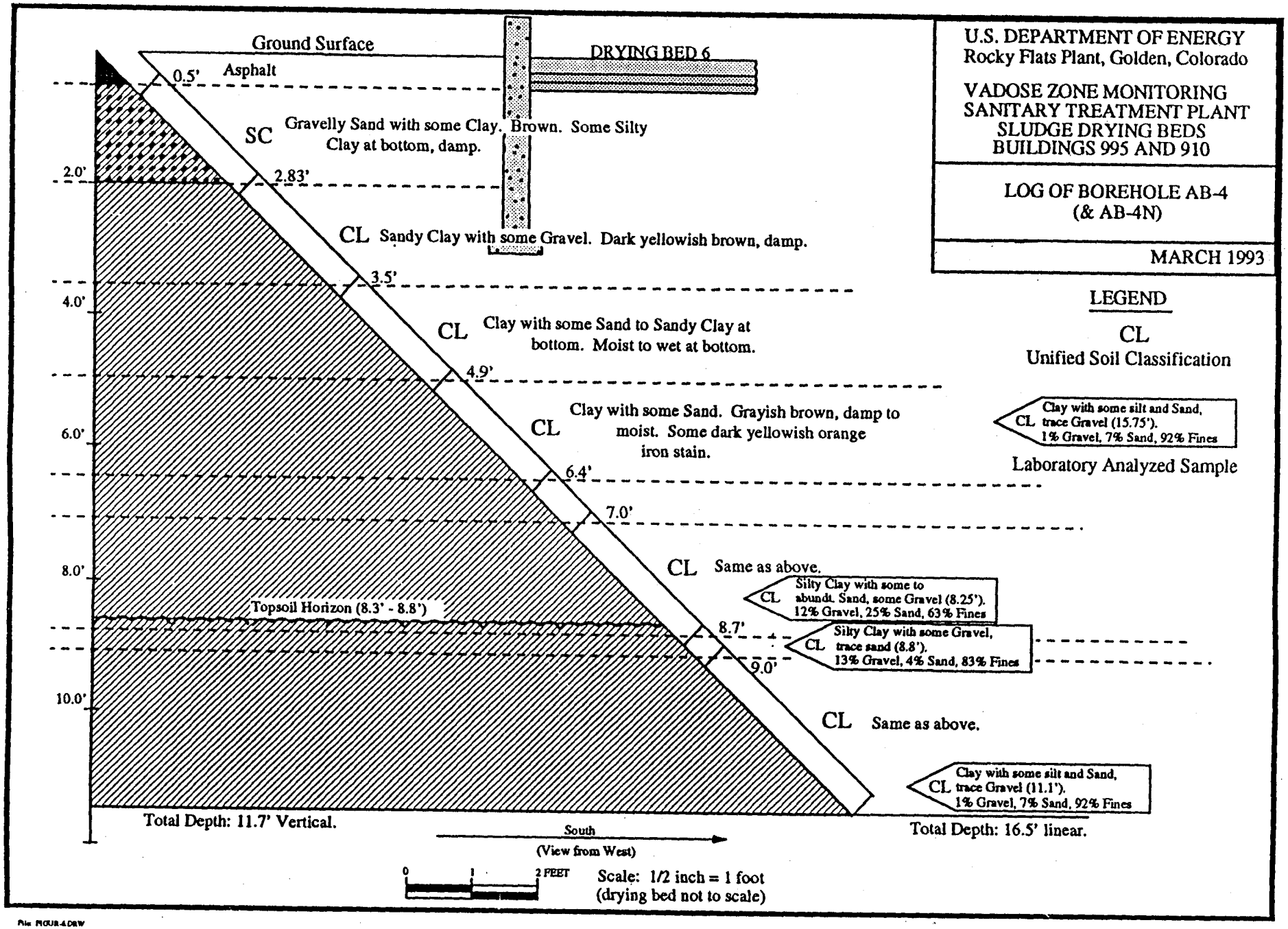
File: FIGUR-4.DRW

Status: 1/13/93

(From DOE 1993 b)


U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado
VADOSE ZONE MONITORING
SANITARY TREATMENT PLANT
SLUDGE DRYING BEDS
BUILDINGS 995 AND 910
LOG OF BOREHOLE AB-3
(& AB-3N)
MARCH 1993
Ground Surface
DRYING BED 5
0.3' Asphalt
CL Gravelly Sandy Clay. Moi
1.4
CL Gravelly Clay with some Sand. Damp.
3.2'
Gravelly Clay as above and Sand
CL with some Silt. Light to white
gray. Sand c.g. Damp to dry.
4.6' Clay moist.
CL Gravelly Clay with some Sand.
Damp to moist.
6.0'
No Sample (no recovery).
CL
Topsoil Horizon (6.9' - 7.4')
7.4'
7.7'
7.9'
CL
10.1'
CL
2.0'
4.0'
6.0'
8.0'
10.0'
Total Depth: 11.1' Vertical.
Total Depth: 15.7' linear.
South
(View from West)
0
1
2 FEET
Scale: 1/2 inch = 1 foot
(drying bed not to scale)
LEGEND
CL
Unified Soil Classification
CL Clay with some silt and Sand, trace Gravel (15.75'). 1% Gravel, 7% Sand, 92% Fines
Laboratory Analyzed Sample
CL Silty Clay with some Sand, trace Gravel (6.9 - 7.4'). 1% Gravel, 10% Sand, 89% Fines
CL Sandy to Silty Clay, with trace fine Gravel (8.8' - 9.3'). 2% Gravel, 22% Sand, 76% Fines
CL Silty Clay with some to abundt. Sand, trace Gravel (11.1'). 4% Gravel, 23% Sand, 73% Fines

(From [illegible] 1993b)


U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado
VADOSE ZONE MONITORING
SANITARY TREATMENT PLANT
SLUDGE DRYING BEDS
BUILDINGS 995 AND 910
LOG OF BOREHOLE AB-4
(& AB-4N)
MARCH 1993
Ground Surface
DRYING BED 6
0.5'
Asphalt
SC
Gravelly Sand with some Clay. Brown. Some Silty Clay at bottom, damp.
2.0'
2.83'
CL
Sandy Clay with some Gravel. Dark yellowish brown, damp.
3.5'
4.0'
CL
Clay with some Sand to Sandy Clay at bottom. Moist to wet at bottom.
4.9'
CL
Clay with some Sand. Grayish brown, damp to moist. Some dark yellowish orange iron stain.
6.0'
6.4'
7.0'
CL
Same as above.
8.0'
Topsoil Horizon (8.3' - 8.8')
8.7'
9.0'
10.0'
CL
Same as above.
Total Depth: 11.7' Vertical.
Total Depth: 16.5' linear.
South
(View from West)
0
1
2 FEET
Scale: 1/2 inch = 1 foot
(drying bed not to scale)
LEGEND
CL
Unified Soil Classification
CL
Clay with some silt and Sand, trace Gravel (15.75').
1% Gravel, 7% Sand, 92% Fines
Laboratory Analyzed Sample
CL
Silty Clay with some to abundt. Sand, some Gravel (8.25').
12% Gravel, 25% Sand, 63% Fines
CL
Silty Clay with some Gravel, trace sand (8.8').
13% Gravel, 4% Sand, 83% Fines
CL
Clay with some silt and Sand, trace Gravel (11.1').
1% Gravel, 7% Sand, 92% Fines

(From [illegible] 1993b)

APPENDIX C3.6

PROTECTED AREA (PA) AND SOUTH OF PA HISTORICAL INVESTIGATIONS

BORING LITHOLOGY AND MONITORING WELL CONSTRUCTION LOGS

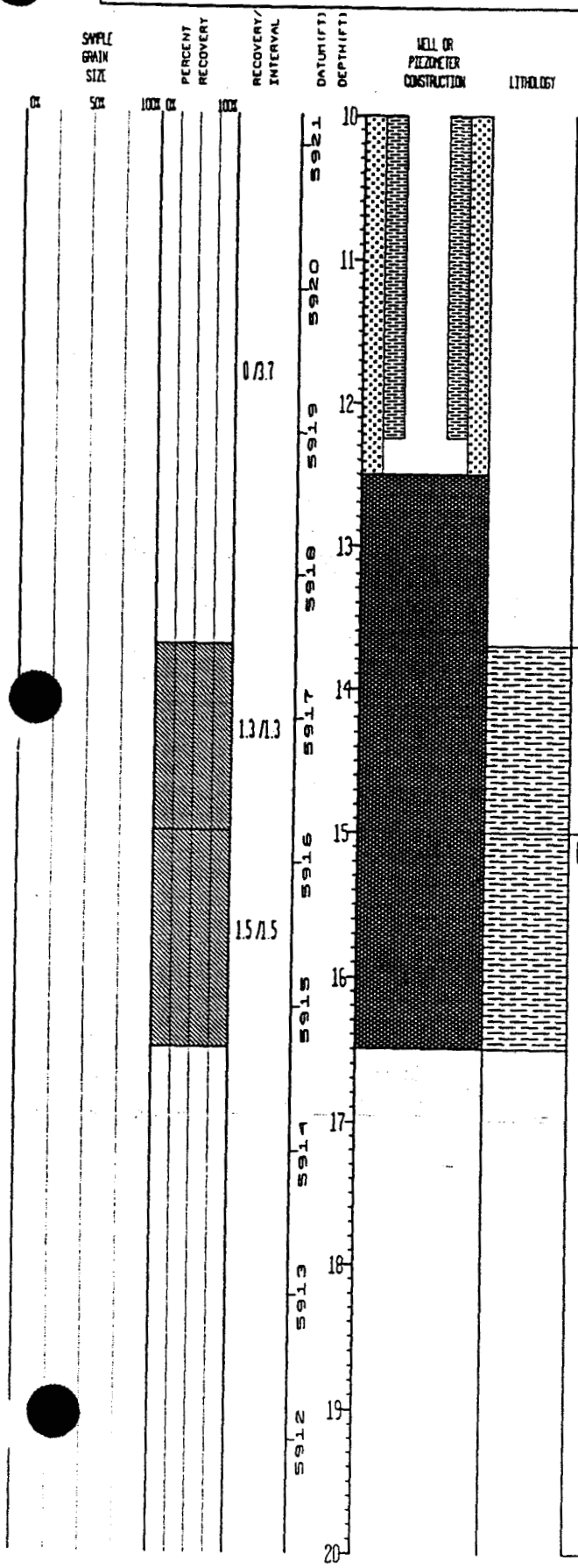
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 16.5	GROUND ELEVATION (FT):	5931.22	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750943	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	19-86
EAST:	2083298	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED	09/11/86	

REMARKS: Hollow Stem Auger.

GRADATIONAL / SAMPLE DEPTH	SAMPLE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0%		50%	100% 0%	100%	5931	0				NO SAMPLE
					5930	1				
					5929	2				
					5928	3				
					5927	4				
				0/10	5926	5				
					5925	6				
					5924	7	09/11/86			
					5923	8				
					5922	9				
						10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 16.5	GROUND ELEVATION (FT): 5931.22	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750943	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	19-86
EAST: 2083298	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 09/11/86	

REMARKS: Hollow Stem Auger.



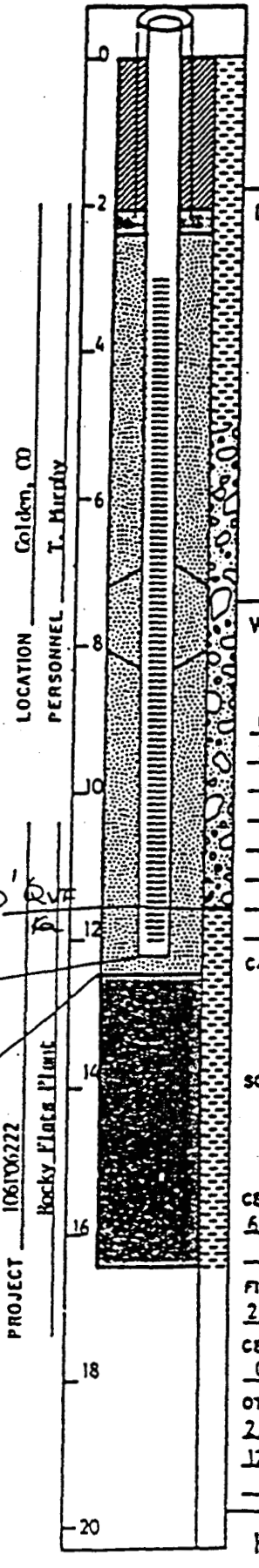
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	
CLAYSTONE:	Light gray (N7), bedding not apparent, slightly friable, well weathered localized iron stains and dark calcareous fracture filing at approx. 14.5 ft., slight silt component.
CLAYSTONE:	Same as above.

WELL 19-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS:

ELEVATION: GROUND LEVEL 5946'
TOP OF CASING 5947.25'



LOCATION Golden, CO
PERSONNEL T. Murphy
PROJECT 106106222 Rocky Flats Plant

DRILLING SUMMARY:

TOTAL DEPTH Well: 12.25' Hole: 16.50'
BOREHOLE DIAMETER 7¼"

DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Avenue
Golden, CO (Dave Jarvie)
RIG Mobile B-57
BIT(S) TS

DRILLING FLUID None

SURFACE CASING 5" x 4' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG

CASING STRING(S): C=CASING S=SCREEN

0.0'	3.00'	C1			
3.00'	12.25'	S1			

CASING: C1 2" I.D. Sch. 5 type 316 stainless steel threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrap screen 0.25' welded bottom cap.

CENTRALIZERS Type 304 stainless steel
6.88' - 8.13'

FILTER MATERIAL 32-42 silica sand
2.50' - 12.50'

CEMENT Portland Type I
0.00' - 2.10'

OTHER 3/8" bentonite pellets
2.10' - 2.50'
12.50' - 16.50'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7¼" auger	9/11	0907	9/11	1051
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
2" stainless	9/11	1150	9/11	1155
FILTER PLACEMENT:	9/11	1155	9/11	1336
CEMENTING:	9/11	1450	9/11	1455
DEVELOPMENT:	9/16	1340	9/17	1435
OTHER:				
Bentonite	9/11	1340	9/11	1342
	9/11	1145	9/11	1150

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

Water encountered at 7.5' during drilling.

Top of stainless steel casing: 1.25'

HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB
EAST: 2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86

LOG OF BORING NUMBER: 23-86

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%		5981	0				NO SAMPLE:
				5980	1				
				5979	2				
				5978	3				
				5977	4				
				5976	5				
			0/12.6	5975	6				
				5974	7				
				5973	8				
				5972	9				
					10				Top of Bedrock.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

GRADATIONAL SAMPLE DEPTH	SAMPLE NO.	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5971	10			NO SAMPLE	
					5970	11				
					5969	12				
				1.1/1.1	5968	13			CLAYSTONE	Light gray (N7) bedding not apparent, slightly weathered, slightly friable, caliche occurs as fracture filling, local iron staining, slight silt fraction.
				2/2	5967	14			CLAYSTONE	As above with iron staining on fractures and moderate amount of Mg oxide mineralization.
				1/1	5966	15				
				0.3/0.29	5965	16			CLAYSTONE	As above.
				1.7/1.7	5964	17			CLAYSTONE	As above.
				1.8/1.8	5963	18			CLAYSTONE	As above.
					5962	19			CLAYSTONE	As above.
						20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT): 5981.18	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/23/86	

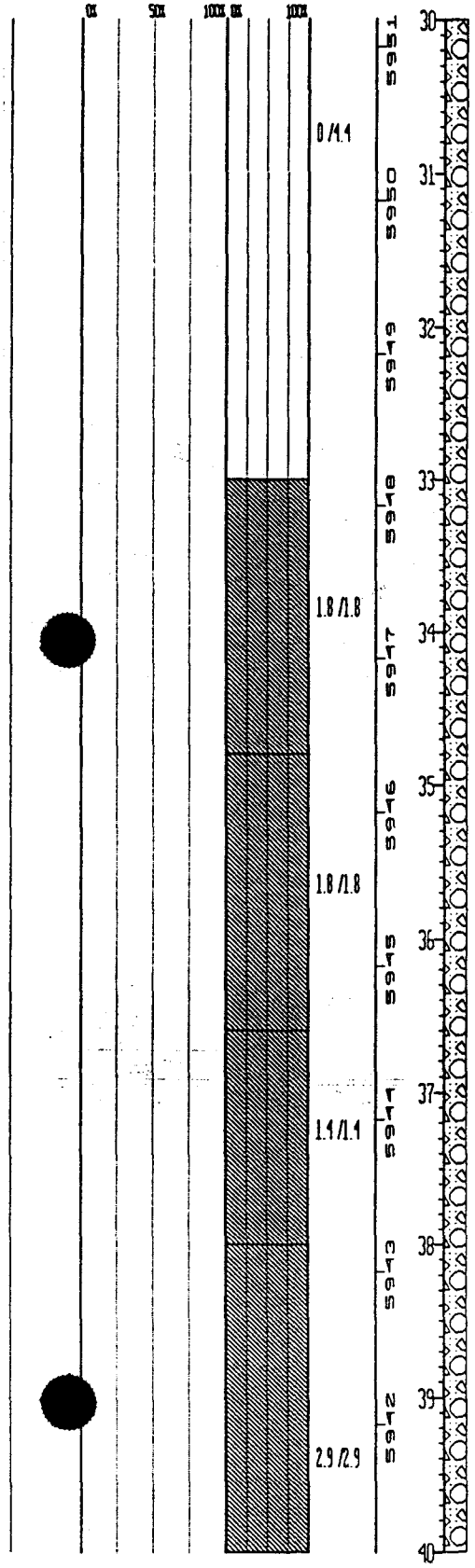
REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				5961	20				
			1.2/1.2	5960	21			CLAYSTONE	As above. Slickensides at approx. 21.9 ft., attitudes 50 degrees and 60 degrees, iron staining and possible Mg oxides on surface.
			1.8/1.8	5959	22			CLAYSTONE	Same as above, carbonaceous mineralization (low grade coal) at approx. 22.8 ft.
			1.7/1.7	5958	23			CLAYSTONE	Same as above, slickensides at approx. 25 ft.
			1.5/1.5	5957	24			CLAYSTONE	Same as above.
			1.6/1.6	5956	25			CLAYSTONE	Same as above, slickensides at 28.2 ft and 28.6 ft. attitudes approx. 30 degrees.
				5955	26			NO SAMPLE	
				5954	27				
				5953	28				
				5952	29				
					30				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

GRADATIONAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Light gray (N7) to yellowish gray (5Y 8/1), bedding not apparent, well weathered, slightly friable, slight silt fraction, some dark mineralization, probably carbonaceous, occasional iron stains and calcareous bodies <1 mm. in diam.
CLAYSTONE	As above.
CLAYSTONE	As above, slabbed section exhibits multiple very fine healed fractures.
CLAYSTONE	Light gray (N7), bedding not apparent, weathered, slightly friable, vertical fractures and approx. 25 degree fractures with iron staining, slightly calcareous in places.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%		5941	40				
				5940	41			CLAYSTONE	As above, exterior of core has a knotty appearance. From 42.7 to 43.2 ft. interval is highly weathered.
			2.1 /2.1	5939	42				
				5938	43			CLAYSTONE	Same as above.
			1 /2.9	5937	44				
				5936	45				
			1 /1	5935	46			CLAYSTONE	Medium light gray (N6) to very light gray (N8), bedding not apparent, possible soft sediment deformation or bioturbation, well weathered, moderately friable, abundant carbonaceous mineralization, some iron staining.
			1.3 /1.3	5934	47			CLAYSTONE	Same as above.
				5933	48				
			1.9 /1.9	5932	49			CLAYSTONE	Medium gray (N6), bedding not apparent, well weathered, slightly friable, abundant iron staining on bedding plane partings and fractures, slickensides at approx. 49.6 ft.
					50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT): 5981.18	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	23-86
EAST: 2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%	1.6/1.6	5931	50			CLAYSTONE	As above, slickensides at approx. 50.1 to 50.4 ft.
				5930	51				
				5929	52			CLAYSTONE	As above, slickensides at approx. 52.5 ft.
			2.7/2.7	5928	53				
				5927	54				
			1.5/1.5	5926	55			CLAYSTONE	Light olive gray (5Y 6/1), bedding not apparent, weathered, slightly friable, trace of silt, slickensides at approx. 55.4 ft., slight amount of iron staining.
			0/1.4	5925	56			NO SAMPLE	
				5924	57				
			1.6/1.6	5923	58			CLAYSTONE	Light gray (N7) to medium dark gray (N4), bedding not apparent, well weathered, slight to moderate friability, moderate silt fraction, slight iron staining and carbonaceous mineralization.
				5922	59			CLAYSTONE	As above.
			2/2		60				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 100%		5921	60				
			1.8/1.8	5920	61			CLAYEY SILTSTONE	Light gray (N7), bedding not apparent (massive?), slightly friable, iron stain at approx. 62 ft. with possible carbonaceous mineralization.
				5919	62				
			1.8/1.8	5918	63			SILTY CLAYSTONE	Interval grades to a silty claystone at 62.7 ft. as above, iron stains absent.
				5917	64				
			1.5/1.5	5916	65			SILTSTONE	Light gray (N7), bedding not apparent (massive?), slightly friable, slight clay fraction, slight amount of carbonaceous mineralization.
			1.7/1.7	5915	66			SILTSTONE	As above.
				5914	67				
			1.6/1.6	5913	68			SILTSTONE	As above.
				5912	69			CLAYSTONE	Dark gray (N3), bedding not apparent, weathered, slight to moderate friability, slight amount of iron staining, moderate silt fraction, slickensides at approx. 68.5 ft.
			1.2/1.2		70			CLAYSTONE	As above, some carbonaceous mineralization, slickensides at approx. 69.8 ft.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT): 5981.18	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN): 2.10	GEOLOGIST: DCB	23-86
EAST: 2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				5911	70				
				5910	71			CLAYSTONE	As above.
				5909	72				
			2/5	5908	73				
				5907	74				
				5906	75				
			1.9/1.9	5905	76			CLAYSTONE	As above, slickensides at approx. 77.0 ft.
				5904	77				
				5903	78			CLAYSTONE	As above with an increase in the silt fraction from approx. 77.4 ft. to 80.5 ft. and color grades to light gray (N7).
			2/2	5902	79				
			1.1/1.1		80			CLAYSTONE	As above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB
EAST: 2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86

LOG OF BORING NUMBER: 23-86

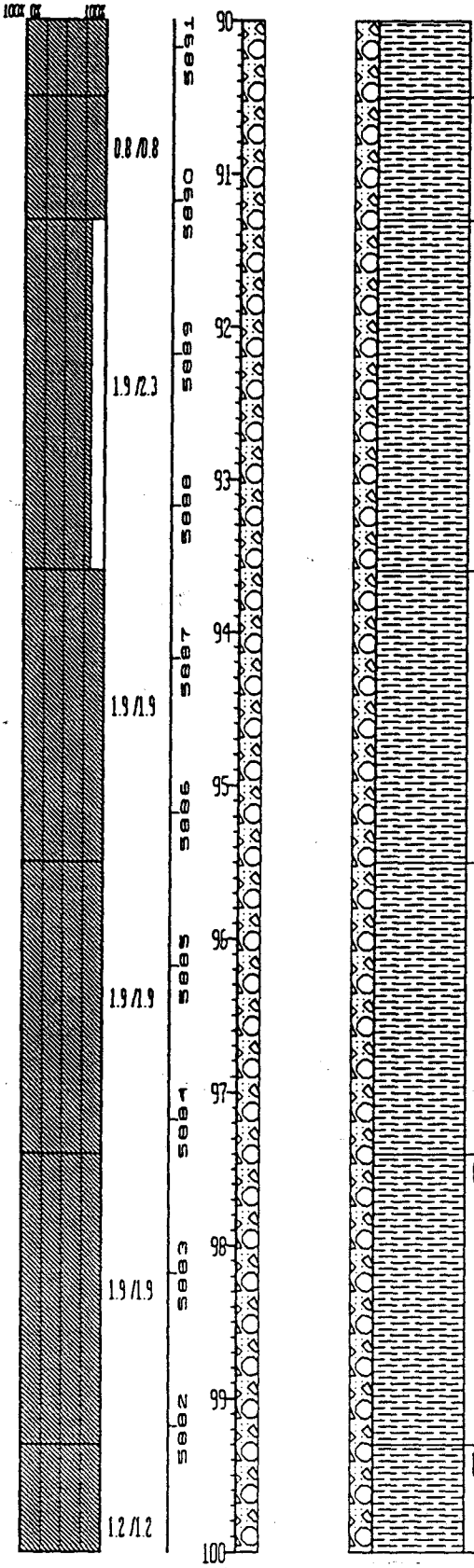
REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%			80				
			0.5/0.5	5981				CLAYSTONE	Light olive gray (5Y 6/1), bedding not apparent, slightly friable, occasional iron staining, moderate silt fraction.
				5980	81			CLAYSTONE	As above.
			2.3/2.3	5979	82				
				5978	83			CLAYSTONE	As above. Slickensides at approx. 85.2 ft. with 40 degree attitude.
			2.2/2.2	5977	84				
				5976	85			CLAYSTONE	As above, slickensides are absent. Irregular body of VFG sand at approx. 85.9 ft.
			1.9/1.9	5975	86				
				5974	87			CLAYSTONE	As above.
			1.8/1.8	5973	88				
				5972	89			CLAYSTONE	As above with irregular body of VFG sand at approx. 89.5 ft.
			1.3/1.3		90				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

GRADATIONAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	As above with moderate amount of VFG sand at approx. 90.6 ft.
CLAYSTONE	As above.
CLAYSTONE	As above.
CLAYSTONE	As above, VFG sand is absent, occasional iron staining and carbonaceous mineralization, mineralized body at approx. 96 ft., some white bladed to fibrous crystals (gypsum?) underlain by gray granular mass, Fe oxide and possible Mg oxide stains surround mineral body. Fractures with faint slickensides at approx. 97 ft. and 99.1 ft.
CLAYSTONE	As above.
CLAYSTONE	Light olive gray (5Y 6/1), bedding not apparent, slightly friable, slight to moderate silt fraction, occasional iron staining and carbonaceous mineralization.

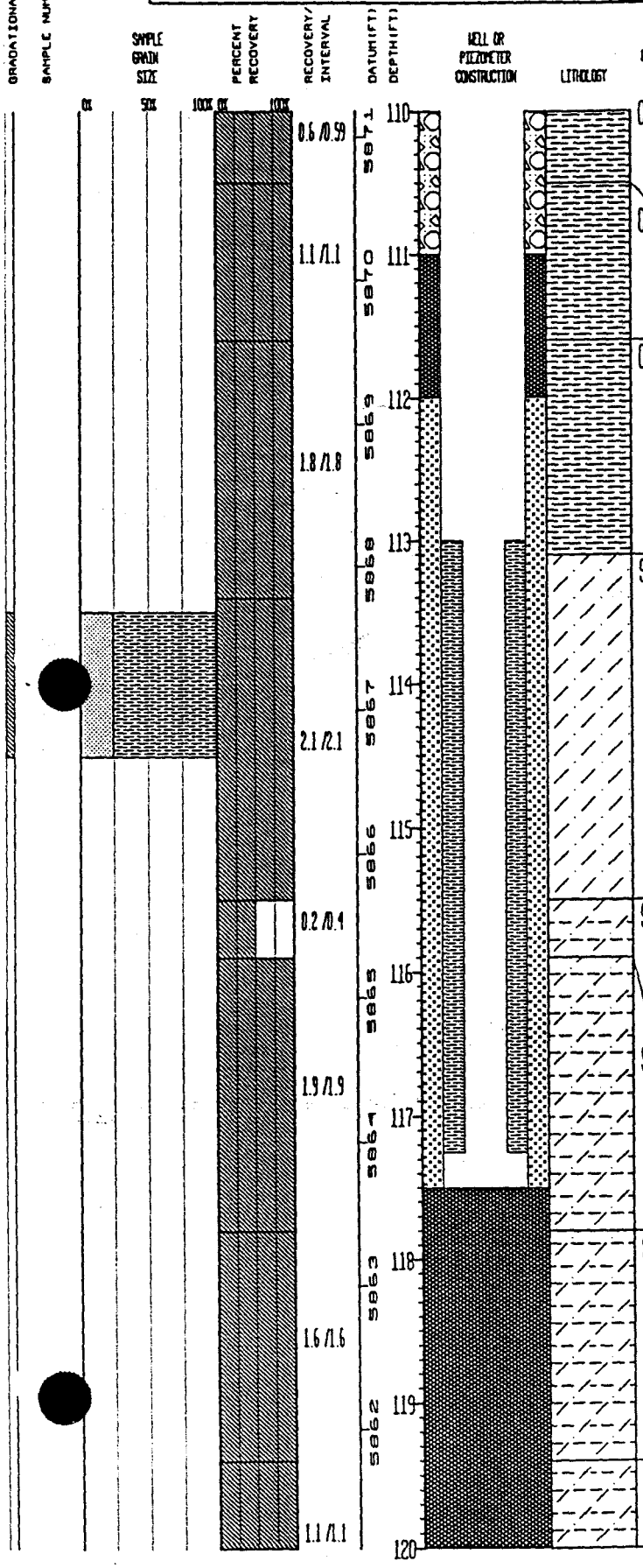
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%							
				5981	100				
								CLAYSTONE	As above, lense of FG sand at approx. 102 ft. approx. 2 mm. in thickness.
			1.8/1.8	5980	101				
				5979	102				
			1.3/1.3	5978	103			CLAYEY SILTSTONE	Interval grades to clayey siltstone at approx. 102.5 ft. Light olive gray (5Y 6/1), bedding is not apparent, slightly friable, slight fraction of VFG sand locally, occasional iron staining and carbonaceous mineralization.
			1.9/1.9	5977	104			CLAYEY SILTSTONE	As above, increase in clay fraction below 105 ft.
				5976	105				
			2/2	5975	106			SILTY CLAYSTONE	Light olive gray (5Y 6/1), bedding not apparent, weathered, slightly to moderately friable, occasional iron stains and carbonaceous mineralization.
				5974	107				
			0/2.4	5973	108			NO SAMPLE	
				5972	109				
					110				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST: 2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Light olive gray (5Y 6/1), bedding not apparent, slightly weathered, slightly friable, occasional carbonaceous mineralization, slight silt fraction, color varies to medium dark gray (N5).
CLAYSTONE	Same as above.
CLAYSTONE	Same as above.
SILTSTONE	Light gray (N7), bedding not apparent, slightly friable, occasional carbonaceous mineralizations.
SILTY CLAYSTONE	Interval grades to silty claystone. Light gray (N7) to medium gray (N5), bedding exhibits extensive bioturbation and soft sediment deformation, weathered, slightly friable, carbonaceous mineralization occurs on partings.
SILTY CLAYSTONE	As above.
SILTY CLAYSTONE	As above, thin stringers of coal <2 mm. which appear to cross out bedding.
SILTY CLAYSTONE	As above.

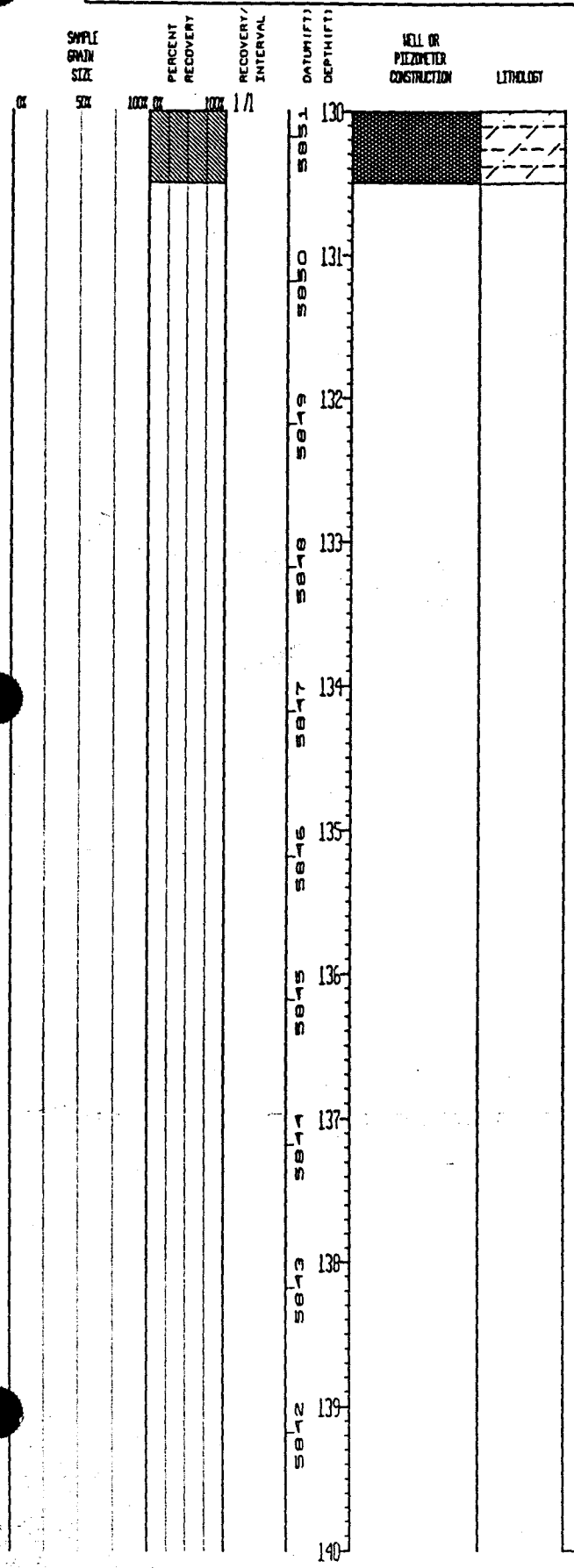
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT): 5991.18	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	23-86
EAST: 2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 100%		5961	120				
			0.6 /0.59					SILTY CLAYSTONE	As above.
				5960	121			SILTY CLAYSTONE	As above, slickensides at approx. 122.7 ft.
			1.8 /1.8	5959	122				
				5958	123			SILTY CLAYSTONE	As above, bedding appears to have slight dip (based on core breaks).
			2 /2	5957	124				
			0.6 /0.59	5956	125			SILTY CLAYSTONE	As above.
			0.8 /0.8	5955	126			SILTY CLAYSTONE	As above.
			1.5 /1.5	5954	127			SILTY CLAYSTONE	As above.
			1.7 /1.7	5953	128			SILTY CLAYSTONE	As above.
				5952	129				
			1 /1		130			SILTY CLAYSTONE	As above.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	23-86
EAST:	2084259	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/23/86	

REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

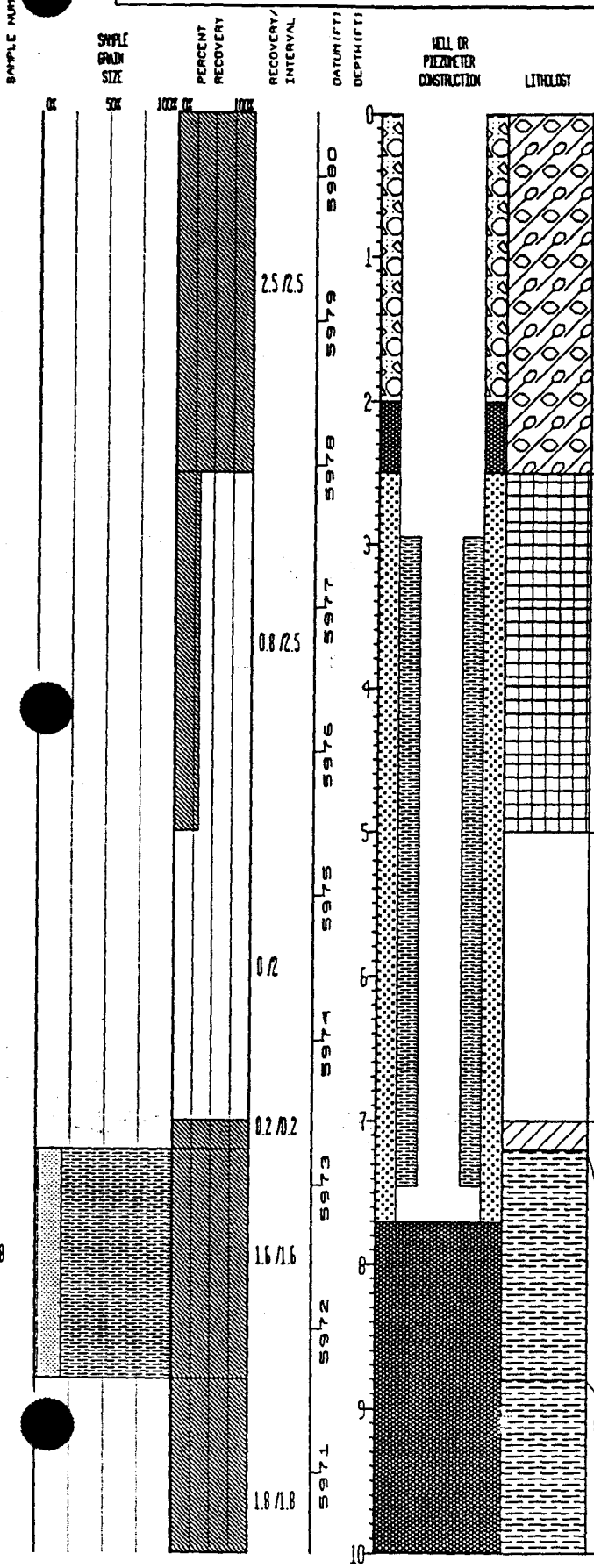


DESCRIPTION

NOTE: No water encountered while drilling.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 12	GROUND ELEVATION (FT):	5980.45	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:	
NORTH:	750357	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	24-86	
EAST:	2084277	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/12/86		

REMARKS: Hollow Stem Auger. Cave From TD to 11.9



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	Clayey Gravel - light gray (N7), matrix is pale yellowish brown (10YR 6/2) to pale brown (5YR 5/2), angular to sub-rounded, poorly graded, max. size 7 cm., some silt and trace of VFG sand.
CALICHE:	Caliche and Gravel - white (N9).
NO SAMPLE:	
CL:	GRAVELLY SANDY CLAY - light gray (N7) mottled dark yellowish orange (10YR 6/6), low to moderate plasticity, max. gravel size is 5 cm., sand is VFG to CG.
CLAYSTONE:	Top of Bedrock Light gray (N7) to mottled dark yellowish orange (10YR 6/6), bedding not apparent, highly weathered, slightly to moderately friable, caliche as fracture filling, localized carbonaceous mineralization and iron staining.
CLAYSTONE:	Same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 12	GROUND ELEVATION (FT): 5980.45	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	24-86
EAST: 2084277	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/12/86	

REMARKS: Hollow Stem Auger. Cave from TD to 11.9

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%	1.1/1.1	5970 5969 5968 5967 5966 5965 5964 5963 5962 5961	10 11 12 13 14 15 16 17 18 19 20			CLAYSTONE:	Same as above. NOTE: No water encountered while drilling.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2.10	GEOLOGIST:	LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50%)
PERCENT RECOVERY (100% 0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

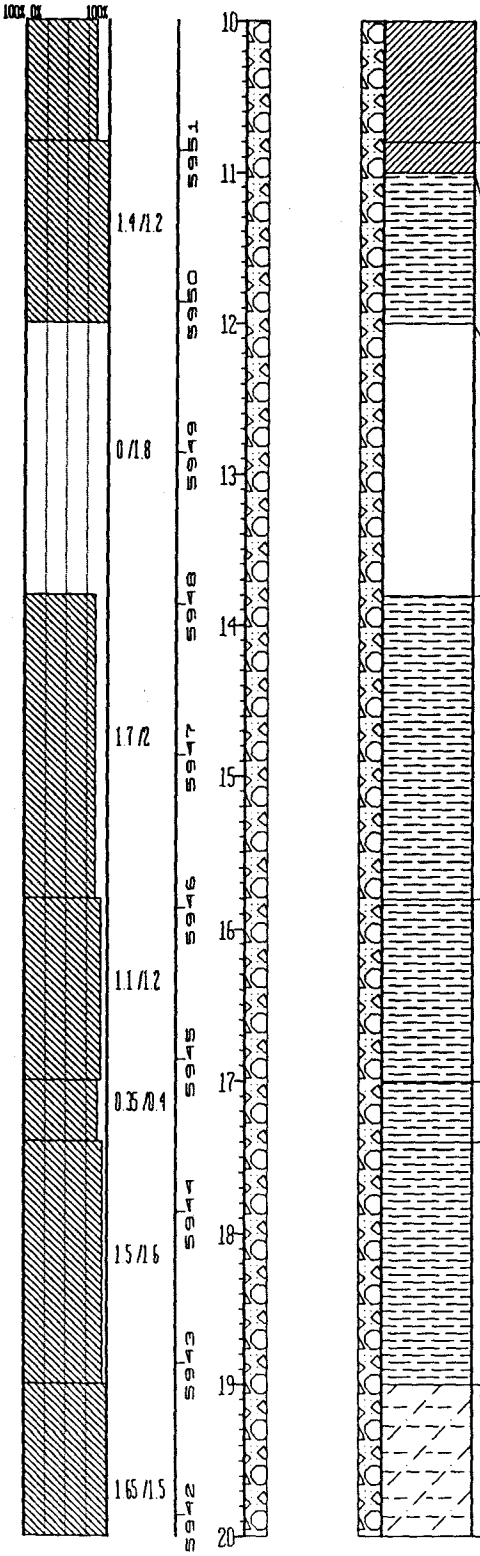
RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0.9/2	5961	0–1	GC	Clayey Gravel - med. gray (N5), angular to sub-rounded, well graded, granules to 6.5 cm. Matrix sandy clay, mod. brown (5YR 3/4), some sand VFG to VCG, some CaCO3.
0.75/2	5960, 5959	1–3	GC	Same as above, silty clay matrix, some sand.
1.8/1.7	5958, 5957	3–5	GC	GRAVEL in Caliche Matrix - gravel as above. Matrix very pale orange to white (10YR 8/2 to N9), some silt and sand.
0.11/1.3	5956, 5955	5–7	GC	This interval consists of only a few pieces of sandy clayey gravel. Not enough sample to characterize interval.
0/1	5954	7–8	NO SAMPLE	
0.4/0.8	5953	8–9	GC	GRAVEL - med. dk. gray (N4), angular to sub-rounded, poorly graded, max. size approx. 5 cm., some sand and clay.
1.7/2	5952	9–10	CH	Clay - very lt. gray (N8) to grayish orange (10YR 7/4), est. plast. mod. to high, some gravel, granules to approx. 3 cm., angular to sub-rounded, thin caliche area (approx. 2 cm.), trace sand and silt.

09/18/86 ▽

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT): 5961.86	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750796	AREA: SOLAR POND	CASING DIAMETER (IN): 2 10	GEOLOGIST: LMA	27-86
EAST: 2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

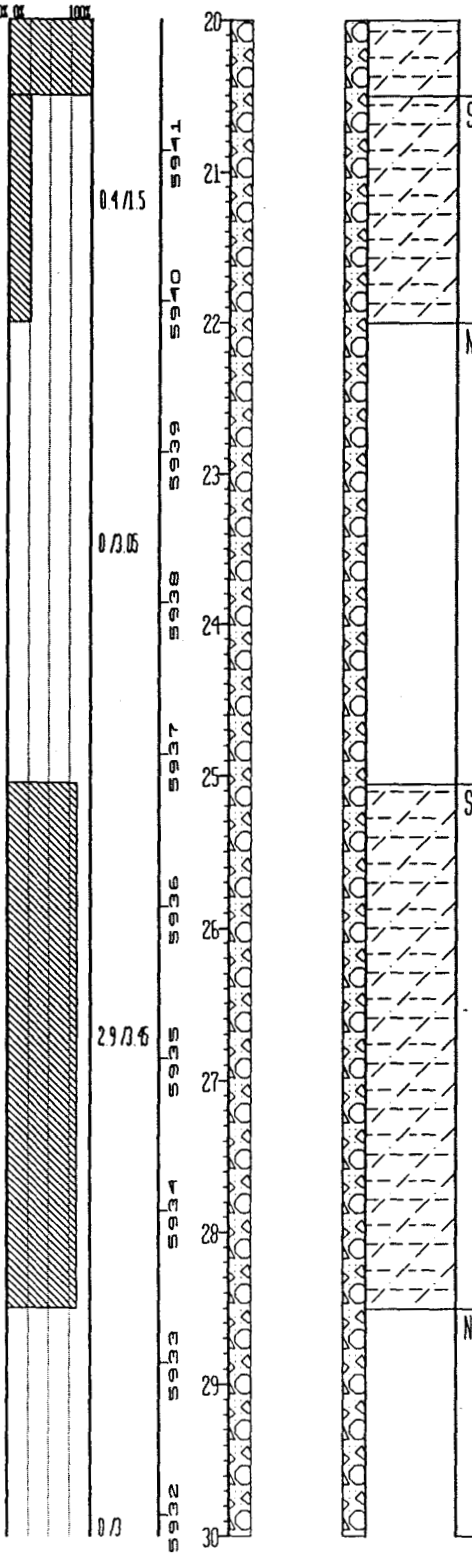


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CH:	Clay - very pale orange (10YR 8/2) to grayish orange (10YR 7/4), est. plast. mod. to high, trace iron staining, trace white noncalcareous mineralization. (Maybe slightly weathered claystone.)
CLAYSTONE:	Top of Bedrock Very pale orange (10YR 8/2) to grayish orange (10YR 7/4), est. plast. mod. to high, trace iron staining, trace white noncalcareous mineralization.
NO SAMPLE:	Sample only consists of a few fragments of material (probably same as above). Not enough to characterize.
CLAYSTONE:	Pinkish gray (5YR 8/1) to dark yellowish orange (10YR 6/6), mod. to highly friable, bedding not evident, trace carb. material.
CLAYSTONE:	Same as above. Color change to very pale orange to pale yellowish brown (10YR 8/2 to 6/2), some carb. material, trace of iron staining.
CLAYSTONE:	Same as above, trace silt.
CLAYSTONE:	Same as above, some iron staining, trace carb. material.
SILTY CLAYSTONE:	Same as above, some carb. material.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



SILTY CLAYSTONE: Very pale orange (10YR 8/2) to grayish orange (10YR 7/4), highly weathered, mod. friable, bedding not evident.

NO SAMPLE:

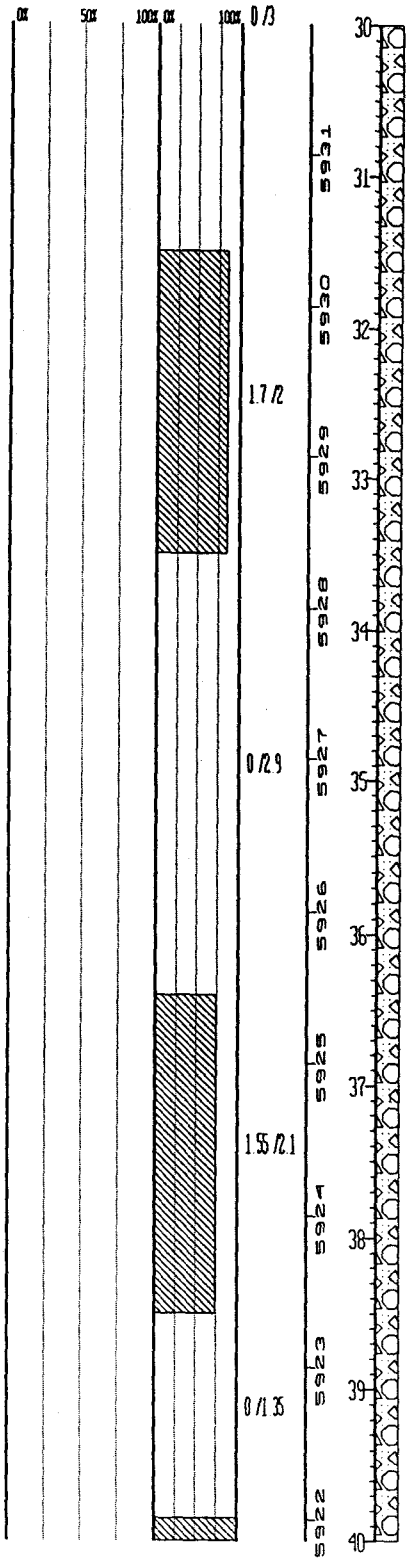
SILTY CLAYSTONE: Very pale orange to dk. yellowish orange (10YR 8/2 to 6/6), mod. weathered, slightly friable, some iron staining, carb. material in fractures, bedding not evident, trace $CaCO_3$.

NO SAMPLE:

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT): 5961.86	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN): 2.10	GEOLOGIST: LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Grayish orange to lt. brownish gray (10YR 7/4) to (5Y 6/1), mod. weathered, mod. friable, massive bedding, some silt, iron staining in fractures, trace carb. material.
NO SAMPLE:	
SILTY CLAYSTONE:	Very light gray (N8) to dk. yellowish orange (10YR 6/6), mod. weathered, slightly to mod. friable, bedding appears horizontal, but slightly distorted, trace carb. material and iron staining.
NO SAMPLE:	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 10	GEOLOGIST:	LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7 25	DATE DRILLED:	09/18/86	

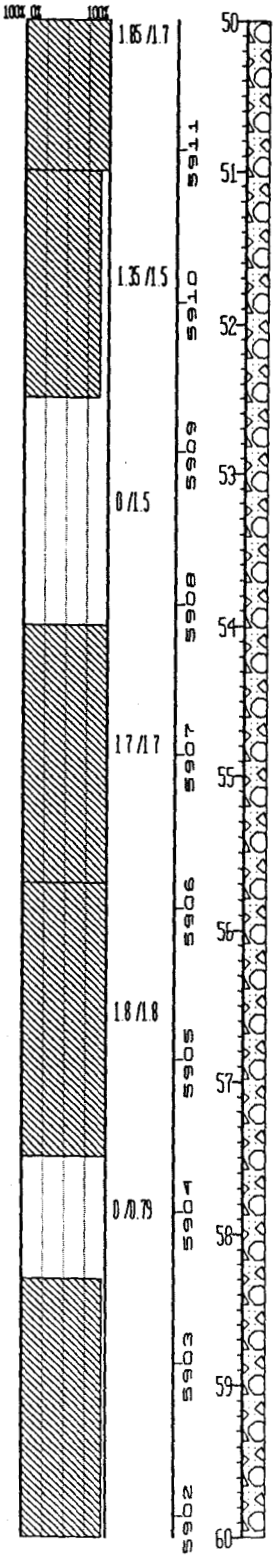
REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.7 /3.65	5921 5920 5919	40 41 42 43			SILTY CLAYSTONE	Lt. brownish gray (5YR 6/1), mod weathered, mod. to slightly friable, bedding not evident, trace CaCO3, carb. material.
				0 /2.5	5918 5917 5916	44 45 46			NO SAMPLE	
				1.4 /1.5	5915	47			SILTY CLAYSTONE	Same as above, some iron staining, some carb. material.
				1.85 /1.8	5914 5913	48 49			SILTY CLAYSTONE	Same as above.
					5912	50			SILTY CLAYSTONE	Brownish gray (5YR 4/1), mod. weathered, slightly to mod. friable, bedding appears massive, some possible slickensides on fractures.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	27-86
EAST: 2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% – 50%)
PERCENT RECOVERY (100% OR – 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



	SILTY CLAYSTONE: Same as above, trace carb. material.
	NO SAMPLE:
	SILTY CLAYSTONE: Same as above.
	SILTY CLAYSTONE: Same as above, some carb. material
	NO SAMPLE:
	SILTY CLAYSTONE: Same as above. Some mod. yellowish brown (10YR 5/4) discoloration in matrix and small siltstone pebbles (rounded) in matrix.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2.10	GEOLOGIST:	LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

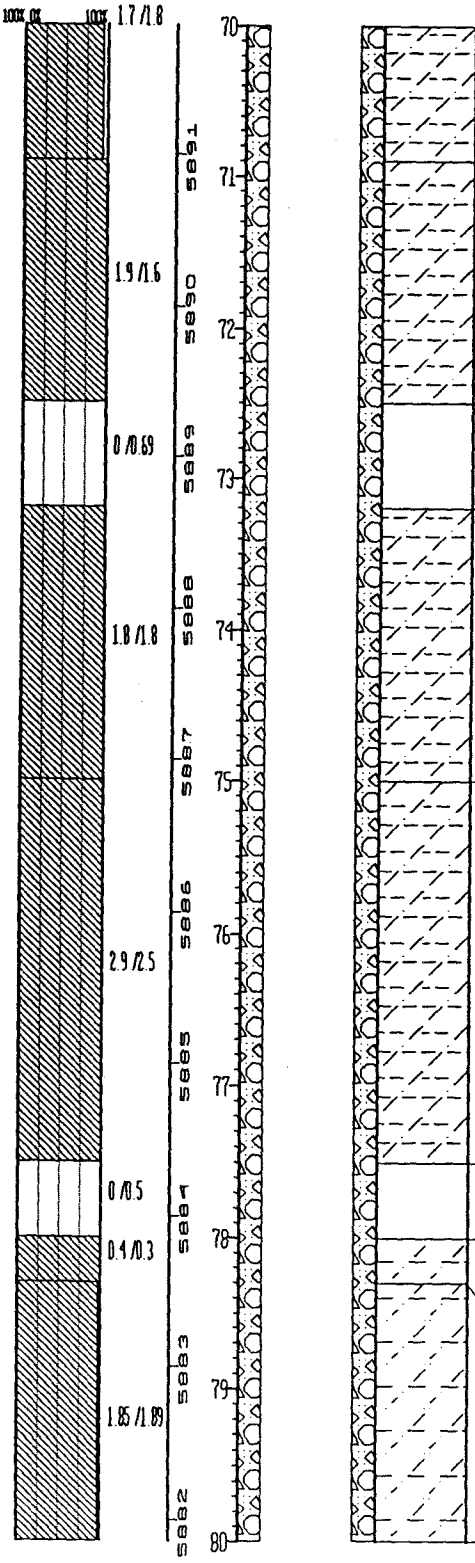
REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.4/1.2	5901	60, 61				
					5900	62				
					5899	63			SILTY CLAYSTONE	Lt. olive gray (5Y 6/1), moderately weathered, mod. to highly friable, bedding not evident, some carb. material, trace iron staining, unknown white mineralization in fractures.
				3.0	5898	64				
					5897	65				
					5896	66			SILTY CLAYSTONE	Brownish gray (5YR 4/1), mod. weathered, slightly to mod. friable, bedding appears horizontal, some carb. material, some grayish orange (10YR 7/4) discoloration, some very thin (threadlike) layers VFG sand.
				2.0	5895	67				
					5894	68			SILTY CLAYSTONE	Same as above.
				1.6/1.6	5893	69				
					5892	70			SILTY CLAYSTONE	Same as above, more common VFG sand layers.
				1.7/1.8						

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT): 5961.86	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750796	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA	27-86
EAST: 2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Brownish gray (5YR 4/1), mod. weathered, mod. friable, bedding not evident, some CaCO3, trace carb. material, some CaCO3, some lt. brown (5YR 5/6) discoloration.
NO SAMPLE	
SILTY CLAYSTONE	Same as above, no CaCO3 or discoloration.
SILTY CLAYSTONE	Lt. olive gray (5Y 6/1), mod. weathered, mod. friable, bedding appears horizontal, uneven, some carb. material, trace iron staining.
NO SAMPLE	
CLAYEY SILTSTONE	Yellowish gray (5Y 8/1), slightly weathered, slightly friable, slightly tilted uneven bedding, some VFG sand.
CLAYEY SILTSTONE	Same as above, trace carb. material.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

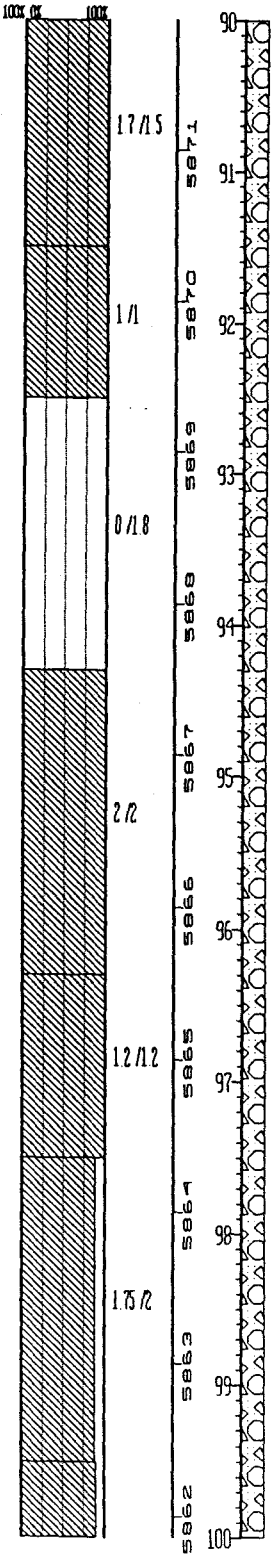
REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%			80				
				1.8/1.8	5881	81			CLAYEY SILTSTONE	Lt. olive gray (5Y 6/1), slightly weathered, slightly friable, distorted bedding possibly due to soft sed. deform., some VFG sand, some carb. material.
				0.4/0.5	5880	82			CLAYEY SILTSTONE	Same as above.
				0.9/1	5879	83			SILTY CLAYSTONE	Brownish gray (5YR 4/1), mod. weathered, mod. friable, bedding not evident, trace carb. material.
				1.8/1.5	5878	84			SILTY CLAYSTONE	Same as above, highly weathered, highly friable.
				1.8/1.8	5877	85			SILTY CLAYSTONE	Same as above, mod. weathered, mod. friable.
				0.6/0.69	5876	86			SILTY CLAYSTONE	Same as above.
				0.6/0.8	5875	87			SILTY CLAYSTONE	Same as above.
				1.6/1.7	5874	88			CLAYSTONE	Same as above, less silt.
					5873	89				
					5872	90				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT): 5961.86	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LMA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



CLAYSTONE:	Brownish gray (5YR 4/1), mod. weathered, mod. friable, bedding appears massive, trace carb. material, trace silt.
CLAYSTONE:	Same as above, possible slickensides.
NO SAMPLE:	
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above. These intervals overlap with first interval in next box (95.8 ft. to 97.5 ft.), described as silty claystone as below.
SILTY CLAYSTONE:	Lt. olive gray (5Y 6/1), slightly to mod. weathered, slightly friable, bedding uneven horizontal, some very thin (<1 mm) layers silt and VFG sand, some carb. material.
SILTY CLAYSTONE:	Lt. olive gray to olive gray (5Y 6/1) to 4/1), slightly weathered, slightly friable, bedding in thin layers, uneven horizontal, some silt in

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	27-86
EAST: 2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.8/2	5961	100–101				thin layers (<1 mm) and VFG sand, trace carb. material.
				0.75/1	5960	101–102			SILTY CLAYSTONE	Same as above.
				0/1.2	5959	102–103			NO SAMPLE	
				0.75/0.9	5958	103–104			SILTY CLAYSTONE	Same as above.
				0.85/1.9	5957	104–105			SILTY CLAYSTONE	Same as above.
				1/1	5956	105–106			SILTY CLAYSTONE	Same as above.
				0.75/0.69	5955	106–107			SILTY CLAYSTONE	Same as above, bedding slightly tilted.
				1.7/1.8	5954	107–108			SILTY CLAYSTONE	Same as above, bedding does not appear to be tilted, some carb. material.
					5953	108–109				
					5952	109–110				

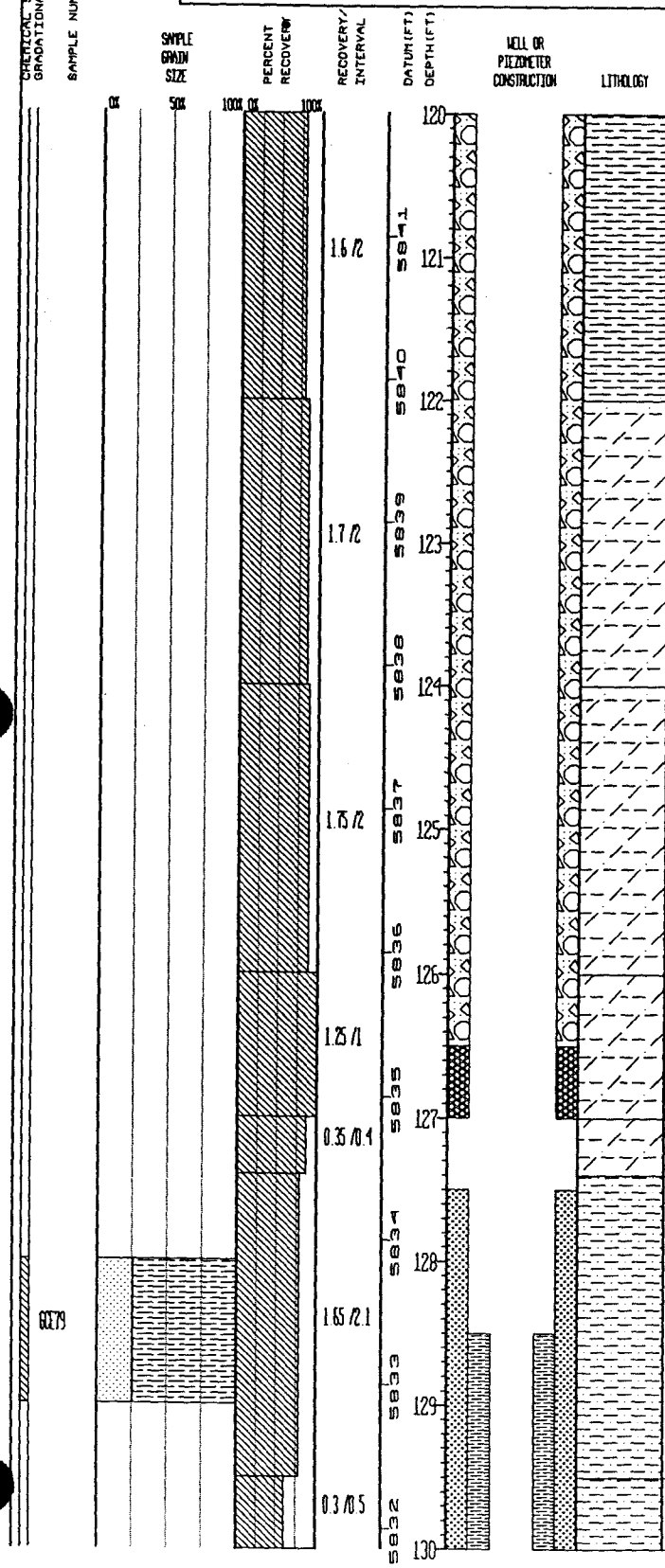
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH	GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0% 50%	100% 0% 100%	0.7/0.5	5951	110				SILTY CLAYSTONE: Lt. olive gray to brownish gray (5Y 6/1) to (5YR 4/1), slightly weathered, slightly friable, distorted layered bedding, layers very thin (some less than 1 mm.), some VFG sand, trace coarse.
							111				NO SAMPLE:
						5950	112				
					0/4.3	5949	113				
						5948	114				
						5947	115				SILTY CLAYSTONE: Same as above, grades to claystone toward bottom, some slickensides in vertical features in claystone.
					1.8/2.2	5946	116				
						5945	117				NO SAMPLE:
					0/1.5	5944	118				
					1.8/1	5943	119				SILTY CLAYSTONE: Lt. olive gray to olive gray (5Y 6/1 to 4/1), slightly weathered, slightly friable, bedding not evident, trace carb. material.
					0/0.5	5942	120				NO SAMPLE:

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT): 5961.86	PROJECT NUMBER: 667 11	LOG OF BORING NUMBER:
NORTH:	750796	AREA: SOLAR POND	CASING DIAMETER (IN): 2 10	GEOLOGIST: LAA	27-86
EAST:	2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/18/86	

REMARKS: Hollow Stem Auger/NC Core.



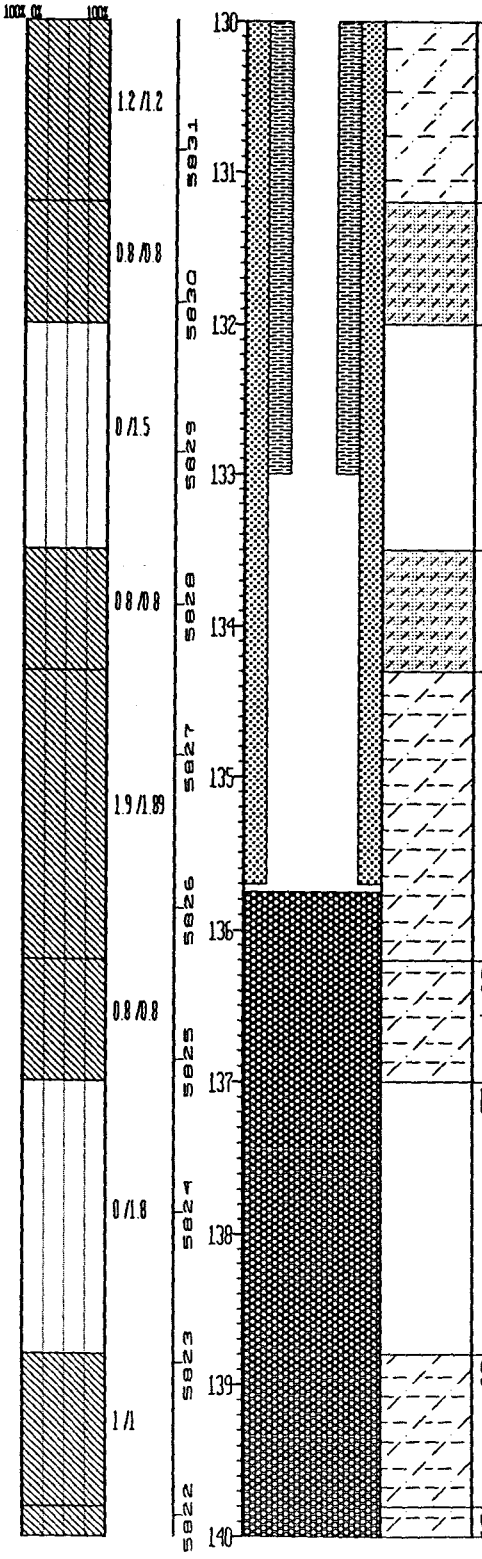
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Olive gray (5Y 4/1), slightly weathered, slightly friable, bedding appears massive, trace carb. material, some possible slickensides in fractures.
SILTY CLAYSTONE	Lt. olive gray (5Y 6/1), slightly weathered, slightly friable, massive bedding, trace carb. material.
SILTY CLAYSTONE	Same as above, less silty.
SILTY CLAYSTONE	Same as above, more silty.
SILTY CLAYSTONE	Same as above.
SANDY CLAYSTONE	Brownish gray (5YR 4/1), slightly weathered, slightly friable, massive bedding, some carb. material, sand VF6, well sorted.
SANDY CLAYSTONE	Same as above, very thin coal layer approx. 1 mm.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11
NORTH: 750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2.10	GEOLOGIST:	LAA
EAST: 2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86

REMARKS: Hollow Stem Auger/NC Core.

LOG OF BORING NUMBER: 27-86

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SILTSTONE	Pinkish gray to lt. olive gray (5YR 8/1 to 5Y 6/1), slightly weathered, slightly friable, bedding distorted, probably from soft sed. deformation, some carb. material at top, some VFG sand especially at top, traces of pale yellowish orange (10YR 8/6) silt
SANDY SILTSTONE	Pinkish gray (5YR 8/1), mod. weathered, mod. friable, tilted, layered bedding approx. 1 in. thick layers, sand VFG, some clay.
NO SAMPLE	
SANDY SILTSTONE	Same as above, grading to silty claystone.
SILTY CLAYSTONE	Olive gray (5Y 4/1), slightly weathered, slightly friable, bedding not evident, some small bodies of silt (approx. 1 in. in diam.).
SILTY CLAYSTONE	Same as above, with some siltier layers.
NO SAMPLE	
SILTY CLAYSTONE	Same as above.
SILTY CLAYSTONE	lt. olive gray (5Y 6/1), slightly weathered, slightly friable, massive.

STATE PLANE COORDINATE:
NORTH: 750796
EAST: 2085239

TOTAL DEPTH (FT): 157
AREA: SOLAR POND
LOCATOR NUMBER: M10

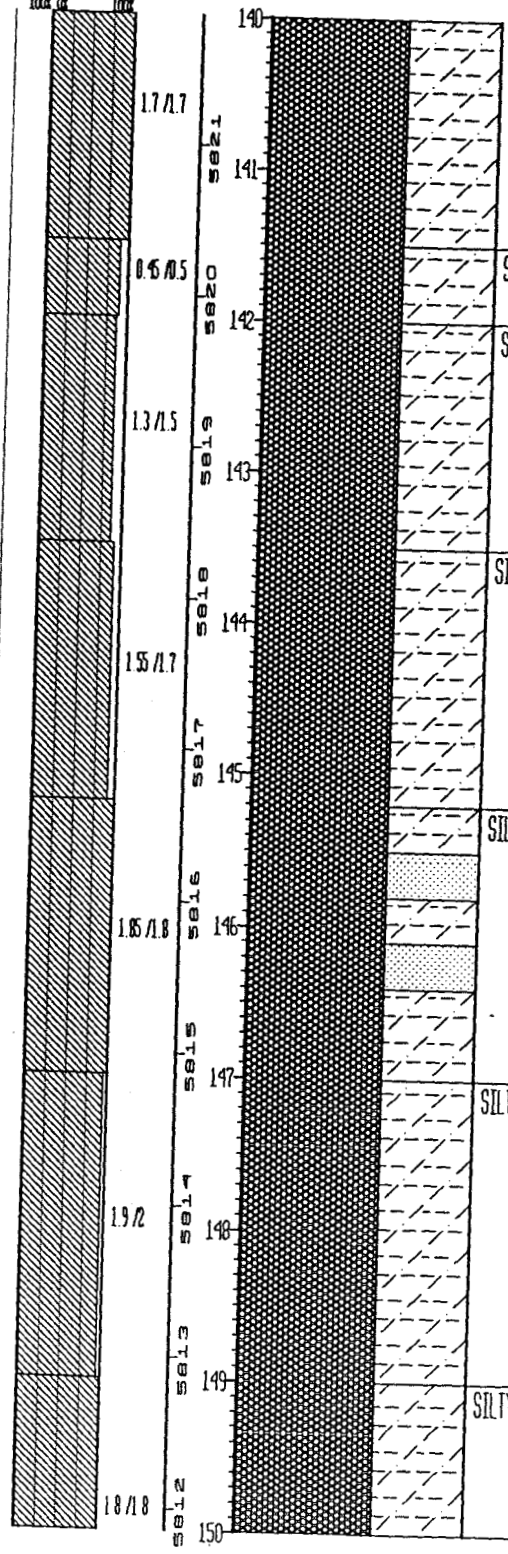
GROUND ELEVATION (FT): 5961.86
CASING DIAMETER (IN): 2 ID
BOREHOLE DIAMETER (IN): 7.25

PROJECT NUMBER: 667.11
GEOLOGIST: LAA
DATE DRILLED: 09/18/86

LOG OF BORING NUMBER: 27-86

REMARKS: Hollow Stem Auger/NC Core.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



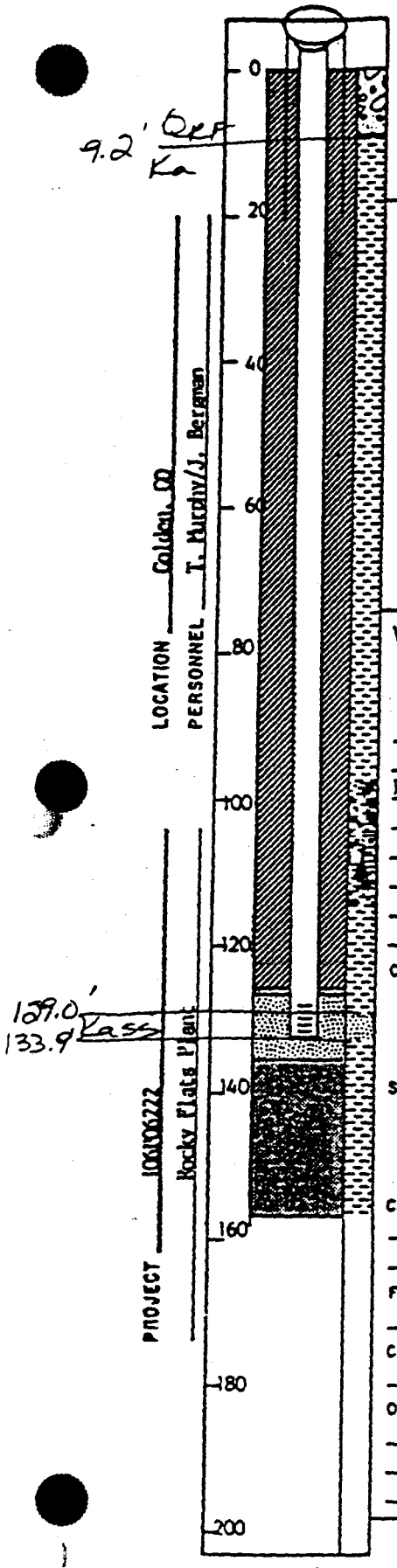
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Lt. olive gray (5Y 6/1), slightly weathered, slightly friable, massive bedding.
SILTY CLAYSTONE	Same as above.
SILTY CLAYSTONE	Same as above, uneven layered bedding, some carb. material.
SILTY CLAYSTONE	Same as above, some silt layers, very thin (<1 mm.), trace spotty iron staining.
SILTY CLAYSTONE	Same as above, interbedded in very fine layers with VFG sandstone (layers <1 mm.), trace carb. material.
SILTY CLAYSTONE	Same as above. Some grayish orange (10YR 7/4) discolored silt in some areas.
SILTY CLAYSTONE	Same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 157	GROUND ELEVATION (FT):	5961.86	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 750796	AREA: SOLAR POND	CASING DIAMETER (IN):	2 10	GEOLOGIST:	LAA	27-86
EAST: 2085239	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/18/86	
REMARKS: Hollow Stem Auger/NC Core.						

VERTICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						150				
				1.2 /1.2	5811	151			SILTY CLAYSTONE:	Brownish gray to pinkish gray (5YR 6/1 to 8/1), slightly weathered, slightly friable, bedding in thin layers, predominantly horizontal, some silt in thin layers <1 mm., some lt. brown (5YR 5/6) discoloration, some carb. material.
					5810	152			NO SAMPLE:	
				0 /1.8	5809	153				
				0.3 /0.5	5808	154			SILTY CLAYSTONE:	Same as above.
	60280			1.85 /2	5807	155			SANDSTONE:	Brownish gray (5YR 4/1) to mod. yellowish brown to dusky red (10YR 5/4 to 10R 2/2), slightly to non-friable, bedding had been layered but is distorted probably from tectonic activity or slumping, contains healed fractures, trace carbs, some silt, sand VFG.
					5806	156				
				0.6 /0.69	5805	157			SILTY CLAYSTONE:	Lt. brownish gray (5YR 6/1), slightly weathered, slightly friable, massive bedding, trace carbs.
					5804	158				
					5803	159				
					5802	160				

WELL 27-86

WELL CONSTRUCTION SUMMARY



LOCATION: Golden, CO

PERSONNEL: T. Murphy/J. Bergman

PROJECT: 10KY0222 Rocky Flats Plant

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5964'
TOP OF CASING 5965.68'

DRILLING SUMMARY:

TOTAL DEPTH Well: 133.00' Hole: 157.00'

BOREHOLE DIAMETER 0.00' - 22.00': 7¼"
22.00' - 157.00': 5 5/8"

DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Avenue, Golden, CO
(Dave Jarvie, Robert Roach)

RIG 0.00' - 22.00': Mobile B-57; 22.00' - 157.00': Failing

BIT(S) 0.00' - 22.00': T5; 22.00' - 157.00': coring bit; stone bit, tricone

DRILLING FLUID 0.00' - 22.00': none; 22.00' - 157.00': air/water mist

SURFACE CASING 5" x 22.6' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ____

CASING STRING(S): C=CASING S=SCREEN

0.00'	21.00'	C1			
0.00'	128.50'	C2			
128.50'	133.00'	S1			

CASING: C1 5" I.D. steel surface casing
C2 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrap screen, 0.25' welded bottom cap.

CENTRALIZERS None

FILTER MATERIAL 32-42 silica sand
127.50' - 135.70'

CEMENT Portland Type I
0.00' - 126.50'

OTHER 3/8" bentonite pellets
126.50' - 127.00'
135.75' - 157.00'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7¼" auger	8/29	0935	8/29	1200
NC core	9/11	1545	9/17	1615
Reaming	9/19	0905	9/19	0945
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
5" steel	8/29	1300	8/29	1330
2" stainless	9/22	1110	9/22	1135
FILTER PLACEMENT:	9/22	1140	9/22	1150
CEMENTING:	9/23	1820	9/24	0920
DEVELOPMENT:	9/30	1215	10/1	0912
OTHER:				
Bentonite	9/22	1520	9/22	1620
	9/19	1625	9/19	1700
Packer testing				
Cementing 5" steel	8/29	1330	8/29	1400

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

Water encountered at 8.0' during drilling.

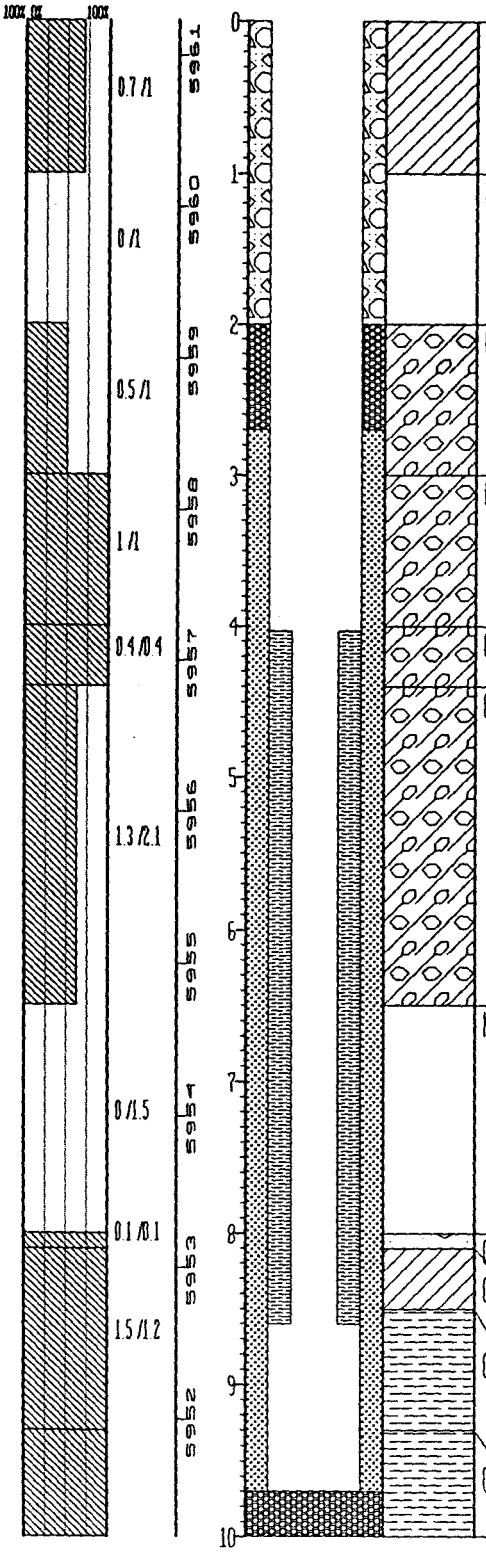
Top of stainless steel casing: 1.60'

HYDRO-SEARCH RENO-DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

Casing pulled up 0.9'
Filter puts S.S. in ~~contact w/~~ connection w/ well.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 15.5	GROUND ELEVATION (FT):	5961.23	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 750818	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	28-86
EAST: 2085241	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	08/28/86	
REMARKS: Hollow Stem Auger.						

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% – 50%)
PERCENT RECOVERY (100% OR – 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

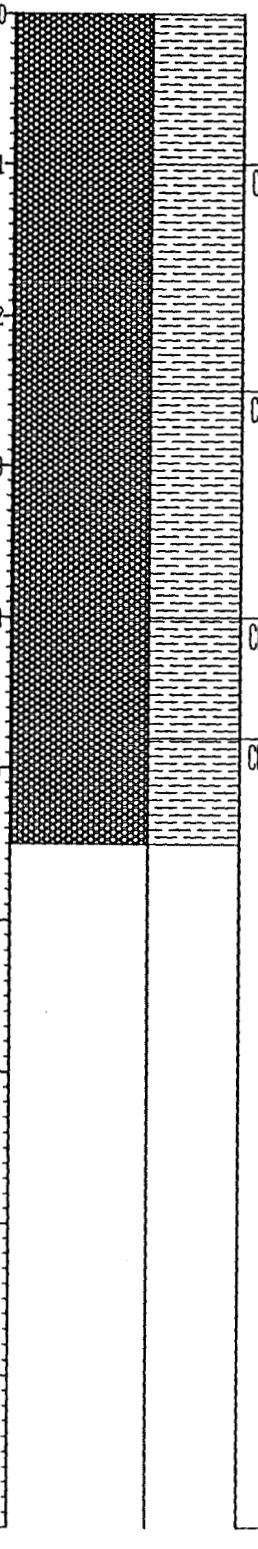


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	GRAVELLY CLAY, moderate brown (5 YR 3/4), low to moderate plasticity, some silt and sand, abundant caliche precipitate dispersed throughout clay.
NO SAMPLE:	
GC:	Clayey Gravel, light gray (N7) matrix is moderate brown (5 YR 3/4), angular to sub-angular, poorly graded, max. size 5.5 cm, some sand and silt.
GC:	Same as above; interval contains abundant caliche disseminated in clay matrix and as a rind on the gravel.
GC:	Same as above.
GC:	Same as above.
NO SAMPLE:	
GP:	Two small cobbles, med. gray (N5), sub-rounded, max. size 7 cm.
CL:	Clay, light gray (N7), bedding not apparent, highly weathered, slightly friable, localized iron staining
CLAYSTONE:	Top of Bedrock Light gray (N7), bedding not apparent, highly weathered, slightly friable, localized iron staining, body of caliche at approx. 8.8 ft.
CLAYSTONE:	Light gray (N7), bedding not apparent, highly weathered, slightly friable, localized iron staining, color varies to yellowish gray (5 Y 7/2).

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 15.5	GROUND ELEVATION (FT):	5961.23	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750818	AREA: SOLAR POND	CASING DIAMETER (IN):	2 10	GEOLOGIST:	DCB	28-86
EAST:	2095241	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	08/28/86	

REMARKS: Hollow Stem Auger.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



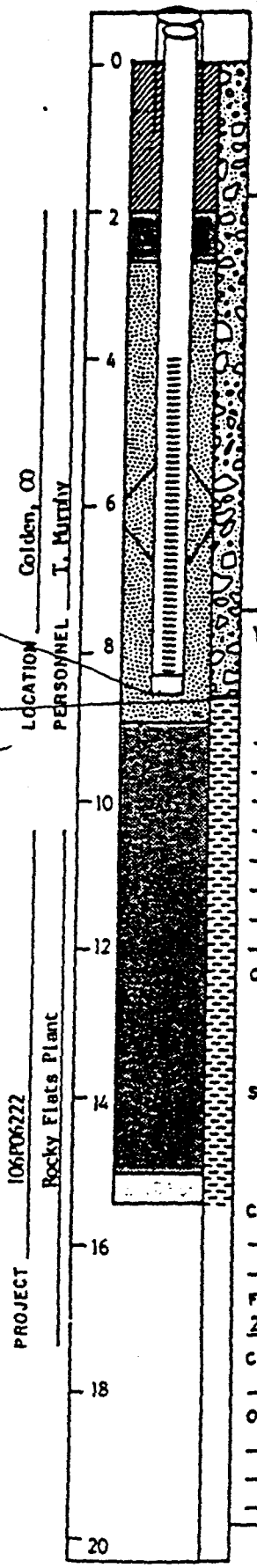
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above.

WELL 28-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5964'
TOP OF CASING 5966.5'



T.D.= 8.60
8.4' Ka

PROJECT 106P06222 Rocky Flats Plant
PERSONNEL T. Murphy
LOCATION Golden, CO

DRILLING SUMMARY:

TOTAL DEPTH Well: 8.60' Hole: 15.50'
BOREHOLE DIAMETER 7¼"

DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Avenue
Golden, CO (Dave Jarvie)

RIG Mobile B-57
BIT(S) T5

DRILLING FLUID None

SURFACE CASING 5" x 5' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ___

CASING STRING(S): C=CASING S=SCREEN

0.00'	4.03'	C1
4.03'	8.60'	S1

CASING: C1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrap screen 0.25' welded bottom cap.

CENTRALIZERS Type 304 stainless steel
6.75' - 5.55'

FILTER MATERIAL 32-42 silica sand
2.70' - 9.70'

CEMENT Portland Type I
0.00' - 2.00'

OTHER 3/8" bentonite pellets
2.00' - 2.70'
9.70' - 15.10'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7¼" auger	8/29	1007	8/29	1230
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
2" stainless	8/29	1532	8/29	1532
FILTER PLACEMENT:	8/29	1530	8/29	1615
CEMENTING:	8/29	1630	8/29	1632
DEVELOPMENT:	9/12	1325	9/18	1300
OTHER:				
Bentonite	8/29	1615	8/29	1630
	8/29	1515	8/29	1530

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

No water encountered during drilling.

Top of stainless steel casing: 2.50'

Cave from TD to 15.10'

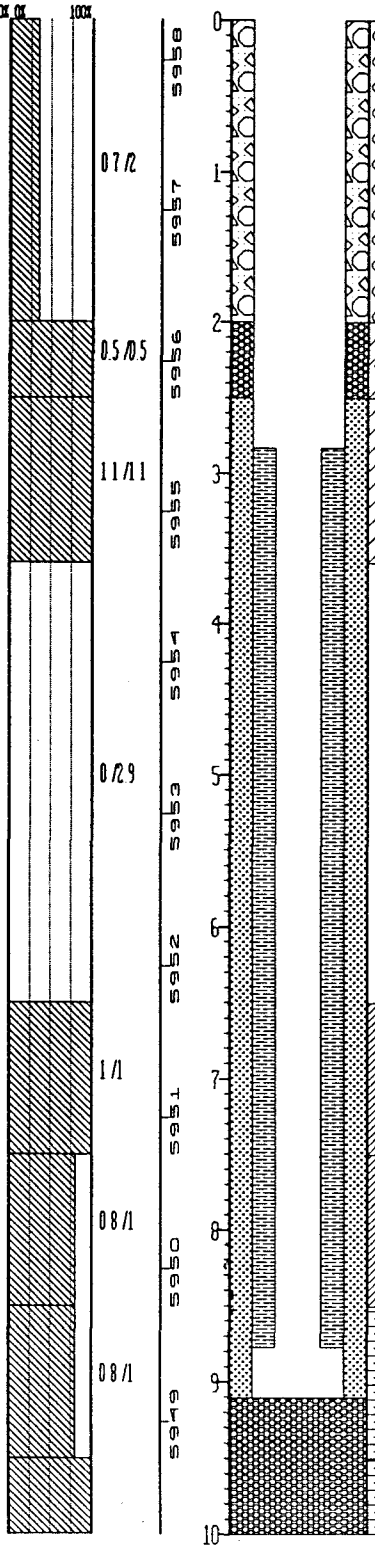
HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGIST

too much sand below well

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 22.5	GROUND ELEVATION (FT):	5958.26	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750612	AREA: SOLAR POND	CASING DIAMETER (IN):	2	GEOLOGIST:	DCB	29-86
EAST:	2085688	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/09/86	

REMARKS: Hollow Stem Auger

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GW:	GRAVEL, dominantly very light gray (N8), sub-angular, well graded, max. size 5.5 cm., trace of clay - grayish brown (5 YR 3/2), some plant debris and silt.
GC:	Clayey Gravel, light gray N7, clay matrix is grayish brown (5 YR 3/2), angular, poorly graded, max. size is 6.5 cm., some silt.
CL:	GRAVELLY CLAY, moderate brown (5 YR 4/4), low plasticity, some silt and VFG sand.
NO SAMPLE:	
CH:	Silty Gravelly Clay, moderate yellowish brown (10 YR 5/4), moderately high plasticity, some gravel.
CH:	Clay, moderate yellowish brown (10 YR 5/4), moderately high plasticity, some silt and gravel.
CLAYSTONE:	Top of Bedrock Grayish orange (10 YR 7/4), moderate plasticity, some silt, bodies of caliche and stringers of same, silt content increases with depth.
CLAYSTONE:	Same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 22.5	GROUND ELEVATION (FT): 5958.26	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750612	AREA: SOLAR POND	CASING DIAMETER (IN): 2	GEOLOGIST: DCB	29-86
EAST: 2085688	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/09/86	
REMARKS: Hollow Stem Auger				

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.5/1.5	5948	10				
				1.5/1.5	5947	11			CLAYSTONE:	Same as above.
					5946	12				
	009-18			2/2	5945	13			SANDY SILTSTONE:	Dark yellowish orange (10 YR 6/6), to very light gray (N8), bedding not apparent, moderately friable, irregular body of caliche at approx. 14.3 ft., sand is VFG.
					5944	14				
				1.5/1.5	5943	15			SANDY SILTSTONE:	Dark yellowish orange (10 YR 6/6), to very light gray (N8), bedding not apparent, moderately friable, sand is VFG.
				1.5/1.5	5942	16			SANDY SILTSTONE:	Same as above.
					5941	17				
	009-20				5940	18			SANDY SILTSTONE:	Same as above, with weathered Fe-oxide concretion at 22.5 ft.
					5939	19				
	009-19			1.5/5		20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 22.5	GROUND ELEVATION (FT):	5958.26	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750612	AREA: SOLAR POND	CASING DIAMETER (IN):	2	GEOLOGIST:	DCB	29-86
EAST:	2085688	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	09/09/86	

REMARKS: Hollow Stem Auger.

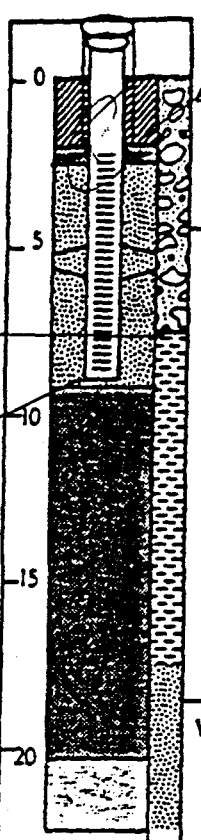
CHEMICAL SAMPLE DEPTH	GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		DCB-19	0% 50% 100%	0% 100%	1.5/5	5938	20				
						5937	21				
						5936	22				
						5935	23				
						5934	24				
						5933	25				
						5932	26				
						5931	27				
						5930	28				
						5929	29				
							30				

WELL 29-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5957'
TOP OF CASING 5958.78'



8.7' Ka

TD = 8.77'

LOCATION Golden, CO
PERSONNEL T. Murphy
PROJECT 106T06222 Rocky Flats Plant

DRILLING SUMMARY:

TOTAL DEPTH Well: 8.77' Hole: 22.50'
BOREHOLE DIAMETER 7¼"

DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Avenue
Golden, CO (Dave Jarvie)

RIG Mobile B-57
BIT(S) TS

DRILLING FLUID None

SURFACE CASING 5" x 4' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ___

CASING STRING(S): C=CASING S=SCREEN

0.00'	2.83'	C1			
2.83'	8.77'	S1			

CASING: C1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrap screen 0.25' welded bottom cap.

CENTRALIZERS Type 304 stainless steel
5.00' - 6.20'

FILTER MATERIAL 32-42 silica sand
2.50' - 9.10'

CEMENT Portland Type I
0.00' - 2.00'

OTHER 3/8" bentonite pellets
2.00' - 2.50'
9.10' - 20.30'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7¼" auger	9/9	1230	9/9	1410
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
2" stainless	9/9	1550	9/9	1552
FILTER PLACEMENT:	9/9	1600	9/9	1605
CEMENTING:	9/9	1610	9/9	1615
DEVELOPMENT:	9/12	1410	9/12	1410
OTHER:				
Bentonite	9/9	1605	9/9	1610
	9/9	1540	9/9	1542

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

No water encountered during drilling.

Top of stainless steel casing: 1.78'

Cave from TD to 20.30'

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 16	GROUND ELEVATION (FT):	5956.21	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751094	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	30-86
EAST:	2084924	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	09/06/86	

REMARKS: Hollow Stem Auger. Cave from TD to 15.60'.

SAMPLE GRAIN SIZE	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	1.5/2	5956, 5955	0, 1	CL:	CLAY, light brownish gray (5 YR 4/1), grades to very light gray (N8), moderate to low plasticity, calcareous, some roots and gravel in upper 1.5 ft., some silt in upper 2.0 ft.
	0.8/1	5954	2	CL:	Same as above.
				CLAYSTONE:	Top of Bedrock Same as above.
	0.9/1	5953	3	CLAYSTONE:	Interval grades to highly weathered or incompletely indurated Claystone.
	2/2	5952, 5951	4, 5	CLAYSTONE:	Very light gray (N8), bedding not apparent, highly weathered, slightly friable, occasional iron stains and bodies of caliche.
	2/2	5950, 5949	6, 7	CLAYSTONE:	Same as above.
	2/2	5948, 5947	8, 9, 10	CLAYSTONE:	Same as above, with slight amount of Mg-oxide mineralization below 8.0 feet and iron stains occur on fractures, rock is more competent.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 16	GROUND ELEVATION (FT):	5956.21	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751094	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB	30-86
EAST:	2084924	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	09/06/86	

REMARKS: Hollow Stem Auger. Cave from TD to 15.60'.

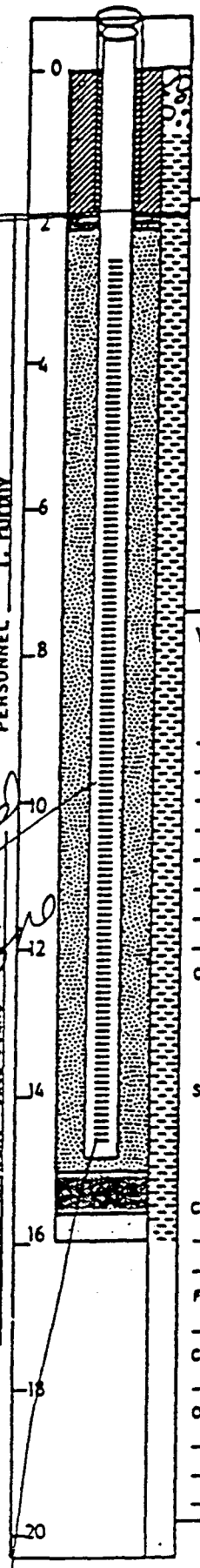
GRADATIONAL SAMPLE DEPTH	SAMPLE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	1/1	5946	10			CLAYSTONE:	Very light gray, (N8), bedding not apparent, highly weathered, slightly friable, iron staining locally and on partings, Mg oxide mineralization occurs locally, slight silt fraction.
				1/1	5945	11			CLAYSTONE:	Same as above.
					5944	12			CLAYSTONE:	Same as above.
				1.5/2	5943	13				
					5942	14			CLAYSTONE:	Same as above. NOTE: No water encountered while drilling.
				2/2	5941	15				
					5940	16				
					5939	17				
					5938	18				
					5937	19				
						20				

WELL 30-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5955'
TOP OF CASING 5956.50'



20'

PROJECT 106106222 Rocky Flats Plant
LOCATION Golden, CO
PERSONNEL T. Murphy

Length = 12.45' completed in claystone

DRILLING SUMMARY:

TOTAL DEPTH Well: 14.93' Hole: 16.00'
BOREHOLE DIAMETER 7¼"

DRILLER Bovles Brothers Drilling Co.
15865 W. 5th Avenue
Golden, CO (Dave Jarvie)
RIG Mobile B-57
BIT(S) Blade bit

DRILLING FLUID None

SURFACE CASING 5" x 4' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ___

CASING STRING(S): C=CASING S=SCREEN

0.00'	2.48'	C1			
2.48'	14.93'	S1			

CASING: C1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed. 0.010" wire wrap screen 0.25' welded bottom cap.

CENTRALIZERS Type 304 stainless steel

FILTER MATERIAL 32-42 silica sand
2.20' - 15.10'

CEMENT Portland Type I
0.00' - 2.00'

OTHER 3/8" bentonite pellets
2.00' - 2.20'
15.10' - 15.60'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7¼" auger	9/6	1200	9/6	1430
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
2" stainless	9/6	1630	9/6	1635
FILTER PLACEMENT:	9/6	1635	9/6	1650
CEMENTING:	9/6	1650	9/6	1700
DEVELOPMENT:	9/12	1010	9/19	1030
OTHER:				
Bentonite	9/6	1641	9/6	1642
	9/6	1625	9/6	1630

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

No water encountered during drilling.

Top of stainless steel casing: 1.50'

Cave from TD to 15.60'

HYDRO-SEARCH RENO-DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

How was depth determined?

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 1.55	GROUND ELEVATION (FT):				
NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	03/25/86	

REMARKS: Hollow Stem Auger/NC Core.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%	1/1	5964	0			CL:	SANDY GRAVELLY CLAY, pale yellowish brown (10 YR 6/2). Est. plast. mod. Gravel angular to sub-angular. Poorly graded. Max size 3.5 cm. Some root material.
			0.6/1	5963	1			SANDSTONE:	Top of Bedrock Very light gray to white (N 8-N 9). Some very thin CaCO3 stringers. Sand well sorted, silt to VFG sand.
LM11			1.75/2	5962	2			SANDSTONE:	As above, also has dark yellowish orange (10 YR 6/6) coloring.
			1.85/2	5961	3			SANDSTONE:	As above, some CaCO3 in matrix. Some black carb. material.
			1.7/1.5	5960	4			SANDSTONE:	Pinkish gray (5 YR 8/1) to dark yellowish orange (10 YR 6/6). Mod. to highly weathered. Mod. to highly friable. Bedding thin layered (approx. 1-2 mm). Tilted approx. 25 degrees. Some carb. material, iron staining. Some CaCO3 in small fractures. Trace clay.
			1.85/1.8	5959	5			SANDSTONE:	Same as above.
			1.65/1.2	5958	6			CLAYEY SILTSTONE:	Very pale orange to dark yellowish orange (10 YR 8/2 to 10 YR 6/6). Mod. weathered, mod. friable. Tilted layered bedding. Some iron staining, some carb. material in fractures. Some VFG sand. Fracture angle = 90
				5957	7				
				5956	8				
				5955	9				
					10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 15.5		GROUND ELEVATION (FT)		PROJECT NUMBER	
NORTH:	751068	AREA: SOLAR POND		CASING DIAMETER (IN):	2 10	GEOLOGIST:	LAA/DCB
EAST:	2084745	LOCATOR NUMBER:	L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86

REMARKS: Hollow Stem Auger/NC Core.

32-86

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					10				degrees. Bedding angle = 20 degrees.
			1.5/1.5	5954	11			CLAYEY SILTSTONE	Very light gray to dark yellowish orange (N 8 to 10 YR 6/6). Mod. weathered, mod. friable. Layered tilted bedding (20 degrees). Some carb. material in fractures. Some CaCO3. Some iron staining. Some VFG sand.
			1.75/1.8	5953	12			CLAYEY SILTSTONE	Same as above. Bedding closer to horizontal.
			1.7/1.6	5952	13			CLAYEY SILTSTONE	Same as above. Slightly weathered, slightly friable. Bedding not evident.
			1.7/1.6	5951	14			CLAYEY SILTSTONE	Same as above.
			1.7/1.8	5950	15			SILTY CLAYSTONE	Yellowish gray (5 Y 8/1) to dark yellowish orange (10 YR 6/6). Mod. weathered, slightly friable. Bedding not evident. Some iron staining in fractures. Trace carb. material and CaCO3.
			1.6/1.2	5949	16			SILTY CLAYSTONE	Same as above. Some pure silt areas. Some very heavily iron stained areas.
				5948	17				
				5947	18				
				5946	19				
				5945	20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 135	GROUND ELEVATION (FT): 5964.46	PROJECT NUMBER: 661.11	LOG OF BORING NUMBER:	
NORTH: 751068	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA/DCB	32-86	
EAST: 2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7 1/4	DATE DRILLED: 09/25/86		

REMARKS: Hollow Stem Auger/NC Core.

GRADATIONAL SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%			20				SILTY CLAYSTONE: Light olive gray (5 Y 6/1) to dark yellowish orange (10 YR 6/6). Mod. weathered. Slightly to mod. friable. Some iron staining and carb. material. Some CaCO3 in areas. Some small areas of pure silt (not in layers).
			1.8/2	5944	21				
				5943					
					22				SILTY CLAYSTONE: Same as above.
			1.8/1.9	5942	23				
				5941					
					24				SILTY CLAYSTONE: Same as above.
			1.7/1.6	5940	25				
				5939					SILTY CLAYSTONE: Same as above.
			1.6/1.5	5938	26				
					27				NO SAMPLE:
				5937	28				
				5936					
			0/4	5935	29				
					30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 133	GROUND ELEVATION (FT):	[illegible]	PROJECT NUMBER:	[illegible]
NORTH: 751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB
EAST: 2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86

REMARKS: Hollow Stem Auger/NC Core.

32-86

SAMPLE NUMB	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				5934	30				
				5933	31			CLAYSTONE:	Light gray (N 7), bedding not apparent, weathered, slightly friable, iron staining on fractures, occasional carbonaceous mineralization.
			2.2/2.2	5932	32				
				5931	33			CLAYSTONE:	Same as above.
			1/2.8	5930	34				
				5929	35				
				5928	36			NO SAMPLE:	
				5927	37				
				5926	38				
				5925	39				
					40				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 135	GROUND ELEVATION (FT):	5969.96	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86	

REMARKS: Hollow Stem Auger/NC Core.

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0/9	5924	40				
				5923	41				
				5922	42				
				5921	43				
				5920	44				
			0.5/0.5	5919	45			CLAYSTONE:	Light gray (N 7), bedding not apparent, weathered, slightly friable, iron staining on fractures.
			1/1.5	5918	46			CLAYSTONE:	Same as above.
			0/1.3	5917	47			NO SAMPLE:	
			0.7/0.7	5916	48			CLAYSTONE:	Same as 45.0 to 47.0 ft. Fracture angle = 90 degrees.
			2/2	5915	49			CLAYSTONE:	Same as above
					50				

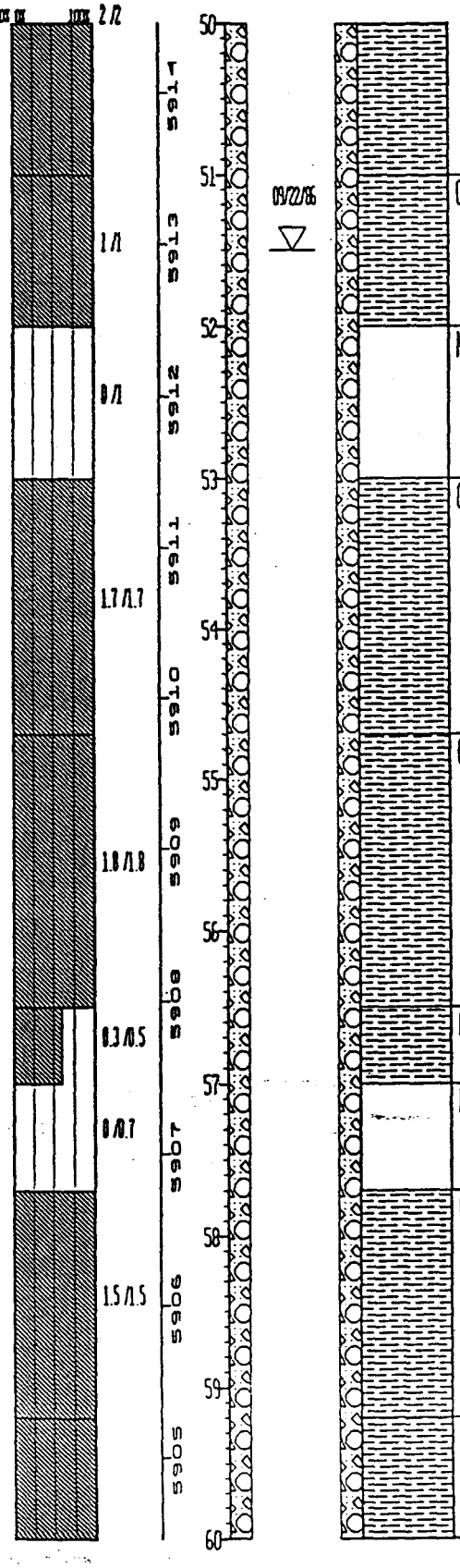
STATE PLANE COORDINATE | TOTAL DEPTH (FT): 133 | GROUND ELEVATION (FT): [illegible] | PROJECT NUMBER: [illegible] | LOG OF BORING NUMBER

NORTH: 751068 | AREA: SOLAR POND | CASING DIAMETER (IN): 2 ID | GEOLOGIST: LAA/DCB

EAST: 208475 | LOCATOR NUMBER: L10 | BOREHOLE DIAMETER (IN): 7 1/4 | DATE DRILLED: 09/25/86

REMARKS: Hollow Stem Auger/NC Core.

32-86



SAMPLE NUMB	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%	2/2	5914	50				
			1/1	5913	51	09/22/86 ▽		CLAYSTONE:	Same as above.
			0/1	5912	52			NO SAMPLE:	
			1.7/1.7	5911	53			CLAYSTONE:	Same as 45.0 to 47.0 ft. Bedding not apparent to thin (< 2 mm) with slight dip, slight silt fraction occurs as individual strata w/in interval. Fracture angle = 90 degrees.
				5910	54				
			1.8/1.8	5909	55			CLAYSTONE:	Same as above. Fracture angle = 80 degrees, bedding angle = 10 degrees.
				5908	56				
			0.3/0.5					CLAYSTONE:	Same as above.
			0/0.7	5907	57			NO SAMPLE:	
			1.5/1.5	5906	58			CLAYSTONE:	Medium gray (N 6), bedding not apparent to thin (< 2 mm) slight dip, weathered, slightly friable, slight silt fraction, iron staining occurs locally. Bedding angle approx. 5 degrees.
				5905	59			CLAYSTONE:	Same as above. Slickensides at approx. 60.6 ft., curvilinear surface.
					60				

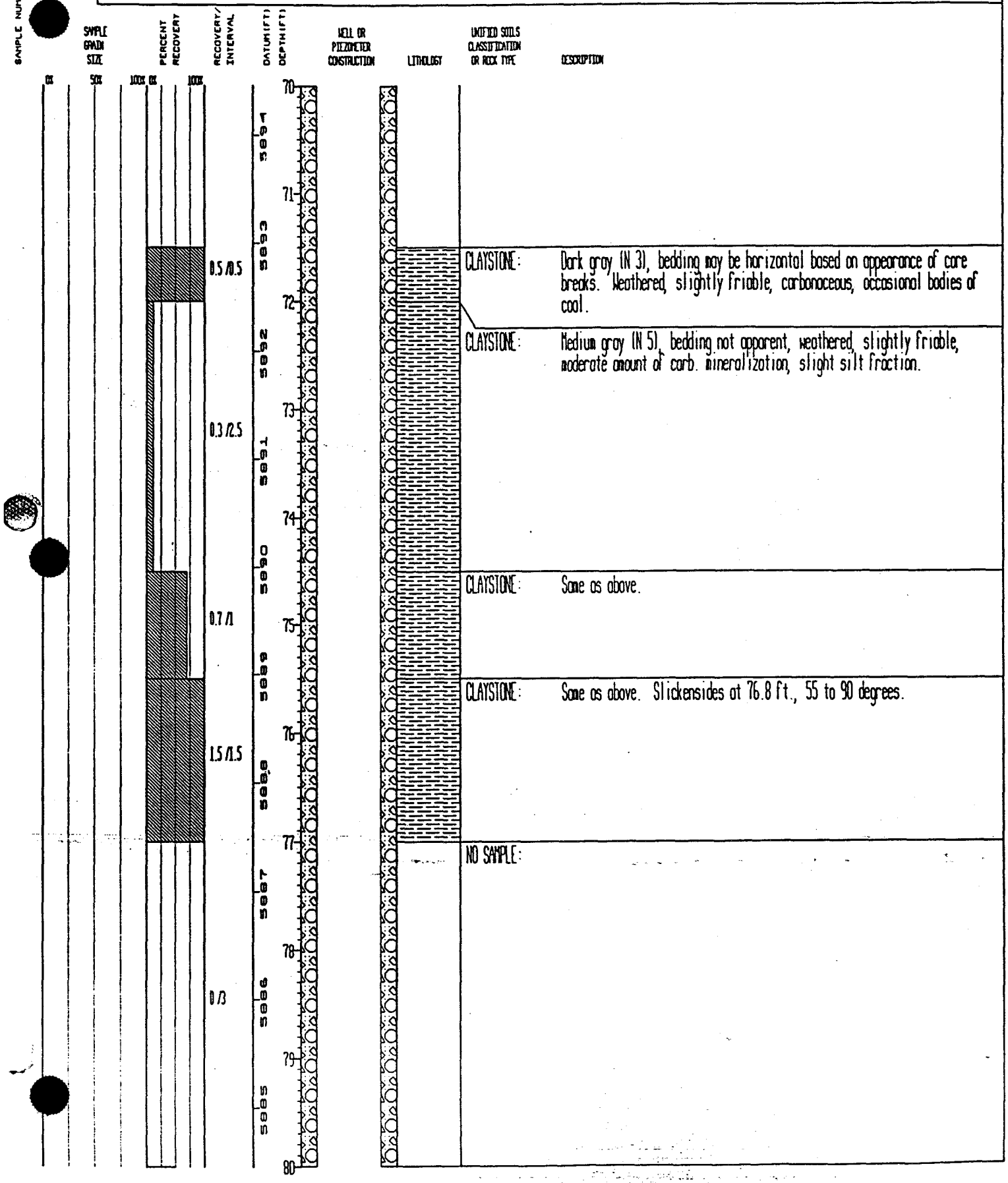
NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	208745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86	

REMARKS: Hollow Stem Auger/NC Core.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.8 /1.8	5901	60				
			1 /1	5903	61			CLAYSTONE:	Same as above.
			0.8 /0.79	5902	62			CLAYSTONE:	Same as above. Bedding not apparent and amount of iron staining diminishes below 62.8 ft., silt fraction is disseminated throughout.
			2.2 /2.2	5901	63	10/13/86 ▽		CLAYSTONE:	Same as above.
				5900	64				
			2 /2	5899	65			CLAYSTONE:	Same as above.
				5898	66				
				5897	67			NO SAMPLE:	
				5896	68				
			0 /4.5	5895	69				
					70				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 1.5	GROUND ELEVATION (FT): 5561.76	PROJECT NUMBER: 661.11	LOG OF BORING NUMBER:
NORTH: 751068	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA/DCB	32-86
EAST: 2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7 1/4	DATE DRILLED: 09/25/86	

REMARKS: Hollow Stem Auger/NC Core.



NORTH:	751068	AREA SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	208975	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86	

REMARKS: Hollow Stem Auger/NC Core.

SAMPLE NUMB	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 100%	0.2 /0.4	5984	80			CLAYSTONE:	Same as 72.0 to 77.0 ft.
			1.6 /1.6	5983	81			CLAYSTONE:	Same as above.
			1 /1	5982	82			CLAYSTONE:	Same as above, slickensides at approx. 83.0 ft., curvilinear surface.
			0 /1	5981	83			NO SAMPLE:	
			0.55 /0.69	5980	84			CLAYSTONE:	Same as 72.0 to 77.0 ft.
			2.3 /2.3	5979	85			CLAYSTONE:	Same as above. Slickensides at approx. 86.0 ft., attitude approx. 80 degrees.
			0 /1.2	5978	86			NO SAMPLE:	
			2.1 /2.1	5977	87			SILTY CLAYSTONE:	Light gray (N 7), thin (< 2 mm) horizontal bedding, slightly friable, moderate amount of carb. mineralization.
				5976	88				
				5975	89				
					90				

NORTH: 751068	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA/DCB		
EAST: 2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7 1/4	DATE DRILLED: 09/25/86		

REMARKS: Hollow Stem Auger/NC Core.

32-86

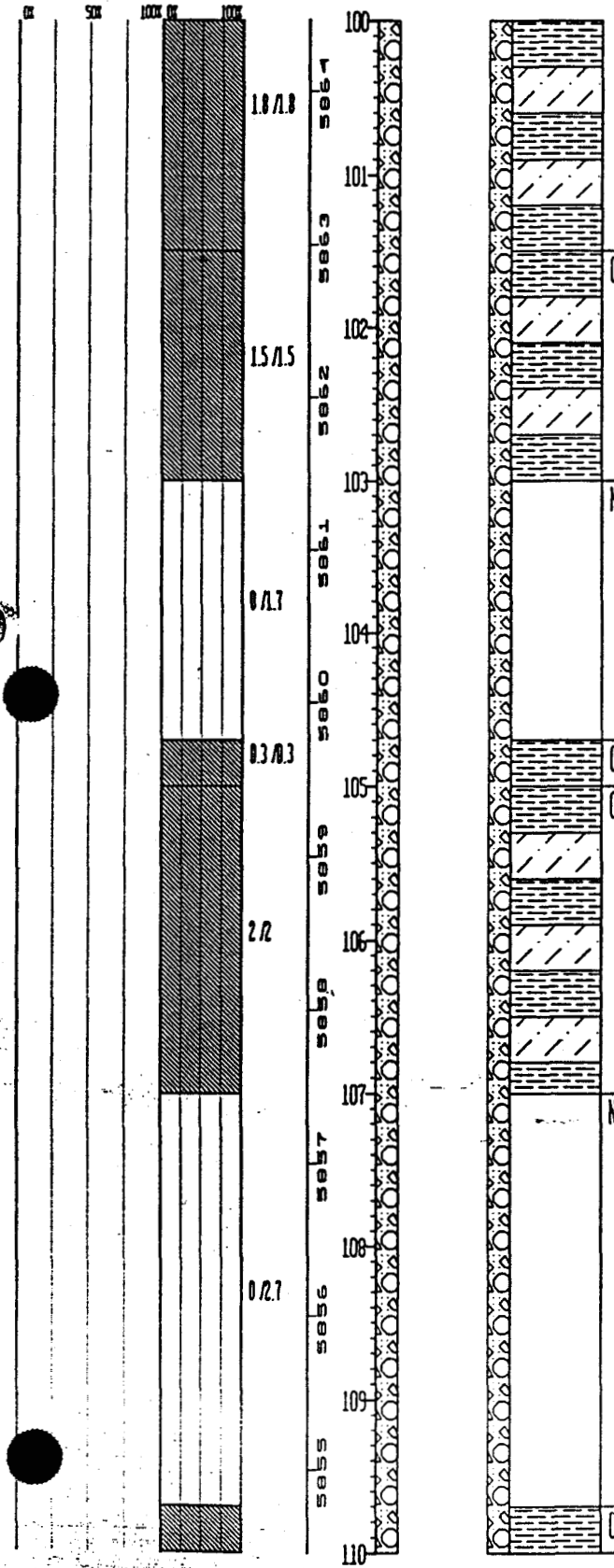
SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					90				
			1.7/1.7	5874, 5873	91			SILTY CLAYSTONE:	Same as above, bedding exhibits soft sediment deformation, and silt fraction increases.
			0/1.8	5872, 5871	92, 93			NO SAMPLE:	
			1.2/1.2	5870	94			SILTY CLAYSTONE:	Same as above.
			2/2	5869, 5868	95, 96			CLAYSTONE:	Interbedded siltstone and claystone, very light gray (N 8) to medium dark gray (N 4), respectively thin bedded (approx. 2 mm and less), slight dip, slightly friable.
			0/2.4	5867, 5866	97, 98, 99			NO SAMPLE:	
			0.25/0.29	5865	100			CLAYSTONE:	Medium light gray (N 6), thin bedded (< 2 mm), slight dip, slightly friable, interbedded siltstone occurs throughout interval, carb. mineralization occurs on partings.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 135	GROUND ELEVATION (FT):	5564.46	PROJECT NUMBER:	667.11
NORTH: 751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB
EAST: 2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86

LOG OF BORING NUMBER: 32-86

REMARKS: Hollow Stem Auger/NC Core.

SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above.
NO SAMPLE:	
CLAYSTONE:	Same as 99.7 to 101.5 ft.
CLAYSTONE:	Same as above.
NO SAMPLE:	
CLAYSTONE:	Medium gray (N 5), bedding not apparent, slightly friable, moderate silt

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 135	GROUND ELEVATION (FT):	5964.46	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86	

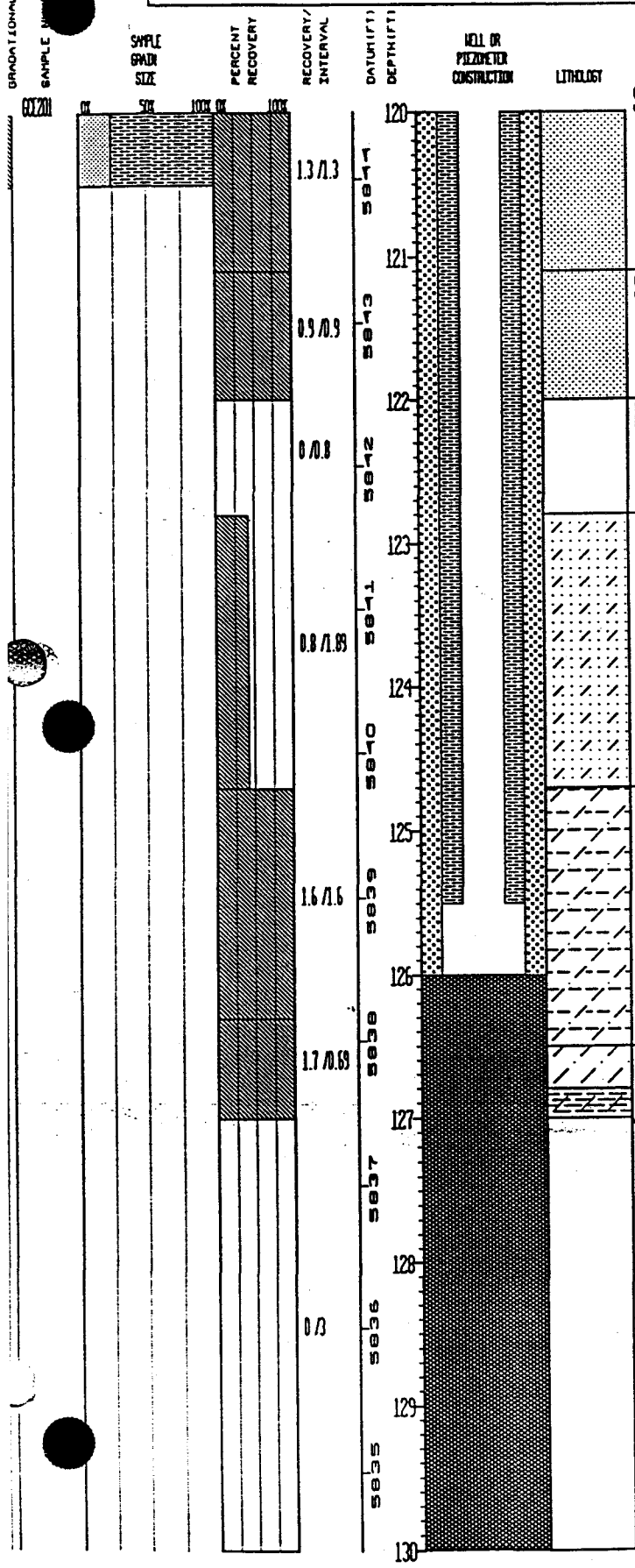
REMARKS: Hollow Stem Auger/NC Core.

SAMPLE NUMBER	SAMPLE GRADI SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.3 /2.3	5954 5953	110 111				component. Slickensides occur at approx. 111.0 ft., attitude of approx. 28 degrees.
			0 /0.84	5952	112			NO SAMPLE:	
			2.15 /2.15	5951	113 114			CLAYSTONE:	Same as 109.7 to 112.0 ft. Slickensides at 113.3 ft., badly broken, attitude cannot be accurately measured. Interval grades to a Carbonaceous Claystone at approx. 114.8 ft. and the color changes to dark gray (N 3).
			0.2 /0.19	5950 5949	115			SANDSTONE:	Bioturbated, slightly friable, VFG, well sorted, slight to moderate silt fraction.
			1.8 /1.8	5948	116				
			0 /2.8	5947 5946	117 118			NO SAMPLE:	
				5945	119				
					120			SANDSTONE:	Same as 115.2 to 117.0 ft.

6DT201

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 135	GROUND ELEVATION (FT):	5964.46	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	2084746	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86	

REMARKS: Hollow Stem Auger/NC Core.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDSTONE:	Same as 115.2 to 117.0 ft.
SANDSTONE:	Same as above. Influx of silt approx. 121 ft., bedding is thin (< 2 mm) and exhibits soft sediment deformation.
NO SAMPLE:	
SILTY SANDSTONE:	Very light gray (N 8) to med. dark gray (N 4), thin bedded (< or = 2 mm), interbedded clay/silt and sand exhibit soft sed. deformation, dewatering structures, slumps, slightly friable, VFG sand, vertical burrows, occasional iron stains.
SILTY CLAYSTONE:	Medium gray (N 5), bedding not apparent, slightly friable, occasional iron stains, carb. mineralization on partings.
SILTSTONE:	Interbedded Siltstone and Claystone and VFG Sandstone, light gray (N 7) to med. light gray (N 6), bedding is typically < or = 2 mm, moderate dip, slightly friable, local iron staining. Bedding angle = 20 degrees.
NO SAMPLE:	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 135	GROUND ELEVATION (FT)	5964.46	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	2084745	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	09/25/86	

REMARKS: Hollow Stem Auger/NC Core.

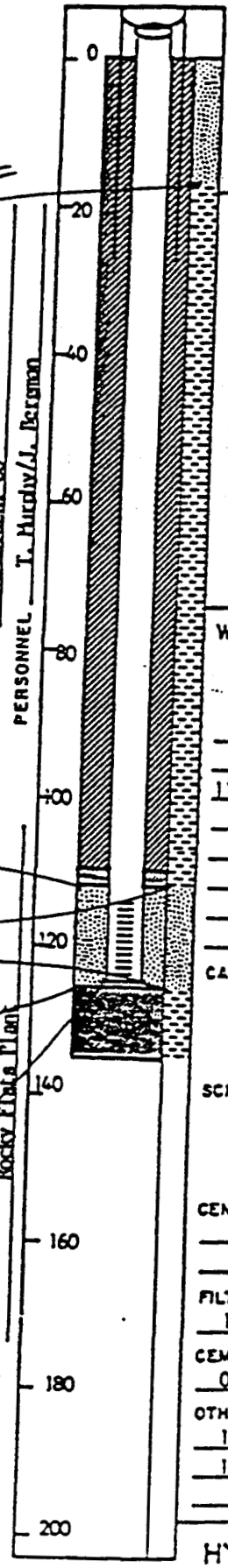
GRADATIONAL S	SAMPLE DEPTH	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%			130			CLAYSTONE:	Med. dark gray (N 4), bedding not apparent, slightly friable, moderate silt fraction, carb. mineralization on partings, occasional iron stains, silt fraction increases with depth.
				2/2	5934	131				
					5933					
						132			NO SAMPLE:	
				0/1.5	5932					
						133				
					5931				CLAYSTONE:	Same as above.
				1.5/1.5		134				
					5930					
						135				
					5929					
						136				
					5928					
						137				
					5927					
						138				
					5926					
						139				
					5925					
						140				

WELL 32-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5964'
TOP OF CASING 5966.50'



17.0' QBF
17.0' Ka
112.0'
115.2' Kass
124.4
114.0'
TD = 125.5'

LOCATION Golden, CO
PERSONNEL T. Murphy/J. Bergman
PROJECT 106T06222 Rocky Flats Plant

DRILLING SUMMARY:

TOTAL DEPTH Well: 125.50' Hole: 135.00'
BOREHOLE DIAMETER 0.00' - 27.00': 7½"
27.00' - 135.00': 5 5/8"
DRILLER Boyles Brothers Drilling Co.
15865 W. 5th Avenue, Golden, CO
(Dave Jarvie, Robert Roach)
RIG 0.00'-27.00' Mobile B-57; 27.00'-135.00'
BIT(S) 0.00' - 27.00': T-5
27.00' - 135.00': Carbide bit
DRILLING FLUID 0.00' - 27.00': None
27.00' - 135.00': air/water mist
SURFACE CASING 5" x 30.50' steel w/ locking cap

WELL DESIGN:

BASIS: GEOLOGIC LOG X GEOPHYSICAL LOG ___

CASING STRING(S): C=CASING S=SCREEN

0.00'	27.00'	C1			
0.00'	114.90'	C2			
114.90'	125.50'	S1			

CASING: C1 5" I.D. steel surface casing
C2 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed.

SCREEN: S1 2" I.D. Sch. 5 type 316 stainless steel, threaded and flush jointed, 0.010" wire wrap screen, 0.25' welded bottom cap.

CENTRALIZERS None

FILTER MATERIAL 32-42 silica sand
112.00' - ~~114.00'~~ 126.0'

CEMENT Portland Type I
0.00' - 112.00'

OTHER 3/8" bentonite pellets
112.00' - 114.00'
126.00' - 135.00'

CONSTRUCTION TIME LOG:

TASK	START DATE 1986	START TIME	FINISH DATE 1986	FINISH TIME
DRILLING:				
7½" auger	9/3	1030	9/3	1210
NC core	9/23	1600	9/25	1515
Reaming	9/27	1000	9/27	1200
GEOPHYS. LOGGING:	—	—	—	—
CASING:				
5" steel	9/3	1445	9/3	1505
2" stainless	9/29	0920	9/29	0950
FILTER PLACEMENT:	9/29	1055	9/29	1415
CEMENTING:	9/29	1530	9/29	1630
DEVELOPMENT:	10/14	1430		
OTHER:				
Bentonite	9/29	1415	9/29	1445
	9/27	1305	9/27	1310
Packer testing	9/25	1330	9/27	0940
Cementing 5" steel	9/3	1505	9/3	1530

WELL DEVELOPMENT

See Well Development Summary Sheet.

COMMENTS:

No water encountered during drilling.

Top of stainless steel casing: 2.50'

HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

~~TD~~ Completion interval OK

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 17	GROUND ELEVATION (FT) 5927.58	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH 749969	AREA MOUND AREA	CASING DIAMETER (IN) 2 ID	GEOLOGIST DCB	21-87
EAST 2085800	LOCATOR NUMBER M9	BOREHOLE DIAMETER (IN) 7.5	DATE DRILLED 10/16/87	

REMARKS: Hollow stem auger.

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.9/1.9	5927	0			GC	Clayey Gravel - light gray (N7), clay matrix is medium light gray (N6), angular to sub-angular, poorly graded, max. size 5 cm., some plant debris in upper 0.15 ft., some silt, trace of sand, calcareous mineralization disseminated throughout clay matrix.
			0/0.1	5926	1			NO SAMPLE	
			1/1	5925	2			GC	As above (reference interval 0.0 to 1.9 ft.), clay matrix is med. dark gray (N4)
			0/1	5924	3			NO SAMPLE	
			0.3/0.3	5923	4			GC	As above (reference interval 0 to 1.9 ft.)
			0/2.7	5922	5	11/12/87		NO SAMPLE	
				5921	6	10/16/87			
			0.3/0.3	5920	7			CL	CLAY - light gray (N7), low to moderate plasticity, some gravel from 7.0 to approx. 7.4 ft., trace of calcareous mineralization.
			1.6/1.6	5919	8			CL	CLAY - light gray (N7) to medium dark gray (N4), bedding not apparent, highly weathered, highly friable, some iron staining, local carbonaceous mineralization.
								CLAYSTONE	Top of Bedrock Same as above
			0.6/0.6	5918	9			CLAYSTONE	Same as above
					10			CLAYSTONE	Light olive gray (5Y 5/2), moderately high plasticity, localized calcareous bodies.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 17	GROUND ELEVATION (FT)	5927.58	PROJECT NUMBER	667 11	LOG OF BORING NUMBER
NORTH	749969	AREA MOUND AREA	CASING DIAMETER (IN)	2 ID	GEOLOGIST	DCB	21-87
EAST	2085800	LOCATOR NUMBER M9	BOREHOLE DIAMETER (IN)	7 5	DATE DRILLED	10/16/87	

REMARKS Hollow stem auger.

SAMPLE NO	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		100%	1.1/1.1	5917	10			CLAYSTONE	Same as above.
			1.4/1.4	5916	11			CLAYSTONE	Same as above.
			2.5/2.5	5915	12			CLAYSTONE	Medium light gray (N6), bedding not apparent (massive?), highly weathered, moderately friable, iron staining occurs on fracture surfaces, localized carbonaceous mineralization.
			2.5/2.5	5914	13			CLAYSTONE	As above.
				5913	14				
				5912	15				
				5911	16				
				5910	17				
				5909	18				
				5908	19				
					20				

WELL COMPLETION INFORMATION

Location Rocky Flats Plant: Mound Area

Coordinates N 36980.21 E 22693.84

Total Depth: Well 10.555'

Borehole 17.00'

Formation of Completion Rocky Flats Alluvium

Casing Material Sch 5, type 316 TFJ stainless steel

Screen Material 0.010" wire wrap, type 316 TFJ stainless steel

Date Installed Oct. 16, 1987

Installed By K. D. Holliway
Geologist

Well No. 21-87

Elevation: Ground Surface 5927.58'

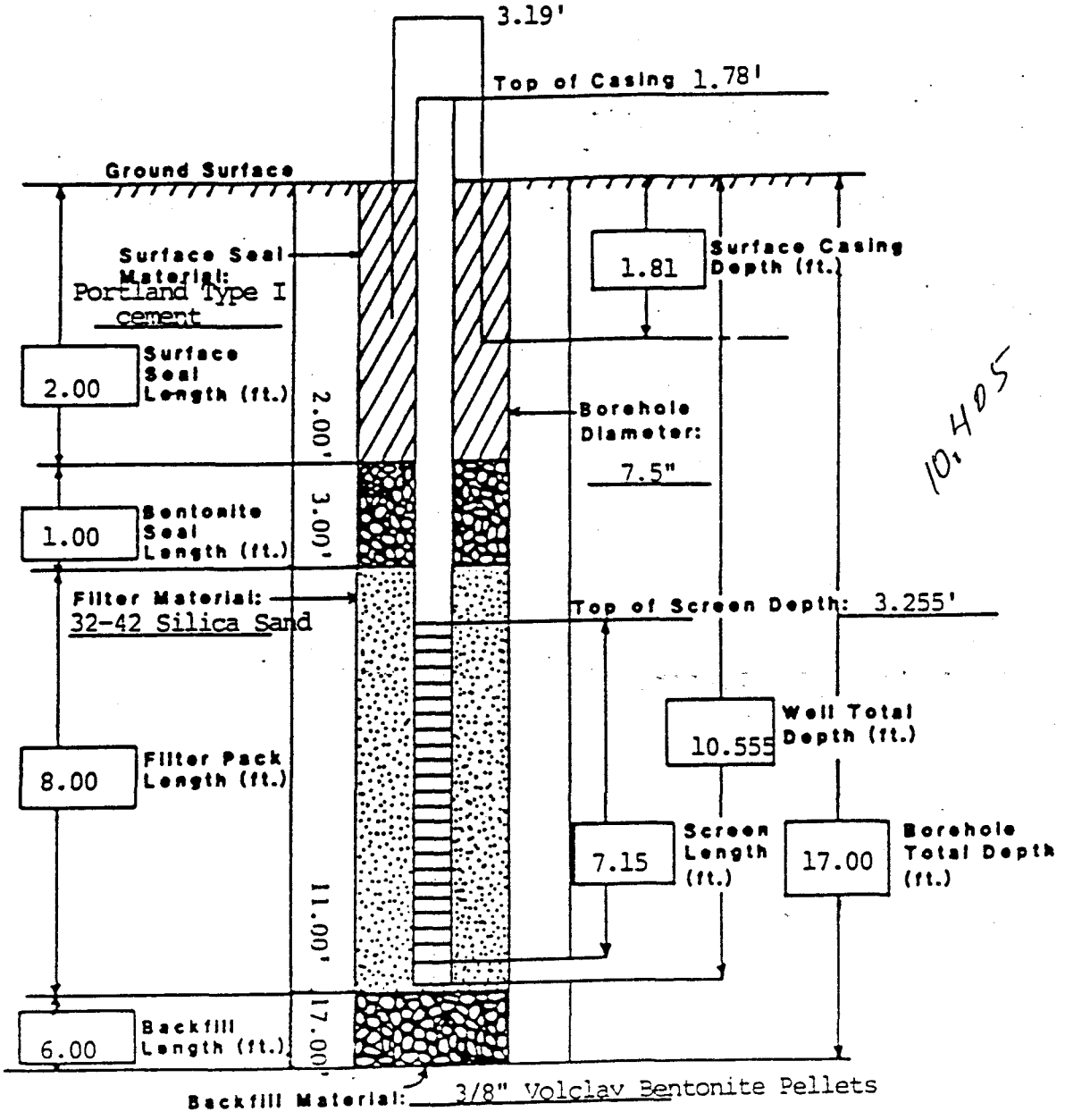
Top of Casing 5929.36'

Casing Diameter 2" ID

Surface Casing Diameter 5" ID

Approved By
Site Manager
CERP Manager

Comments



10,405

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAM	22-87BR
EAST:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.65/2	5930	0			GC:	Sandy Clayey Gravel - matrix color, moderate yellowish brown (10YR 5/4). Gravel sub-angular to sub-rounded, mod. well graded, max. size 3.5 cm. Sandy clay matrix, low plasticity. Sand med. grained primarily, becoming less gravelly toward bottom. Color darker and more mottled, (dark yellowish brown (10YR 4/2)), calcitic.
			1.5/1.5	5929	1			GC:	Same as above.
			0/0.5	5928	2			NO SAMPLE:	
			1.75/2	5927	3			CH:	Gravelly Clay - pale brown (5YR 5/2), est. mod. high plasticity, some sand, trace calcite, gravel sub-rounded, small to very large, max. size 7 cm., some moderate yellow (5Y 7/6) mottling toward bottom.
			1.6/1.9	5926	4			CH:	Clay - dark yellowish brown (10YR 4/2) to dark yellowish orange. Slightly silty, trace gravel, slightly calcitic, est. plast. mod. - high, trace very ferrous material mineralized (about 1 in. x 10 in. plate).
			0.6/0.6	5925	5			CH:	Same as above.
			0.9/1	5924	6			CH:	Same as above with some color change in areas to grayish brown (5YR 3/2). These darker areas have traces of root material and organics, very small.
			1.6/1.2	5923	7			CL:	SILTY CLAY - yellowish gray (5Y 8/1) to dk yellowish orange (10YR 6/6). Trace of the darker grayish brown (5YR 3/2) clay from above. Trace small rounded gravel, slightly calcitic, est. plast. mod.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 749324	AREA: ROUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LMA	22-87BR
EAST: 2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NO.	SAMPLE GRADE SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.8/1.5	5920	10–11			CL:	Same as above.
			0.3/0.1	5919	11–12	10/08/87 ▽		CL:	Same as above.
			1.4/1	5918	12–13			CL:	Same as above, some sub-rounded lg. gravel - max. 6.5 cm.
			1.1/1	5917	13–14			CLAYSTONE:	Top of Bedrock Same as above, but without gravel.
			0.7/0.8	5916	14–15			CLAYSTONE:	Same as above, but without gravel.
			1.6/1.2	5915	15–16			CLAYSTONE:	Same as above, higher silt content, larger areas of dark yellowish orange coloring.
			1.75/1.4	5914	16–17			CLAYSTONE:	Same as above, siltier at top of interval, less silt toward bottom.
			0.75/0.6	5913	17–18			CLAYSTONE:	Lt. brownish gray (5YR 4/1), est. plasticity moderate, slightly silty in some areas, trace root material.
			1/0.79	5912	18–19			CLAYSTONE:	Same as above, some dk. yellowish orange (10YR 6/6) mottling.
			1.7/1.2	5911	19–20			CLAYSTONE:	Same as above, some calcareous nodules.
								CLAYSTONE:	Same as above, some calcareous nodules. Claystone at very bottom of interval.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT):	5930.7	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: ROUND AREA	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	22-87BR
EAST:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		1.8/1.8	5910	20–21			CLAYSTONE:	Lt. olive gray (5Y 6/1), massive bedding, highly weathered, moderately friable, some silt, some dark yellowish orange (10YR 6/6) mottling.
		0.4/0.2	5909	22			CLAYSTONE:	Same as above.
		0/0.29					NO SAMPLE:	
		1.2/1	5908	23			CLAYSTONE:	Same as above, some areas slightly siltier.
		1.6/1	5907	24			CLAYSTONE:	Lt. olive gray (5Y 6/1), possible horizontal bedding, highly weathered, moderately friable, silty in areas.
		1.6/1	5906	25			CLAYSTONE:	Same as above.
		1.55/1	5905	26			CLAYSTONE:	Same as above, some iron staining, some fractures with mineralization.
		1.6/1	5904	27			CLAYSTONE:	Same as above, more mottled.
		0.4/0.2	5903				CLAYSTONE:	Same as above.
		1.7/0.79		28			CLAYSTONE:	Same as above.
		1.65/1	5902	29			SILTY CLAYSTONE:	Light olive gray (5Y 5/2) to dk. yellowish orange (10YR 6/6), horizontal bedding, highly to extremely weathered, moderately to highly friable.
		1.5/1	5901	30			SILTY CLAYSTONE:	Same as above.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA	22-87BR
EAST:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.5/1		30				
			0.4/0.4	5900					SILTY CLAYSTONE: Same as above.
			1.4/0.6		31				SILTY CLAYSTONE: Same as above.
			0.5/0.28	5899					SILTY CLAYSTONE: Same as above.
			0.9/0.7		32				SILTY CLAYSTONE: Same as above, appears less weathered, possibly due to more massively bedded interval. Some areas of very heavy iron staining.
			0.65/0.5	5898					SILTY CLAYSTONE: Same as above.
			0.65/0.5		33				SILTY CLAYSTONE: Same as above.
			1/0.5	5897					SILTY CLAYSTONE: Same as above, heavily weathered, some black carbonaceous material.
			0.8/0.5		34				SILTY CLAYSTONE: Yellowish gray (5Y 7/2), highly weathered, healed fractures (with iron staining) some carbonaceous material.
			1/0.5	5896					SILTY CLAYSTONE: Same as above.
			0.9/0.5		35				SILTY CLAYSTONE: Same as above.
			0.9/0.28	5895					SILTY CLAYSTONE: Same as above.
			1/0.7		36				SILTY CLAYSTONE: Same as above.
			1.1/1	5894	37				SILTY CLAYSTONE: Olive gray (5Y 4/1), bedding not apparent, mod. weathered, slightly friable, trace sand.
			2.1/1	5893	38				SILTY CLAYSTONE: Yellowish gray (5Y 7/2), bedding not apparent, highly weathered, healed fractures, some iron staining, some carbonaceous material.
			1.75/1	5892	39				SILTY CLAYSTONE: Brownish gray (5YR 4/1) to grayish orange (10YR 7/4), layered bedding, probably horizontal, highly weathered, moderately friable, common black carbonaceous material, usually between layers.
			1.75/1	5891	40				SILTY CLAYSTONE: Same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT) 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA	22-87BR
EAST: 2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core: Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NUM.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%	1.75/1		40				
			1.6/1	5890	41			SILTY CLAYSTONE:	Same as above.
			1.9/1	5889	42			SILTY CLAYSTONE:	Same as above.
			1.7/1	5888	43			SILTY CLAYSTONE:	Same as above.
			0.4/1.6	5887	44			CLAYSTONE:	Olive gray (5Y 4/1), massive bedding, weathering moderate, slightly friable, some silt, trace of carbonaceous material, some iron staining in horizontal and vertical fractures, trace CaCO3 (very weak HCl reaction).
				5886	45				
				5885	46			SILTSTONE:	Yellowish gray to light olive gray (5Y 8/1) to 5Y 6/1). Moderately weathered, slightly friable, massive bedding, some iron staining, some clay.
				5884	47				
1322			3.8/4.35	5883	48			CLAYSTONE:	Grades back into claystone (as 41.1 to 45.1 above), slickenslides present in fractures.
				5882	49	11/12/87			
				5881	50			CLAYSTONE:	Light brownish gray to brownish gray (5YR 6/1 to 5YR 4/1), massive bedding, slightly friable, some silt, trace carbonaceous material, some

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA	22-87BR
EAST: 2085822	LOCATOR NUMBER: 119	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

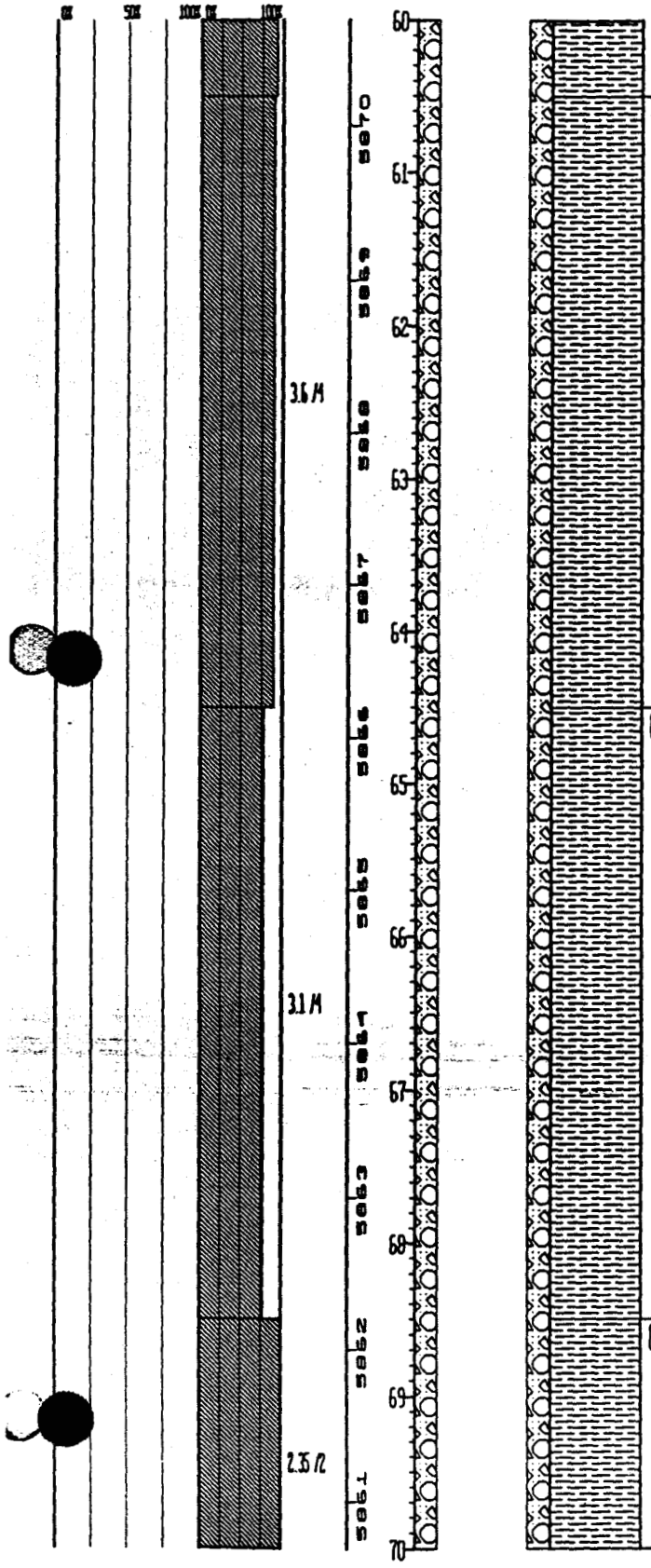
REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.2/3.05	5880	50–51				slickensides visible in fractures, trace iron staining.
			1.9/2	5879, 5878, 5877	52–54			CLAYSTONE:	Same as above.
			1.9/2	5876, 5875	55–56			CLAYSTONE:	Light olive gray (5Y 6/1), massive bedding, weathered, slightly friable, some silt, some carbonaceous material, some iron staining.
			3.7/4	5874, 5873, 5872, 5871	57–60			CLAYSTONE:	Same as above, slightly more friable, some slickenslides visible in fractures. Grades to darker olive gray (5Y 4/1) to olive black (5Y 2/1) claystone more weathered, moderately friable, weathered in platey layers, some carbonaceous material, trace very fine grained sand. Becoming more carbonaceous, trace coal.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA	22-87BR
EAST: 2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core.- Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

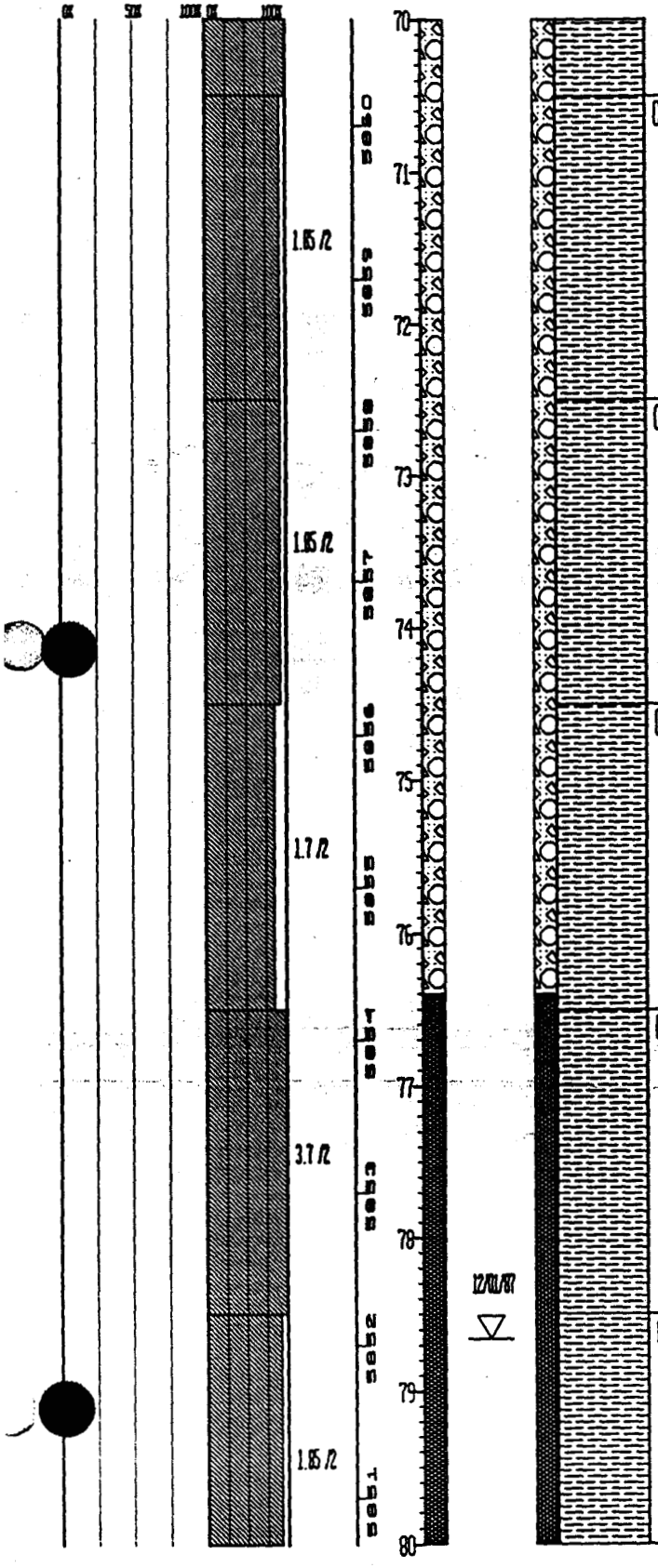


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Olive gray to olive black (5Y 4/1) to (5Y 2/1), massive bedding, highly weathered, moderately friable, weathered in thin platey layers 1-2 mm. Some areas of abundant carbonaceous material, silty in upper 1 ft. of interval, trace iron staining.
CLAYSTONE:	Olive gray (5Y 4/1), massive bedding, moderately weathered, slightly friable. As above in top 1 in. of interval, some carbonaceous material, not as abundant as above, trace of iron staining. Becomes very hard, non-friable at bottom of interval, very stained on outside of core, healed fracture (carbon).
CLAYSTONE:	Olive gray (5Y 4/1), massive bedding, mod. weathering, slightly friable, abundant carbonaceous material, slickensides present in fractures.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT):	5930.7	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	22-87BR
EAST:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

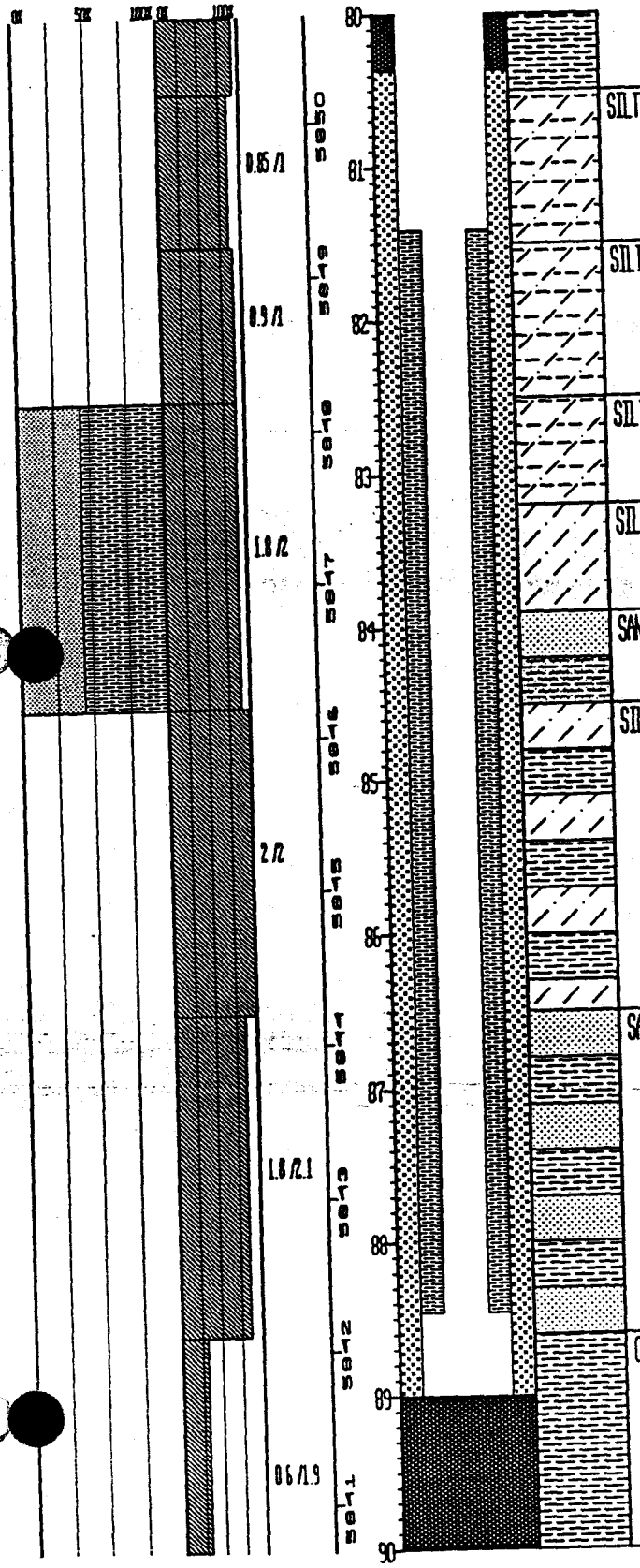
SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	As above interval, vertical fracture with slickensides.
CLAYSTONE:	As above.
CLAYSTONE:	Light olive gray to olive gray (5Y 4/1 - 2/1), massive bedding, moderate weathering, slightly friable, some carbonaceous material, some slickensides in fractures.
CLAYSTONE:	Same as above, except highly weathered, friable. Olive gray to olive black (5Y 2/1) to (5Y 4/1).
CLAYSTONE:	Same as above, slightly less weathered, less friable, more carbonaceous material.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT):	5930.7	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH: 749924	AREA: MOUND AREA	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAM	22-87BR
EAST: 2085822	LOCATOR NUMBER: 119	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.



SILTY CLAYSTONE:	Brownish gray to olive gray (5YR 4/1 to 5Y 4/1), moderately weathered, slightly friable, abundant carbonaceous material.
SILTY CLAYSTONE:	As above.
SILTY CLAYSTONE:	Same as above but with less carbonaceous material.
SILTSTONE:	Grades to siltstone, light olive gray (5Y 6/1), weathered, slightly friable, very thin parallel bedding.
SANDSTONE:	Grades to very fine sandstone color - some weathered, moderately friable, well sorted, with thin layers of claystone (1in. thick.)
SILTSTONE:	Top 0.7 ft. interbedded siltstones, claystones and very fine grained sandstones. Light olive gray (5Y 6/1) to olive gray (5Y 4/1). S.S. and siltstn. layers approx. 1 in. thick. Claystn. 0.5 in. thick, possible load casts in clay layers. S.S. layers well sorted, weathered, moderately friable.
SANDSTONE:	Fine grained silty sandstones as above, first .5 ft. sandstone, light olive gray, moderately weathered, slightly to nonfriable, fine to med. grained, well-sorted, calcareous cement. Rest of interval interbedded claystone, siltstone and sandstone, horizontal bedding, sharp contacts, some possible cross bedding.
CLAYSTONE:	Olive gray (5Y 4/1), slightly weathered, slightly friable, trace iron staining.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT):	5930.7	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LMA	22-87BR
EAST:	2065822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.75/2.8	5940, 5939, 5938	90, 91, 92, 93			CLAYSTONE:	Olive gray (5Y 4/1) slightly weathered to weathered in places, bedding angle changed abrubtly to approx. 50 degrees off horizontal.
								SANDSTONE:	Sharp contact with med. grained SS (contact at 53 degrees). Some possible load casts in claystone, very thin (1-2 mm.) coal seam visible.
			0.9/1.2	5937	94			CLAYSTONE:	Brownish gray (5YR 4/1), massive bedding over interval, slightly weathered, slightly friable.
			0/0.5	5936				NO SAMPLE:	
			4.3/4	5935, 5934, 5933, 5932	95, 96, 97, 98			CLAYSTONE:	Same as above, interbedded lenticularly with med. grained silty sandstone, same color, horizontal thin layers from 1-2 mm. to 8 cm. thick, also some siltstone layers.
			1.8/2	5931	99, 100			CLAYSTONE:	Same as above.

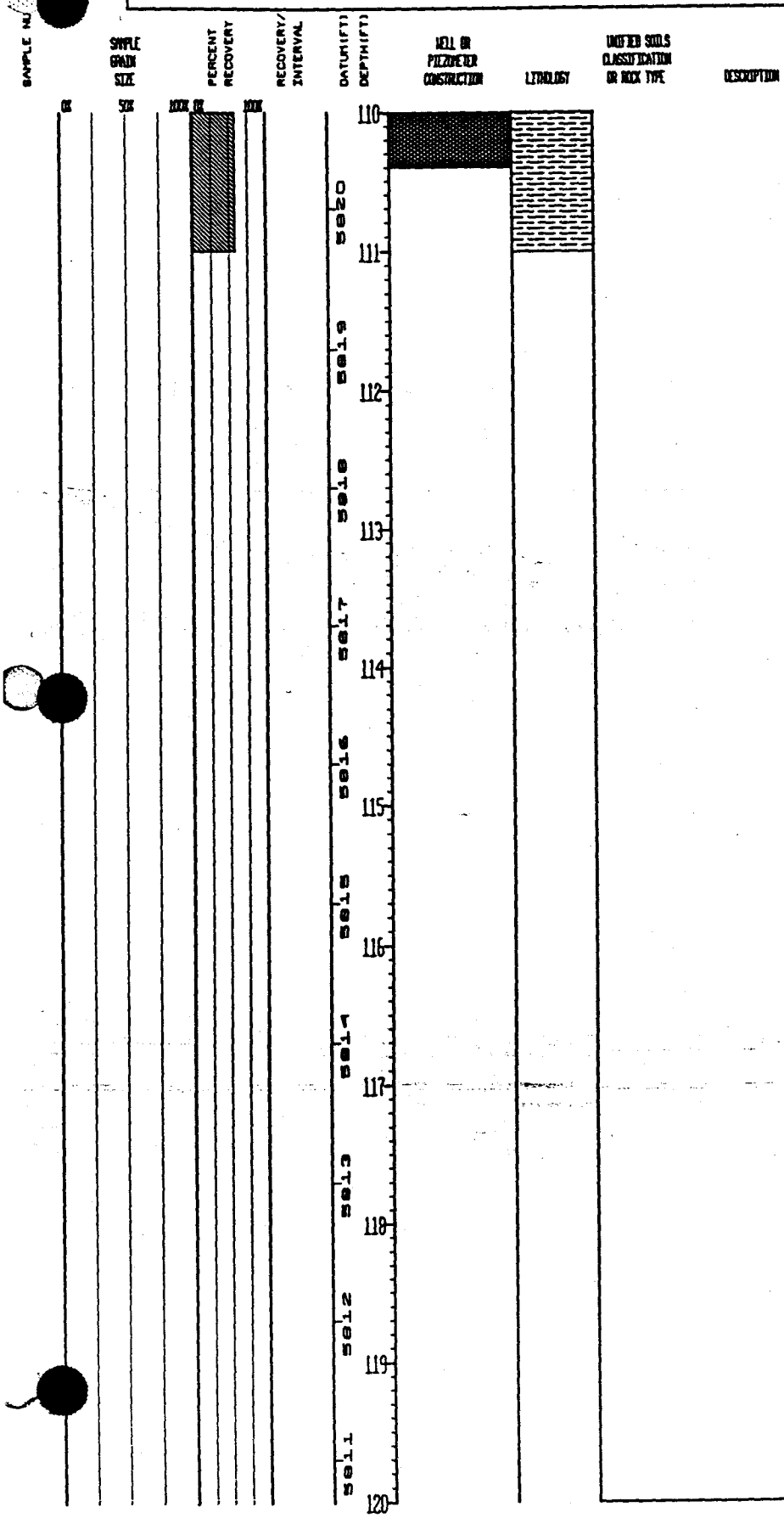
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAA	22-87BR
EAST:	2085822	LOCATION NUMBER: 119	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.8/2	5830	100				
			0/1	5829	101			NO SAMPLE:	
			1.8/2	5828	102			CLAYSTONE:	Brownish gray (5Y 4/1), massive bedding, moderately weathered, slightly friable, abundant black carbonaceous material, silty, some fractures.
				5827	103				
			3.5/3	5826	104			CLAYSTONE:	Light olive gray (5Y 6/1), massive bedding, highly weathered, slightly to moderately friable, some carbonaceous material.
				5825	105				
				5824	106				
				5823	107			CLAYSTONE:	Same as above, more weathered, highly friable.
			2.3/4	5822	108				
				5821	109				
					110				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111		GROUND ELEVATION (FT):	5930.7	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA		CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	22-87BR
EAST:	2085822	LOCATOR NUMBER: M9		BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87	

REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.



WELL COMPLETION INFORMATION

Location: Rocky Flats Plant; Mound Area

Well No.: 22-87BR

Coordinates: N 36934.99 E 22715.72

Elevation: Ground Surface 5930.70'

Total Depth: Well 88.70'

Top of Casing 5932.49'

Borehole 110.40'

Formation of Completion: Arapahoe Formation

Casing Material: Sch 5, type 316 TFJ stainless steel

Casing Diameter: 2" ID

Screen Material: 0.010" wire wrap, type 316 TFJ stainless steel

Surface Casing Diameter: 5" ID

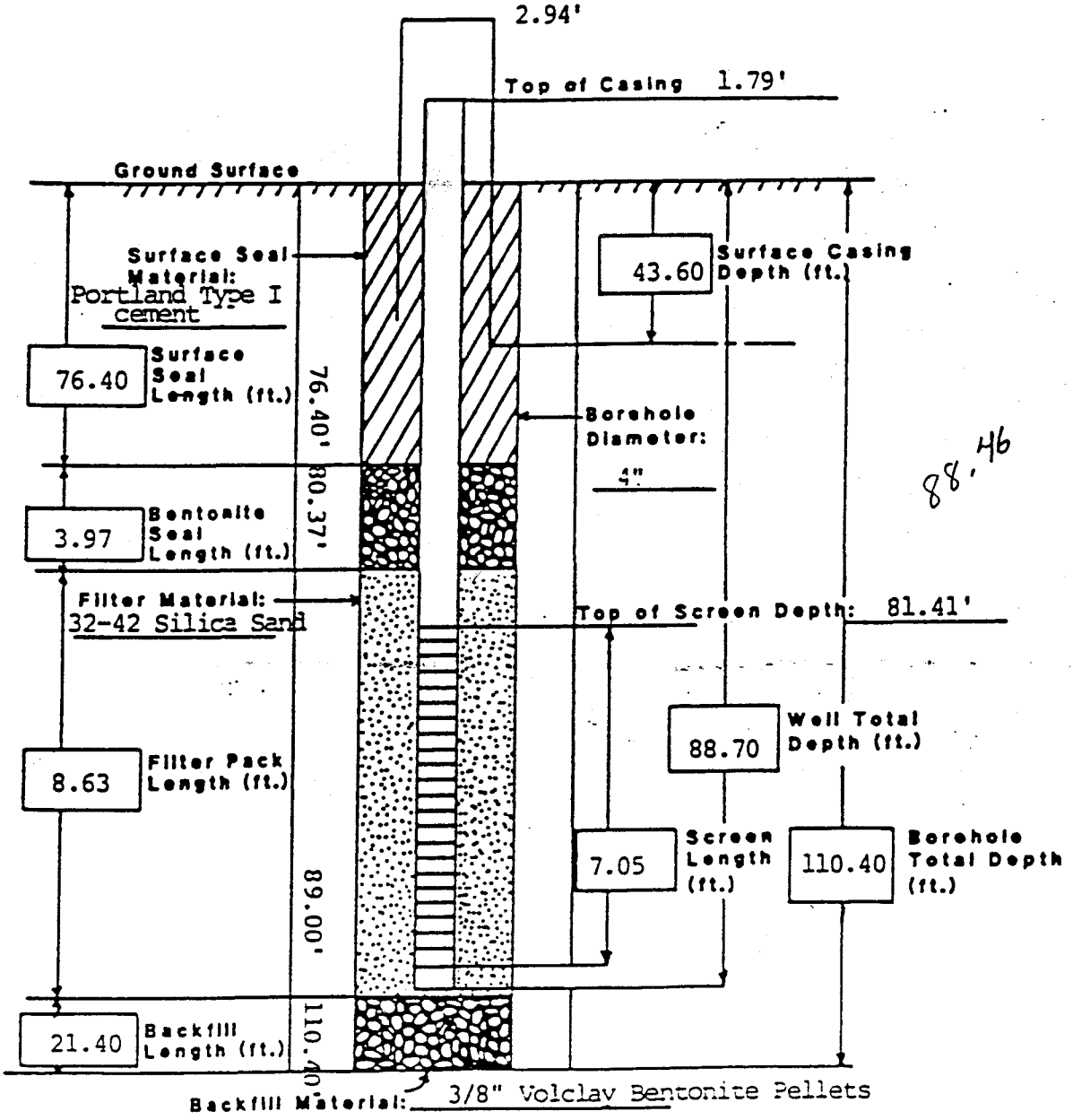
Date Installed: Oct. 10, 1987

Approved By: [signature] Site Manager

Installed By: K. D. Holliway, Geologist

[signature] CEARP Manager

Comments: Surface casing set to 43.60' by K. D. Holliway October 9, 1987



WELL COMPLETION INFORMATION

Location: Rocky Flats Plant; Solar Ponds Area

Well No. 38-87

Coordinates: N 37370.70 E 22020.53

Elevation: Ground Surface 5971.79'

Total Depth: Well 9.50'

Top of Casing 5973.95'

Borehole 14.00'

Formation of Completion: Rocky Flats Alluvium

Casing Material: Sch 5, Type 316, TFJ Stainless Steel

Casing Diameter: 2" ID

Screen Material: 0.010" wire wrap, Type 316, TFJ Stainless Steel

Surface Casing Diameter: 5" ID

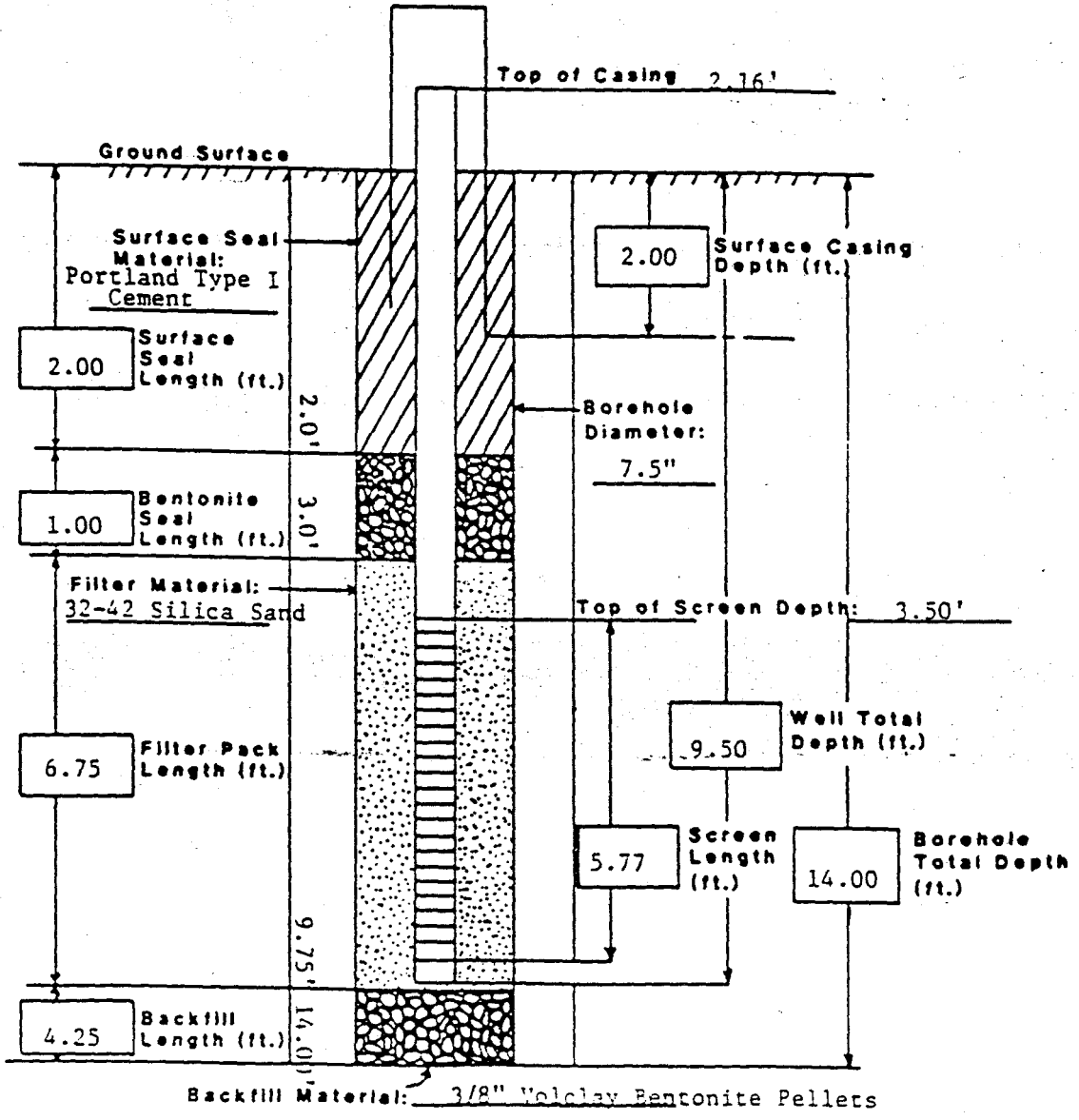
Date Installed: October 28, 1987

Approved By: _____ Site Manager

Installed By: R. Treat, Geologist

_____ CEARP Manager

Comments: _____



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT):	5947.1	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

GRADATIONAL DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

Sample Number	Recovery/Interval	Unified Soils Classification or Rock Type	Description
	0.7/2	GC:	Clayey Gravel- med. lt. gray (N6), angular to sub-rounded, mod. well graded, max. size 4 cm. Silty clay matrix, dark yellowish brown (10YR 4/2), est. plasticity, mod. to high, very slightly calcareous, trace root material.
	1.05/1.5	CH:	Gravelly Clay - mod. brown (5YR 4/4), est. plasticity moderate, some med. grained sand. Gravel, small (5 cm.) to lg. (7 cm.), angular to sub-rounded, well graded. Clay, pale yellowish orange (10YR 8/6), est. plast. mod. to high, some sand, coarse to fine.
SP08870UC	2.45/3	CLAYSTONE:	Top of Bedrock Yellowish gray (5Y 8/1), est. plast. mod. to high, trace fine sand, some CaCO3, some iron staining lower in interval, becoming silty toward bottom.
SP08870CT	0.75/2.5	SILTY CLAYSTONE:	Very pale orange (10YR 8/2), est. plast. low to mod., some iron staining.
		SILTY CLAYSTONE:	Same as above.

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Datum (FT): 5947, 5946, 5945, 5944, 5943, 5942, 5941, 5940, 5939, 5938

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT):	5947.1	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

GRADATION SAMPLE DEPTH | SAMPLE | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

SP088705BR

Recovery/Interval	Depth (ft)	Description
1/2.5	10	
	11	
	12	SILTY CLAYSTONE: Very pale orange (10YR 8/2), est. plast. low to mod., some iron staining, trace VFG sand.
0.7/2.5	13	
	14	SILTY CLAYSTONE: Grayish orange (10YR 7/4) to yellowish gray (5Y 8/1), bedding not apparent, highly weathered, slightly to mod. friable, trace gravel, carb. material.
1.4/2.5	15	
	16	
	17	SILTY CLAYSTONE: Dk. yellowish orange (10YR 6/6), highly weathered, mod. to highly friable, some iron staining, trace carb. material, color change at bottom to very pale orange (10YR 8/2).
1.9/2.5	18	
	19	SILTY CLAYSTONE: Yellowish gray to lt. olive gray (5Y 8/1 to 6/1), bedding not evident, highly weathered, mod. friable, some iron staining.
	20	

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT):	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE #	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	CL SILT SAND GRAVEL	50% 100% CR 100%	1.25/2.5	5925	20				
				5925	21				
						11/12/87 ▽		SILTY CLAYSTONE:	Yellowish gray to lt. olive gray (5Y 8/1 to 6/1), bedding not evident, highly weathered, mod. friable, some iron staining.
				5925	22				
			1.9/2.5	5924	23				
				5923	24			CLAYSTONE:	Dk. yellowish orange (10YR 6/6), bedding not evident, highly weathered, mod. friable, some carb. material, trace silt. NOTE: This interval overlaps with 1st two intervals in next box.
			1.6/2.5	5922	25				
				5921	26				
				5920	27			CLAYSTONE:	Pale yellowish brown (10YR 6/2) and dk. yellowish orange (10YR 6/6), bedding not evident, highly weathered, mod. to highly friable, some iron staining, trace CaCO3.
			2.8/2.5	5919	28				
				5918	29			CLAYSTONE:	Same as above.
					30				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT):	5947.1	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		1.25/2.5	5917	30				
			5916	31				
			5915	32			CLAYSTONE:	Pale yellowish brown (10YR 6/2) to dk. yellowish orange (10YR 6/6), bedding not evident, highly weathered, mod. to highly friable, trace CaCO3, trace carb. material, trace silt.
		2.25/2.5	5914	33				
			5913	34			CLAYSTONE:	Same as above.
		1.6/1.8	5912	35				
		0.8/0.7	5911	36			CLAYSTONE:	Pale yellowish brown (10YR 6/2) to dk. yellowish orange (10YR 6/6), some as above.
			5910	37			CLAYSTONE:	Same as above, slightly more silt.
		1.85/2.5	5909	38	02/01/88			
			5908	39			CLAYSTONE:	Lt. brownish gray (5YR 6/1), bedding not evident, highly weathered, mod. to highly friable, some silt, trace carb. material.
				40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT): 5947.1	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE NI	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%	2/2.3	5907	40				
				5906	41				
				5905	42			CLAYSTONE:	Medium gray (N5) thin horizontal bedding approximately 1-3 mm. thick, highly weathered, moderately friable, some carbonaceous material throughout, trace of iron oxide staining.
			1.4/2.73	5904	43				
				5903	44	10/29/88		CLAYSTONE:	Same as above, trace of fine sand on bedding plane.
			0.4/1.37	5902	45				
			1.8/1.6	5901	46			CLAYSTONE:	Same as above (44.03 to 45.4).
				5900	47			CLAYSTONE:	Same as above.
			1.85/2.03	5899	48				
			0.45/0.97	5898	49			CLAYSTONE:	Same as above.
								CLAYSTONE:	Same as above.
					50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT): 5947.1	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:	
NORTH: 751080	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD/DCB/LAA	39-87BR	
EAST: 2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/10/87		
REMARKS: Hollow Stem Auger; NC Core.					

SAMPLE NO.	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.2/1.2	5897	50				
				5896	51			CLAYSTONE:	As above
			2.1/2.1	5895	52				
			1.2/1.2	5894	53			CLAYSTONE:	Medium gray (N5), thin horizontal bedding approx. 1 to 3 cm. in thickness, highly weathered, moderately friable, linear carbonaceous mineralization occurs on bedding plane partings (plant remains?), localized iron oxide stains.
				5893	54			CLAYSTONE:	As above. Note: A 0.5 ft. interval is marked in the core box from 54 ft. to 54 ft.
			1.85/1.85	5892	55				
			1.15/1.15	5891	56			CLAYSTONE:	As above.
			0.3/0.29	5890	57			CLAYSTONE:	As above.
			1.73/1.73	5889	58			CLAYSTONE:	As above.
				5888	59			CLAYSTONE:	As above.
					60				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 138		GROUND ELEVATION (FT):	5947.1	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND		CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER:	M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE N	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%	1.97/1.97	5887	60				
				5886	61			NO SAMPLE:	
				5885	62				
			0/4	5884	63				
				5883	64				
				5882	65			CLAYSTONE:	Medium gray (N5) bedding not apparent, highly weathered, moderately friable, some carbonaceous material throughout, trace of iron oxide staining. One fracture observed.
			1.48/1						
			0.2/0.19	5881	66			CLAYSTONE:	Same as above no fractures.
								CLAYSTONE:	First 1/2 ft. and the bottom 1/4 ft. of interval is the same as above. The middle is a shaley carbonaceous material grayish black (N2) to black (N1) trace of clay.
			1.8/1.3	5880	67				
				5879	68			CLAYSTONE:	Carbonaceous, grayish black (N2) to black (N1), thin horizontal bedding 1 to 3 mm. thick, highly weathered, moderately friable.
			1.88/1.9	5878	69				
			1.48/0.59		70			CLAYSTONE:	Same as above but shaley and has a trace of fine sand.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT): 5947.1	PROJECT NUMBER: 667 11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE N	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0.4 /0.59	5877	70			CLAYSTONE:	As above.
			0 /1.55	5876	71			NO SAMPLE:	
				5875	72				
			1.3 /1.3	5874	73			CLAYSTONE:	As above reference interval 69.4 to 70.0.
			0.7 /0.65	5873	74			CLAYSTONE:	As above.
			1.9 /1.9	5872	75			CLAYSTONE:	As above.
			0.6 /1.3	5871	76			CLAYSTONE:	As above - slickenside occurs at approximately 76.2 ft., oriented vertically, surface is glossy with linear striations and no mineralization.
			1.35 /0.82	5870	77			CLAYSTONE:	Olive gray (5Y 4/1), thin bedded (1 to 2 mm.), weathered, moderately friable, black carbonaceous mineralization along bedding plane partings, siltstone inclusions as lenses 0.5 to 1.5 cm.
			0.55 /1.87	5869	78			CLAYSTONE:	As above.
				5868	79				
					80				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 138	GROUND ELEVATION (FT):	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER:	
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	TSD/DCB/LAA	39-87BR	
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87		

REMARKS: Hollow Stem Auger; NC Core

SAMPLE N° | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
1.5/1.28	5867	80	CLAYSTONE:	Medium gray (N5) highly weathered, moderately friable, thinly bedded (approx. 1 mm. thick) some carbonaceous material, trace of small very fine sandstone lenses near the bottom of interval, displays localized shaley characteristics.
0.57/0.72	5866	81	CLAYSTONE:	Same as above except fine sandstone lenses are throughout, but noncontinuous.
1.2/1	5865	82	CLAYSTONE:	Same as above.
1/1	5864	83	CLAYSTONE:	Same as above with bedding approx. 1 mm. to 3 mm., an increase amount of v. fine sandstone inclusions/siltstone inclusions and carbonaceous material, trace of iron staining in fractures.
0.75/0.8	5863	84	CLAYSTONE:	Medium gray (N5) highly weathered, moderately friable, thinly bedded (1 mm. to 6 mm.) some very fine sand to silty lenticular bedding, some carbonaceous material.
1.15/1.2	5862	85	CLAYSTONE:	Same as above with bedding ranging from < 1 mm. to 3 mm. thick and sandstone and siltstone occurring in lenses. Shaley.
0.45/0.44	5861	86	CLAYSTONE:	Same as above.
1.52/1.55	5860	87	CLAYSTONE:	Same as above with iron staining in fracture.
0.15/0.19	5859	88	CLAYSTONE:	Same as above no obvious fractures.
1.94/1.9	5858	89	CLAYSTONE:	Same as above with an increase in the amount of sand and silt and these components appear lenticular, trace of iron staining.
		90		

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 138	GROUND ELEVATION (FT)	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH	751080	AREA SOLAR POND	CASING DIAMETER (IN)	2 ID	GEOLOGIST	TSD/DCB/LAA	39-87BR
EAST	2085269	LOCATOR NUMBER M10	BOREHOLE DIAMETER (IN)	4	DATE DRILLED	11/10/87	

REMARKS: Hollow Stem Auger, NC Core.

GRADATION SAMPLE DEPTH

SAMPLE

SAMPLE GRAIN SIZE 0% 50% 100%

PERCENT RECOVERY 0% 100%

RECOVERY/INTERVAL

DATUM (FT) 5857 5856 5855 5854 5853 5852 5851 5850 5849 5848

DEPTH (FT) 90 91 92 93 94 95 96 97 98 99 100

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

Recovery/Interval	Unified Soils Classification or Rock Type	Description
0/1.9		NO SAMPLE
1.85/1.85	SILTY CLAYSTONE	Medium gray (N5) highly weathered, thin horizontal bedding (< 1 mm. to approx. 1 mm.), moderately friable, some carbonaceous material v. fine grained sand and silt lenticular bedding, trace of iron staining. Shaley.
1.65/1.65	SILTY CLAYSTONE	Same as above.
0.5/0.5	SILTY CLAYSTONE	Same as above.
1.15/1.15	CLAYEY SILTSTONE	Medium light gray (N6) thin horizontal bedding (< 1mm. to 3) highly weathered moderately friable, some carbonaceous material and fine sand. Shaley.
1.7/1.7	CLAYEY SILTSTONE	Same as above.
1.15/1.15	SILTY CLAYSTONE	Medium gray (N5) thinly bedded (horizontal) (< 1 mm to 1 mm.), moderately friable, some carbonaceous material in fine sand to silt lenticular bedding. Trace of iron staining. Shaley

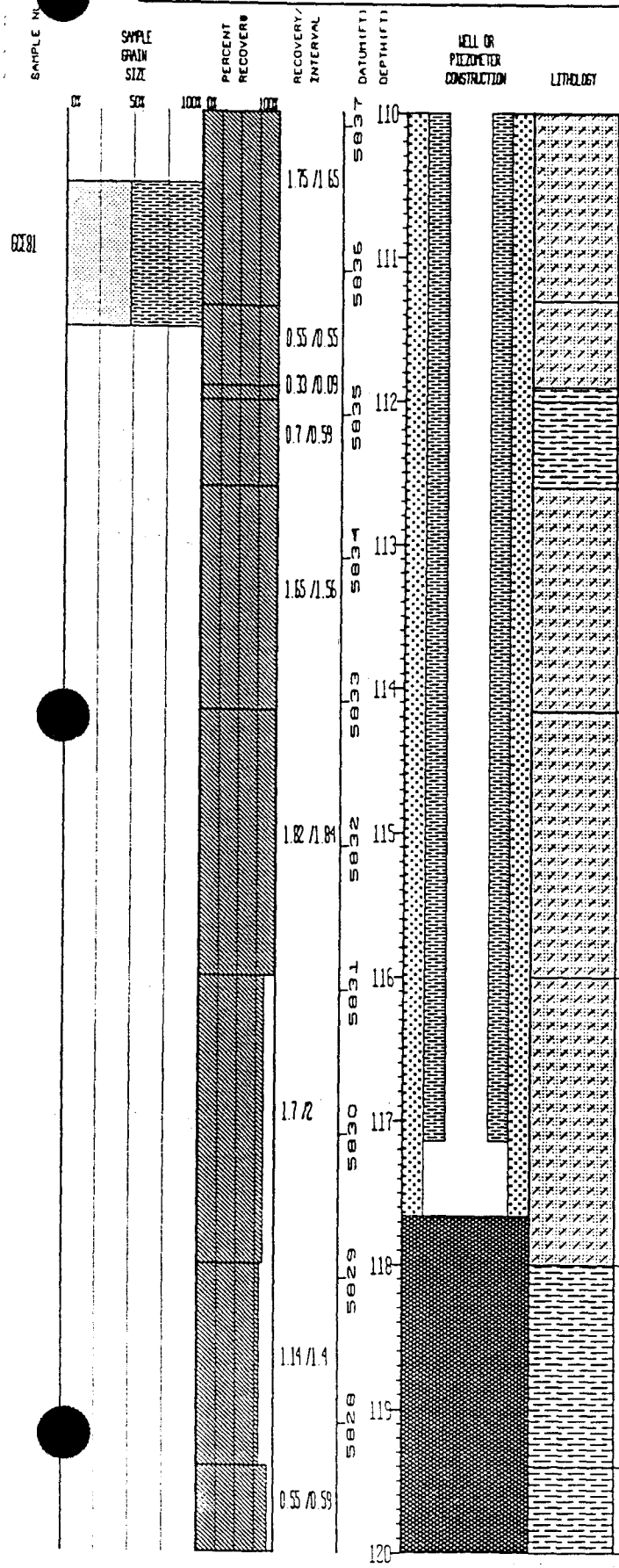
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 130	GROUND ELEVATION (FT)	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH:	751080	AREA SOLAR POND	CASING DIAMETER (IN)	2 ID	GEOLOGIST	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN)	4	DATE DRILLED	11/10/87	

REMARKS: Hollow Stem Auger; NC Core

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.5/1.5	5947	100			CLAYSTONE:	Medium gray (N5) thin horizontal bedding (1-2 mm), highly weathered, moderately friable, trace of carbonaceous material. Some very fine sand and silt, lenticular bedding (increasing at bottom of interval).
			1.15/1.1	5946	101			CLAYSTONE:	Same as above, with increased carbonaceous material with no lenticular sand lenses, trace of iron staining.
			1.66/2.05	5945	102			CLAYSTONE:	Same as above.
			1.85/1.55	5944	103			CLAYSTONE:	Top half of interval same as above. Bottom half consists of a carbonaceous claystone, dark gray (N3), shaley, highly weathered, moderately friable, trace of iron staining.
			1.85/1.8	5943	104			CLAYSTONE:	Same as above.
			1.85/1.7	5942	105			SILTY CLAYSTONE:	Medium dark gray (N4) to dark gray (N5), horizontal bedding (thin to massive), some carbonaceous material, trace of very fine sand.
				5941	106				
				5940	107				
				5939	108				
				5938	109				
					110				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 138	GROUND ELEVATION (FT): 5947.1	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/10/87	

REMARKS: Hollow Stem Auger, NC Core



SANDY SILTSTONE:	Very fine, very light gray (N8) massive bedding highly weathered, slightly friable, trace of carbonaceous material.
SANDY SILTSTONE:	Same as above with an increase in carbonaceous material.
CLAYSTONE:	Medium gray (N5) highly weathered, moderately friable some carbonaceous material.
CLAYSTONE:	Same as above with some very fine sandstone and siltstone layers.
SANDY SILTSTONE:	Very fine sandy siltstone very light gray (N8), massively bedded?, highly weathered, slightly friable, some carbonaceous material and very fine sand occurring in lenticular bedding.
SANDY SILTSTONE:	Same as above with a trace of iron staining.
SANDY SILTSTONE:	Same as above with some clay. Stone is shaley and moderately friable.
CLAYSTONE:	Medium gray (N5) thin horizontal bedding (<1 mm. to ?) shaley, highly weathered, moderately friable, some carbonaceous material, trace of silt and iron staining.
CLAYSTONE:	Same as above.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 138	GROUND ELEVATION (FT) 5947.1	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH 751080	AREA SOLAR POND	CASING DIAMETER (IN) 2 ID	GEOLOGIST TSD/DCB/LAA	39-87BR
EAST 2085269	LOCATION NUMBER M10	BOREHOLE DIAMETER (IN) 4	DATE DRILLED 11/10/87	

REMARKS: Hollow Stem Auger; NC Core

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	CL 50%	100% CR 100%	1.1/1	5927	120			SILTY CLAYSTONE	Light olive gray (5Y 6/1) thin horizontal bedding highly weathered, moderately friable, shaley, trace of carbonaceous material and iron staining.
			1.22/1	5926	121			SANDY SILTSTONE	V. fine, light olive gray (5Y 6/1) thin horizontal bedding (<1 mm. to 1 mm.), highly weathered, slightly friable, trace of carbonaceous material. Fine sand occurs in a thin lense near the bottom of the interval.
			0.3/0.25	5925	122			SANDY SILTSTONE	Same as above.
			1.93/1.55	5924	123			SANDY SILTSTONE	Same as above.
				5923	124				
			1.85/1.8	5922	125			CLAYEY SILTSTONE	Olive gray (5Y 2/1) thin horizontal bedding (1mm. to 3 mm.) highly weathered, slightly friable v. fine sandstone occurs in lenses, some carbonaceous material, trace of iron staining. Small 3 in. section in center of run that's a claystone, shaley, moderately friable.
				5921	126				
0282			1.55/1.5	5920	127			SANDY SILTSTONE	V. fine, light olive gray (5Y 6/1) thin horizontal bedding (<1 mm. to 1 mm.) highly weathered, slightly to moderately friable, some claystone and carbonaceous material.
			1.75/1.7	5919	128			SANDY SILTSTONE	Same as above, less sand.
			1.05/0.8	5918	129			SILTY CLAYSTONE	Light olive gray (5Y 6/1) massively bedded ? to shaley highly weathered, moderately friable, trace of carbonaceous material.
					130				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 138	GROUND ELEVATION (FT)	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH	751080	AREA SOLAR POND	CASING DIAMETER (IN)	2 ID	GEOLOGIST	TSD/DCB/LAA	39-87BR
EAST	2285269	LOCATOR NUMBER M10	BOREHOLE DIAMETER (IN)	4	DATE DRILLED	11/10/87	

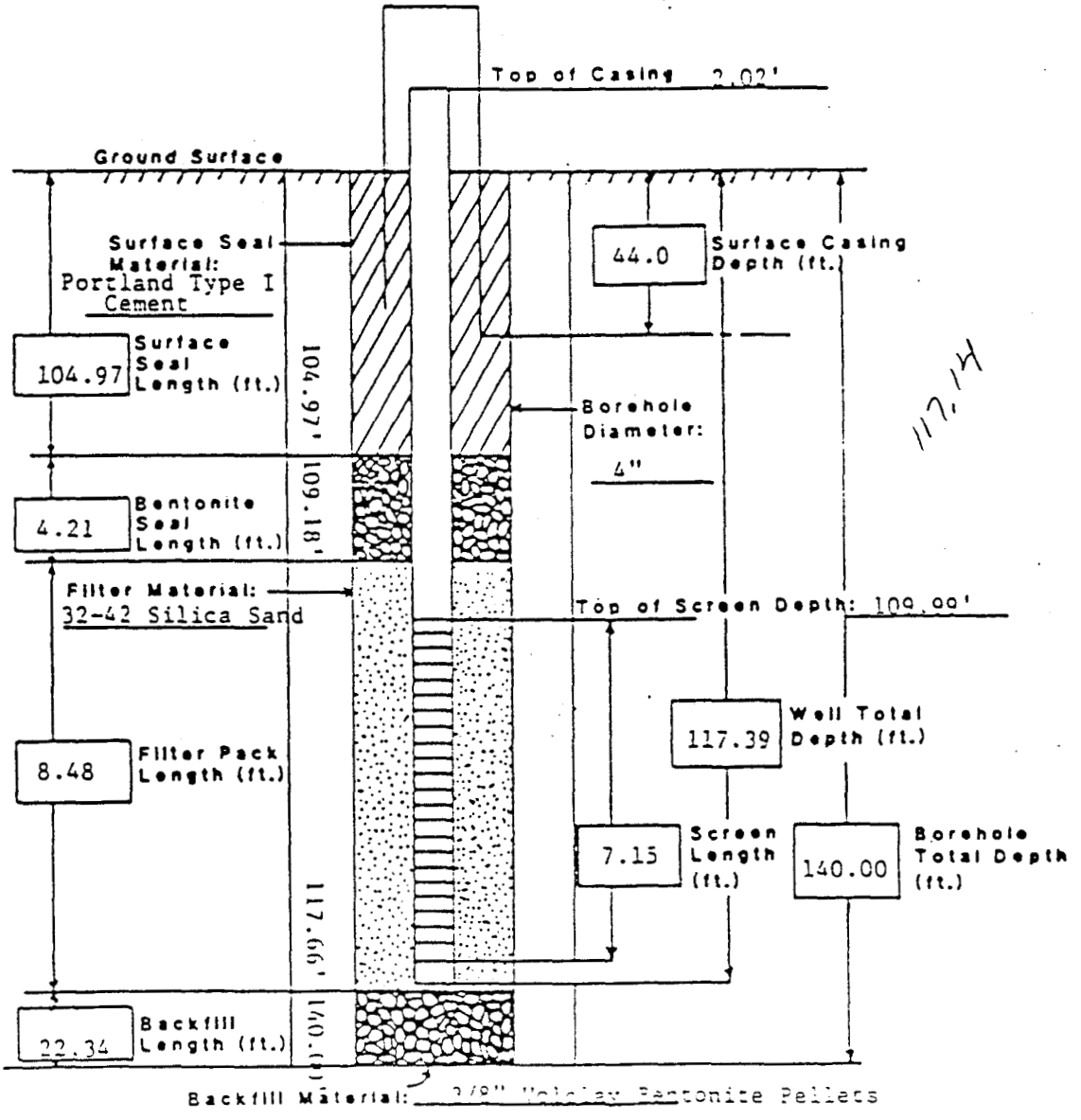
REMARKS: Hollow Stem Auger; NC Core.

SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%							
			0.65 /0.63	5917	130			CLAYEY SILTSTONE	Greenish gray (5GY 6/1), massively bedded ? to thin bedding, highly weathered, slightly friable.
			1.02 /1.37	5916	131			SANDY SILTSTONE	V. fine, greenish gray (5GY 6/1), massive bedding ?, highly weathered, slightly friable, some clay, trace of carbonaceous material.
6283			0.67 /0.69	5915	132			SANDY SILTSTONE	Same as above.
			1.75 /1.6	5914	133			SILTY CLAYSTONE	Grades into a silty claystone, olive gray (5Y 4/1), shaley, highly weathered, moderately friable, some carbonaceous material.
			1.7 /1.7	5913	134			CLAYSTONE	Greenish gray (5GY 6/1), shaley, highly weathered, moderately friable, trace of silt and carbonaceous material.
			2 /2	5912	135			CLAYSTONE	Top 1/2 of interval is same as above, 2nd 1/2 of interval becomes highly carbonaceous and shaley, approaches highly friable.
				5911	136				
				5910	137				
				5909	138				
				5908	139				
					140				

WELL COMPLETION INFORMATION

Location: Rocky Flats Plant: Solar Ponds Area
Well No. 30-87BR/SP08-87
Coordinates: N 38094.04 E 22166.32
Elevation: Ground Surface 5947.10'
Total Depth: Well 117.39'
Top of Casing 5949.12'
Borehole 140.00'
Formation of Completion: Arapahoe Formation
Casing Material: Sch 5, Type 316, TFJ Stainless Steel
Casing Diameter: 2" ID
Screen Material: 0.010" wire wrap, Type 316, TFJ Stainless Steel
Surface Casing Diameter: 5" ID
Date Installed: November 17-18, 1987
Approved By: _____ Site Manager
Installed By: K.D. Holliway, Geologist
_____ CEARP Manager

Comments: Surface casing set to 44.0' by R. Treat on October 30, 1987.

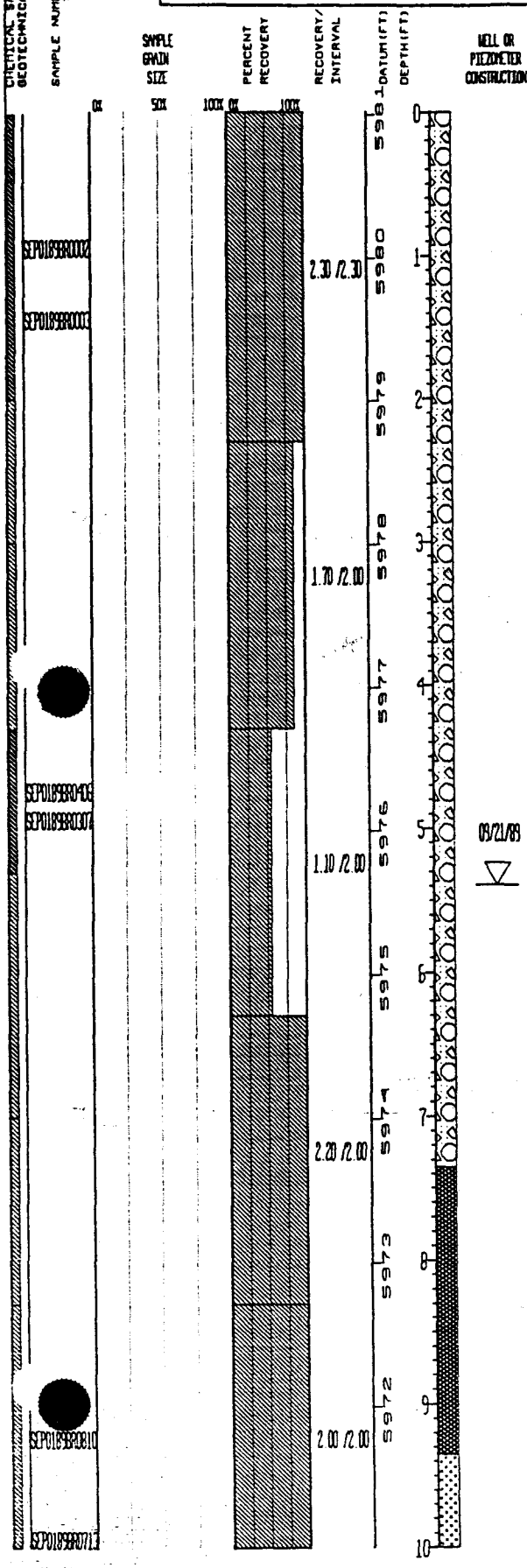


117.14

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 23.3	GROUND ELEVATION (FT):	5981.02	OLD WELL NUMBER:	SEP01-89BR	LOG OF BORING NUMBER:
NORTH:	750155	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RAC	P207389
EAST:	2084468	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	06/05/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Clayey Sand and Gravel (Artificial Fill) - grayish orange (10 YR 7/4). Lower 1.5' mod. brown (5 YR 4/4). F.g. to c.g. sand, poorly sorted, sub-angular to sub-rounded. Gravel poorly sorted, sub-rounded. Med. plastic fines, soft, unconsol., moldable, moist (sc-sm?) (Gravelly Sand with some Fines). 25% gravel, 50% sand, 25% fines.
SC:	Clayey Sand and Gravel - mod. brown (5 YR 4/4) to pale yellowish brown (10 YR 6/2). F.g. to c.g. sand, poorly sorted, sub-angular to sub-rounded, quartzose. Gravel poorly sorted, sub-angular to sub-rounded, quartzose, max. size 6 cm. Non to med. plastic fines, soft, weakly consol., moist. (sc-sm?) (Gravelly Sand with some Fines). 25% gravel, 60% sand, 15% fines.
SC:	Clayey Sand and Gravel - same as above. Angular to sub-rounded sand. Max. gravel size 4 cm (sc-sm?) (Gravelly Sand with some Fines).
SC:	Clayey Sand and Gravel - same as above (reference interval 2.3' to 4.3'). (sc-sm?) (Gravelly Sand with some Fines).
CLAYSTONE:	Top of Bedrock. Pale olive (10 Y 6/2). Low to med. plastic fines, soft, moldable, abundt. caliche to 3 in. thick, moist.
CLAYSTONE:	Claystone and Sandstone - Claystone same as interval 7.0' to 8.3'. Sandstone - very light gray (N 8/0). F.g. to v.f.g. sand, interbedded, lensed, mod. well sorted, angular to sub-angular. Maximum lense 0.5', speckled. Normal to med. plastic fines, soft, moldable, moist. 80% sand, 20% fines.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 23.3	GROUND ELEVATION (FT):	5981.02	OLD WELL NUMBER:	SEP01-89BR
NORTH: 750195	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RAC
EAST: 2084468	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	06/05/89

REMARKS: Hollow Stem Auger. Weston Log.

LOG OF BORING NUMBER: P207389

SAMPLE NUMBER	RECOVERY/INTERVAL	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SEP0189BR0713		10	CLAYSTONE:	Claystone and Sandstone - Claystone same as interval 7.0' to 8.3'. Dark yellowish orange (10 YR 6/0) to light gray (N 7/0). Sandstone same as interval 8.3' to 10.3', lensed soft, moldable, moist.
	2.00 /2.00	11		
		12		
SEP0189BR1214	1.50 /2.00	13	SANDSTONE:	Light gray (N 7/0). F.g. to v.f.g. sand, mod. well sorted, angular to sub-angular. Non to med. plastic fines, soft, very slightly moist. (Sandstone with some Clay). 80% sand, 20% fines.
		14		
			SANDSTONE:	Same as above. 80% sand, 20% fines.
	2.00 /2.00	15	SILTY CLAYSTONE:	Dark yellowish orange (10 YR 6/6) to yellowish gray (5 Y 7/2). Non to med. plastic fines. Abundt. f.g. sand, well sorted, sub-angular, quartzose. Iron stained, moldable soft to firm, caliche zones, scattered lignite, black (N 1/0), slightly moist. (Silty Claystone with abundt. Sand) 30% sand, 70% fines.
SEP0189BR1319		16		
			SILTY CLAYSTONE:	Same as above - low to med. plastic fines. Trace v.f.g. sand. Scattered lignite, black (N 1/0). Scattered caliche, weakly consol., moist. (Silty Claystone with trace Sand). 5% sand, 95% fines.
SEP0189BR1618	2.00 /2.00	17		
		18		
	2.00 /1.00		SILTY CLAYSTONE	Same as above - V.f.g. sand, iron stains, scattered caliche. Lignite, black (N 1/0), moist. (Silty Claystone with some Sand) 10% sand
		19		
SEP0189BR1920	1.00 /1.00		SILTY CLAYSTONE	Same as above. (Silty Claystone with some Sand) 10% sand.
		20		

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 23.3	GROUND ELEVATION (FT):	5981.02	OLD WELL NUMBER:	SEP01-89BR
NORTH: 750195	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RAC
EAST: 2084468	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	06/05/89

REMARKS: Hollow Stem Auger. Weston Log.

LOG OF BORING NUMBER: P207389

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.50 /1.00; 1.50 /1.00; 1.50 /1.00

DATUM (FT): 5961, 5960, 5959, 5958, 5957, 5956, 5955, 5954, 5953, 5952

DEPTH (FT): 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Same as above - soft to firm. (Silty Claystone with some Sand). 10% sand.
SILTY CLAYSTONE	Same as above - iron staining in layers. (Silty Claystone with some Sand). 10% sand.
SILTY CLAYSTONE	Same as above. (Silty Claystone with some Sand). 10% sand.
	Total Drilled Depth = 23.3'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 10.0	GROUND ELEVATION (FT):	5980.71	OLD WELL NUMBER:	SEP02-89	LOG OF BORING NUMBER:
NORTH:	750197	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RAC	P207489
EAST:	2084981	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	06/06/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL 6" - DEPTH

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SEP0289002			2.00 /2.00	5980	0			SC:	Clayey Sand and Gravel - grayish orange (10 YR 7/4) (Artificial Fill). Lower 1.5' mod. brown (5 YR 4/4). F.g. to c.g. sand, poorly sorted, quartzose, sub-angular to sub-rounded, non to med. plastic fines. Gravel maximum size 5 cm., poorly sorted, quartzose, weakly consol., soft, (sp-gp), damp. (sc-sm?) (Clayed Sand with some Gravel). 15% gravel, 60% sand, 25% fines.
				5975	1				
					2				
			2.00 /2.00	5970	3			CL:	Gravelly Clay - mod. brown (5 YR 4/4). Med. to highly plastic fines.- Gravel, sub-angular, quartzose. F.g. to c.g. sand, poorly sorted, sub-angular to sub-rounded, quartzose, weakly consol., soft to firm, dry. (Gravelly Clay with some Sand). 35% gravel, 15% sand, 50% fines.
				5965	4				
SEP0289016								SM:	Silty Clayey Sand and Gravel - mod. brown (5 YR 4/4). Gravel poorly sorted, sub-angular, quartzose, maximum size 5 cm. F.g. to c.g. sand, poorly sorted, sub-angular to sub-rounded, quartzose. Non to med. plastic fines, soft, crumbly (sm-gc), dry. (Gravelly Sand with abundt. Fines). 35% gravel, 35% sand, 30% fines.
SEP0289006			1.00 /2.00	5960	5	06/20/89			
				5955	6			SM:	Silty Clayey Sand and Gravel - same as above. (sm-gc)
			2.00 /2.00	5950	7			CLAYSTONE:	Top of Bedrock. Pale olive (10 Y 6/2). Med. to highly plastic fines, soft. Caliche zones to 2 cm., moldable, iron staining, damp.
				5945	8				
SEP0289010			2.00 /2.00	5940	9			CLAYSTONE:	Pale olive (10 Y 6/2). Non to med. plastic fines. Trace v.f.g. sand, sub-angular to sub-rounded, soft to firm, crumbly in part, caliche, iron staining, sandier toward bottom, weakly consol., dry. (Claystone with trace Sand). 5% sand, 95% fines. Total Drilled Depth = 10.0'.
				5935	10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 18.2	GROUND ELEVATION (FT): 5966.32	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH: 750398	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST:	KEM	P207689
EAST: 2085318	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	05/05/89	
REMARKS: Hollow Stem Auger. Weston Log.					

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50% – 100%)	PERCENT RECOVERY (0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP0489002			1.60 /2.20	5966 5965	0 1 2			CL:	Gravelly Sandy Clay - olive black (5 Y 2/1) to light brown (5 YR 6/4). C.g. to f.g. sand. Coarse to fine gravel, quartzite, sub-rounded, loose. Low plasticity, damp.
	SEP0489006			1.20 /2.00	5964 5963	3 4			CL:	Gravelly Sandy Clay - same as above. Grading to very pale orange (10 YR 8/2), light brown (5 YR 5/6). High reaction to HCl (calcareous). Iron stains, dark yellowish orange (10 YR 6/6).
	SEP0489006			1.50 /2.00	5962 5961	5	09/14/89		CL:	Gravelly Sandy Clay - light brown (5 YR 5/6). C.g. to f.g. sand lenses, very pale orange (10 YR 8/2). Calcareous cemented. Coarse to fine gravel. Low to med. plasticity, damp.
				1.60 /2.00	5960 5959	6 7			CL:	Sandy Clay - mod. brown (5 YR 4/4). Some gravel, quartzite, coarse to fine, sub-rounded, broken. C.g. to f.g. quartz sand, sub-rounded, calcareous cemented (HCl reactive), firm to loose. Low plasticity, moist.
	SEP0489010 SEP0489012			1.80 /2.00	5958 5957	8 9 10	05/05/89		GC:	Sandy Clayey Gravel - light brown (5 YR 5/6) to light brown (5 YR 6/4). C.g. to f.g. quartz sand. Coarse to fine gravel, quartzite, sub-rounded to 3 cm. Trace silt, loose, non to low plasticity, moist.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 18.2	GROUND ELEVATION (FT):	5966.32	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750398	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P207689
EAST: 2085318	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/05/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%			10			SC:	Clayey Sand - light brown (5 YR 5/6). Some gravel, quartzite, rounded. C.g. to f.g. quartz sand, non-calcareous, loose, non-plastic, wet.
				0.40 /2.00	5956 5955	11				
					5954	12			SC:	Clayey Sand - same as above.
	SEPA891214			2.20 /2.00	5953	13			SILTY CLAYSTONE:	Top of Bedrock. Light olive gray (5 Y 6/1), mottles of dark yellowish orange (10 YR 6/6). Very stiff, low to med. plasticity, weathered caliche, high HCl reaction, damp.
	SEPA891215					14			SILTY CLAYSTONE:	Same as above.
				1.10 /2.00	5952 5951	15				
					5950	16			NO SAMPLE:	NO SAMPLE.
				0.00 /2.00	5949	17				
					5948	18				Total Drilled Depth = 18.2'
					5947	19				
						20				

WELL COMPLETION INFORMATION

QA By/Date Sarell Burman 15-8-89

Location Rocky Flats Plant: Solar Ponds Area

Well No. P207689

Coordinates N 37411.33 E 22213.85 (RFP)

Elevation: Ground Surface 5966.32'

Top of Casing 5967.88'

Total Depth: Well 14.36'

Borehole 18.2'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

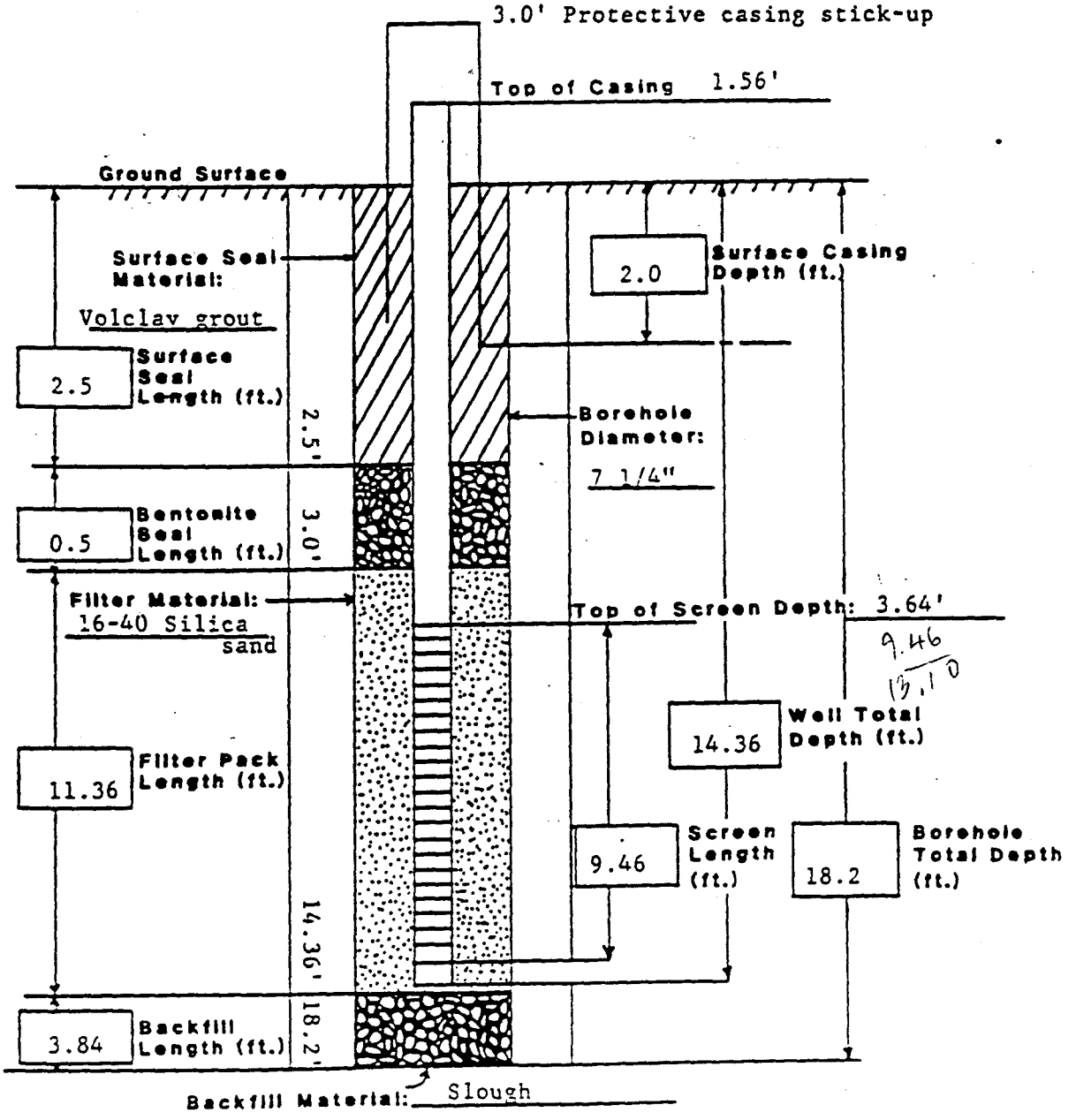
Date Installed 05/05/1989

Approved By Sarell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 12.91' to 14.16' below ground surface.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 32.3	GROUND ELEVATION (FT):	5965.88	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750392	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P207789
EAST: 2085343	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/05/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH / SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SEP0589BR0002			1.40 /2.30	5965, 5964	0–2.3			CL:	Gravelly Clay - dark greenish gray (5 GY 4/1). Coarse to fine gravel, sub-rounded quartzite. Trace c.g. to f.g. sand. Non-calcareous, firm, low plasticity, damp.
SEP0589BR0006			0.30 /2.00	5963, 5962	2.3–4.3			CL:	Gravelly Clay - same as above. Highly calcareous caliche (HCl reactive), damp.
SEP0589BR0406			1.50 /2.00	5961, 5960	4.3–6.3			GC:	Sandy Clayey Gravel - grayish orange (10 YR 7/4) to mod. brown (5 YR 4/4). C.g. to f.g. quartz sand. Coarse to fine gravel, quartzite to 4 cm., broken. Firm, low plasticity, calcareous material (HCl reactive), damp. (gm-gc) 25% clay
			1.30 /2.00	5959, 5958	6.3–8.3			GC:	Sandy Clayey Gravel - same as above. Sand lense of mod. reddish brown (10 R 4/6). Highly calcareous (HCl reactive). Less gravel in lower portion. (gm-gc)
SEP0589BR0810 SEP0589BR0613			2.20 /2.00	5957, 5956	8.3–10			CL:	Sandy Gravelly Clay - mod. yellowish brown (10 YR 5/4) to very pale orange (10 YR 8/2). Well consol., stiff, low to med. plasticity, highly calcareous (HCl reactive). C.g. to f.g. sand. Coarse to fine gravel, sub-rounded. Damp.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 32.3	GROUND ELEVATION (FT):	5965.88	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750392	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 0.0 (12.9)	GEOLOGIST: KEM	P207789
EAST: 2085343	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25 .4 (53)	DATE DRILLED: 05/05/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.20 /2.00	5955, 5954	10, 11, 12			CL	Gravelly Clay - pale yellowish brown (10 YR 6/2). Trace silt. Trace c.g. to f.g. sand. Coarse to fine gravel, sub-rounded. Highly calcareous (HCl reactive), damp.
					5953				CL	Gravelly Clay - same as above.
	SEP0589BR1214			2.20 /2.00	5952	13, 14			SILTY CLAYSTONE	Top of Bedrock. Light olive gray (5 Y 6/1). Consol., massive, 0.2' lense caliche, highly HCl reactive, stiff, high plasticity, damp.
	SEP0589BR1318			2.20 /2.00	5951, 5950	15, 16			SILTY CLAYSTONE	Same as above - interbedded sand lense. C.g. to f.g. quartz. Highly calcareous, caliche, HCl reactive.
	SEP0589BR1618			2.20 /2.00	5949, 5948	17, 18			SILTY CLAYSTONE	Light olive gray (5 Y 6/1). Mottling, dark yellowish orange (10 YR 6/6). Massive, consol., very stiff to hard, med. to high plasticity, calcareous nodules, HCl reactive, damp.
				2.20 /2.00	5947, 5946	19, 20			SILTY CLAYSTONE	Same as above - grading to olive gray (5 Y 4/1). Lignite, black (N 1/0).

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 32.3	GROUND ELEVATION (FT): 5955.88	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	750392	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: KEM	P207789
EAST:	2085343	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 05/05/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%			20				
					5935	21				SILTY CLAYSTONE: Light olive gray (5 Y 5/2). Consol., massive, streaks of dusky yellow (5 Y 6/4). Very stiff to hard, low to high plasticity, damp.
	SP1058982022			2.20 /2.00						
	SP1058981824				5934	22				
					5933	23				SILTY CLAYSTONE: Same as above.
				2.20 /2.00						
					5932	24				
					5931	25				SILTY CLAYSTONE: Same as above - grading to olive gray (5 Y 3/2). Mottling, dark yellowish orange (10 YR 6/6).
	SP1058982425			2.20 /2.00						
					5930	26				
					5929	27	09/14/89			SILTY CLAYSTONE: Light olive gray (5 Y 5/2), stained dark yellowish orange (10 YR 6/6). Massive, unconsol., med. to high plasticity, very stiff, fractured, damp.
				2.20 /2.00						
					5928	28				
					5927	29				SILTY CLAYSTONE: Olive gray (5 Y 3/2). Trace v.f.g. to f.g. sand, consol., very hard, low plasticity. Mottling, dark yellowish orange (10 YR 6/6), dry.
				2.20 /2.00						
					5926	30				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 32.3	GROUND ELEVATION (FT):	5965.88	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	750392	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM	P207789
EAST:	2085343	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/05/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	BAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.20 /2.00	5935	30			SILTY CLAYSTONE	Olive gray (5 Y 3/2). Some v.f.g. to f.g. sand, quartz. Non-cemented, consol., massive, very hard, low plasticity, dry.
					5934	31				
					5933	32				Total Drilled Depth = 32.3'.
					5932	33				
					5931	34				
					5930	35				
					5929	36				
					5928	37				
					5927	38				
					5926	39				
						40				

WELL COMPLETION INFORMATION

QA By/Date Janell Burman 15-9-87

Location Rocky Flats Plant; Solar Ponds Area

Well No. P207789

Coordinates N 37405.58 E 22239.07 (RFP)

Elevation: Ground Surface 5965.88'

Total Depth: Well 28.63'

Top of Casing 5967.75'

Borehole 32.3'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

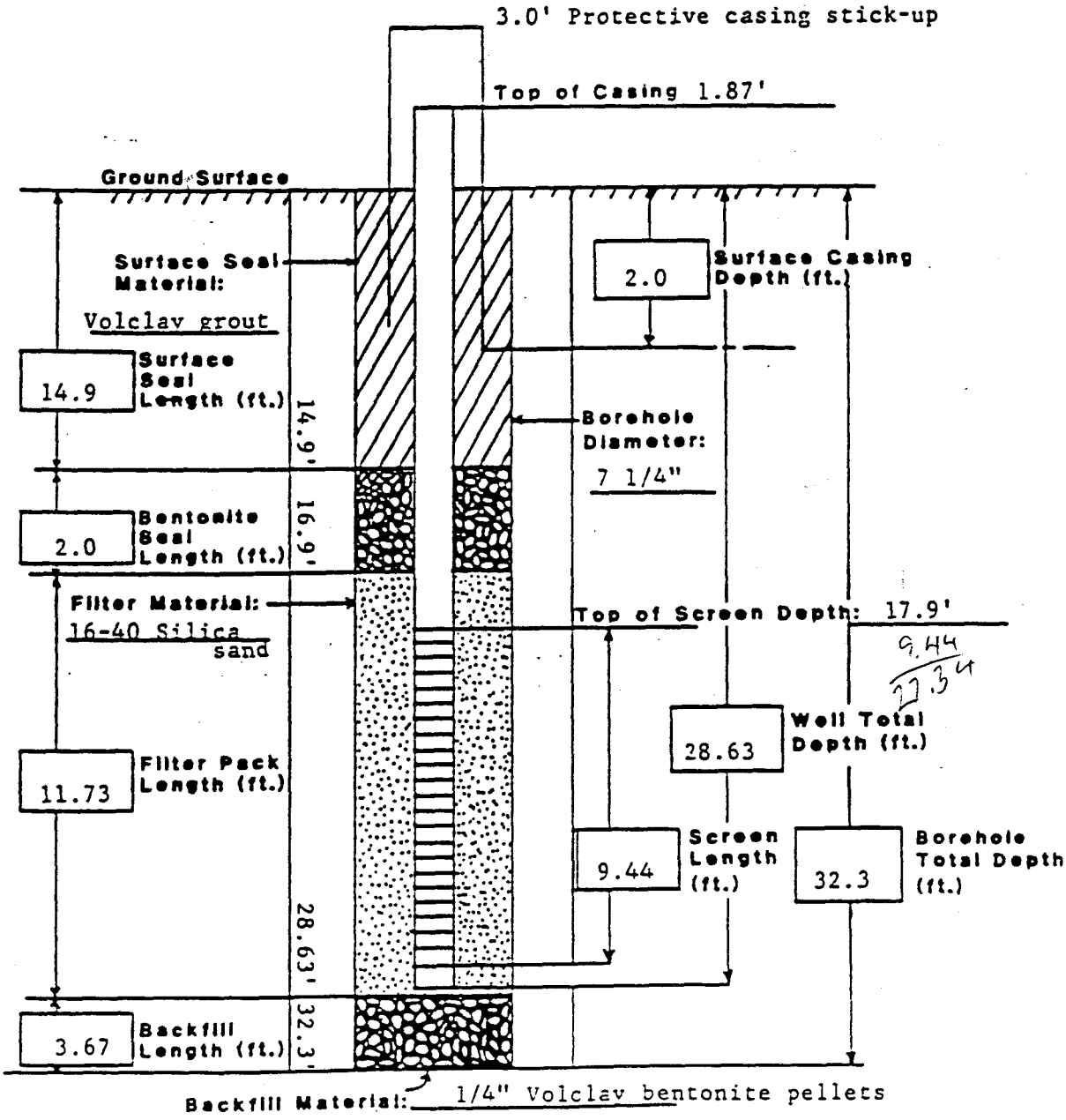
Date Installed 05/08/1989

Approved By Janell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 27.18' to 28.43' below ground surface.



STATE PLANE COORDINATE.
NORTH: 750671
EAST: 2085343

TOTAL DEPTH (FT): 10.5
AREA: SOLAR PONDS
LOCATOR NUMBER: M10

GROUND ELEVATION (FT): 5962.82
CASING DIAMETER (IN): 4 1/2 O.D. 9.5
BOREHOLE DIAMETER (IN): 7.25 4.3

OLD WELL NUMBER: SEP06-898A
GEOLOGIST: DCB
DATE DRILLED: 05/01/89

LOG OF BORING NUMBER: P207889

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 7.55' to 8.80' below ground surface. AST Log.

Sample Number	Recovery/Interval	Datum (FT)	Well or Piezometer Construction	Unified Soils Classification or Rock Type	Description
SEP06890002	0.50 /1.00	5962	05/01/89	GC:	Gravel - med. light gray (N7), sub-angular to sub-rounded, mod. graded, max. size approx. 7.5 cm., some clay, trace of sand. (Clayey Gravel with trace Sand). 70% gravel, 5% c.g. sand, 25% clay.
SEP06890003	0.00 /1.30	5961		NO SAMPLE:	NO SAMPLE.
	0.50 /0.50	5960	09/15/89	GC:	Clay - mod. brown (5 YR 4/4), mod. plasticity. Trace sand and gravel.
	1.50 /1.70	5959		CALICHE:	Interval grades to caliche, white (N9), and gravel with caliche rind. Sub-angular to sub-rounded, poorly graded, max. size approx. 5 cm. Some sand to sandy.
06890406	1.30 /1.00	5958			
	0.00 /1.00	5957		NO SAMPLE:	NO SAMPLE.
	0.80 /0.90	5956		SC:	Clayey Sand - mod. yellowish brown (10 YR 5/4), angular to sub-rounded. Poorly graded, f.g. to m.g. Some clay, gravel and caliche. (Caliche, Gravelly Clayey Sand). 20% gravel, 40% f.g.-m.g. sand, 20% clay, 20% caliche.
	0.00 /1.10	5955		NO SAMPLE:	NO SAMPLE.
	2.20 /2.00	5954 / 5953		CLAYSTONE:	Top of Bedrock. Claystone - mottled grayish orange (10 YR 7/4) to light gray (N7). Bedding not apparent. Slightly friable, locally iron stained, caliche occurs as irregularly shaped bodies. >50% clay.

STATE PLANE COORDINATE:
NORTH: 750671
EAST: 2085343

TOTAL DEPTH (FT): 10.5
AREA: SOLAR PONDS
LOCATOR NUMBER: N10

GROUND ELEVATION (FT): 5952.82
CASING DIAMETER (IN): 4 1/2 O.D.
BOREHOLE DIAMETER (IN): 7.25

OLD WELL NUMBER: SEPG-89BR
GEOLOGIST: NCB
DATE DRILLED: 05/01/89

LOG OF BORING NUMBER: P207889

REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 7.55' to 8.80' below ground surface. ASI Log.

CHEMICAL SAMPLE GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						10				
					5952	11				
					5951	12				
					5950	13				
					5949	14				
					5948	15				
					5947	16				
					5946	17				
					5945	18				
					5944	19				
					5943	20				

Total Drilled Depth = 10.5'.

WELL COMPLETION INFORMATION

QA By/Date Jarell Burrow 15-1-89

Location Rocky Flats Plant: Solar Ponds Area

Well No. P207889

Coordinates N 37683.91 E 22239.84 (RFP)

Elevation: Ground Surface 5962.82'

Total Depth: Well 8.95'

Top of Casing 5964.90'

Borehole 10.5'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

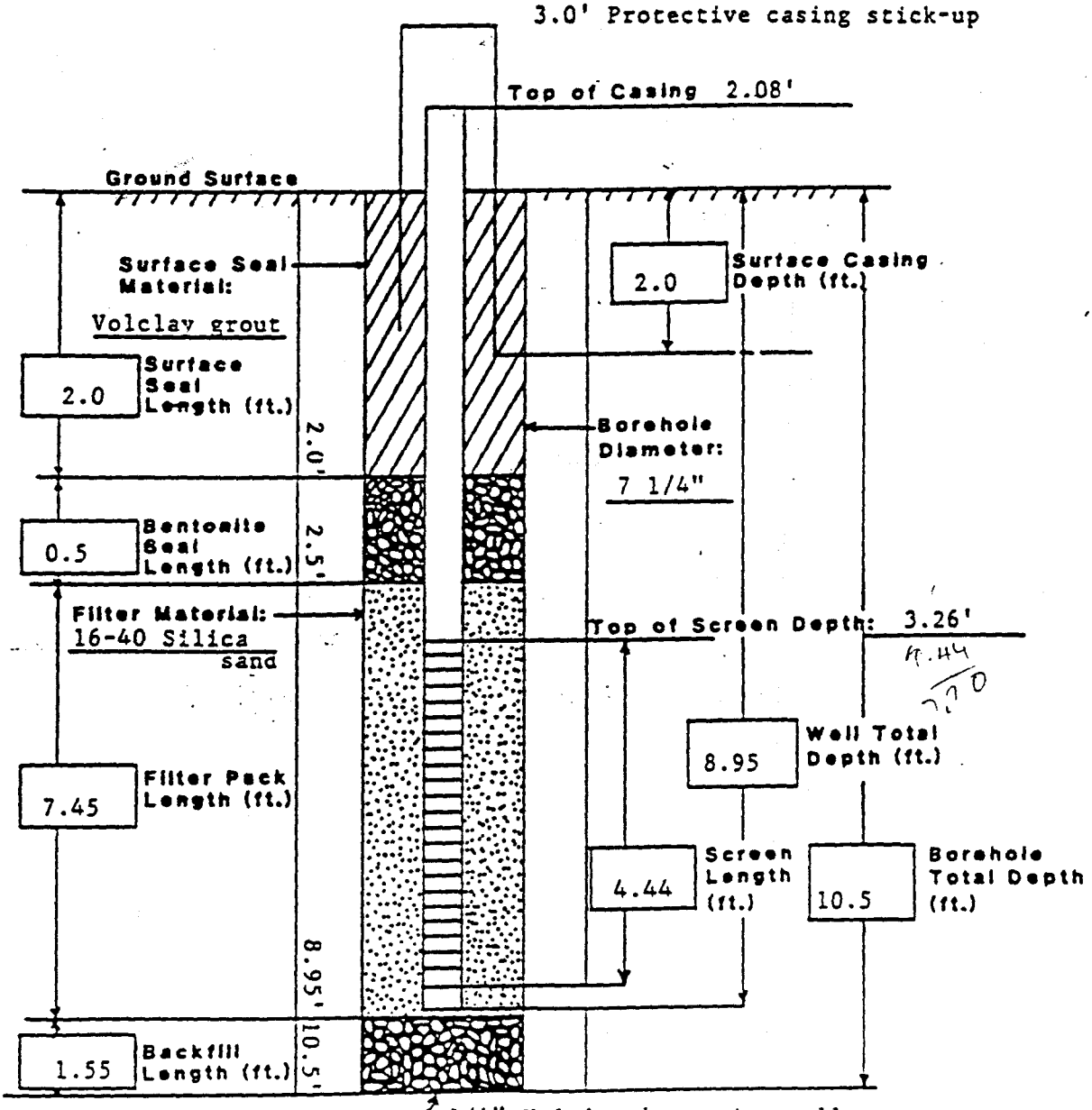
Date Installed 05/01/1989

Approved By Jarell Burrow
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 7.55' to 8.80' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 26.2	GROUND ELEVATION (FT):	5963.09	OLD WELL NUMBER:	SEP07-89BR	LOG OF BORING NUMBER:
NORTH:	750671	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DCB	P207989
EAST:	2085330	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/21/89	

REMARKS: Hollow Stem Auger. ASI Log.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUM	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP07898R0002			1.60 /2.10	5963	0			GC:	Gravel - dom. light gray (N7), poor to mod. sorting, sub-angular, max. size approx. 6.5 cm. Some clay, trace of f.g. sand. Below approx. 1.6', clay is replaced with caliche, and gravel has caliche rind. (Clayey Gravel with trace Sand) 75% gravel, 5% f.g. sand, 20% clay.
	SEP07898R0003			0.00 /0.10	5962	1			NO SAMPLE:	NO SAMPLE.
				1.20 /1.20	5961	2			GC:	Gravel - dom. light gray (N7). Poorly graded, angular to sub-rounded, max. size approx. 6 cm. Matrix is caliche. Some f.g. to c.g. sand to sandy. Caliche rind occurs on gravel. (Sandy Gravel with some to abundt. Caliche) 65% gravel, 35% sand and caliche.
				0.00 /0.80	5960	3	05/02/89		NO SAMPLE:	NO SAMPLE.
	SEP07898R0306				5959	4			GP:	Sandy Gravel - dom. light gray (N7). Poorly graded, sub-angular to sub-rounded, max. size approx. 6 cm. Caliche occurs in sand matrix and as a rind on the gravel. Sand is f.g. to c.g. 55% gravel, 45% f.g.-c.g. sand.
	SEP07898R0406			1.60 /2.00	5958	5				
					5957	6			CLAYSTONE:	Top of Bedrock. Claystone - ligh gray (N7) to light olive gray (5 Y 6/1). Bedding not apparent. Highly weathered, slightly friable, local iron staining. Caliche occurs as fracture fillings. >50% clay.
	SEP07898R0606			2.10 /2.00	5956	7				
					5955	8				
				1.90 /2.00	5954	9				
						10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 26.2	GROUND ELEVATION (FT): 5963.09	OLD WELL NUMBER: SEP07-89BR	LOG OF BORING NUMBER:
NORTH:	751671	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: DCB	P207989
EAST:	2085330	LOCATOR NUMBER: N10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 05/21/89	

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL/ GEOTECHNI	SAMPLE NUM	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%			10			CLAYSTONE:	Same as above. Caliche component decreases below 10.0' and localized iron staining increases in frequency. >50% clay.
	SEP07BBR1012			1.90 /2.00	5952	11				
				1.90 /2.00	5950	13				
	SEP07BBR1416			1.90 /2.00	5948	15	09/14/89			
	SEP07BBR1216			1.90 /2.00	5946	17				
				1.90 /2.00	5944	19			CLAYSTONE:	Same as above. Heavily iron stained from approx. 18.2' to 18.3' with poorly developed, iron-rich nodules and some calcitic mineralization.
						20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 26.2	GROUND ELEVATION (FT):	5953.09	OLD WELL NUMBER:	SEP07-89BR	LOG OF BORING NUMBER:
NORTH:	750671	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DCB	P207989
EAST:	2085330	LOCATOR NUMBER: N10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/21/89	

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL SAMPLE DEPTH	GEOTECHNICAL SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	1.80 /2.00	5943	20			CLAYSTONE:	Same as above. Color grades to med. light gray (N6). Trace of carbonaceous material is evident in interval from 20.2' to 22.2'. >50% clay.
					5942	21				
				1.20 /2.00	5941	22			CLAYSTONE:	Same as above.- Trace of silt below approx. 22.0'.
					5940	23				
				1.80 /2.00	5939	24			CLAYSTONE:	Interval grades to well weathered below approx. 24.4' and exhibits iron stained fractures.
					5938	25				
					5937	26				Total Drilled Depth = 26.2'.
					5936	27				
					5935	28				
					5934	29				
						30				

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-4-89

Location Rocky Flats Plant: Solar Ponds Area

Well No. P207989

Coordinates N 37683.92 E 22226.17 (RFP)

Elevation: Ground Surface 5963.09'

Top of Casing 5965.17'

Total Depth: Well 21.73'

Borehole 26.2'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

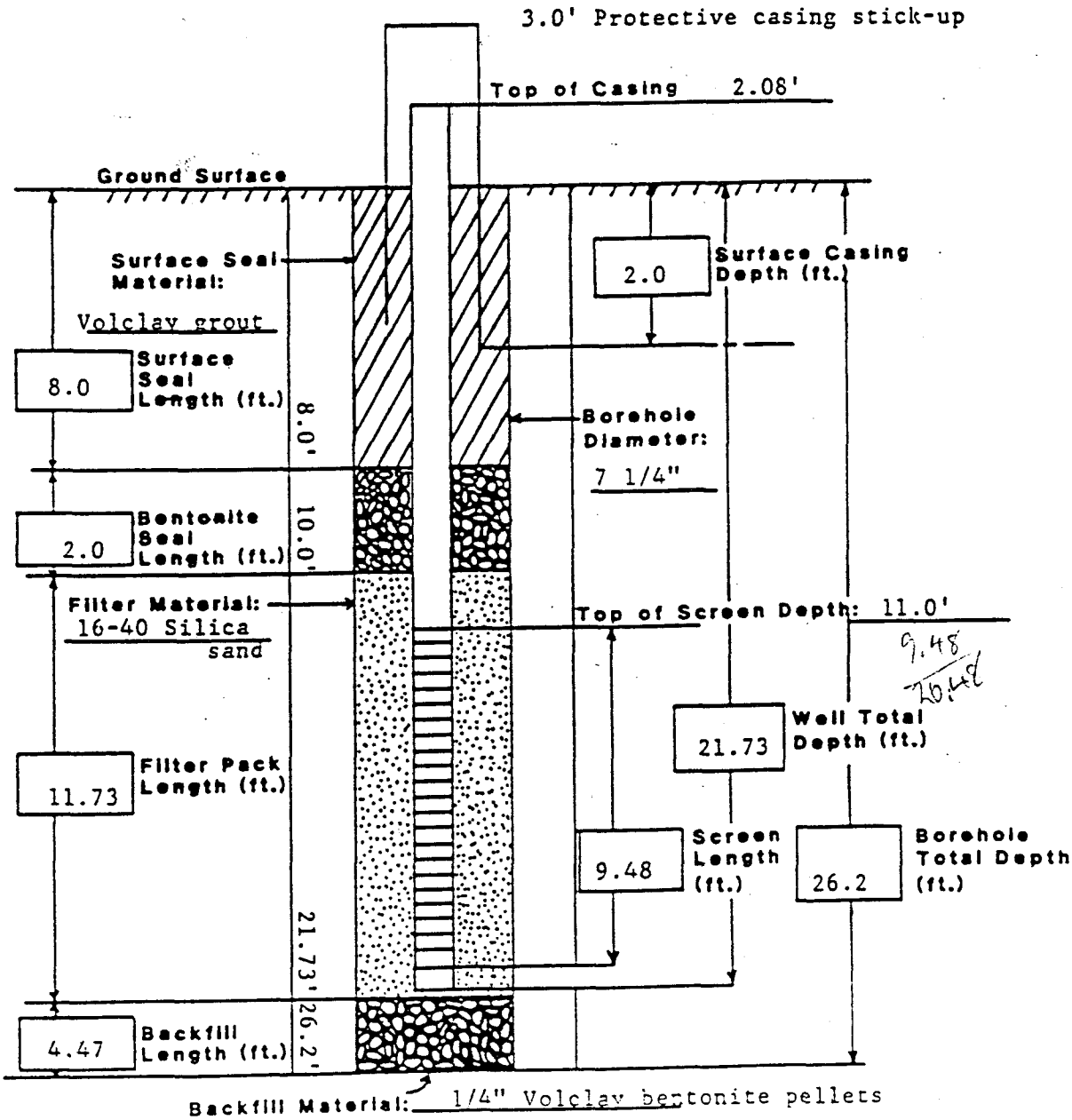
Date Installed 05/02/1989

Approved By Jarell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 20.15' to 21.40' below ground surface.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 16.0	GROUND ELEVATION (FT): 5985.80	OLD WELL NUMBER: OP03-89	LOG OF BORING NUMBER:
NORTH: 749941	AREA: ORIGINAL PROCESS	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: SPC	P218089
EAST: 2084020	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/01/89	

REMARKS: Hollow Stem Auger. Weston Log.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%			0			SC:	Gravelly Clayey Sand - mod. brown (5 YR 4/4), dark yellowish brown (10 YR 4/2), non-stratified. F.g. to v.c.g. sand, 1 cm. to 8 cm. gravels, poor sorting, sub-rounded, quartzose. Low plasticity, med. dense, moist.
	P1089002			1.20 /2.00	5985	1				
	P1089003				5984	2				
	P1089204			1.30 /2.00	5983	3			CL:	Gravelly Sandy Clay - mod. brown (5 YR 4/4), mod. yellowish brown (10 YR 5/4), non-stratified. F.g. to v.c.g. sand, 1 cm. to 8 cm. gravels to cobbles, poor sorting, sub-rounded, quartzose. Low plasticity, very stiff, damp.
					5982	4				
	P1089306								CL:	Gravelly Sandy Clay - same as above.
	P1089406									
				1.10 /2.00	5981	5			CL:	Clay - light olive gray (5 Y 6/1), stained dark yellowish orange (10 YR 6/6), non-stratified. Some f.g. to v.c.g. sand, some gravel, trace silt, poor sorting, sub-rounded, quartzose. Low to med. plasticity, calcareous, iron staining, very stiff, moist.
					5980	6			NO SAMPLE:	NO SAMPLE.
	P1089608			2.00 /2.00	5979	7			CLAYSTONE:	Top of Bedrock. Pale yellowish brown (10 YR 6/2) light olive gray (5 Y 6/1), blocky, non-stratified. Trace v.f.g. sand. Trace silt. Med. to high plastic, calcareous deposits, iron staining throughout, very weathered, firm to med. hard, moist.
	P1089610				5978	8				
				2.00 /2.00	5977	9			CLAYSTONE:	Same as above - decreasing amount of calcareous material, trace dentrites.
					5976	10				

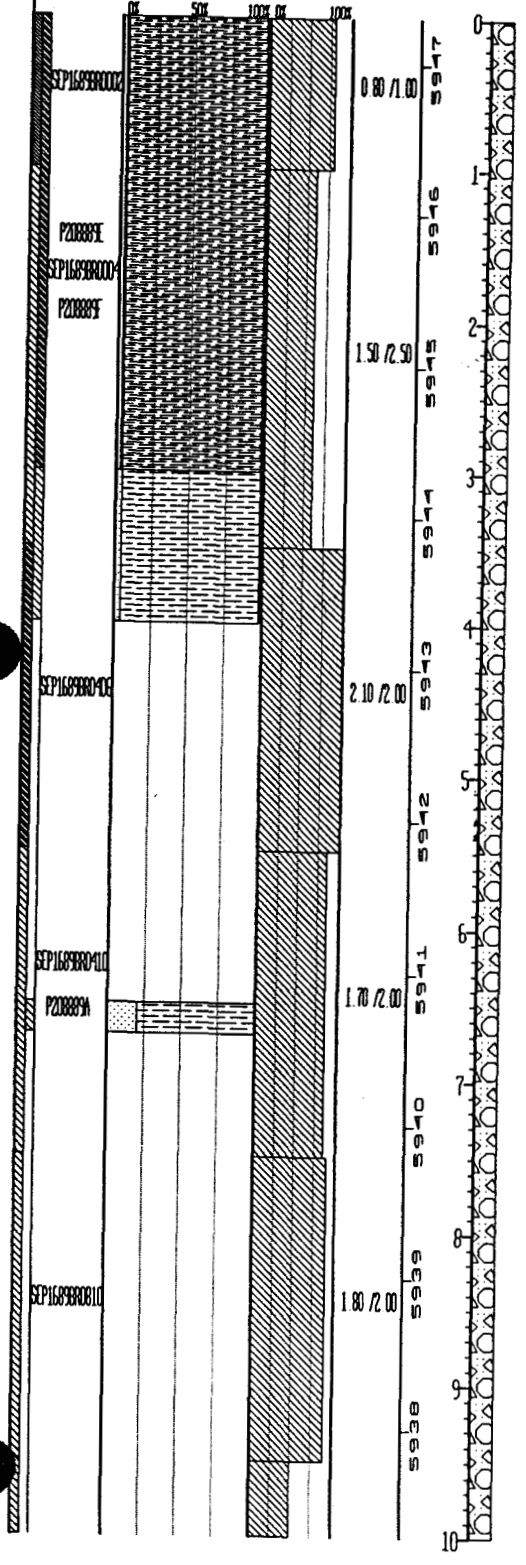
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 16.0	GROUND ELEVATION (FT): 5985.80	OLD WELL NUMBER: OP03-89	LOG OF BORING NUMBER:
NORTH: 749941	AREA: ORIGINAL PROCESS	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: SPC	P218089
EAST: 2084020	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/01/89	

REMARKS: Hollow Stem Auger. Weston Log.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.00 /2.00	5975	10–11				SILTY CLAYSTONE: Med. light gray (N 6/0), blocky, non-stratified. Trace to some v.f.g. sand, med. plasticity, iron staining from 10.0' to 10.6', hard, moist.
				5974	12				SILTY CLAYSTONE: Same as above - increased iron staining.
			2.00 /2.00	5973	13				SILTY SANDSTONE: Silty to Clayey Sandstone - light gray (N 7/0). V.f.g. sand, well sorted, rounded, quartzose, med. to non-plastic, med. hard, moist.
				5972	14				SILTY CLAYSTONE: Same as above (reference interval 12.0' to 12.4').
			2.00 /2.00	5971	15				CLAYSTONE: Med. light gray (N 6/0), light olive gray (5 Y 5/2), blocky, non-stratified. Trace sand. Trace silt. Med. to high plasticity, weathered, trace calcareous, iron staining, med. hard, moist.
				5970	16				Total Drilled Depth = 16.0'.
				5969	17				
				5968	18				
				5967	19				
				5966	20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: N11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.



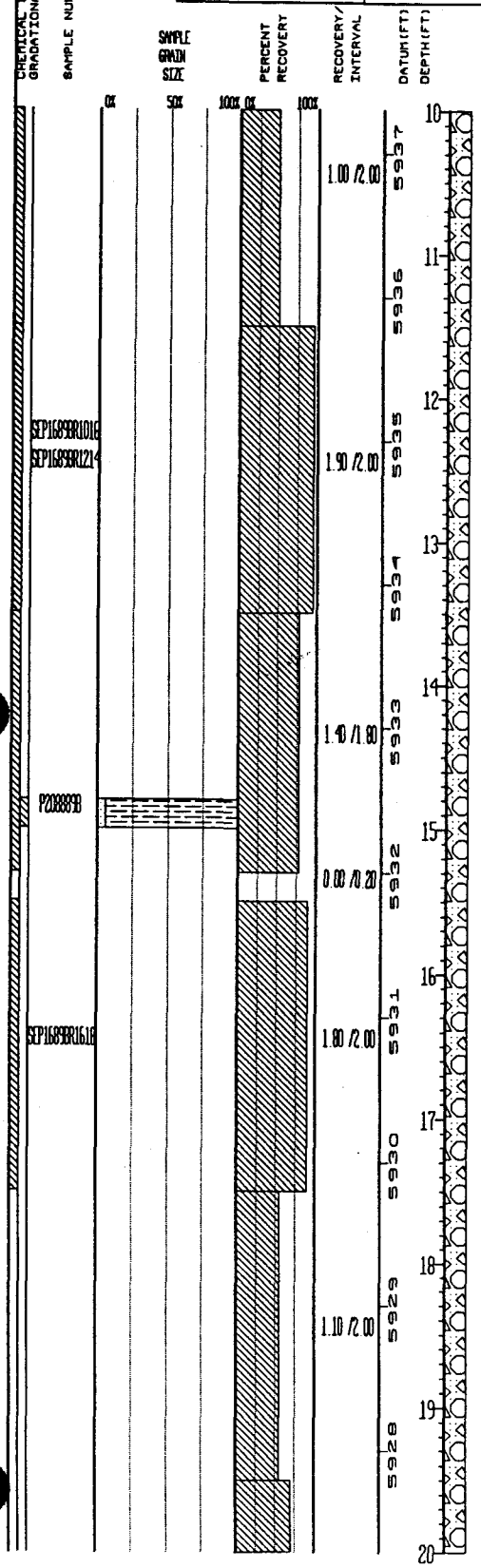
WELL OR PIEZOMETER CONSTRUCTION

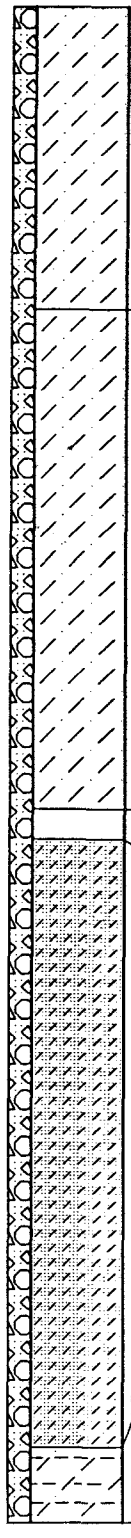
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL	Clay - dark yellowish brown (10 YR 4/2), mod. high plasticity. Small bodies of caliche (<1 mm. diam.) disseminated within matrix. Probably highly weathered bedrock. Abundt. caliche occurs at approx. 1.5' to 2.5'. >50% clay.
CL	Clay - med. light gray (N6), bedding not apparent, slightly friable. Calcareous, with irreg. bodies of caliche. >50% clay.
SILTSTONE	Top of Bedrock. Siltstone - very light gray (N8), bedding not apparent. Mod. friable, well weathered, trace of v.f.g. sand. Some iron staining. (Siltstone with trace Sand). 5% sand, 95% silt.
SILTSTONE	Same as above. (Siltstone with trace Sand). 5% sand, 95% silt.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. AGI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.

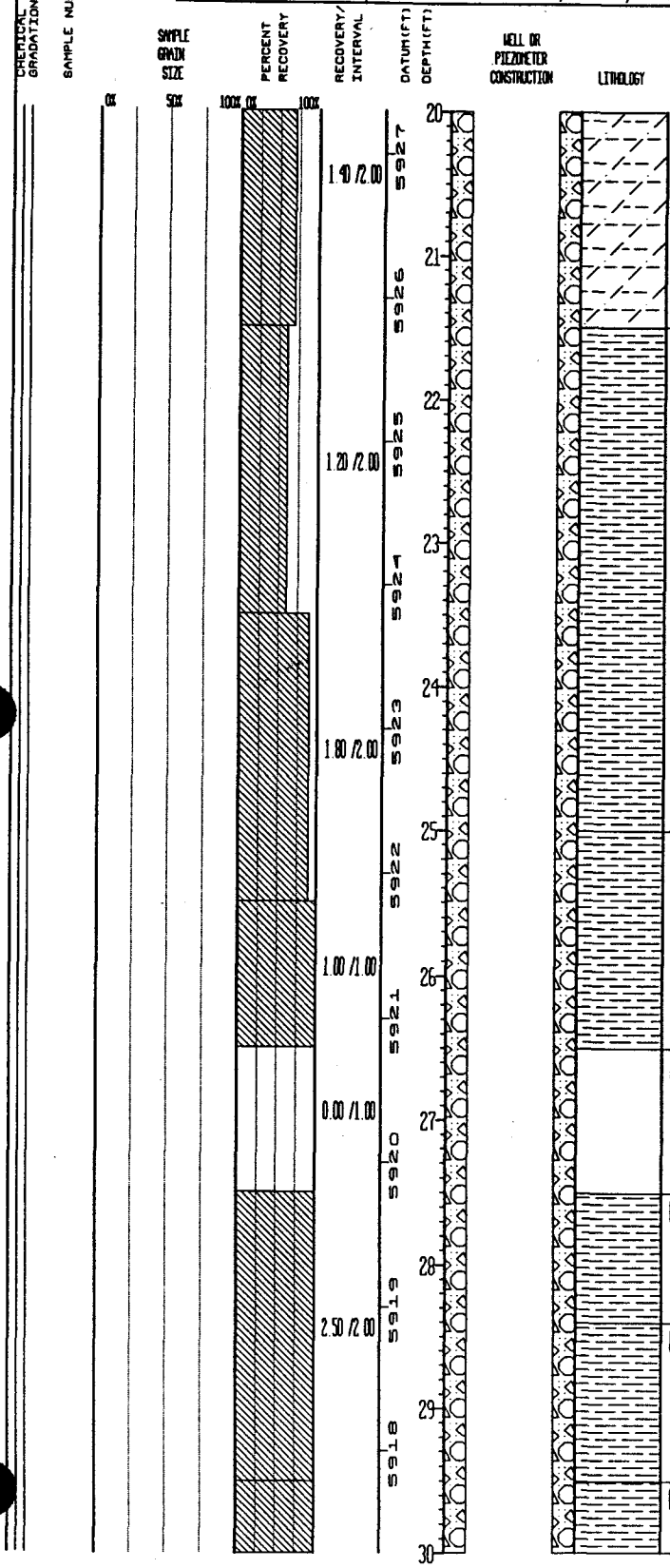




UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTSTONE:	Yellowish gray (5 Y 7/2), bedding not apparent. Mod. friable, well weathered. Some clay, trace of v.f.g. sand, local iron staining. >50% clay.
NO SAMPLE:	NO SAMPLE.
SANDY SILTSTONE:	Same as above (reference interval 12.0' to 15.3'). 45% v.f.g. sand, 55% silt.
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1), bedding not apparent. Mod. friable, well weathered. Silt fraction decreases with depth. >50% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT): 5947.30	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: DCB	P208889
EAST:	2085249	LOCATOR NUMBER: N11	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Light olive gray (5 Y 6/1). Mod. friable, well weathered, bedding not apparent. Trace to some silt, local iron staining.
CLAYSTONE:	Same as above. Med. light gray (N6), trace of silt.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Same as above (reference interval 25.0' to 26.5').
CLAYSTONE:	Dark yellowish orange (10 YR 6/6), bedding not apparent. Well weathered, mod. friable, some iron staining. Trace of dark mineralization
CLAYSTONE:	Same as above. >50% clay

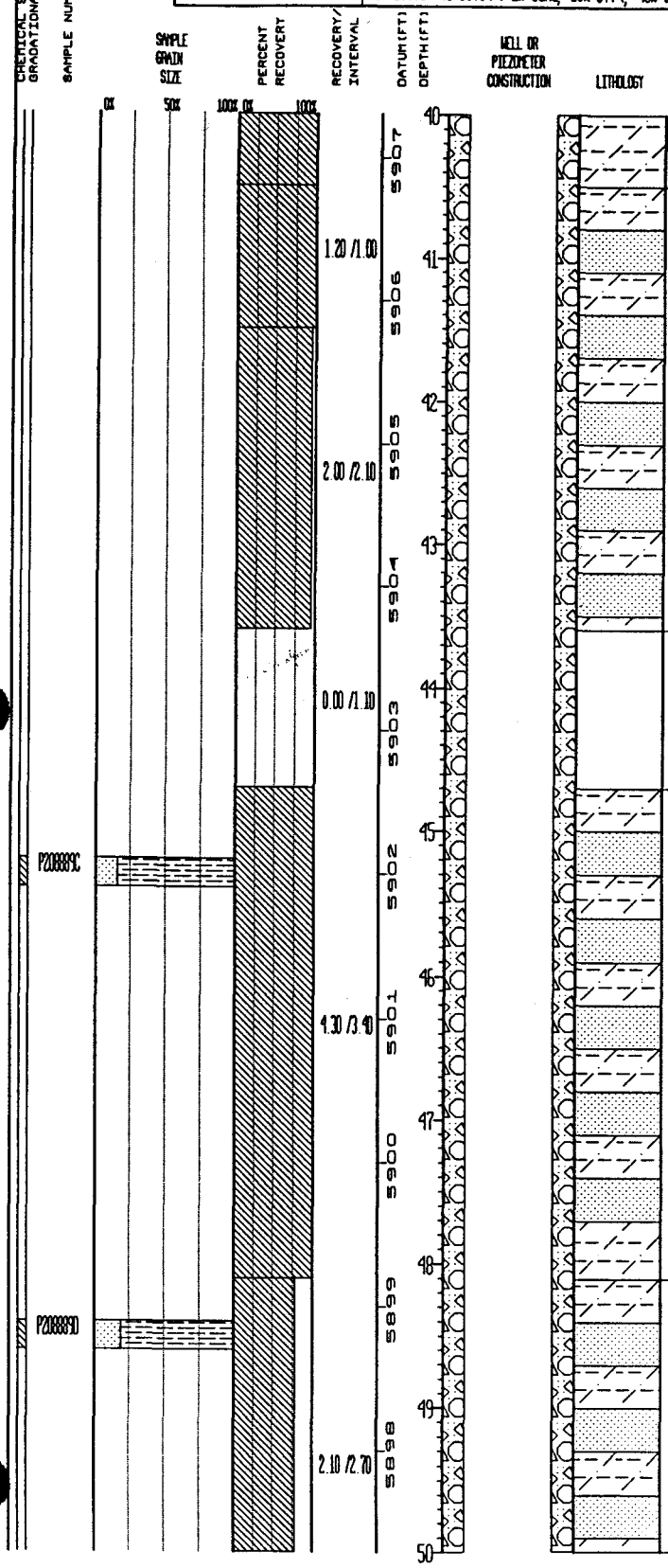
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.30 /2.00	5917	30				
					5916	31				
				1.60 /2.00	5915	32			CLAYSTONE:	Same as above. Color grades to med. light gray (N6) below 31.7'.
					5914	33				
				1.60 /2.00	5913	34				
					5912	35				
				1.80 /2.00	5911	36			SILTY CLAYSTONE:	Med. light gray (N6), thin bedded where apparent, slightly friable. Trace to some silty v.f.g. sand as thin beds.
					5910	37				
				1.00 /1.00	5909	38				
				2.00 /2.00	5908	39				
						40				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.



WELL OR PIEZOMETER CONSTRUCTION

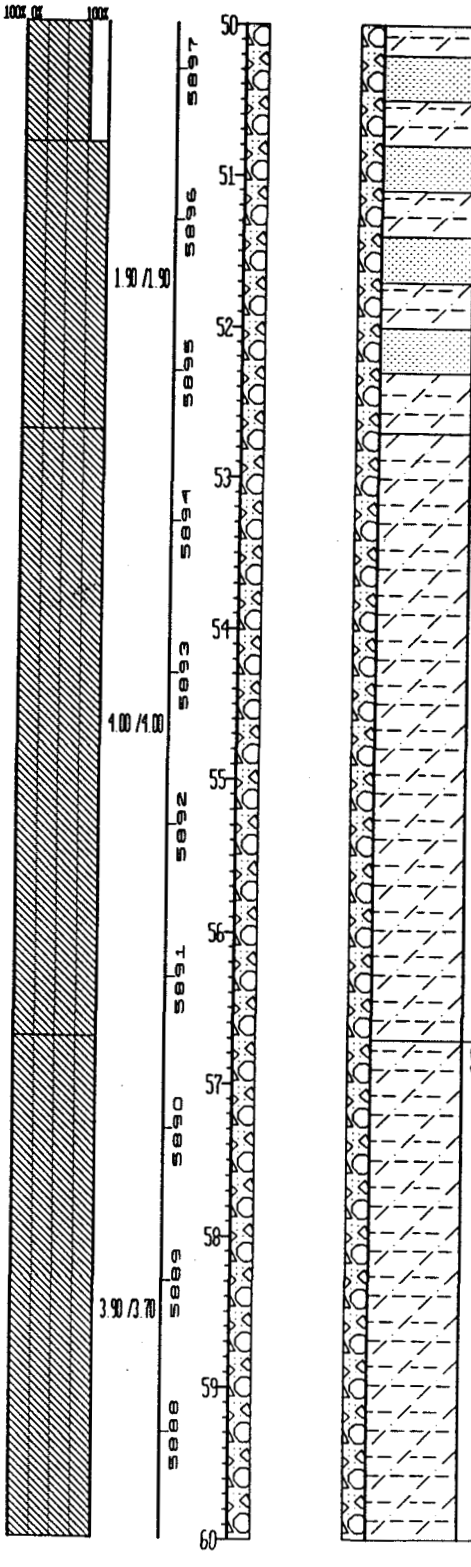
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Interbedded Silty Claystone and v.f.g. Sandstone - med. gray (N5) and light gray (N7) respectively, slightly friable. Thin bedded (<2" mn.). Sand blades appear laterally and discontinuous. Interval exhibits slight reaction with HCl calcareous), locally, beds exhibit soft sediment deformation. 30% v.f.g. sand, 55% clay, 15% silt.
NO SAMPLE:	NO SAMPLE.
SILTY CLAYSTONE:	Interbedded Silty Claystone and v.f.g. Sandstone as above, (reference interval 40.7' to 43.6') 30% v.f.g. sand, 15% silt, 55% clay.
SILTY CLAYSTONE:	Interbedded Silty Claystone and v.f.g. Sandstone as above, (reference interval 40.7' to 43.6'). 30% v.f.g. sand, 15% silt, 55% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT): 5947.30	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751086	AREA: SOLAR PONDS	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: DCB	P208889
EAST: 2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. AGI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50%)
PERCENT RECOVERY (100% 0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



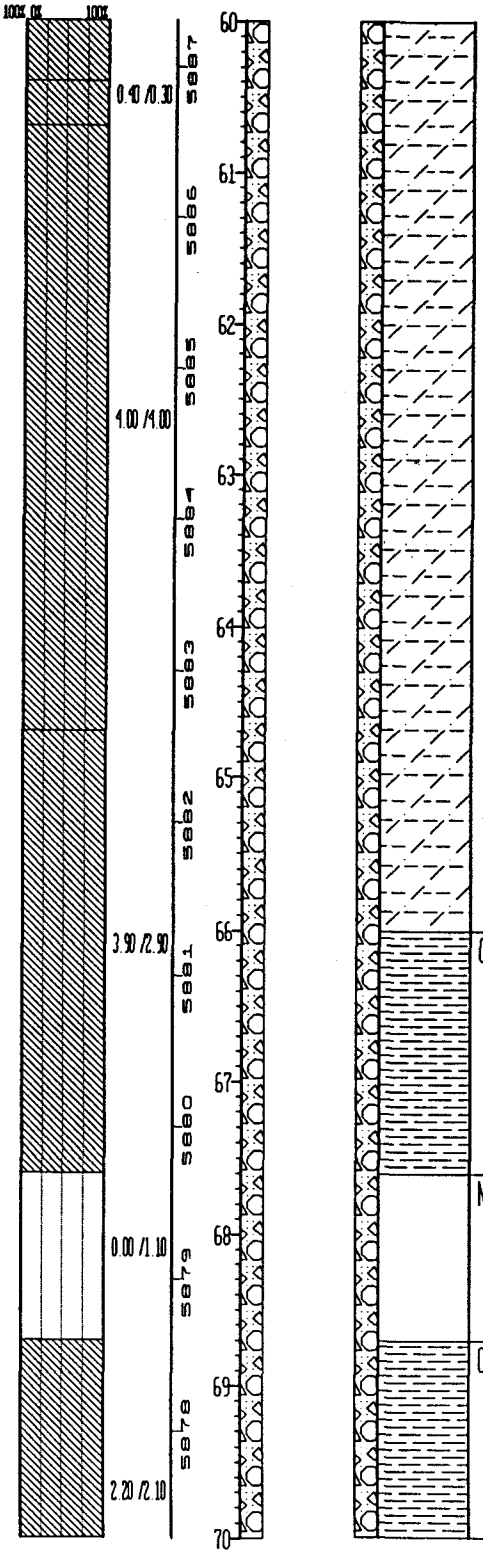
SILTY CLAYSTONE: Interval grades to Silty Claystone at approx. 52.8'. Silty Claystone - med. dark gray (N4), thin bedded where apparent. Slightly friable, trace to some v.f.g. sand occurs as thin (<1' mm.) lenses. Trace of carbonaceous material. >50% clay.

SILTY CLAYSTONE: Same as above. Sand and silt fraction decrease with depth.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: N11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Interval grades to Claystone - med. dark gray (N4), poorly bedded. Slightly to mod. friable, some silt. Trace of carbonaceous material.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Same as above (reference interval 66.0' to 67.6').

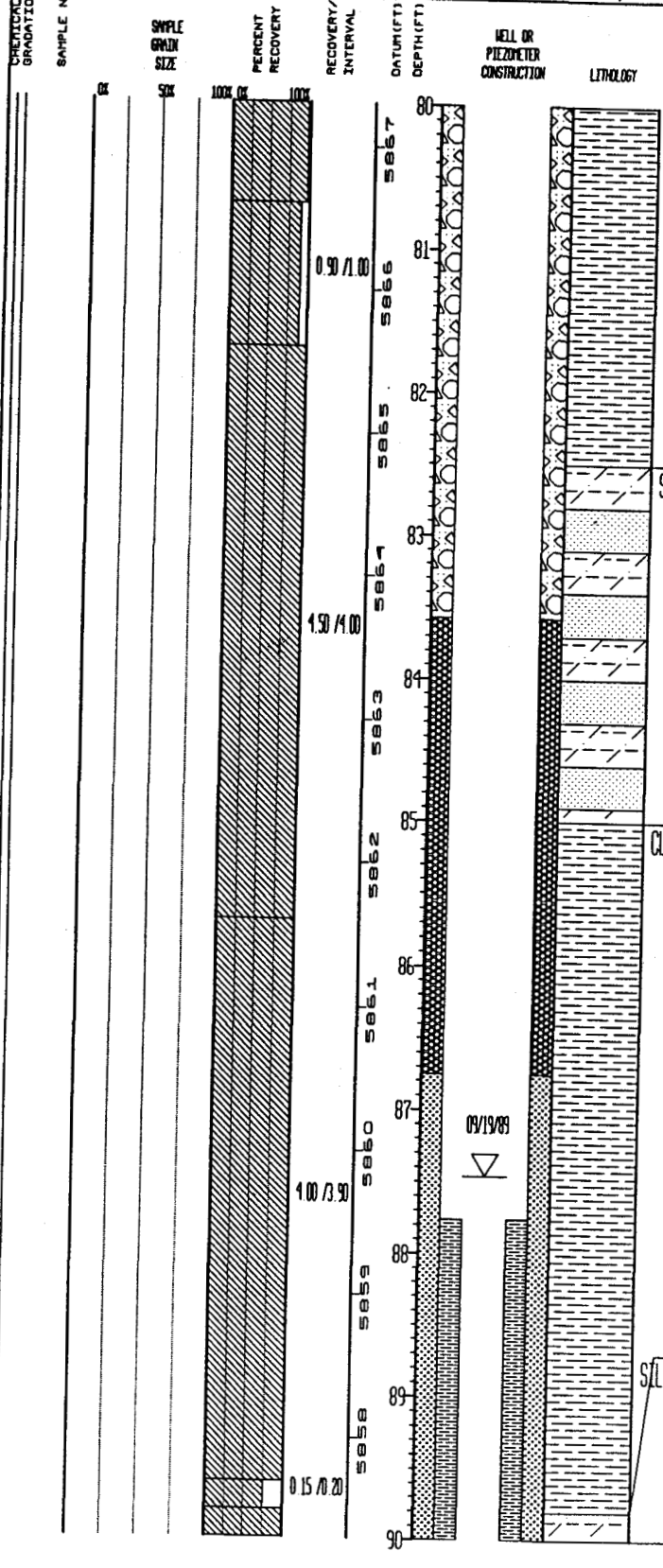
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT): 5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN): 4	DATE DRILLED:	06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50%)	PERCENT RECOVERY (100% 0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5977	70				
				0.20 /0.30		71			CLAYSTONE:	Same as above.
				0.00 /0.60	5976				NO SAMPLE:	NO SAMPLE.
					5975	72			CLAYSTONE:	Same as above (referenced interval 66.0' to 67.6').
				2.50 /2.60	5974	73				
					5973	74			CLAYSTONE:	Color grades to med. gray (N5) below approx. 74.5'.
					5972	75				
				3.80 /3.40	5971	76				
					5970	77				
					5969	78			CLAYSTONE:	Same as above. >50% clay.
				2.90 /3.00	5968	79				
						80				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST: DCB	P208889
EAST: 2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED: 06/23/89	

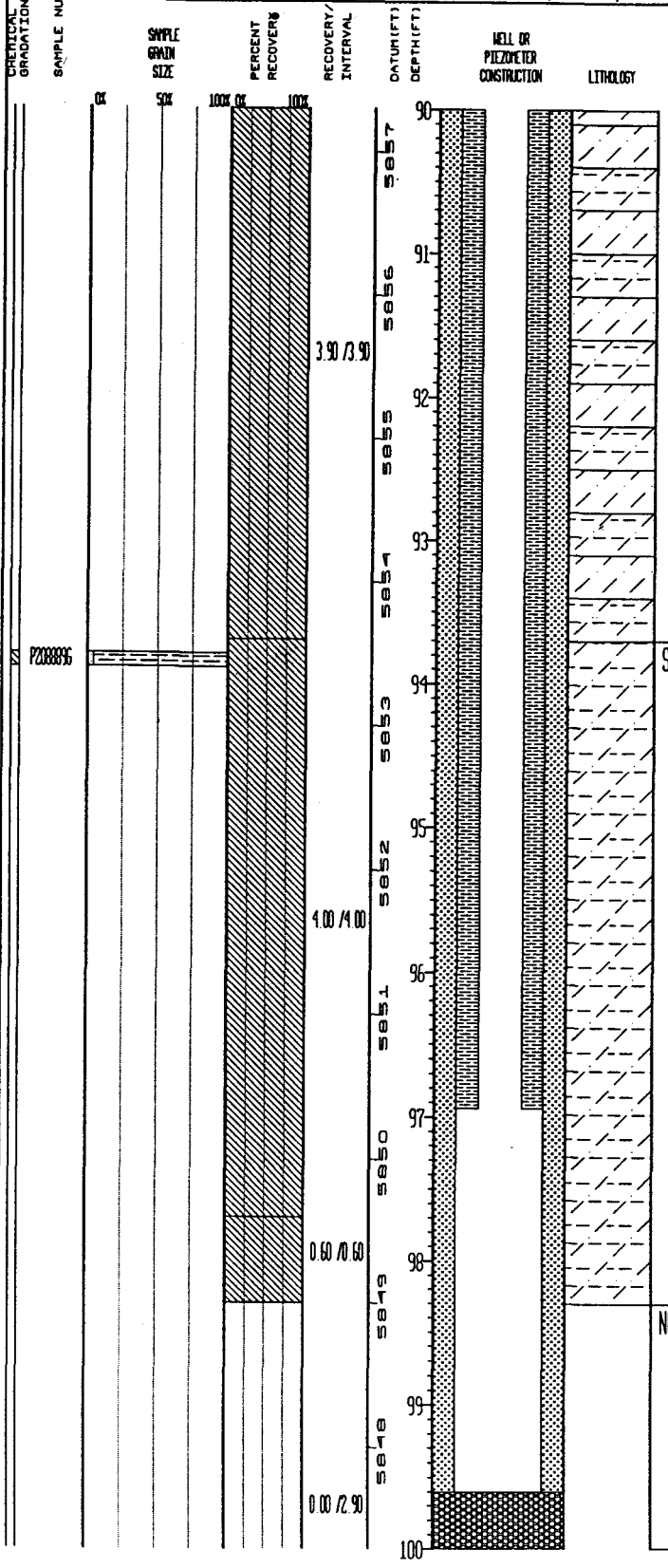
REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Silty Claystone and interbedded v.f.g. Sandstone - med. dark gray (N4) and light gray (N7), thin bedded (2 mm.), slightly friable. 35% v.f.g. sand, 65% silt/clay.
CLAYSTONE	Med. gray (N5), poorly bedded. Slightly friable, some silt. Trace of v.f.g. sand, disseminated locally or in thin beds, (<1 mm.). (Silty Claystone with some Sand). 10% sand, >50% silt/clay.
SILTY CLAYSTONE	Interbedded Silty Claystone and Siltstone - med. light gray (N6) and very light gray (N8) respectively. Bedding is thin (<2 mm.) slightly friable. Some carbonaceous material. Trace of v.f.g. sand occurs dom. within siltstone beds. Slickensides at approx. 90.0', attitude approx. 50 degrees. 10% f.g. sand, 90% clay/silt.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

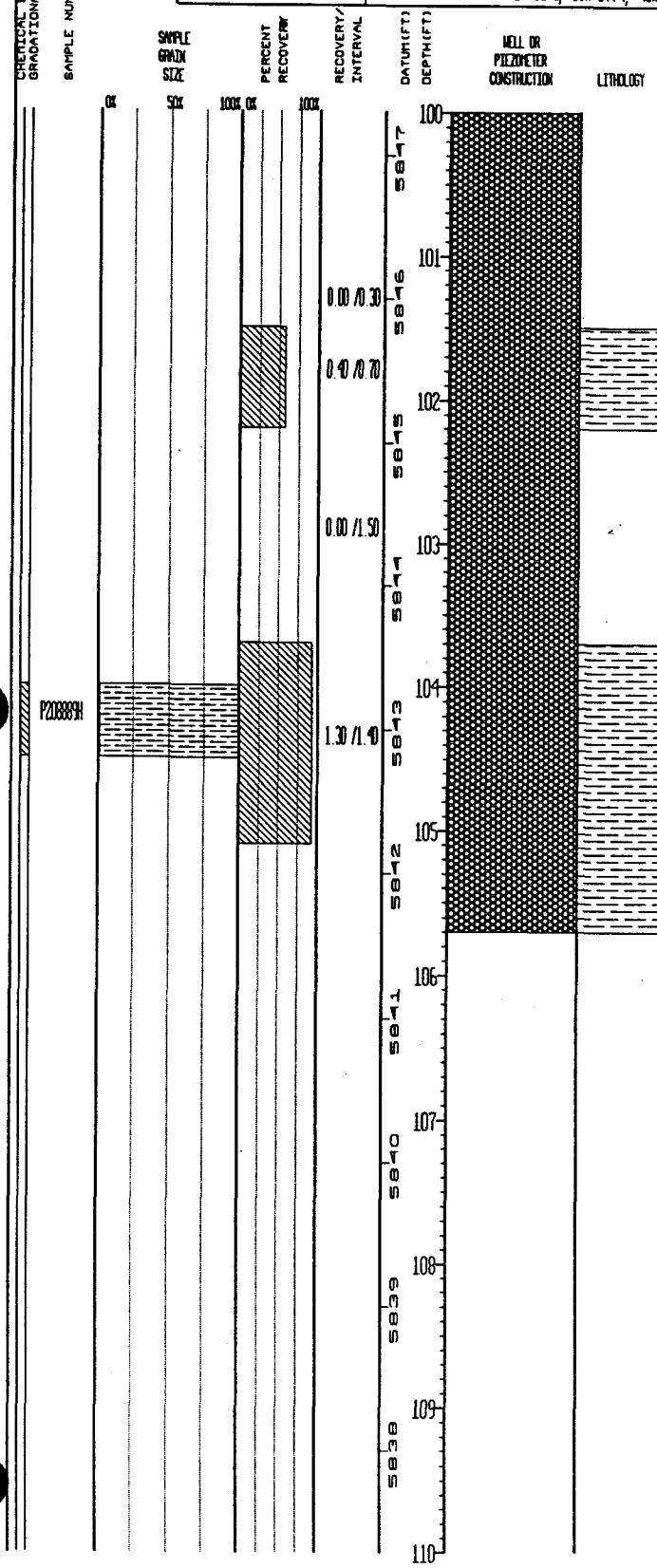
REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Med. light gray (N6), thin bedded (<2 mm.), where apparent. Slightly friable. (Silty Claystone with trace Sand). 5% v.f.g. sand, 95% clay/silt.
NO SAMPLE:	NO SAMPLE.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST: DCB	P208889
EAST: 2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED: 06/23/89	

REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller.
GeoTechnical Sample: 87.76' to 96.94'; 2% sand, 50% silt, 48% clay.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Med. dark gray (N4), poorly bedded, slightly friable. Trace of silt.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Med. dark gray (N4), poorly bedded, slightly friable. Trace of silt.
	Total Drilled Depth = 105.7'.

WELL COMPLETION INFORMATION

QA By/Date Farell Burman 11-29-89

Location Rocky Flats Plant: Solar Ponds Area

Well No. P208889

Coordinates N 38099.65 E 22146.42 (RFP)

Elevation: Ground Surface 5947.30'

Top of Casing 5949.25'

Total Depth: Well 99.16'

Borehole 105.7'

Formation of Completion Unweathered Sandstone

Casing Material Schedule 80 PVC

Casing Diameter 2 3/8" O.D.

Screen Material Schedule 80 10-slotted PVC

Surface Casing Diameter 5 5/8" O.D.

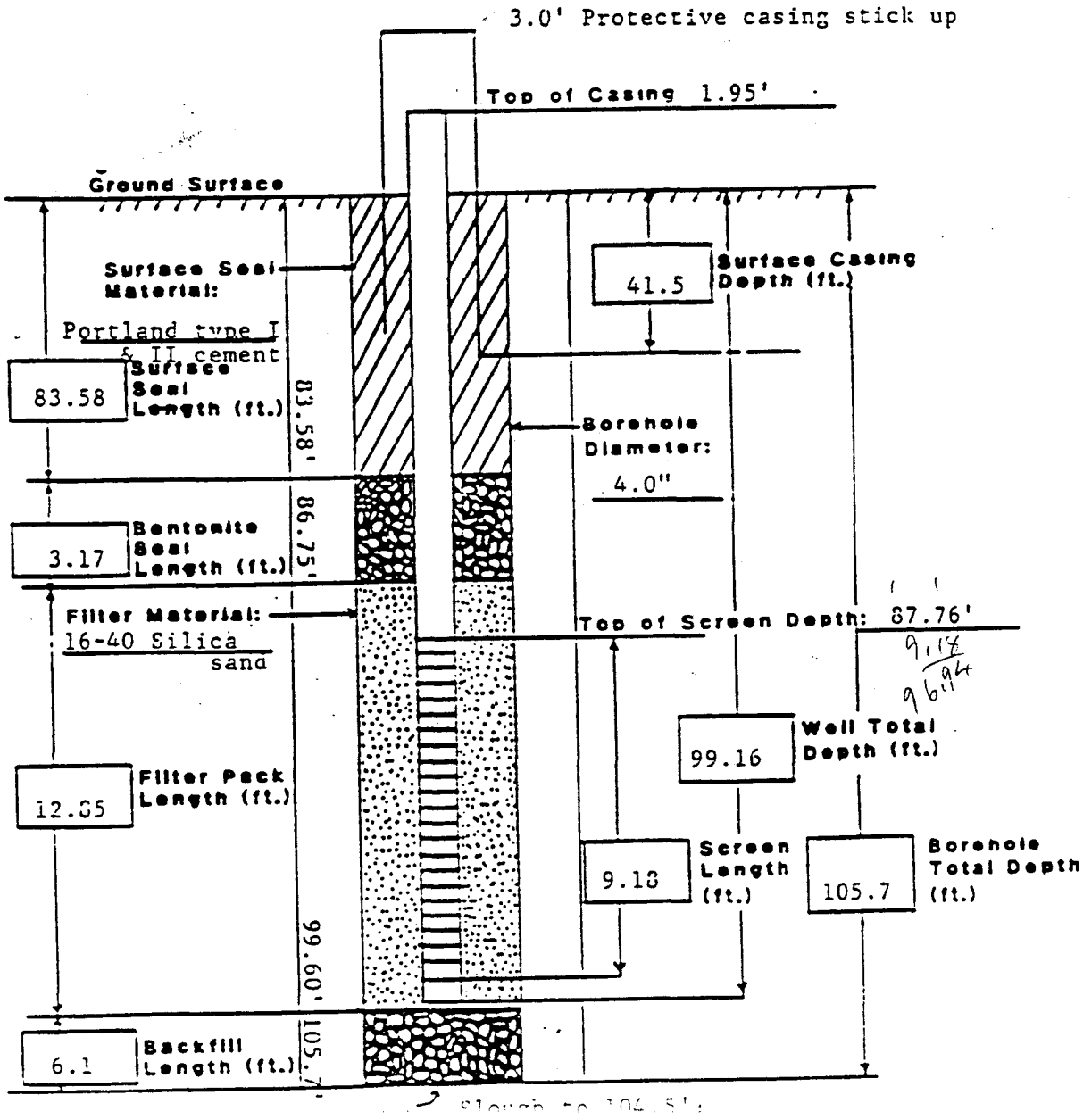
Date Installed 06/26/1989

Approved By Farell Burman
Site Manager

Installed By H.G. Bienkowski
Geologist

CEARP Manager

Comments Surface casing set to 41.5' below ground surface by K.E. Miller on 05/10/1989. No centralizer used. Well constructed inside drill rods.



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 28.6	GROUND ELEVATION (FT):	5962.53	OLD WELL NUMBER:	SEP17-89BR	LOG OF BORING NUMBER:
NORTH:	751044	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DAT	P208989
EAST:	2084839	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/12/89	

REMARKS: Hollow Stem Auger. ASI Log: 0.0'-24.6'; Weston Log 24.6'-28.6'.

GEOTECHNIC SAMPLE DEPTH	SAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP17B9BR0003 0%	50%	100% 0% 100%	0.20 /0.30		0			GP:	One cobble, approx. 2" in diameter, sub-angular.
	SEP17B9BR0002				5962				NO SAMPLE:	NO SAMPLE.
				0.00 /2.00	5961	1				
					5960	2			NO SAMPLE:	Top of Bedrock at 3.5'.
				0.00 /2.30	5959	3				
					5958	4			CLAYSTONE:	Dark yellowish orange (10 YR 6/6), no apparent bedding. NOTE: Rock type stated as Calcareous Claystone.
	SEP17B9BR0406			1.30 /2.00	5957	5				
	SEP17B9BR0309				5956	6			CLAYSTONE:	Same as above. Caliche layers at base of interval, some Mg staining in fractures. Trace of silt. Color grades to light olive gray (5 Y 6/1) at base of interval. NOTE: Rock type stated as Calcareous Claystone.
				1.90 /2.00	5955	7				
					5954	8			CLAYSTONE:	Light olive gray (5 Y 6/1), no apparent bedding. Some Fe staining as mottles, trace of Mg staining at base of interval.
	SEP17B9BR0810			1.75 /2.00	5953	9				
						10				

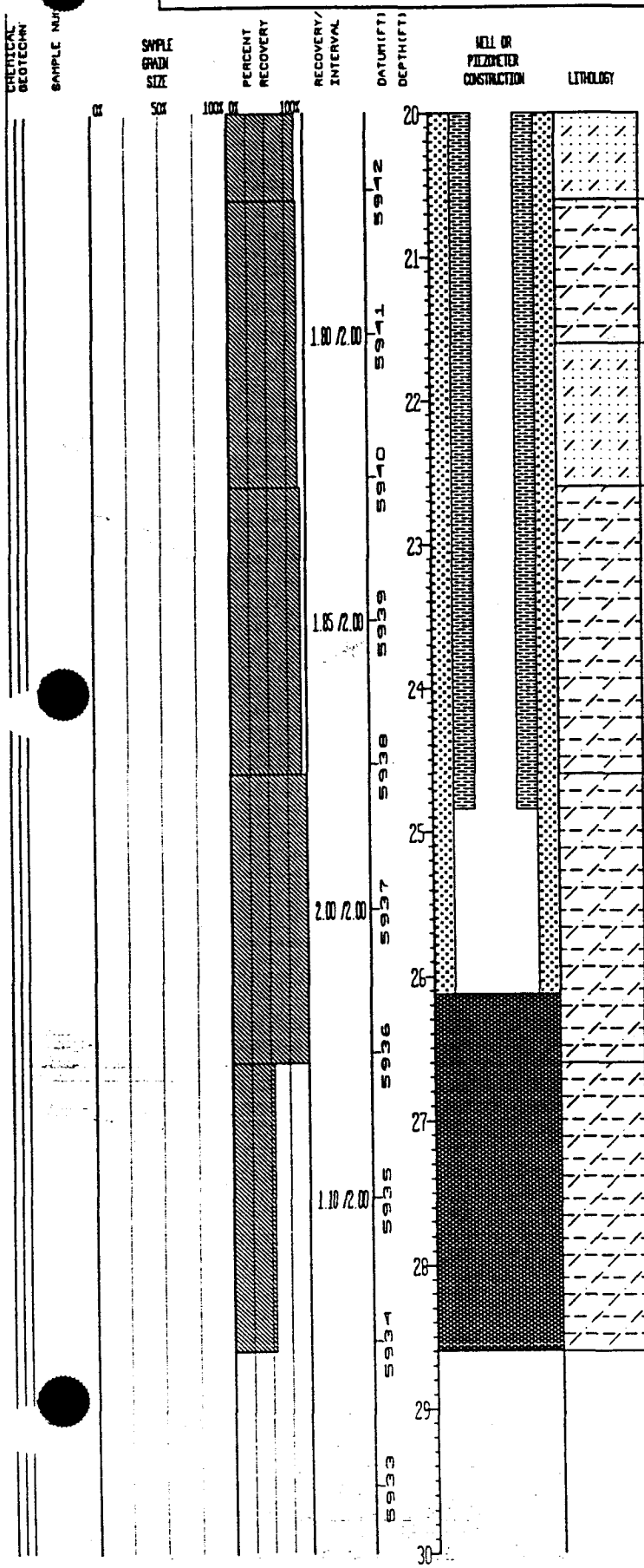
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 28.6	GROUND ELEVATION (FT):	5962.53	OLD WELL NUMBER:	SEP17-89BR	LOG OF BORING NUMBER:
NORTH:	751044	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DAT	P208989
EAST:	2084839	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/12/89	

REMARKS: Hollow Stem Auger. ASI Log: 0.0'-24.6'; Weston Log 24.6'-28.6'.

CHEMICAL GEOTECH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5952	10				
						11			CLAYSTONE:	Light olive gray (5 Y 6/1), no apparent bedding. Some Fe staining as mottles, trace of Mg staining.
	SEP1789BR0915			1.70 /2.00	5951	12	09/28/89			
					5950				SILTY CLAYSTONE:	Light brownish gray (5 YR 6/1), no apparent bedding. Some Fe staining as mottles, trace of coal.
	SEP1789BR1214			1.80 /2.00	5949	13				
					5948	14			SILTY CLAYSTONE:	Same as above.
						15	05/12/89			
				1.80 /2.00	5947				SILTY SANDSTONE:	Very pale orange (10 YR 8/2). V.f.g. sand, mod. to well rounded. Mod. sorted, mod. friable. No apparent bedding. Some Fe staining as mottles.
	P208989A					16				
					5946				SILTY SANDSTONE:	Same as above, increase in Fe along beddings.
	SEP1789BR1618			1.80 /2.00	5945	17				
	P208989B					18				
					5944				SILTY SANDSTONE:	Same as above, decrease in Fe at base of interval.
				1.75 /2.00	5943	19				
						20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 28.6	GROUND ELEVATION (FT):	5962.53	OLD WELL NUMBER:	SEP17-89BR	LOG OF BORING NUMBER:
NORTH:	751044	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DAT	P208989
EAST:	2084839	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/12/89	

REMARKS: Hollow Stem Auger. ASI Log: 0.0'-24.6'; Weston Log 24.6'-28.6'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1), mod. friable. Some Fe staining as mottles, trace of Mg staining as mottles.
SILTY SANDSTONE:	Yellowish gray (5 Y 8/1). V.f.g. sand, mod. to well rounded. Mod. to poorly friable, no apparent bedding. Some clay, trace of coal in 1 mm. seam. Trace of Fe staining as mottles.
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1), mod. to highly friable. Trace of carbonaceous material. Trace of Fe staining as mottles.
SILTY CLAYSTONE:	Dusky yellow (5 Y 6/4). Iron stains dark yellowish orange (10 YR 6/6). Mod. consol., stiff, low to med. plasticity, small caliche fragments. High HCl reaction (calcareous), dry.
SILTY CLAYSTONE:	Same as above.
	Total Drilled Depth = 28.6'.

WELL COMPLETION INFORMATION

QA By/Date Jarell Burrian 15-15-89

Location Rocky Flats Plant:Solar Ponds Area

Well No. P208989

Coordinates N 38058.90 E 21736.17 (RFP)

Elevation: Ground Surface 5962.53'

Total Depth: Well 26.12'

Top of Casing 5964.56'

Borehole 28.6'

Formation of Completion Weathered Sandstone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

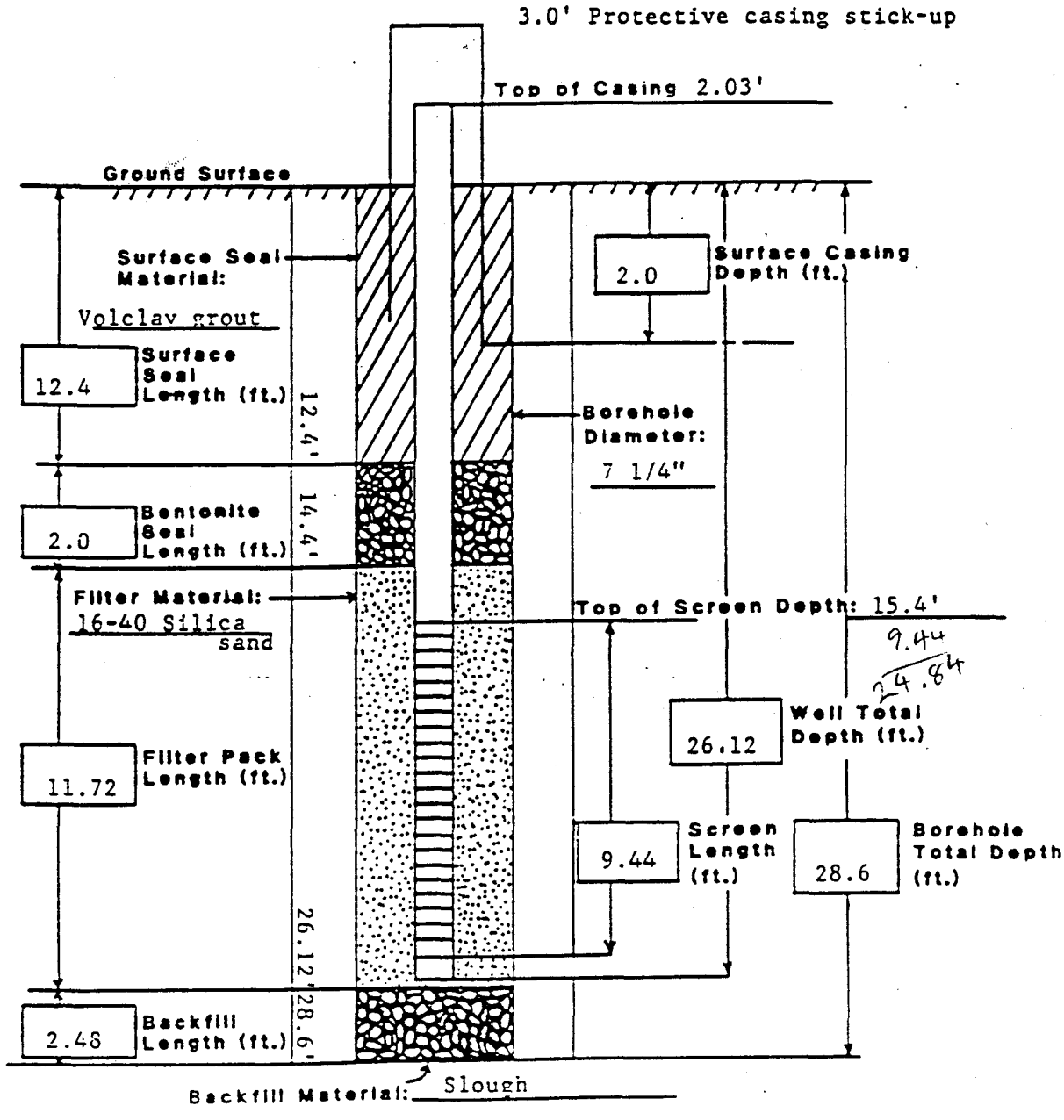
Date Installed 05/12/1989

Approved By Jarell Burrian
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 24.67' to 25.92' below ground surface.



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 48.0	GROUND ELEVATION (FT):	5977.98	OLD WELL NUMBER:	SEP22-898R	LOG OF BORING NUMBER
NORTH:	750991	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RTT/JBB	P209489
EAST:	2084634	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/16/89	

REMARKS: Hollow Stem Auger. Weston Log.

GEOTECHN SAMPLE NUMBER	SAMPLE DEPTH	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.20 /2.00	5977	1			CL:	Clay - brownish gray (5 YR 4/1). Organic rich fragments, black (N 1/0). Granite and quartzite pebbles to 0.2 cm., angular. Some quartzose sand. Some silt, soft.
				2.00 /2.00	5976	2			SM:	Sand and Gravel with some Clay. Brownish black (5 YR 2/1). Quartzite and granite gravels to 2 cm., angular. Silty clay, no plasticity, unconsol., loose, (sm-sp), damp. 15% clay.
				1.20 /2.00	5975	3				
					5974	4				
					5973	5				
					5972	6				
				1.40 /2.00	5971	7			CL:	Clay - pinkish gray (5 YR 8/1). Caliche (highly effervescent with HCl). Quartzite gravels to 5 cm., sub-angular to angular. Soft, dry.
					5970	8			NO SAMPLE:	No recovery.
									CL:	Silty Clay - light olive brown (5 Y 5/6). Some gravels (35 cm.), angular to sub-angular. Soft, dry.
				1.80 /2.00	5969	9			CLAYSTONE:	Top of Bedrock at 9.0'. Light gray (N 7/0). Thin Sandstone stringers (< 2 cm.). Abundt. caliche. No gravels. Sandy in shoe, quartzose, v.f.g. (3.0 phi to 3.5 phi), silty, slightly damp.
					5968	10			NO SAMPLE:	NO SAMPLE

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 48.0	GROUND ELEVATION (FT): 5977.98	OLD WELL NUMBER: SEP22-89BR	LOG OF BORING NUMBER:	
NORTH: 750991	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: RTT/JBB	P209489	
EAST: 2084634	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 05/16/89		

REMARKS: Hollow Stem Auger. Weston Log.

GEOTECHNI	SAMPLE NL	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP22B9BR0912			2.20 /2.00	5967	10–11			SANDY SILTSTONE:	Med. light gray (N 6/0) Abundt. caliche (effervesces with HCl), friable, dry.
						11–12			SANDY SILTSTONE:	Mod. yellowish brown (10 YR 5/4). Abundt. caliche (effervesces with HCl), friable, dry.
	SEP22B9BR1213				5966	12			SANDSTONE:	Mod. brown (5 YR 4/4). F.g. to m.g., alternating thin beds of light gray (N 8/0) and mod. brown (5 YR 4/4). Laminae <1 cm. thick, some Ironstone nodules. Silty clay, unconsol., damp.
	SEP22B9BR1214			1.30 /2.00	5965	13				
					5964	14			CLAYSTONE:	Claystone and Sandy Siltstone - light olive gray (5 Y 5/2). Claystone with mod. brown (5 YR 4/4) sandy intervals. Abundt. white caliche, reacts with HCl. Laminated (1 cm.), unconsol., damp.
	SEP22B9BR1418			1.60 /2.00	5963	15				
					5962	16			SILTY SANDSTONE:	Light olive gray (5 Y 5/2) with abundt. zones of mod. brown (5 YR 4/4). Some caliche, some clay. V.f.g. to m.g. quartzose sand. Iron-stained, unconsol., damp.
	SEP22B9BR1618			2.00 /2.00	5961	17				
					5960	18				
	SEP22B9BR1621			2.00 /2.00	5959	19				
					5958	20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 48.0	GROUND ELEVATION (FT):	5977.98	OLD WELL NUMBER:	SEP22-89BR
NORTH: 750991	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RTT/JBB
EAST: 2084634	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/16/89

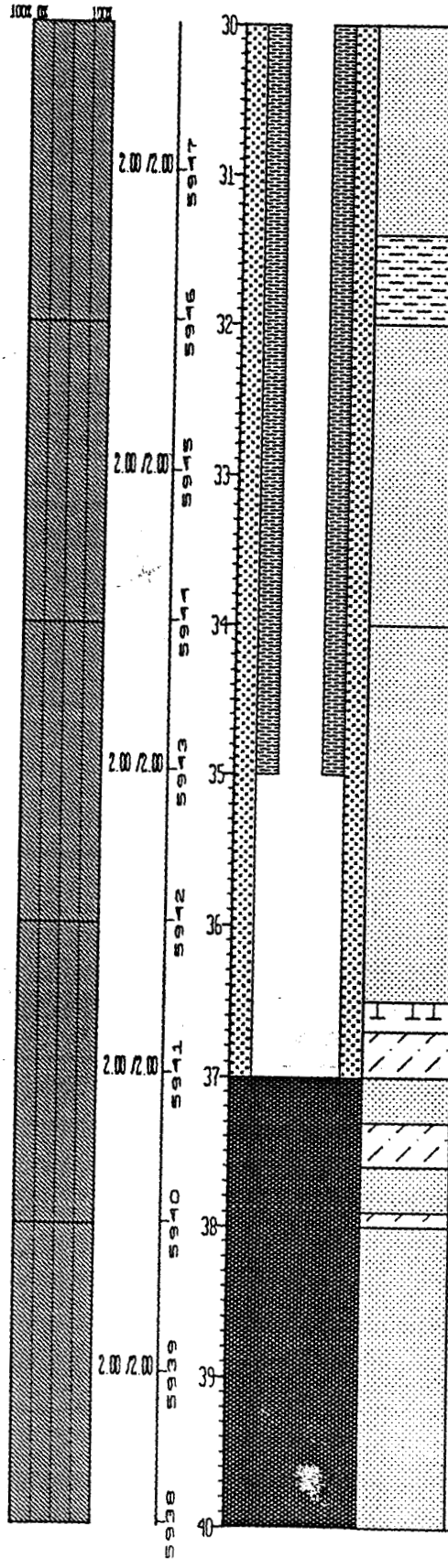
REMARKS: Hollow Stem Auger. Weston Log.

LOG OF BORING NUMBER: P209489

CHEMICAL / GEOTECHNI	SAMPLE NUMB	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP22B9BR2022			2.00 /2.00	5957	20–21			SILTY SANDSTONE:	Same as above - decreasing sand content.
				2.00 /2.00	5956, 5955	22–23			SANDSTONE:	Light olive gray (5 Y 5/2). F.g. to m.g. Abundt. iron staining, med. brown (5 YR 4/4). Quartzose sand. Some silt, unconsol., friable, loose, damp.
				2.00 /2.00	5954, 5953	24–25	05/16/89		SANDSTONE:	Same as above - wet at 25.0'.
				2.00 /2.00	5952, 5951	26–27	09/20/89		SANDSTONE:	Light olive gray (5 Y 5/2), heavily iron stained. 26.0' to 26.2', mod. brown (5 YR 4/4). Silty to m.g. quartzose sand, fining downward. Damp.
				2.00 /2.00	5950, 5949, 5948	28–29, 30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 48.0	GROUND ELEVATION (FT): 5977.98	OLD WELL NUMBER: SEP22-89BR	LOG OF BORING NUMBER:	
NORTH: 750991	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: RTT/JBB	P209489	
EAST: 2084634	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 05/16/89		
REMARKS: Hollow Stem Auger. Weston Log.					

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



Unified Soils Classification or Rock Type	Description
SANDSTONE:	Same as above, wet.
SANDY CLAYSTONE:	Light olive gray (5 Y 5/2). V.f.g. to f.g. quartzose sand. Mod. brown (5 YR 4/4), mottled, some iron streaks, blocky Claystone texture, damp.
SANDSTONE:	Same as above (reference interval 30.0' to 31.4').
SANDSTONE:	Same as above with few layers (0.1' thick) of mod. brown (5 YR 4/4) Claystone. Blocky texture, trace organics, black (N 1/0). Friable, loose, damp to wet.
IRONSTONE:	Ironstone Nodules - mod. brown (5 YR 3/4).
SILTSTONE:	Siltstone and Sandstone - light olive gray (5 Y 5/2) with abundt. mod. brown (5 YR 4/4) mottles. Some v.f.g. sand in vertical fracture in shoe. Friable, mod. consol., weathered, wet.
SANDSTONE:	Mod. brown (5 YR 4/4) and light gray (N 7/0) Sandstone, along with alternating beds of Clayey Sandstone (2 cm. to 5 cm. thick). Heavy iron staining, mod. brown (5 YR 4/4), friable, unconsol., damp.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 48.0	GROUND ELEVATION (FT):	5977.98	OLD WELL NUMBER:	SEP22-898R	LOG OF BORING NUMBER
NORTH:	750991	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	RTT/JBB	P209489
EAST:	2084634	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/16/89	

REMARKS: Hollow Stem Auger. Weston Log.

DEPTH SAMPLE DEPTH	CHEMICAL GEOTECHNI	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0% 50% 100%	0% 100%			40				
					2.00 /2.00	5937	41			CLAYSTONE:	Olive gray (5 Y 4/1), blocky. Some Siltstone. Some organic fragments, black (N 1/0). Consol., dry.
						5936	42			CLAYSTONE:	Same as above. Trace to some sand, dry.
					2.00 /2.00	5935	43				
						5934	44				
					2.00 /2.00	5933	45				
						5932	46			SILTSTONE:	Light olive gray (5 Y 6/1). Some v.f.g. sand, rounded. Some mod. brown (5 YR 4/4) stains. Abundt. black (N 1/0) organic streaks. Damp.
					1.00 /1.00	5931	47				
					1.70 /1.00	5930	48			SANDSTONE:	Light olive gray (5 Y 6/1). V.f.g., silty, quartzose, rounded, friable, unconsol., dry.
										NO SAMPLE:	NO SAMPLE.
						5929	49				Total Drilled Depth = 48.0'.
						5928	50				

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-17-89

Location Rocky Flats Plant; Solar Ponds Area

Well No. P209489

Coordinates N 38007.03 E 21531.26 (RFP)

Elevation: Ground Surface 5977.98'

Total Depth: Well 36.25'

Top of Casing 5980.10'

Borehole 48.0'

Formation of Completion Weathered Sandstone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

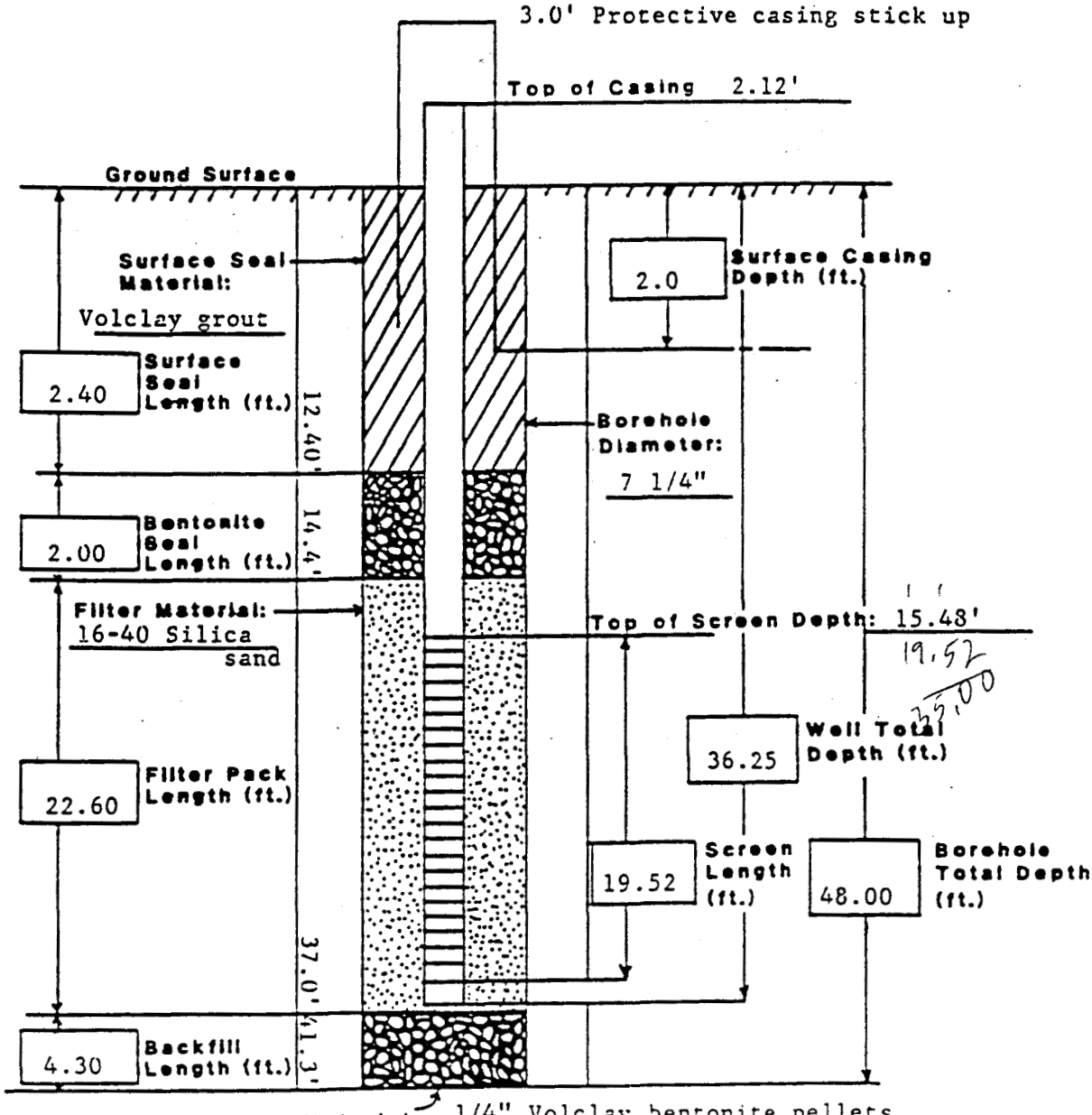
Date Installed 05/16 & 05/17/1989

Approved By Jarell Burman
Site Manager

Installed By R.T. Treat
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 36.00' to 34.76' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets

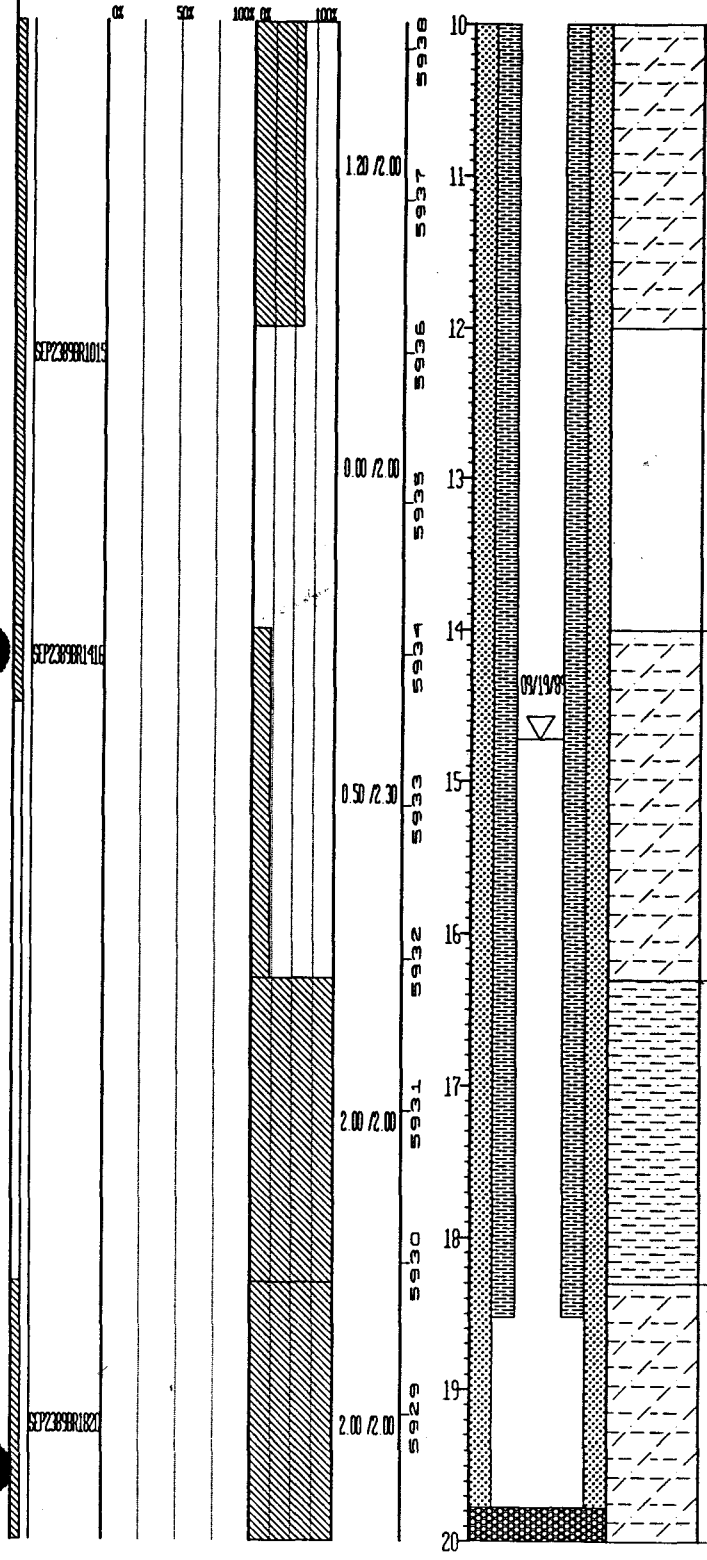
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.3	GROUND ELEVATION (FT): 5948.17	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH: 751071	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST:	KEM	P209589
EAST: 2085286	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	05/10/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5948	0			CL:	Gravelly Clay - olive gray (5 Y 4/1). Coarse to fine quartzite gravel, sub-rounded, broken. C.g. to f.g. sand. Some organics, stiff, med. plasticity, (cl), damp.
	SP238980002			2.00 /2.00	5947	1				
	SP238980003				5946	2			GC:	Clayey Sandy Gravel - grayish orange (10 YR 7/4). C.g. to f.g. sand. Coarse to fine quartzite gravel to 2 cm., broken, loose to firm, non to low plasticity, damp.
				1.30 /2.00	5945	3				
					5944	4			GC:	Clayey Sandy Gravel - same as above.
	SP238980005			2.00 /2.00	5943	5			SILTY CLAYSTONE:	Top of Bedrock. Light olive gray (5 Y 6/1), mottled dusky yellow (5 Y 6/4), consol., stiff, high plasticity, calcareous nodules, HCl reactive (calcareous), highly weathered, damp.
					5942	6			SILTY CLAYSTONE:	Same as above.
	SP238980007			2.00 /2.00	5941	7				
					5940	8			SILTY CLAYSTONE:	Yellowish gray (5 Y 7/2) to dusky yellow (5 Y 6/4). Trace c.g. to f.g. quartz sand, mod. consol., firm to stiff, low plasticity, dry.
	SP238980010			2.00 /2.00	5939	9				
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 30.3	GROUND ELEVATION (FT):	5948.17	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751071	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM	P209589
EAST:	2085286	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/10/89	

REMARKS: Hollow Stem Auger. Weston Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Yellowish gray (5 Y 6/1), mottled dark yellowish orange (10 YR 6/6). Trace c.g. to f.g. sand, rounded, abundt. iron stains, mod. consol., hard, low to med. plasticity. Carbonaceous streaks, black (N 1/0), dry.
NO SAMPLE:	NO SAMPLE.
SILTY CLAYSTONE:	Silty Sandy Claystone - light olive gray (5 Y 6/1), semi-consol., low plasticity, silica cemented, v.f.g. to f.g. sand, dry.
SANDY CLAYSTONE:	Sandy Silty Claystone - same as above - less sand, mottled dark yellowish orange (10 YR 6/6), dry.
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1), mottled grayish orange (10 YR 7/4). Trace v.f.g. to f.g. sand. Iron stains, dark yellowish orange (10 YR 6/6). Consol., med. plasticity, stiff to hard, dry

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 30.3	GROUND ELEVATION (FT):	5918.17	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751071	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM	P209589
EAST:	2085286	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/10/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5918	20				
				1.10 /2.00	5917	21			SILTY CLAYSTONE	Same as above.
					5916	22				
				2.00 /2.00	5915	23			SILTY CLAYSTONE	Yellowish gray (5 Y 7/2) to dusky yellow (5 Y 6/4). Trace v.f.g. to f.g. sand, mod consol., hard, med. plasticity. Carbonaceous material, black (N 1/0). Iron stains and fractures, dark yellowish orange (10 YR 6/6), dry.
					5914	24				
				1.20 /2.00	5913	25			SILTY CLAYSTONE	Same as above.
					5912	26				
				2.00 /2.00	5911	27			SILTY CLAYSTONE	Light olive gray (5 Y 5/2), consol., low carbonaceous streaks. Some iron staining, dark yellowish orange (10 YR 6/6). Stiff to hard, high plasticity, damp
					5910	28				
				2.00 /2.00	5909	29			SILTY CLAYSTONE	Same as above.
						30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.3	GROUND ELEVATION (FT):	5918.17	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751071	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P209589
EAST: 2085286	LOCATOR NUMBER: N11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/10/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5918	30				Total Drilled Depth = 30.3'.
					5917	31				
					5916	32				
					5915	33				
					5914	34				
					5913	35				
					5912	36				
					5911	37				
					5910	38				
					5909	39				
						40				

WELL COMPLETION INFORMATION

QA By/Date Farrell Burman 15-12-89

Location Rocky Flats Plant: Solar Ponds Area

Well No. P209589

Coordinates N 38084.38 E 22183.90 (RFP)

Elevation: Ground Surface 5948.17'

Total Depth: Well 19.77'

Top of Casing 5950.04'

Borehole 30.3'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

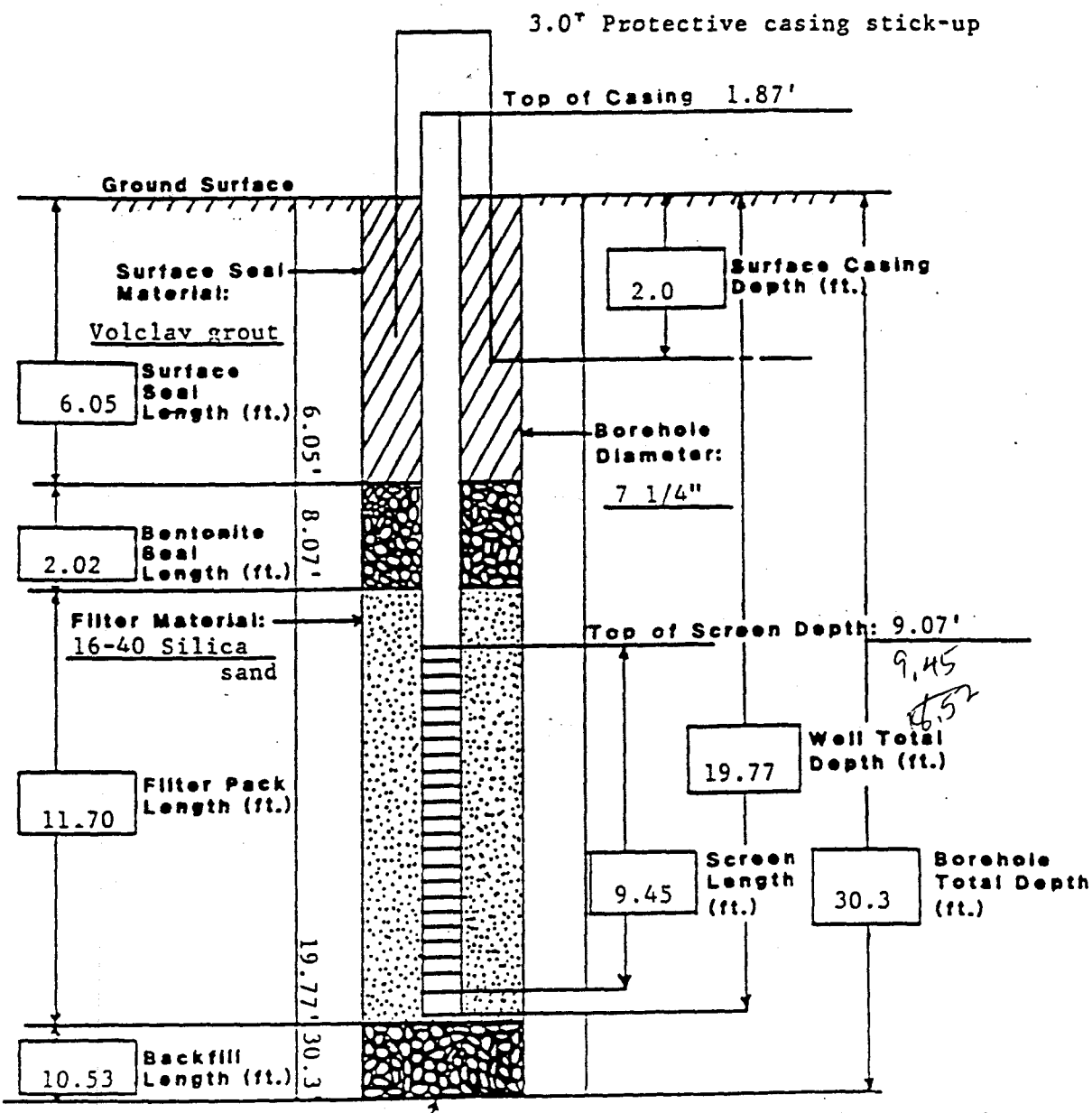
Date Installed 05/11/1989

Approved By Farrell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 18.32' to 19.57' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.2	GROUND ELEVATION (FT): 5962.63	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH: 750533	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D. (6.2)	GEOLOGIST:	KEM	P209689
EAST: 2085514	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	05/03/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP24B9BR0002				5962	0			SM:	Silty Sand - light brown (5 YR 5/6). C.g. to f.g. quartzose sand, unconsol., well sorted. Trace gravel, sub-rounded, loose, non-plastic, damp.
				1.00 /2.20	5961	1			GC:	Clayey Gravel - mod. brown (5 YR 4/4). Gravel quartzite, sub-rounded, coarse to fine to 3 cm. Stiff, low plasticity. Trace c.g. to f.g. sand, (gc with sand), damp. 30% gravel.
						2			NO SAMPLE:	NO SAMPLE
	SEP24B9BR0006			0.60 /2.00	5960 / 5959	3			GC:	Clayey Gravel - same as 0.4' to 1.0'. More gravel, grading to mod. brown (5 YR 3/4). Calcareous in lower portions (HCl reactive), (gc with sand).
	SEP24B9BR0406			1.40 /2.00	5958 / 5957	5			GC:	Clayey Sandy Gravel - pale greenish yellow (10 Y 8/2), mottles of dark yellowish orange (10 YR 6/6). Coarse to fine gravel, broken, quartzite to 5 cm. High HCl reaction (calcareous), firm, non-plastic, damp.
				1.20 /2.00	5956 / 5955	7	05/03/89 ▽		SM:	Silty Gravelly Sand - grayish orange (10 YR 7/4). C.g. to f.g. sand, quartz, well sorted. Sub-rounded gravel, coarse to fine quartzite, sub-rounded. No effervescence (non-calcareous), (sc-sm). Wet at 8.0'.
	SEP24B9BR0810				5954	8			SC:	Silty Clayey Sand - mod. yellow brown (10 YR 5/4). Trace gravel, coarse to fine grained, quartzose, sub-rounded. C.g. to f.g. quartzose sand, well sorted. Soft, low plasticity, (sc-sm), wet.
	SEP24B9BR0612			0.70 /2.00	5953	9				
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 30.2	GROUND ELEVATION (FT):	5962.63	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	750533	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM	P209689
EAST:	2085514	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/03/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% / 50%	100% 0% / 100%	2.20 /2.00	5952	10			CL:	Sandy Clay - mod. yellowish brown (10 YR 5/4), mottled light olive gray (5 Y 6/1). C.g. to f.g. quartzose sand, sub-rounded. Trace gravel. Stiff, low plasticity. Small amount carbonaceous, lignite, black (N 1/0). Calcareous nodules (HCl reactive), damp.
					5951	11				
					5950	12			SANDY CLAYSTONE:	Top of Bedrock. Sandy Silty Claystone - light brown (5 YR 6/4) to light olive gray (5 Y 6/1). C.g. to f.g. quartzose sand, lenses interbedded, well sorted. Highly calcareous cement, HCl reactive (calcareous), bluish white (5 B 9/1). Stiff to very stiff, low to high plastic, wet.
	SEP24898R1214			2.20 /2.00	5949	13				
					5948	14			SANDY CLAYSTONE:	Sandy Silty Claystone - same as above, wet.
	SEP24898R1218			2.00 /2.00	5947	15				
					5946	16			SILTY CLAYSTONE:	Light olive gray (5 Y 6/1) to med. gray (N 5/0), mottles of dark yellowish orange (10 YR 6/6). Consol., very stiff to hard, low to high plasticity. Carbonaceous, lignite, black (N 1/0). Small amount calcareous nodules (HCl reactive). Trace c.g. to f.g. sand, quartz. Damp.
	SEP24898R1618			2.00 /2.00	5945	17				
					5944	18				
				2.20 /2.00	5943	19				
						20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.2	GROUND ELEVATION (FT):	5962.63	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750533	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P209689
EAST: 2085514	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/03/89	
REMARKS: Hollow Stem Auger. Weston Log.					

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

Sample Number	Recovery/Interval	Depth (ft)	Unified Soils Classification or Rock Type	Description
SEP24B9BR1824	2.20 /2.00	20–24	SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to med. gray (N 5/0). Trace c.g. to f.g. quartzose sand. Mottled, dark yellowish orange (10 YR 6/6). Very stiff to hard, low to high plasticity. Small amount of calcareous material, HCl reactive (calcareous). Damp.
SEP24B9BR2022	2.20 /2.00	24–26	SILTY CLAYSTONE	Same as above - more calcareous material, hard, very reactive HCl, damp.
SEP24B9BR2426	2.00 /2.00	26–28	SILTY CLAYSTONE	Same as above - grading to med. dark gray (N 4/0), dry.
	2.00 /2.00	28–30	NO SAMPLE	No sample.
	0.00 /2.00			

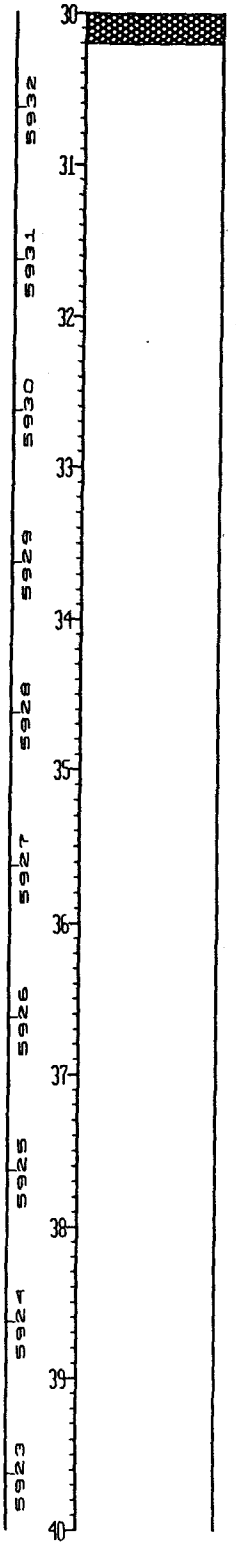
Depth scale: 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30

Well or piezometer construction: 09/21/89

Datum (ft): 5942, 5941, 5940, 5939, 5938, 5937, 5936, 5935, 5934, 5933

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.2	GROUND ELEVATION (FT):	5962.63	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750533	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P209689
EAST: 2085514	LOCATOR NUMBER: N10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/03/89	
REMARKS: Hollow Stem Auger. Weston Log.					

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



Total Drilled Depth = 30.2'

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-9-89

Location Rocky Flats Plant: Solar Ponds Area

Well No. P209689

Coordinates N 37546.03 E 22409.68 (RFP)

Elevation: Ground Surface 5962.63'

Total Depth: Well 27.93'

Top of Casing 5964.43'

Borehole 30.2'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 3 5/8" O.D.

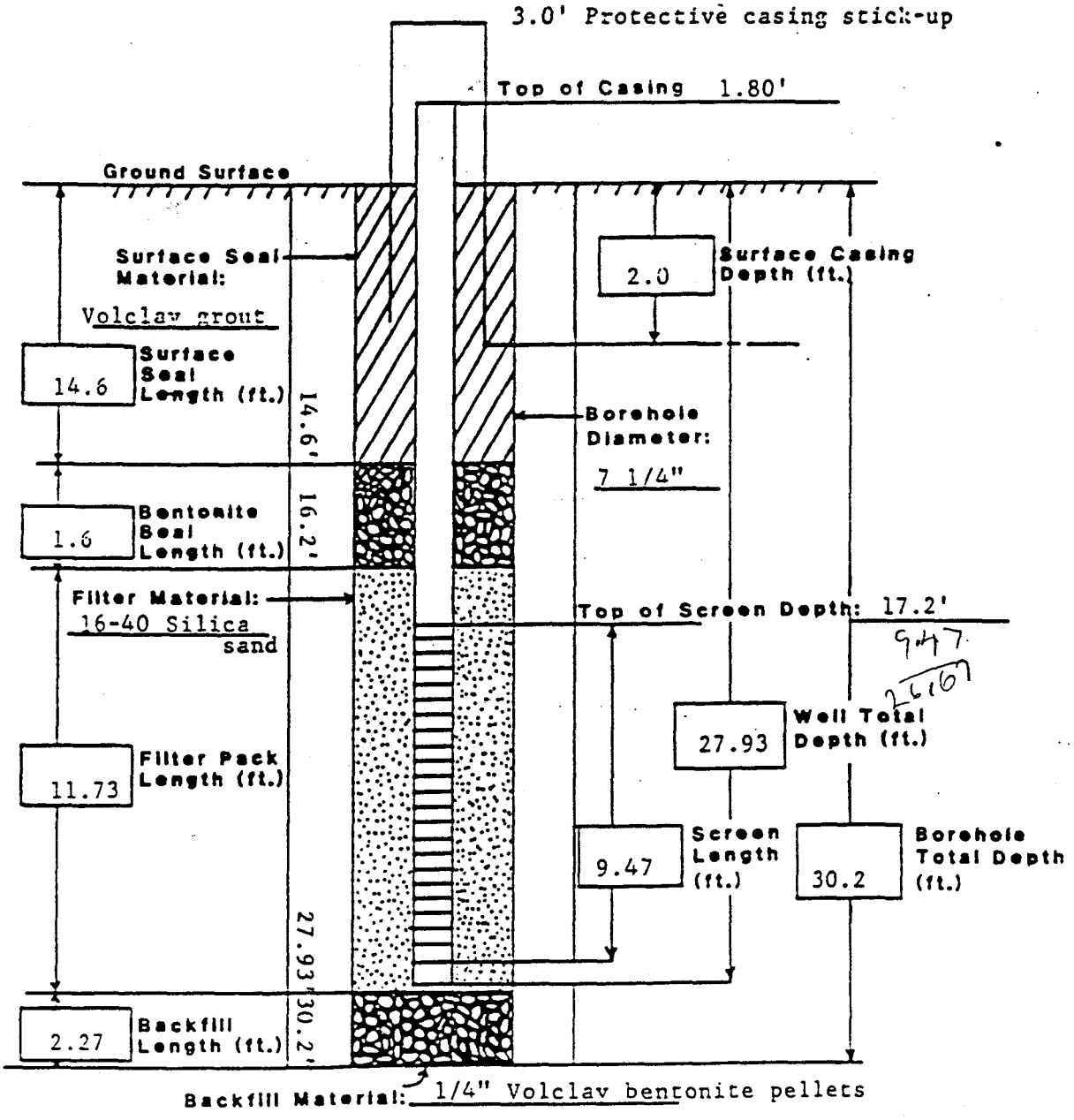
Date Installed 05/03/1989

Approved By Jarell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 26.33' to 27.53' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 17.5	GROUND ELEVATION (FT):	5962.82	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	750579	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM	P209789
EAST:	2085481	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/04/89	

REMARKS: Hollow Stem Auger. Weston Log.

Sample Number	Recovery/Interval	Depth (FT)	Unified Soils Classification or Rock Type	Description
SP2589002	1.00 /2.20	0–1	SC:	Clayey Sand - mod. brown (5 YR 4/4). C.g. to f.g. quartzose sand, well graded. Trace coarse to fine gravel, loose, non-plastic, moist.
		1	GC:	Clayey Gravel - grayish brown (5 YR 3/2). Coarse to fine. Trace silt, interbedded, loose, non to low plasticity, damp.
		1–2	NO SAMPLE:	No recovery.
SP2589006	0.20 /2.00	2–3	CL:	Silty Gravelly Clay - dark reddish brown (10 YR 3/4). Gravel coarse to fine to 4 cm., sub-rounded. Trace c.g. to f.g. sand, firm, med. plasticity (cl-gc), damp.
		3		09/13/89
SP2589006	2.00 /2.00	3–5	SC:	Silty Clayey Sand - mod. yellow brown (10 YR 5/4). C.g. to f.g. sand. Trace coarse to fine gravel, quartzite, sub-rounded, high effervescence, HCl reactive (calcareous), loose, low plasticity, moist.
		5–6	CL:	Gravelly Clay - grayish orange (10 YR 7/4). Some c.g. to f.g. sand, high effervescence, HCl reactive (calcareous), firm, low plasticity, damp.
SP2589008	2.00 /2.00	6–8	CL:	Sandy Gravelly Clay - dusky yellow (5 Y 6/4), poorly sorted. C.g. to f.g. sand. Coarse to fine quartzite gravel, sub-rounded. High weathered caliche, pale greenish yellow (10 Y 8/2). Sand at bottom, mod. brown (5 YR 4/4). Loose to firm, non to low plasticity, moist.
		8		05/04/89
		8–9	SM:	Clayey Silty Sand - yellowish gray (5 Y 7/2), mottled mod. brown (5 YR 4/4). Trace coarse to fine gravel. C.g. to f.g. sand, loose, non to low plasticity, (sm-sc), saturated
SP2589010	1.10 /1.10	9–10	CL:	Gravelly Clay - mod. brown (5 YR 4/4). Coarse to fine gravel, sub-rounded to 2 cm. Some c.g. to f.g. quartzose sand, very stiff to hard, low to med. plasticity (cl with sand), moist.
	0.00 /0.60	10	NO SAMPLE:	NO SAMPLE

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 17.5	GROUND ELEVATION (FT):	5962.82	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	750579	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM	P209789
EAST:	2085481	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/04/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP25890812	0% 50% 100%	0% 100%	2.00 /2.00	5952 5951	10 11 12			CL	Gravelly Clay - same as interval 8.6' to 9.6'. (cl with sand).
									SILTY CLAYSTONE:	Top of Bedrock. Yellowish-gray (5 Y 8/1), mottled. Mod. brown (5 YR 4/4), consol., very stiff to hard, high plasticity, small calcareous nodules, NCl reactive (calcareous), damp.
	SEP25891214			2.20 /2.00	5950	13			SILTY CLAYSTONE:	Yellowish gray (5 Y 8/1), mottled. Mod. brown (5 YR 4/4). Interbedded, c.g. to f.g. sand, well graded, quartz and K-feldspar, very stiff to hard, high plasticity, highly weathered caliche, high reaction HCl (calcareous), damp.
	SEP25891216				5949	14				
				1.00 /2.00	5948 5947	15 16			SILTY CLAYSTONE:	Same as above - highly weathered and oxidized iron material in shoe.
				0.00 /1.30	5946	17			NO SAMPLE:	NO SAMPLE.
					5945 5944 5943	18 19 20				Total Drilled Depth = 17.5'.

WELL COMPLETION INFORMATION

QA By/Date Janell Burman 15-8-89

Location Rocky Flats Plant; Solar Ponds Area

Well No. P209789

Coordinates N 37591.43 E 22377.11 (RFP)

Elevation: Ground Surface 5962.82'

Total Depth: Well 13.75'

Top of Casing 5964.94'

Borehole 17.5'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

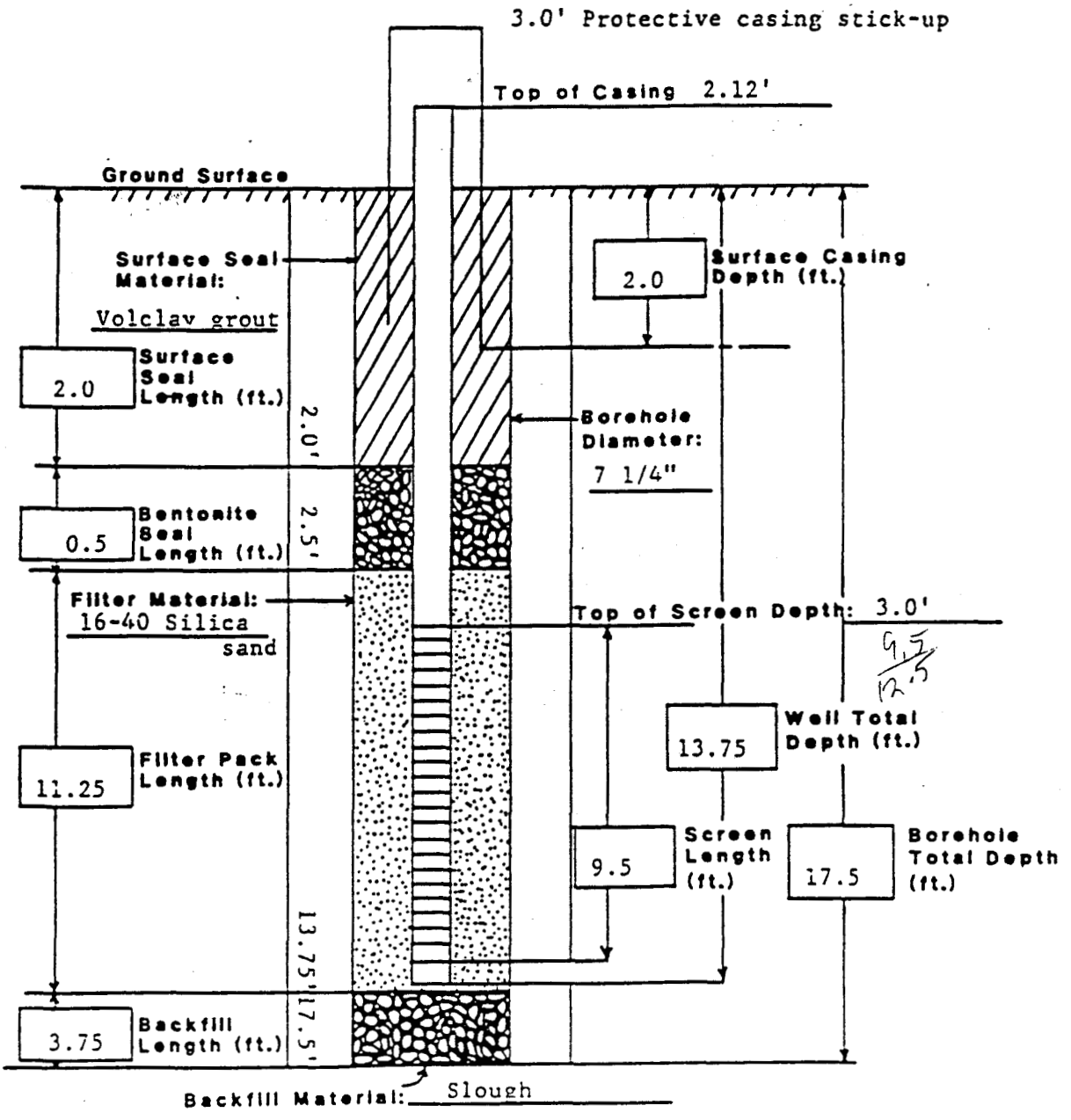
Date Installed 05/04/1989

Approved By Janell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 12.3' to 13.55' below ground surface.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 23.9	GROUND ELEVATION (FT): 5940.28	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH: 751194	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST:	KEM	P209889
EAST: 2084984	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	05/11/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5940	0			CL	Gravelly Clay - brownish gray (5 YR 5/1). Some organics. Trace c.g. to f.g. sand, quartz. Quartzite gravel to 3 cm., broken. Stiff, low plasticity, damp, moist.
	SEP26898R0012			1.90 /1.90	5939	1				
	SEP26898R0014				5938	2			CL	Gravelly Clay - same as above (reference interval 0.0' to 1.9').
				2.00 /2.00	5937	3	09/26/89		CL	Sandy Gravelly Clay - mod. yellowish brown (10 YR 5/4). Coarse to fine gravel, quartzite, sub-rounded. C.g. to f.g. sand, well graded. Stiff, low plasticity (cl with sand), damp to moist.
					5936	4			SILTY CLAYSTONE	Top of Bedrock. Light olive gray (5 Y 6/1) to grayish orange (10 YR 7/4), consol., stiff, high plasticity. Carbonaceous streaks, black (N 1/0), mottled dark yellowish orange (10 YR 6/6), caliche, highly calcareous reaction, damp to moist.
	SEP26898R0016			2.00 /2.00	5935	5				
					5934	6			SILTY CLAYSTONE	Same as above - V.f.g. to f.g. sand, stained, dark yellowish orange (10 YR 6/6) at bottom, wet at bottom.
	SEP26898R0010			2.00 /2.00	5933	7	05/11/89			
					5932	8			SILTY CLAYSTONE	Light olive gray (5 Y 6/1), mottled dark yellowish orange (10 YR 6/6). Some carbonaceous pieces, black (N 1/0). Consol., high plasticity, stiff, moist.
	SEP26898R0810			2.00 /2.00	5931	9				
						10			SILTY CLAYSTONE	Same as above - more saturated

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 23.9	GROUND ELEVATION (FT):	5940.28	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751194	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P209889
EAST: 2084984	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/11/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5930 5929	10 11				
	SEP2689BR1016 SEP2689BR1214			1.20 /2.00	5928 5927	12 13				SILTY CLAYSTONE: Same as above (reference interval 7.9' to 9.9').
				2.00 /2.00	5926 5925	14 15				SILTY CLAYSTONE: Light olive gray (5 Y 6/1) grading to mod. yellowish brown (10 YR 5/4), stained, consol., stiff, med. plasticity. Trace v.f.g. to f.g. sand. Damp.
				2.00 /2.00	5924 5923	16 17				SILTY CLAYSTONE: Med. gray (N 5/0). Iron streaks, dark yellowish orange (10 YR 6/6). Trace v.f.g. to f.g. sand. Consol., hard, med. plasticity, dry.
				2.00 /2.00	5922 5921	18 19				SILTY CLAYSTONE: Same as above.
						20				SILTY CLAYSTONE: Same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 23.9	GROUND ELEVATION (FT): 5940.28	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751194	AREA: SOLAR POND	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: KEN	P209889
EAST: 2084984	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 05/11/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5920	20				
					5919	21				
					5918	22			SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to med. gray (N 5/0), consol. Iron streaks, dark yellowish orange (10 YR 6/6), stiff to hard, med. plasticity, trace v.f.g. to f.g. sand, dry.
				2.00 /2.00	5917	23				
					5916	24				Total Drilled Depth = 23.9'.
					5915	25				
					5914	26				
					5913	27				
					5912	28				
					5911	29				
						30				

WELL COMPLETION INFORMATION

QA By/Date Farrell Burman 15-12-89

Location Rocky Flats Plant; Solar Ponds Area

Well No. P209889

Coordinates N 38208.53 E 21082.16 (RFP)

Elevation: Ground Surface 5940.28'

Total Depth: Well 19.63'

Top of Casing 5942.40'

Borehole 23.9'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

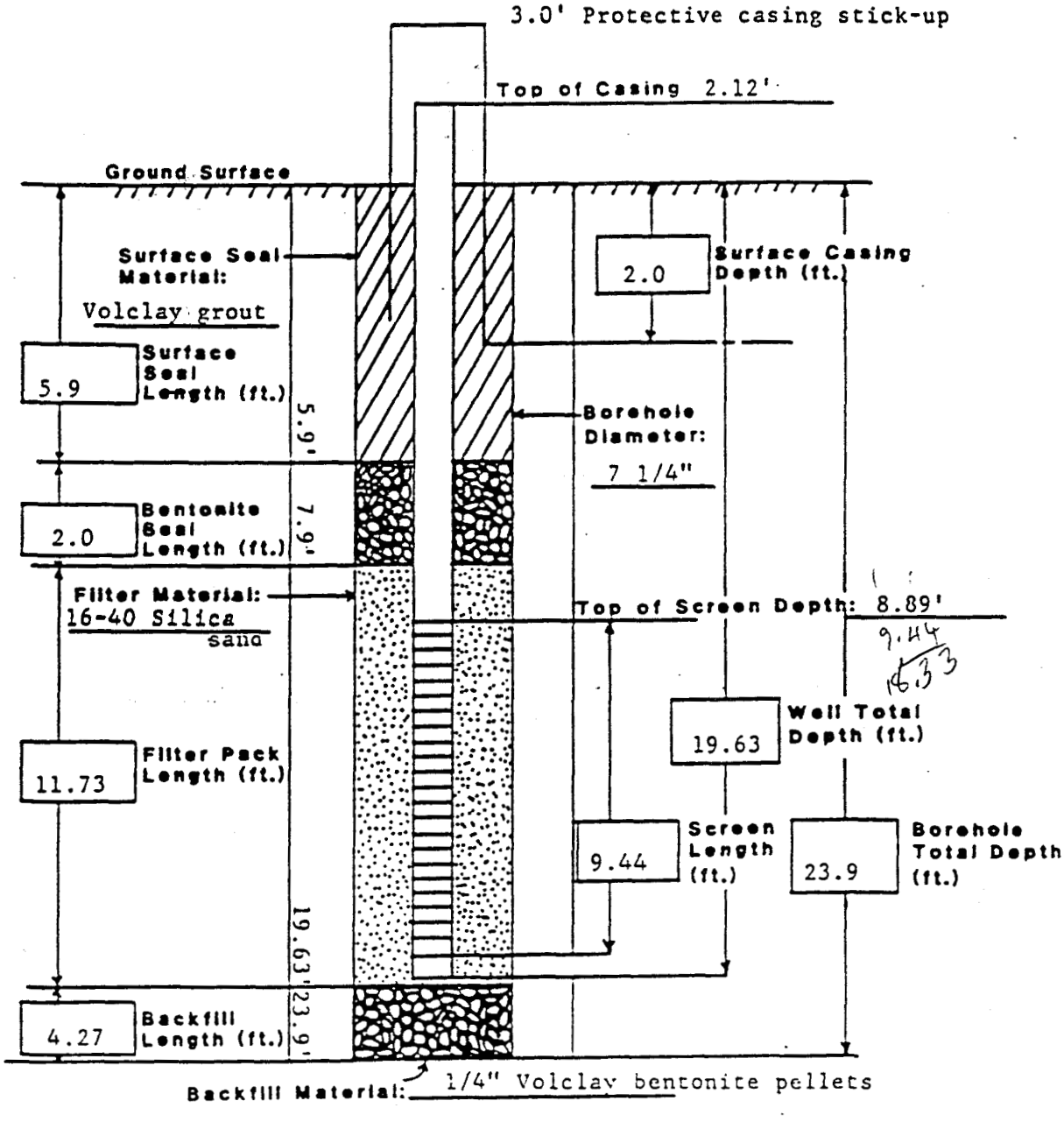
Date Installed 05/11/1989

Approved By Farrell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 18.18' to 19.43' below ground surface.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 26.0	GROUND ELEVATION (FT):	5967.03	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750564	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P210289
EAST: 2085223	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/15/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50%)	PERCENT RECOVERY (100% 0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP318998002			1.70 /2.00	5966	1			GC:	Sandy Clayey Gravel - grayish orange (10 YR 7/4) to dusky brown (5 YR 2/2). C.g. to f.g. sand. Coarse to fine gravel, quartzite to 2 cm. Some organics, firm, low plasticity to no-plasticity, (gc with sand), damp.
	SEP318998003				5965	2				
				2.00 /2.00	5964	3			SC:	Sandy Gravelly Clay - mod. reddish brown (10 R 4/6). Coarse gravel, quartzite to 4 cm. Small amount of broken calcareous material, HCl reactive. C.g. to f.g. sand, quartz. Firm, med. plasticity, damp.
	SEP318998006				5963	4			GC:	Sandy Clayey Gravel - grayish orange (10 YR 7/4). C.g. to f.g. sand, loose to firm, no to low plasticity, damp.
	SEP318998009			1.20 /2.00	5962	5				
					5961	6			GC:	Sandy Clayey Gravel - same as above.
				1.10 /2.00	5960	7			SILTY CLAYSTONE:	Top of Bedrock. Yellowish gray (5 Y 8/1). Consol., stiff, highly calcareous. Caliche, HCl reactive. Iron stains dusky yellow (5 Y 6/4), damp
					5959	8			NO SAMPLE:	NO SAMPLE.
	SEP318998010			2.00 /2.00	5958	9			SILTY CLAYSTONE:	Same as above, (reference interval 6.6' to 7.1').
	SEP318998013					10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 26.0	GROUND ELEVATION (FT):	5957.03	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750564	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST: KEM	P210289
EAST: 2085223	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 05/15/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADE SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5957 5956	10 11			SILTY CLAYSTONE	Light olive gray (5 Y 6/1), mottled dark yellowish orange (10 YR 6/6). Consol., high plasticity, stiff. Caliche, high HCl reaction, some fracturing, damp.
	SEP3189R1214			2.00 /2.00	5955 5954	12 13			SILTY CLAYSTONE	Same as above.
				2.00 /2.00	5953 5952	14 15	05/15/89		SILTY CLAYSTONE	Grayish orange (10 YR 7/4) to light olive gray (5 Y 6/1). Stains dark yellowish orange (10 YR 6/6). Consol., stiff to hard. Med. plasticity. Caliche nodules, high HCl reaction, damp.
	SEP3189R1315				5951	16			SILTY CLAYSTONE	Same as above, small carbonaceous pieces, black (N 1/0), damp.
	SEP3189R1618			2.00 /2.00	5950 5949	17 18			SILTY CLAYSTONE	Same as above (reference interval 14.0' to 16.0'). More Lignite, black (N 1/0), grading to olive gray (5 Y 4/1).
				2.00 /2.00	5948	19 20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 26.0		GROUND ELEVATION (FT):	5967.03	PROJECT NUMBER:	
NORTH:	750564	AREA: SOLAR POND		CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	KEM
EAST:	2085223	LOCATOR NUMBER: M10		BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/15/89

REMARKS: Hollow Stem Auger. Weston Log.

LOG OF BORING NUMBER: P210289

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50% – 100%)	PERCENT RECOVERY (0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5947	20			SILTY CLAYSTONE	Olive gray (5 Y 4/1) to light olive gray (5 Y 5/2). Consol., stiff to hard, med. plasticity, dry.
					5946	21				
					5945	22			SILTY CLAYSTONE	Same as above. Large caliche nodule (2 cm.), high HCl reaction, dry.
				1.20 /2.00	5944	23				
					5943	24			SILTY CLAYSTONE	Light olive gray (5 Y 6/1). Iron stains, dark yellowish orange (10 YR 6/6). Consol., stiff to hard, low to med. plasticity. Calcareous nodules, HCl reactive, dry.
				1.30 /2.00	5942	25				
					5941	26				Total Drilled Depth = 26.0'
					5940	27				
					5939	28				
					5938	29				
						30				

ABANDONED
4/27/93

WELL COMPLETION INFORMATION

QA By/Date Jarell Burman 15-15-89

Location Rocky Flats Plant; Solar Ponds Area

Well No. P210289

Coordinates N 37577.96 E 22119.26 (RFP)

Elevation: Ground Surface 5967.03'

Total Depth: Well 22.27'

Top of Casing 5969.19'

Borehole 26.0'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 8 5/8" O.D.

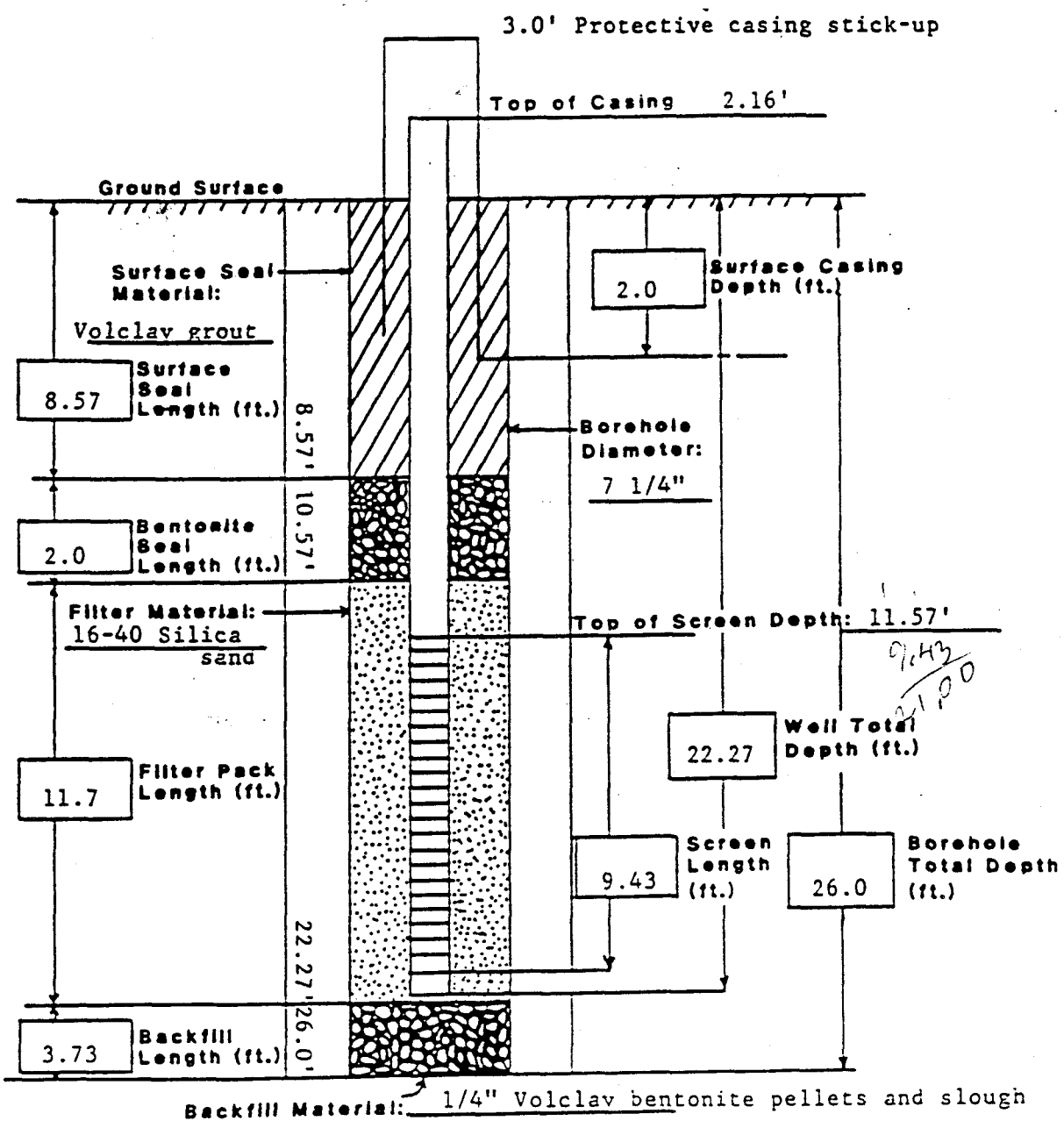
Date Installed 05/15/1989

Approved By Jarell Burman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 20.75' to 22.0' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 22.0	GROUND ELEVATION (FT):	5956.20	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750831	AREA: PLANT	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST: SPC	P218389
EAST: 2085648	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 11/08/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50% – 100%)	PERCENT RECOVERY (0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P218389002			1.70 /2.00	5956	0			SC:	Gravelly Clayey Sand - mod. yellowish brown (10 YR 5/4) to dusky yellowish brown (10 YR 2/2), non-stratified. F.g. to v.c.g. sand. 1 cm. to 4 cm. gravels, poor sorting, sub-angular, quartzose, granitic. Low to no plasticity, dense, damp.
	P218389003				5955	1				
					5954	2			SC:	Gravelly Clayey Sand - same as above.
	P218389204			2.00 /2.00	5953	3			SC:	Gravelly Clayey Sand - mod. brown (5 YR 4/4), dark reddish brown (10 R 3/4), non-stratified. F.g. to v.c.g. sand. 1 cm. to 8 cm. gravels to cobbles, poor sorting, sub-rounded, quartzose. Low to no plasticity, scattered clay lenses, dense, damp.
					5952	4			SC:	Gravelly Clayey Sand - same as above. Grayish brown (5 YR 3/2), mod. brown (5 YR 4/4).
	P218389406			1.30 /2.00	5951	5				
					5950	6			SC:	Gravelly Clay and Sand - same as above. Mod. brown (5 YR 3/4). (sc-cl)
	P218389608									
	P218389812			0.80 /2.00	5949	7				
					5948	8			NO SAMPLE:	NO SAMPLE.
				0.00 /2.00	5947	9				
						10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 22.0	GROUND ELEVATION (FT):	5956.20	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750831	AREA: PLANT	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST: SPC	P218389
EAST: 2085648	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 11/08/89	
REMARKS: Hollow Stem Auger. Weston Log.					

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P218391012			0.50 /2.00	5946 5945	10 11			ML:	Sandy Silt - dark yellowish orange (10 YR 6/6), very light gray (N 8/0), dusky yellow (5 Y 6/4), non-stratified. V.f.g. to f.g. sand. Some clay. Trace gravel to cobbles, mod. sorting, sub-rounded, quartzose. Low plasticity, iron staining, med. dense, moist.
	P218391214			2.00 /2.00	5944 5943	12 13	01/17/91		CLAYSTONE:	Top of Bedrock. Med. light gray (N 6/0), stained dark yellowish orange (10 YR 6/6), stratified, blocky. Some sand to silt, med. to high plasticity, manganese and iron staining, weathered, firm to med. hard, moist.
	P218391216								SANDSTONE:	Iron stained dark yellowish orange (10 YR 6/6). F.g. to m.g. sand, some silt, trace clay. Mod. sorting, round, quartzose, no plasticity, firm to med. hard, moist.
					5942	14			CLAYSTONE:	Same as above - mod. yellowish brown (10 YR 5/4). Some sand to sandy, trace silt, med. plasticity, manganese and iron staining, med. hard to hard, moist.
	P218391416			2.00 /2.00	5941	15			SILTY CLAYSTONE:	Light gray (N 7/0), stained dark yellowish orange (10 YR 6/6), blocky. Some sand to Sandstone stringers. F.g. to m.g. sand, iron staining to iron cementation from 15.3' to 15.7', trace manganese staining, med. plasticity, med. hard to hard, moist.
				2.00 /2.00	5940 5939	16 17			CLAYSTONE:	Dusky yellow (5 Y 6/4), light gray (N 7/0), stained dark yellowish orange (10 YR 6/6), blocky. Silty sand lenses to stringers 0.5 cm. to 0.6 cm. thick, weathered, abundt. iron staining, trace manganese, med. to high plasticity, med. hard to hard, moist.
				1.40 /2.00	5938 5937	18 19			CLAYSTONE:	Light olive gray (5 Y 6/1), med. light gray (N 6/0), blocky. Trace silt, scattered iron staining, med. to high plasticity, med. hard, damp.
						20				

STATE PLANE COORDINATE:
NORTH: 750831
EAST: 2085649

TOTAL DEPTH (FT): 22.0
AREA: PLANT
LOCATOR NUMBER: M10

GROUND ELEVATION (FT): 5956.20
CASING DIAMETER (IN): 2-3/8 O.D.
BOREHOLE DIAMETER (IN): 7.25

PROJECT NUMBER:
GEOLOGIST: SPC
DATE DRILLED: 11/08/89

LOG OF BORING NUMBER: P218389

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50%)	PERCENT RECOVERY (100% 0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5936	20			CLAYSTONE:	Same as above.
					5935	21				
					5934	22				Total Drilled Depth = 22.0'
					5933	23				
					5932	24				
					5931	25				
					5930	26				
					5929	27				
					5928	28				
					5927	29				
						30				

WELL COMPLETION INFORMATION

QA By/Date Janell B Burman /11-17-89

Location Rocky Flats Plant

Well No. P218389

Coordinates N 37842.86 E 22545.47 (RFP)

Elevation: Ground Surface 5956.2'

Total Depth: Well 13.77'

Top of Casing 5958.45'

Borehole 22.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC

Casing Diameter 2 3/8" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 5 5/8" O.D.

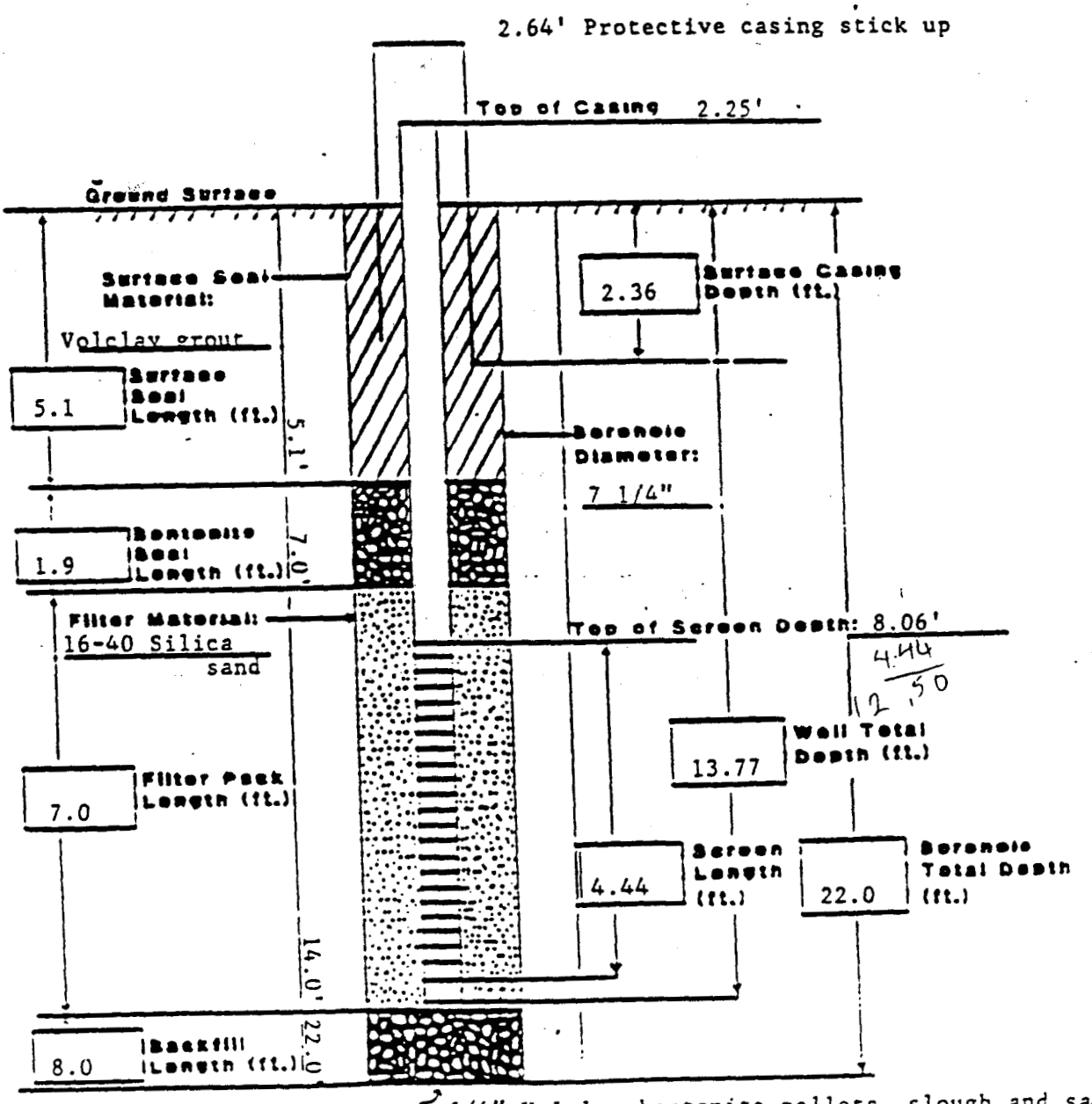
Date Installed 11/08/1989

Approved By Janell Burman
Site Manager

Installed By S.P. Carpenter
Geologist

CEARP Manager

Comments Stainless steel centralizer set from 13.55' to 12.55' below ground surface

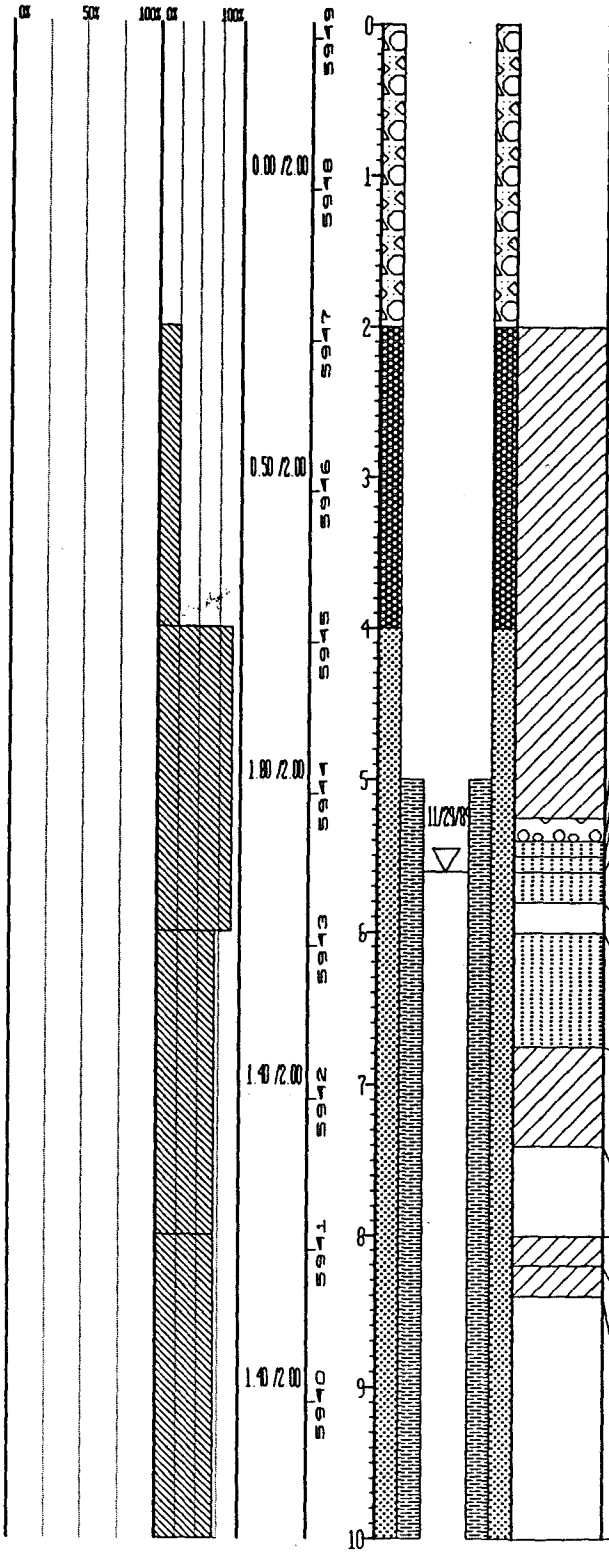


Backfill Material: 1/4" Volclay bentonite pellets, slough and sand

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 20.0	GROUND ELEVATION (FT):	5949.10	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751127	AREA: PLANT	CASING DIAMETER (IN):	4.50 O.D.	GEOLOGIST:	RDM	P219089
EAST:	2084117	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/29/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

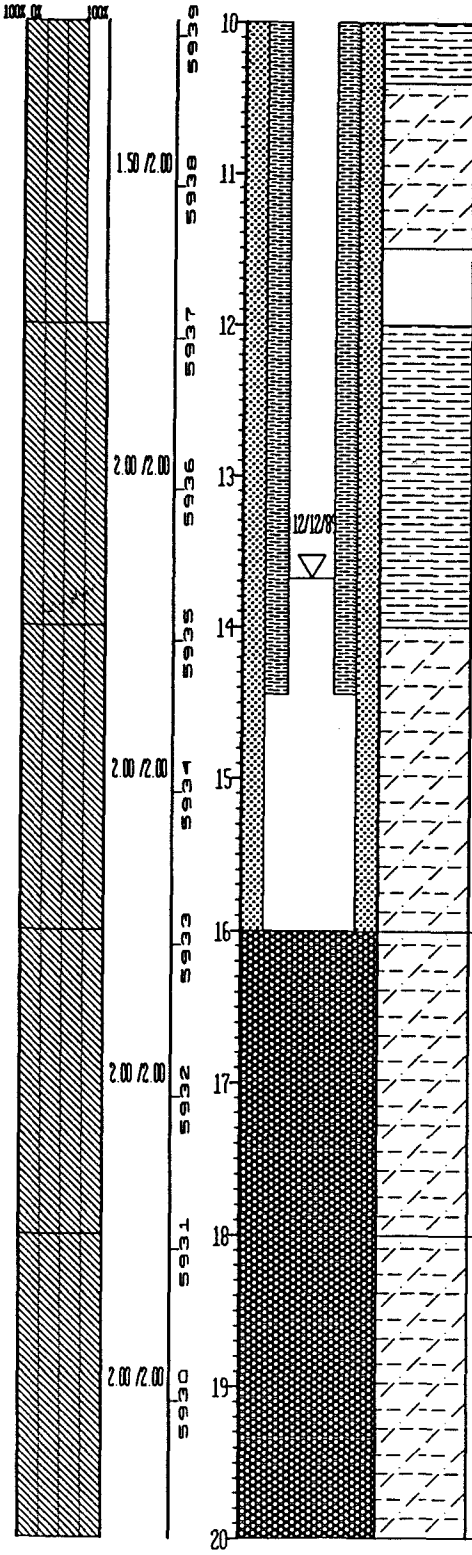


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	NO SAMPLE.
CL:	Asphalt and Sandy Clay - dark yellowish brown (10 YR 4/2), unconsol.; high plasticity. Angular, poorly sorted, m.g. to c.g. granitic sand. Damp.
GW:	Gravel - coarse, mod. sorted, angular, unconsol. Granitic, quartzose, and feldspathic sand. (gw-gp)
ASPHALT:	Asphalt.
SP:	Sand - f.g. to m.g., mod. well sorted, angular, quartzose sand. Unconsol., damp.
SP:	Gravelly Sand - dusky yellowish brown (10 YR 2/2). Some clay. Trace silt. Sand same as above. Gravel to 0.8 cm. wet. 20% clay.
NO SAMPLE:	NO SAMPLE.
SP:	Gravelly Sand - same as above (reference interval 5.6' to 5.8').
CL:	Gravelly Clay - mod. brown (5 YR 3/4). 1 cm. to 2.5 cm., angular gravel. Clay is soft and highly plastic. No HCl reaction (non-calcareous), wet. 25% gravel.
NO SAMPLE:	NO SAMPLE.
CL:	Gravelly Clay - same as above (reference interval 6.75' to 7.4').
CL:	Reworked Claystone - dark yellowish orange (10 YR 6/0). Massive, trace of gravel, some silt, soft, highly plastic. No HCl reactions (non-calcareous), damp.
NO SAMPLE:	NO SAMPLE.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 20.0	GROUND ELEVATION (FT):	5949.10	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751127	AREA: PLANT	CASING DIAMETER (IN):	4.50" O.D.	GEOLOGIST: RDM	P219089
EAST: 2084117	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 11/29/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Reworked Claystone - same as above (reference interval 8.2' to 8.4')
SILTY CLAYSTONE:	Top of Bedrock. Olive gray (5 Y 4/1), massive. Some pale yellowish orange (10 YR 6/6), iron staining, soft, highly plastic, no HCl reactions (non-calcareous), damp. 25% silt.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Light gray (N 7/0), massive, blocky in part. Some silt. Trace iron staining, trace calcareous concentrations, soft, low to mod. plasticity, damp. (Claystone with some Silt) 15% silt.
SILTY CLAYSTONE:	Dark yellowish orange (10 YR 6/6), mottled with med. dark gray (N 4/0), massive, platy to blocky, trace sub-fissile, brittle, highly iron stainied, soft, damp to dry. 25% silt.
SILTY CLAYSTONE:	Same as above - decreasing iron staining with depth, becoming predom. med. gray (N 5/0).
SILTY CLAYSTONE:	Med. gray (N 5/0). Massive, sub-blocky; some iron staining to 25%, decreasing with depth. Low plasticity, no HCl reactions (non-calcareous), damp to dry. Total Drilled Depth = 20.0'.

WELL COMPLETION INFORMATION

QA By/Date J B Bergman 12-5-89

Location Rocky Flats Plant: Bldg 774 Area

Well No. P219089

Coordinates N 38144.02 E 21014.40 (RFP)

Elevation: Ground Surface

Total Depth: Well 15.70'

Top of Casing

Borehole 20.0'

Formation of Completion Weathered Claystone

Casing Material Schedule 40 PVC

Casing Diameter 4 1/2" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 5 5/8" O.D.

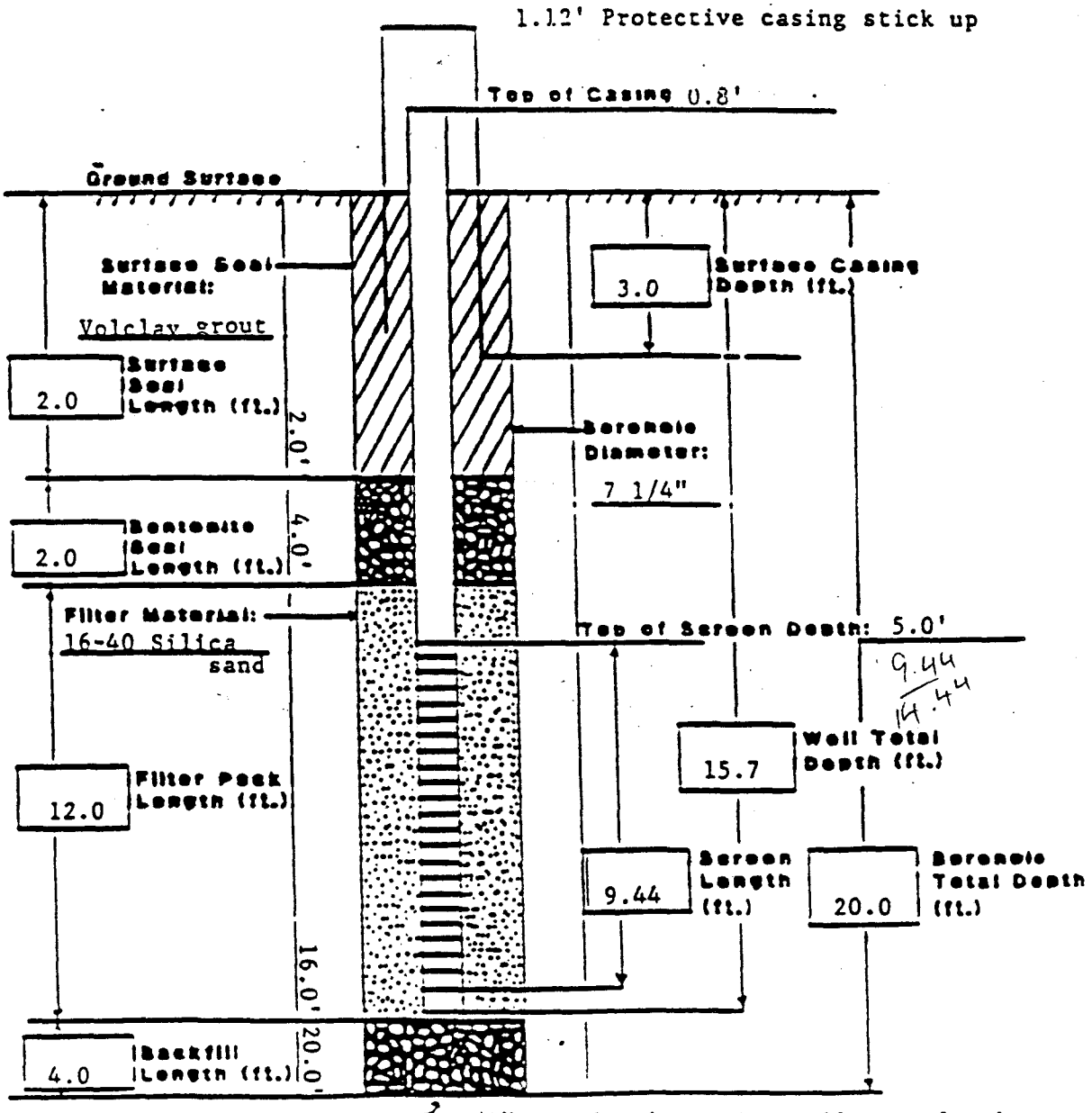
Date Installed 11/29/1989

Approved By J B Bergman
Site Manager

Installed By R.D. Morrow
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 15.65' to 14.45' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets; slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 21.0	GROUND ELEVATION (FT):	5941.20	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 751222	AREA: PLANT	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST: RDM	P219189
EAST: 2084010	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P219189002				5941	0			SM:	Gravelly Sand - dark yellowish brown (10 YR 4/2), unconsol., some silt. Angular to sub-rounded, granitic, coarse gravel to 10 cm. F.g. to c.g., poorly sorted, sub-angular, quartzose sand. (Gravelly Sand with some Silt) 20% silt.
				1.00 /2.00	5940	1				
	P219189003									
					5939	2			CL:	Silty Clay - grayish orange (10 YR 7/4), massive. Some sand, silt, trace gravel. Trace iron staining, low to high plasticity, no HCl reactions (non-calcareous), grades to dusky yellowish brown (10 YR 2/2) with depth, dry to damp. (Silty Clay with some Sand) 20% sand, 25% silt.
	P219189004			2.00 /2.00	5938	3				
					5937	4			CL:	Silty Clay - same as above, becoming predom. med. gray (N 5/0).
	P219189007									
	P219189006			1.80 /2.00	5936	5			CL:	Gravelly Clay - dark yellowish brown (10 YR 2/2). Coarse gravel, granitic. High plasticity, no HCl reaction (non-calcareous), damp.
						6			NO SAMPLE:	NO SAMPLE.
	P219189008				5935				CL:	Clay - mod. yellowish brown (10 YR 5/4), homogeneous. Trace gravel. Trace silt, soft, high plasticity, no HCl reactions (non-calcareous), damp.
				0.60 /2.00	5934	7				
					5933	8			CL:	Clay - dark yellowish brown (10 YR 4/2), homogeneous. Some silt, soft, high plasticity, no HCl reactions (non-calcareous), damp. (Clay with some Silt) 20% silt.
	P219189010									
	P219189011			0.90 /2.00	5932	9				
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 21.0	GROUND ELEVATION (FT): 591.20	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	751222	AREA: PLANT	CASING DIAMETER (IN): 2-3/8 O.D.	GEOLOGIST: RDM	P219189
EAST:	2094010	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P2191891012			1.00 /2.00	591	10			CL:	Disturbed sample (clay) due to rock in sampler.
					590	11			CLAYSTONE:	Top of Bedrock. Med. gray (N 5/0). Some silt, trace iron staining, high plasticity, no HCl reaction (non-calcareous), damp. 1' Claystone with some Silt) 20% silt.
	P2191891116			0.00 /2.00	589	12			NO SAMPLE:	NO SAMPLE.
					588	13				
	P2191891416			0.40 /2.00	587	14			CLAYSTONE:	Same as above (reference interval 11.0' to 12.0')
					586	15				
				0.00 /1.00	585	16			NO SAMPLE:	NO SAMPLE.
					584	17			SILTY CLAYSTONE:	Brownish gray (5 YR 4/1), homogeneous. Some grading to Clayey Siltstone, decreasing silt with depth. Trace iron staining, mod. to high plasticity, no HCl reactions (non-calcareous), damp. 35% silt.
				2.00 /2.00	583	18				
					582	19			SILTY CLAYSTONE:	Light brownish gray (5 YR 6/1) to brownish gray (5 YR 4/1), mottled with light brown (5 YR 5/6). Iron staining, silt increasing with depth. Some grading to Clayey Siltstone, soft, some mod. hard, mod. to low plasticity, no HCl reactions (non-calcareous), damp. 35% silt.
				2.00 /2.00		20				

STATE PLANE COORDINATE:
NORTH: 751222
EAST: 2084010

TOTAL DEPTH (FT): 21.0
AREA: PLANT
LOCATOR NUMBER: L11

GROUND ELEVATION (FT): 5941.20
CASING DIAMETER (IN): 2-3/8 O.D.
BOREHOLE DIAMETER (IN): 7.25

PROJECT NUMBER:
GEOLOGIST: RDM
DATE DRILLED: 11/30/89

LOG OF BORING NUMBER: P219189

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH	GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0% 50% 100%	0% 100%	2.00 /2.00	5921	20				
						5920	21				Total Drilled Depth = 21.0'.
						5919	22				
						5918	23				
						5917	24				
						5916	25				
						5915	26				
						5914	27				
						5913	28				
						5912	29				
							30				

WELL COMPLETION INFORMATION

QA By/Date J B Burman 12-5-89

Location Rocky Flats Plant: Bldg 774 Area

Well No. P219189

Coordinates N 38239.99 E 20907.67 (RFP)

Elevation: Ground Surface 5941.2'

Total Depth: Well 12.77'

Top of Casing 5943.15'

Borehole 21.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC

Casing Diameter 2 3/8" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 5 5/8" O.D.

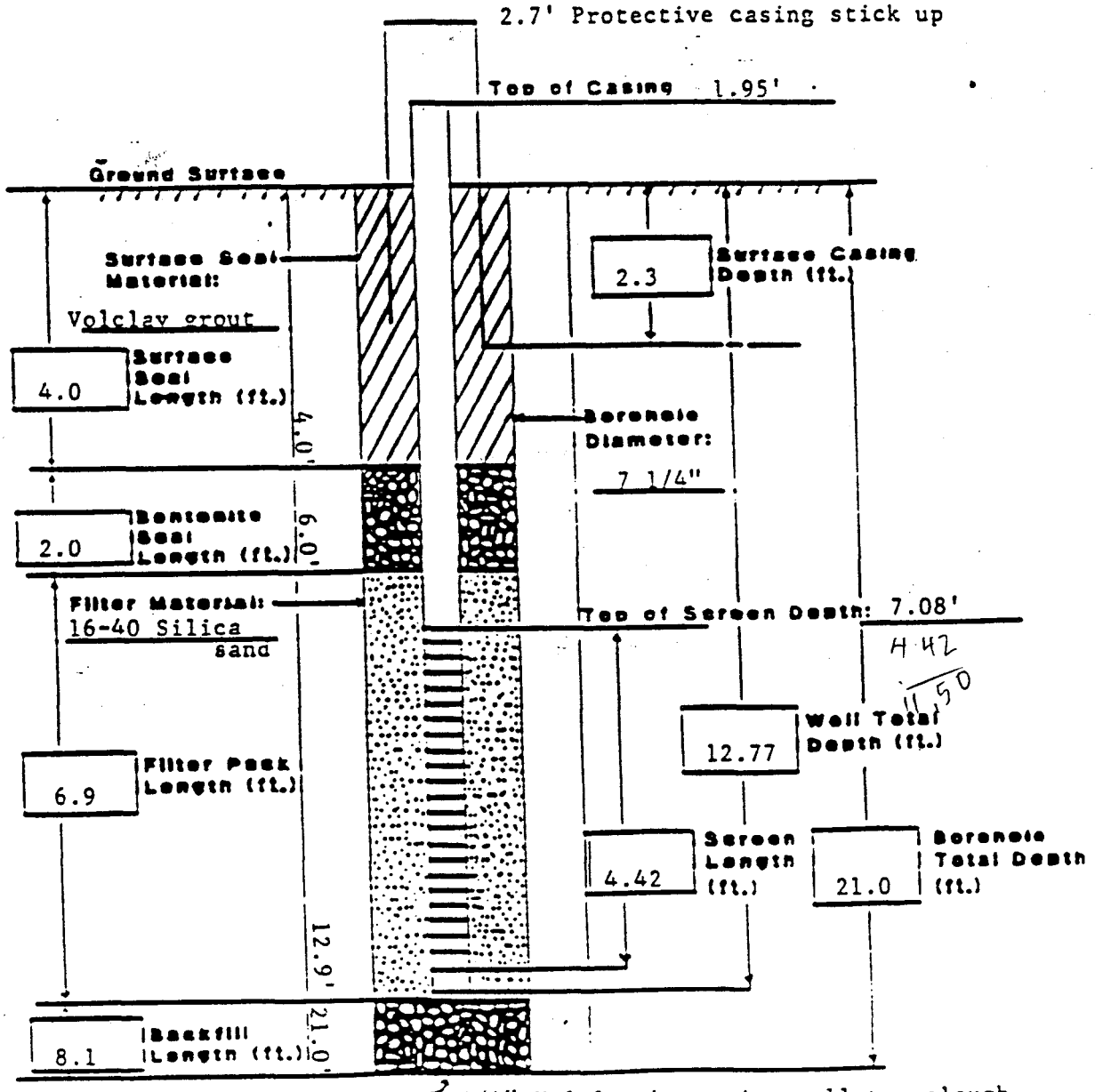
Date Installed 11/30/1989

Approved By J B Burman
Site Manager

Installed By R.D. Morrow
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 12.75' to 11.53' below ground surface.



Backfill Material: 1/4" Volclay bentonite pellets; slough

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 32.0	GROUND ELEVATION (FT): 5959.50	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	750415	AREA: PLANT	CASING DIAMETER (IN): 2-3/8 O.D.	GEOLOGIST: RDM	P219489
EAST:	2085651	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 12/06/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P219489002			1.70 /2.00	5959	0–1			CL:	Gravelly Silty Clay - mod. brown (5 YR 3/4), homogeneous. Fine to coarse, sub-angular to rounded gravel. Silt, soft to mod. plastic, no HCl reaction (non-calcareous), damp. (Silty Clay with some Gravel) 21% gravel, 25% silt.
	P219489003				5958	1–2				
	P219489204			1.90 /2.00	5957	2–3			CL:	Gravelly Silty Clay - same as above. Mod. reddish brown (10 R 4/6) to dark reddish brown (10 R 3/4).
					5956	3–4			ML:	Clayey Silt - mod. orange pink (5 YR 8/4), homogeneous. Trace f.g. quartzose sand, caliche, soft, strong HCl reaction, damp. 25% clay.
						4–5			NO SAMPLE:	NO SAMPLE.
	P219489307			2.00 /2.00	5955	5–6			SM:	Clayey Silty Sand - light brown (5 YR 6/4), homogeneous. Silt, Clay, low plasticity. Trace scattered rounded gravel. F.g. to m.g., angular to sub-rounded, mod. sorted, quartzose sand. Caliche, decreasing with depth, strong HCl reaction, damp. (Clayey Sand with some Silt) 21% silt, 25% clay.
	P219489406				5954					
	P219489608			1.80 /2.00	5953	6–7			SM:	Clayey Silty Sand - same as above. Decreasing clay with depth, gradational to Silty Sand with depth, no HCl reaction (non-calcareous).
	P219489709				5952	7–8			SC:	Silty Clayey Sand - light brown (5 YR 5/6 to 5 YR 6/4), homogeneous, unconsol. Increasing clay with depth. F.g. to m.g., mod. sorted, angular to rounded, quartzose sand. Trace iron staining. Trace fine to med. gravel, no HCl reaction (non-calcareous), damp. (Clayey Sand with some Silt and trace of Gravel) 5% gravel, 21% silt.
	P219489810			2.00 /2.00	5951	8–9			CL:	Sandy Silty Clay - mod. yellowish brown (10 YR 5/4) to light olive gray (5 Y 6/1), homogeneous. Sand decreasing with depth. Trace to some med. gravel, trace caliche, strong HCl reaction, mod. hard, mod. plastic, damp. (Sandy Clay with some Silt) 25% sand, 20% silt.
					5950	9–10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 32.0	GROUND ELEVATION (FT): 5959.50	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750415	AREA: PLANT	CASING DIAMETER (IN): 2-3/8 O.D.	GEOLOGIST: RDM	P219489
EAST: 2085651	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 12/06/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P219489011				5949	10			CL:	Sandy Silty Clay - same as above, increasing gravel with depth.
	P219489012			2.00 /2.00	5948	11			SC:	Gravelly Clayey Sand - grayish orange (10 YR 7/4) to white (N 9/0) to dark yellowish orange (10 YR 6/6). Varicolored, predom. homogeneous, poorly consol., to mod. hard. Med. rounded, granitic gravel. Grading to trace Sandy Gravel. Clay, low to no plasticity. F.g. to c.g., poorly sorted, rounded, quartzose sand. No HCl reaction (non-calcareous), damp to wet. (Gravelly Sand with some Clay) 35% gravel, 25% clay.
						12	12/06/89 ▽			
	P219489114				5947					
	P219489214			2.00 /2.00	5946	13			SC:	Clayey Sand - same as above. No gravel. Trace c.g. sand, increasing clay with depth. 60% iron stained.
					5945	14			CL:	Sandy Clay - grayish orange (10 YR 7/4) to light olive gray (5 Y 6/1), reworked, homogeneous. Abundt. sand, grading to Clayey Sand. Sand is as above, some silty, some iron stained laminations, soft to mod. hard, no HCl reaction (non-calcareous), damp. 35% sand.
	P219489416			2.00 /2.00		15				
					5944				CL:	Silty Clay - light olive gray (5 Y 6/1) to grayish orange (10 YR 7/4), occasionally mottled with grayish red (5 R 4/2), reworked, homogeneous. Iron stained laminations and mottling. Trace v.c.g., rounded, quartzose sand. Soft to mod. hard, mod. plastic, no HCl reaction (non-calcareous), damp. (Silty Clay with trace Sand) <1% sand, 35% silt.
	P219489418				5943	16				
	P219489618			2.00 /2.00		17			CL:	Silty Clay - same as above, trace carbonaceous material.
					5942				CL:	Silty Clay - same as above, reworked. White (N 9/0) to very light gray (N 8/0) calcareous inclusions to 3 cm. and calcareous laminations. Cryptocrystalline to microcrystalline, chalky in part, trace black (N 1/0) dendritic manganese, hard, strong HCl reactions.
					5941	18				
	P219489820			2.00 /2.00		19			CL:	Silty Clay and Gravel - same as above. Trace c.g., rounded, quartzose sand. (cl-gn)
					5940					
	P219489822					20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 32.0	GROUND ELEVATION (FT): 5959.50	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	750415	AREA: PLANT	CASING DIAMETER (IN): 2-3/8 O.D.	GEOLOGIST: RDM	P219489
EAST:	2085651	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 12/06/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P219492022			1.65 /2.00	5939	20–21			CL:	Silty Clay and Gravel - same as above, decreasing size gravel.
	P219492224			0.80 /2.00	5937	22–23			GC:	Clay and Gravel - same as above, less silt.
					5936	23			CLAYSTONE:	Top of Bedrock. Mottled brownish gray (5 YR 4/1) and olive gray (5 Y 4/1), homogeneous, blocky. Trace carbonaceous material, trace iron staining, mod. hard, mod. to high plasticity, no HCl reaction (non-calcareous), dry.
	P219492226								NO SAMPLE:	NO SAMPLE.
	P219492426			2.00 /2.00	5935	24–25			SILTY CLAYSTONE:	Brownish gray (5 YR 4/1), mottled with dark yellowish orange (10 YR 6/6), iron staining to 25%, increasing with depth, homogeneous, blocky. Silt, mod. to high plasticity, no HCl reaction (non-calcareous), damp to dry. 21% silt.
				2.00 /2.00	5934	26–27			SILTY CLAYSTONE:	Silty Claystone and Claystone - med. dark gray (N 5/0), homogeneous, blocky, trace sub-fissile, gradational. Silt, decreasing with depth, no iron staining except at 27.7'. Trace carbonaceous material, mod. hard, high plasticity, no HCl reaction (non-calcareous). 25% silt.
					5933	28			CLAYSTONE:	Claystone and Silty Claystone - same as above.
				2.00 /2.00	5932	29–30			CLAYSTONE:	Dark yellowish orange (10 YR 6/6), sub-blocky in part. Highly iron stained, trace manganese nodules. Some silt, highly plastic, no HCl reaction (non-calcareous), damp. (Claystone with some Silt) 15% silt.
					5931					
					5930					

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 32.0	GROUND ELEVATION (FT):	5959.50	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	750415	AREA: PLANT	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST:	RDM	P219489
EAST:	2085651	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	12/06/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5929	30			SILTY CLAYSTONE	Brownish gray (5 YR 4/1) to dark yellowish orange (10 YR 6/6), varicolored, homogeneous, blocky. Highly iron stained in part. Silt, trace carbonaceous laminations at 31.9', med. to high plasticity, no HCl reaction (non-calcareous), damp. 35% silt.
					5928	31				
						32				Total Drilled Depth = 32.0'
					5927	33				
					5926	34				
					5925	35				
					5921	36				
					5923	37				
					5922	38				
					5921	39				
					5920	40				

WELL COMPLETION INFORMATION

QA By/Date JB Burman 12-29-89

Location Rocky Flats Plant: Original Process Waste Lines

Well No. P219489

Coordinates N 37427.02 E 22546.95 (RFP)

Elevation: Ground Surface 5959.5'

Total Depth: Well 24.20'

Top of Casing 5961.15'

Borehole 32.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC

Casing Diameter 2 3/8" O.D.

Screen Material Schedule 40 10-slotted PVC

Surface Casing Diameter 5 5/8" O.D.

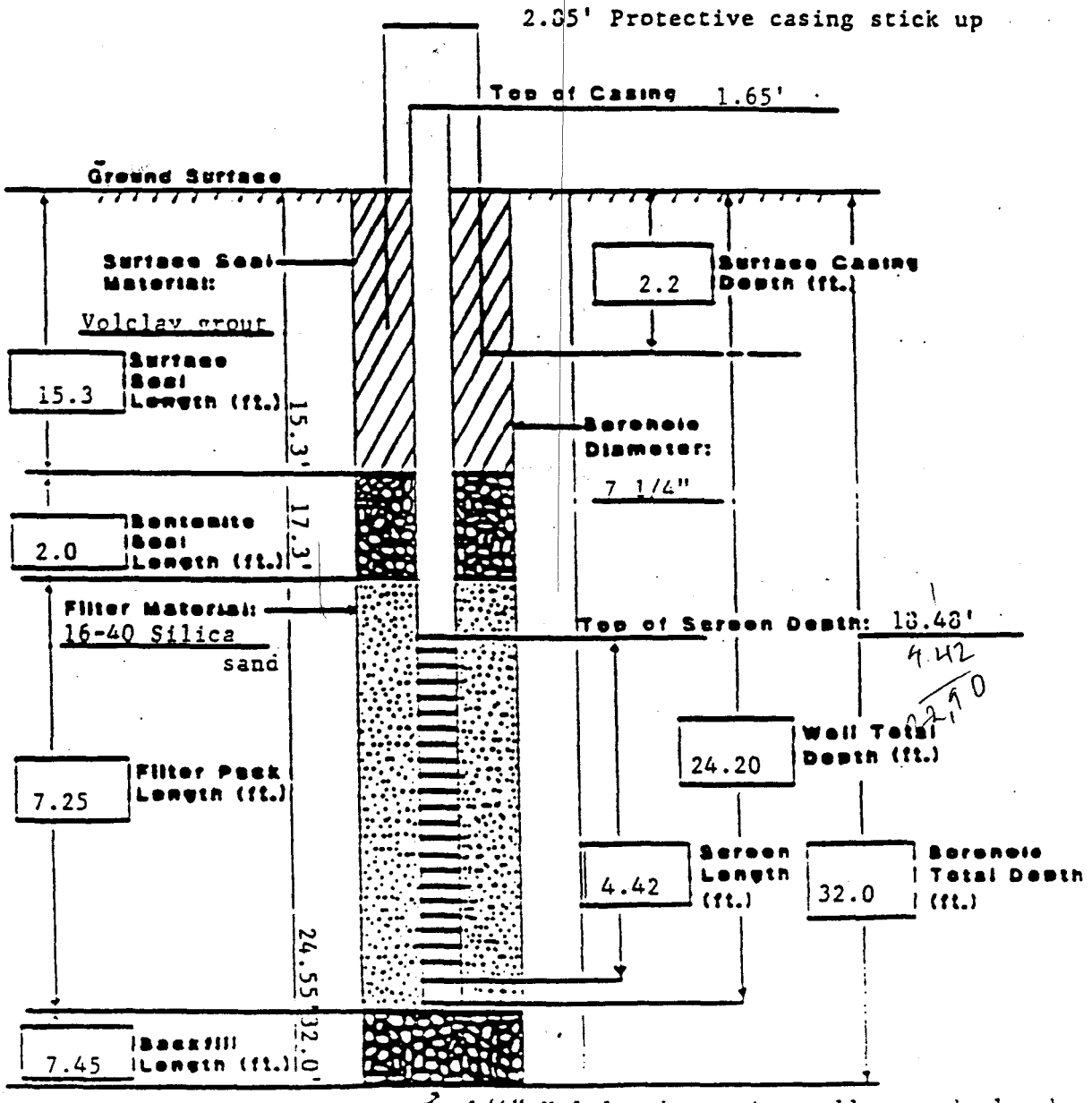
Date Installed 12/06/1989

Approved By JB Burman
Site Manager

Installed By R.D. Morrow
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 24.17' to 22.96' below ground surface



Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 35.0	GROUND ELEVATION (FT):	5963.80	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH: 750268	AREA: PLANT	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST: RMZ	P219589
EAST: 2085536	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 12/07/89	

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50% – 100%)	PERCENT RECOVERY (0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P219589002			0.60 /1.00	5963	0			CL:	Gravelly Clay with some Sand and Silt. Mod. yellowish brown (10 YR 5/4), gravel to 5.5 cm., rounded. Slightly to mod. calcareous. Fe stained, mod. plasticity. Unpleasant odor. 30% gravel, 15% sand, 20% silt, 35% clay.
	P219589003			0.00 /1.00	5962	1			NO SAMPLE:	NO SAMPLE.
	P219589004			1.40 /2.00	5961	2			CL:	Same as 0.0' to 1.0' interval. No noticeable odor.
	P219589006				5960	3			CL:	Gravelly Clay with some Sand and Silt. Silt same as above. No noticeable odor. 35% gravel, 15% sand, 15% silt, 35% clay.
	P219589007			1.10 /2.00	5959	4			CL:	Silty Sand with some Clay (this looks like v. friable Sandstone - but is in the middle of clayey gravels and gravelly clays of the alluvial material). Very pale orange (10 YR 8/2). V.f.g. to f.g., mod. well sorted, grades to med. sand. Geologist labeled this portion of the interval (sm). 55% sand, 25% silt, 20% clay.
	P219589008			1.10 /2.00	5958	5			CL:	Gravelly Clay - same as above. Geologist labeled this portion of the interval (cl). (Gravelly Clay with some Sand and Silt). 35% gravel, 15% sand, 15% silt, 35% clay.
	P219589010			2.00 /2.00	5957	6			CL:	Gravelly Clay with some Sand and Silt - mod. yellowish brown (10 YR 5/4). Gravel to 4.5 cm., rounded. Mod. plasticity, slight to mod. calcareous reaction. Fe stained. 30% gravel, 20% sand, 15% silt, 35% clay.
	P219589011				5956	7			SC:	Clayey Gravelly Sand with some Silt - mod. brown (5 YR 3/4) M.c.g. sand, gravel to 7 cm., rounded calcareous. Grades to sandy clay, some silt and gravel. Carbonaceous matter approx. last 0.4', Fe stained. (Gravelly Sand with some Silt and Clay). 25% gravel, 45% sand, 10% silt, 20% clay.
					5955	8				
					5954	9				
						10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 35.0	GROUND ELEVATION (FT): 5963.80	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH: 750268	AREA: PLANT	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST:	RMZ	P219589
EAST: 2085536	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED:	12/07/89	
REMARKS: Hollow Stem Auger. ASI Log.					

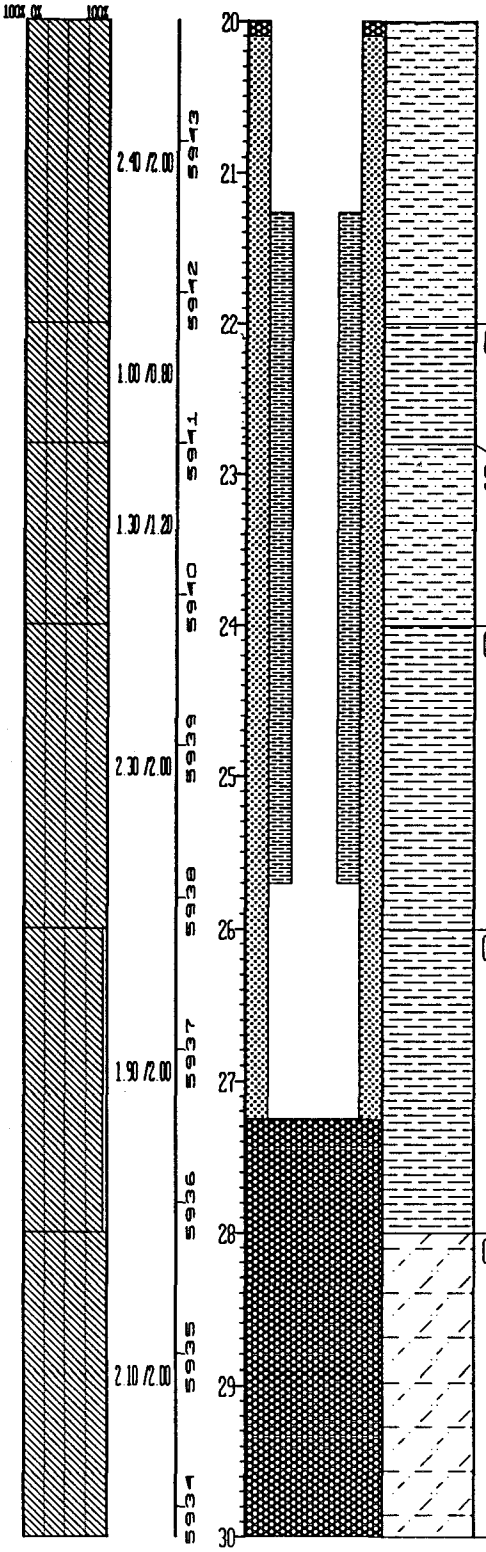
5946.4

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P2195891012			1.40 /1.50	5953	10–11			SC:	Clayey Sand with some Silt - mod. yellowish brown (10 YR 6/6), m.g., some f.g. sand. Some caliche (none to highly calcareous). Some carbonaceous matter, very porous. 55% sand, 15% silt, 30% clay.
				0.40 /0.50	5952	12			GC:	Clayey Gravel with some Sand and Silt - grayish orange (10 YR 7/4). Gravel to 5 cm., calcareous. Trace carbonaceous material, Fe stained. 60% gravel, 10% sand, 10% silt, 20% clay.
	P2195891214			0.70 /2.00	5951	13			GC:	Sandy Gravel with some Clay and Silt - grayish orange (10 YR 7/4). M.g. sand, gravel to 5 cm., rounded, not calcareous. Sand ranges from f.g. to c.g., Fe stained. 40% gravel, 35% sand, 10% silt, 15% clay.
									NO SAMPLE:	NO SAMPLE.
	P2195891117				5950	14			GC:	Sandy Gravel with some Clay grading to Clayey Gravel with some Sand - grayish orange (10 YR 7/4). Gravel to 6 cm., wide range in sand, mostly m.g., rounded. Not calcareous.
				0.00 /2.00	5949	15			CLAYEY SANDSTONE:	Top of Bedrock. Grayish orange (10 YR 7/4). F.g. to m.g. sand, mod. well sorted, very porous. Very friable, mottled, Fe stained. (Clayey Sandstone with some Silt). 70% sand, 10% silt, 20% clay.
					5948	16	17.2'		SANDSTONE:	Same as above, sand fining to v.f.g. (Clayey Sandstone with some Silt). 70% sand, 10% silt, 20% clay.
	P2195891618			0.70 /1.20	5947	17	12/07/89 ▽		SANDSTONE:	Clayey Siltstone interval from 16.7' to 17.0'. 70% silt, 30% clay.
									SANDSTONE:	Clayey Siltstone grading to Claystone with some Silt - grayish orange (10 YR 7/4), mottled. Trace carbonaceous material, Fe stained, Mg stained.
	P2195891719			0.40 /0.80	5946	18			SANDSTONE:	Silty Clayey Sandstone with some Gravel - grayish orange (10 YR 7/4), Fe stained. Gravel to 1 cm., sand mostly f.g. ranging to c.g. Gravel includes quartzite and feldspar (Clayey Sandstone with some Silt and Gravel). 10% gravel, 45% sand, 20% silt, 25% clay.
	P2195891820			2.00 /2.00	5945	19			SANDY CLAYSTONE:	Sandy Claystone with some granules, Gravels and some Silt- grayish orange (10 YR 7/4). V.f.g. to c.g. sand. Pred. c.g., poorly sorted, rounded, very porous. Trace carbonaceous material. Trace Fe staining. Bottom 0.5' is very calcareous with caliche nodules, color is yellowish gray (5 Y 7/2). (Sandy Claystone with some Silt and Gravel) 10% gravel, 35% sand, 20% silt, 35% clay.
					5944	20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 35.0	GROUND ELEVATION (FT):	5963.80	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	750268	AREA: PLANT	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST: RMZ	P219589
EAST:	2085536	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED: 12/07/89	

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above, fining to claystone with some sand (below the top 1'). -Trace carbonaceous material. Very calcareous with caliche nodules. (Claystone with some Sand). 15% sand, >80% clay.
SANDY CLAYSTONE:	Same as above. Some Fe staining.
CLAYSTONE:	Claystone with some sand - yellowish gray (5 Y 7/2). Trace carbonaceous material, some Fe staining. Calcareous with caliche nodules. Less sand in bottom half, also no caliche. (Claystone with some Sand). 5-20% sand, >80% clay.
CLAYSTONE:	Claystone with some Sand- same as above but badly broken. No caliche. >80% clay.
CLAYEY SILTSTONE:	Yellowish gray (5 Y 7/2), some Fe staining. Trace carbonaceous matter, no caliche. Lower 0.8' same but intact core. >70% silt.

STATE PLANE COORDINATE:
NORTH: 750268
EAST: 2085536

TOTAL DEPTH (FT): 35.0
AREA: PLANT
LOCATOR NUMBER: M10

GROUND ELEVATION (FT): 5963.80
CASING DIAMETER (IN): 2 3/8 O.D.
BOREHOLE DIAMETER (IN): 7.25

PROJECT NUMBER:
GEOLOGIST: RMZ
DATE DRILLED: 12/07/89

LOG OF BORING NUMBER: P219589

REMARKS: Hollow Stem Auger. ASI Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	1.10 /1.00	5933	30			CLAYEY SILTSTONE	Same as above, no Fe stain. No carbonaceous matter, non-calcareous. >70% silt.
				0.90 /1.00	5932	31			CLAYEY SILTSTONE	Same as above.
				2.00 /2.00	5931	32			SILTY CLAYSTONE	Silty Claystone - yellowish gray (5 Y 7/2), trace Fe. Trace carbonaceous material. >60% clay.
						33			SILTY CLAYSTONE	Clayey Siltstone - yellowish gray (5 Y 7/2), trace Fe. Trace carbonaceous material. >60% silt.
					5930	34			SILTY CLAYSTONE	Silty Claystone - yellowish gray (5 Y 7/2), trace Fe. Trace carbonaceous material. >60% clay.
				1.00 /1.00	5929	35			CLAYEY SILTSTONE	Yellowish gray (5 Y 7/2), trace Fe. Trace carbonaceous material. >60% silt.
					5928	36				Total Drilled Depth = 35.0'.
					5927	37				
					5926	38				
					5925	39				
					5924	40				

WELL COMPLETION INFORMATION

QA By/Date J.B. Burman 12-28-89

Location Rocky Flats Plant: Original Process Waste Lines Well No. P219589

Coordinates N 37280.04 E 22431.54 (RFP) Elevation: Ground Surface 5963.8'

Total Depth: Well 26.99' Top of Casing 5965.70'

Borehole 35.0'

Formation of Completion Rocky Flats Alluvium

Casing Material Schedule 40 PVC Casing Diameter 2 3/8" O.D.

Screen Material Schedule 40 10-slotted PVC Surface Casing Diameter 5 5/8" O.D.

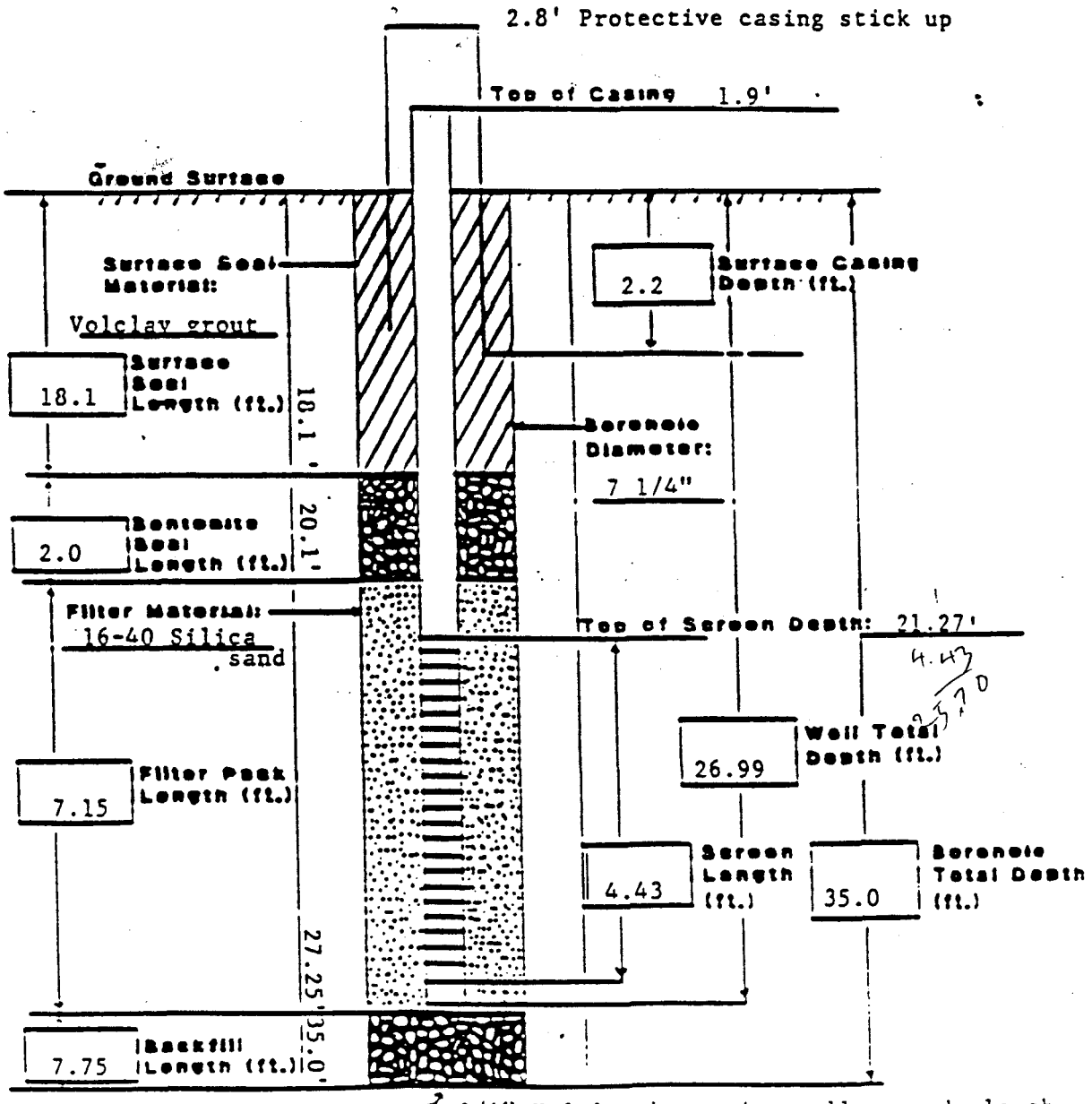
Date Installed 12/07/1989 Approved By J.B. Burman

Installed By S.P. Carpenter Site Manager

Geologist

CEARP Manager

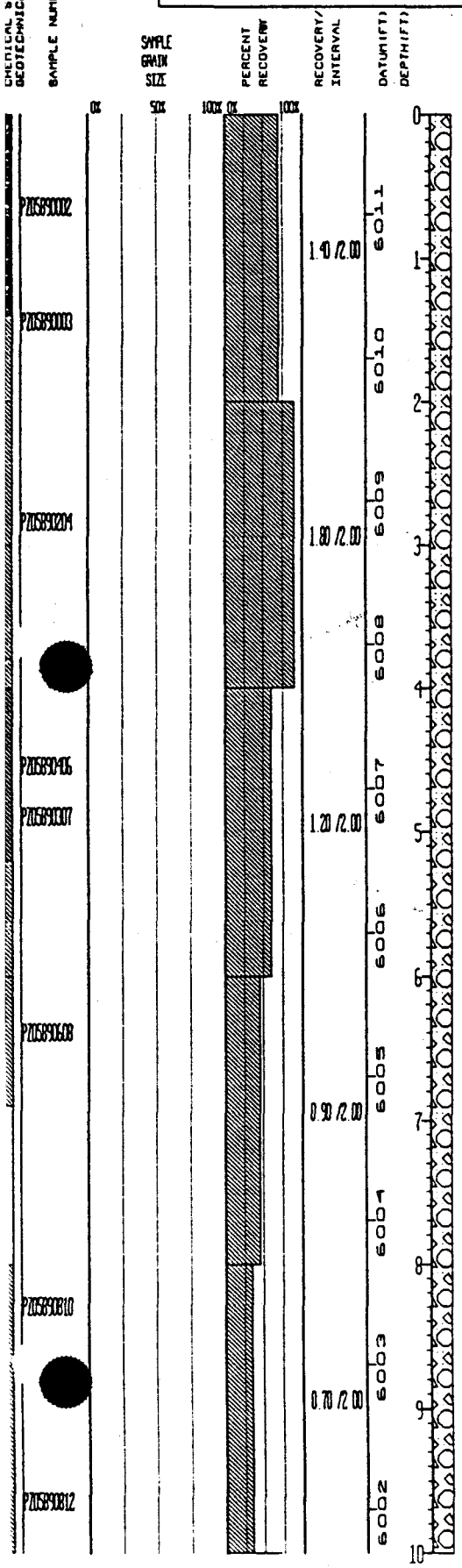
Comments Set stainless steel centralizer from 26.99' to 25.67' below ground surface



Backfill Material: 1/4" Volclay bentonite pellets and slough

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 24.0	GROUND ELEVATION (FT): 6011.70	OLD WELL NUMBER: P205-89	LOG OF BORING NUMBER:
NORTH: 749913	AREA: PLANT	CASING DIAMETER (IN): 2-3/8 O.D.	GEOLOGIST: TAL	P313489
EAST: 2083062	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 10/11/89	

REMARKS: Hollow Stem Auger. Weston Log.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	CL:	Sandy Gravelly Clay - mod. brown (5 YR 3/4). Non-stratified, f.g. to c.g. quartzose sand, sub-rounded to sub-angular. 1 cm. to 3 cm. broken quartzose gravels. Non to low plasticity, caliche, mod. HCl reaction, stiff, damp.
	CL:	Sandy Gravelly Clay - same as above with light brown (5 YR 6/4) to grayish orange (10 YR 7/4). 4 cm. to 7 cm. gravels.
	NO SAMPLE:	NO SAMPLE.
	SC:	Gravelly Clayey Sand - light brown (5 YR 6/4) to pale yellowish orange (10 YR 8/6). F.g. to c.g. quartzose sand, sub-angular to sub-rounded. 3 cm. to 5 cm. broken gravels. Iron staining, trace mica, some silt. Caliche with mod. HCl reaction, stiff, dry.
	SC:	Gravelly Clayey Sand - same as above with color change to light brown (5 YR 5/6).
	CL:	Gravelly Sandy Clay - same as above with low plasticity.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 24.0	GROUND ELEVATION (FT):	6011.70	OLD WELL NUMBER:	P205-89	LOG OF BORING NUMBER:
NORTH:	748913	AREA: PLANT	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST:	TAL	P313489
EAST:	2083062	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	10/11/89	

REMARKS: Hollow Stem Auger. Weston Log.

SAMPLE NUMBER	RECOVERY/INTERVAL	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
P205891012	1.40 /2.00	10–11	CL:	Sandy Clay - light olive gray (5 Y 6/1) to mod. reddish brown (10 R 4/6). Non-stratified, f.g. to c.g. quartzose sand, sub-angular to sub-rounded. Some 1 cm. to 4 cm., sub-rounded quartzose gravels. Low to med. plasticity, stiff, dry.
		11–12	NO SAMPLE:	NO SAMPLE.
		12–13	CL:	Sandy Clay - same as above (reference interval 10.2' to 11.4').
P205891214	2.00 /2.00	13–14	CL:	Gravelly Sandy Clay - light brown (5 YR 6/4) to pale yellowish orange (10 YR 8/6). F.g. to c.g. quartzose sand, sub-rounded to sub-angular. 3 cm. to 5 cm. broken quartzose gravels. Med. plasticity, stiff, damp.
P205891218	0.20 /2.00	14–15		
		15–16		
P205891618		16–17	CL:	Sandy Clay - same as above (reference interval 12.0' to 12.4').
	0.80 /2.00	17–18	CL:	Gravelly Sandy Clay - same as above (reference interval 12.4' to 14.0') with some silt, wet.
		18–19	NO SAMPLE:	NO SAMPLE.
P205891820	1.30 /2.00	19–20	SM:	Gravelly Silty Sand - pale yellowish brown (10 YR 6/2) to dark reddish brown (10 YR 3/4). Non-stratified, v.f.g. to c.g. quartzose sand. 3 cm. to 5 cm. broken quartzose gravels. Trace clay, stiff, moist.
P205891821			CL:	Gravelly Sandy Clay - same as above (reference interval 12.4' to 14.0'), with grayish orange (10 YR 7/4), damp to moist.
			NO SAMPLE:	NO SAMPLE.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 24.0	GROUND ELEVATION (FT):	6011.70	OLD WELL NUMBER:	PZ05-89	LOG OF BORING NUMBER:
NORTH: 749913	AREA: PLANT	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST:	TAL	P313489
EAST: 2083062	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	10/11/89	

REMARKS: Hollow Stem Auger. Weston Log.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						20			CL:	Gravelly Sandy Clay - same as above (reference interval 18.3' to 19.3').
	PZ05892022			2.00 /2.00	5991	21			SW:	Gravelly Sand - pale yellowish orange (10 YR 8/6), non-stratified. Predom. f.g., quartzose, occasionally m.g. to c.g., sub-rounded to sub-angular. Trace silt. 2 cm. to 4 cm. broken quartzose gravels. Iron stained, trace clay, stiff, moist.
					5990	22			CLAYSTONE:	Top of Bedrock. Olive gray (5 Y 4/1) to olive black (5 Y 2/1), non-stratified, dense. Trace silt, blocky, med. to high plasticity, dry.
	PZ05892121				5989	23			CLAYSTONE:	Same as above (reference interval 20.6' to 22.0'), with grayish brown (5 YR 3/2) to brownish gray (5 Y 4/1) and mod. yellowish brown (10 YR 5/4), with iron staining.
	PZ05892221			2.00 /2.00	5988	24				Total Drilled Depth = 24.0'.
					5987	25				
					5986	26				
					5985	27				
					5984	28				
					5983	29				
					5982	30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 16.0	GROUND ELEVATION (FT):	5990.90	OLD WELL NUMBER:	OP02-89
NORTH: 748891	AREA: ORIGINAL PROCESS	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC
EAST: 2084272	LOCATOR NUMBER: L8	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/02/89

REMARKS: Hollow Stem Auger. Weston Log.

LOG OF BORING NUMBER: P317989

CHEMICAL SAMPLE OR GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P317989002			1.20 /2.00	5990	0–1			SC:	Gravelly Clayey Sand - dusky yellowish brown (10 YR 2/2) to pale yellowish brown (10 YR 6/2), non-stratified. F.g. to v.c.g. sand, 1 cm. to 5 cm. gravels, trace to some silt, poor sorting, sub-angular, quartzose. Low plasticity, med. dense, calcareous in lower 0.2', moist.
	P317989003				5989	1–2				
	P317989004			1.50 /2.00	5988	2–3			SM:	Gravelly Silty Sand - same as above, with light brown (5 YR 6/4) to very pale orange (10 YR 8/2). Trace to some clay, low to non-plasticity, very calcareous, thin wet lenses.
	P317989006				5987	3–4			SM:	Gravelly Silty Sand - same as above, with light brown (5 YR 5/6) to mod. yellowish brown (10 YR 5/4).
	P317989006			1.30 /2.00	5986	4–5			ML:	Clayey Silt - very pale orange (10 YR 8/2), non-stratified. Trace to some f.g. to v.c.g. sand, trace gravels. Low to med. plasticity, very calcareous, stiff, damp.
					5985	5–6			NO SAMPLE:	NO SAMPLE.
						6–7			CL:	Silty Clay - very pale orange (10 YR 8/2), non-stratified. Trace sand, gravels. Low to med. plasticity, very calcareous, Claystone inclusions, stiff, moist.
	P317989008			2.00 /2.00	5984	7–8			CLAYSTONE:	Top of Bedrock. Light olive gray (5 Y 6/1) to light gray (N 7/0), stained dark yellowish orange (10 YR 6/6), blocky, non-stratified. Trace silt, iron staining, med. to high plasticity, weathered, calcareous deposits, firm, moist.
	P317989010				5983	8–9	11/02/89		CLAYSTONE:	Same as above - at 8.3' to 8.4' and 9.1' to 9.2'. C.g. to v.c.g. sand, well sorted, sub-rounded, quartzose. Calcareous cement, friable, med. hard, wet.
	[illegible]			2.00 /2.00	5982	9–10				
					5981	10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 16.0	GROUND ELEVATION (FT):	5990.90	OLD WELL NUMBER:	OP02-89
NORTH: 749891	AREA: ORIGINAL PROCESS	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC
EAST: 2084272	LOCATOR NUMBER: L8	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/02/89

REMARKS: Hollow Stem Auger. Weston Log.

LOG OF BORING NUMBER: P317989

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%	2.00 /2.00	5980	10 11			CLAYSTONE:	Same as above - med. light gray (N 6/0). No calcareous deposits. Firm to med. hard.
			2.00 /2.00	5975	12 13			CLAYSTONE:	Same as above - med. gray (N 5/0) to light olive gray (5 Y 6/1). Trace to some silt, trace manganese deposits.
			2.00 /2.00	5970	14 15			CLAYSTONE:	Same as above - light olive gray (5 Y 6/1) to dusky yellow (5 Y 6/4). Trace carbonaceous.
				5965	16 17 18 19 20				Total Drilled Depth = 16.0'.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 20.9	GROUND ELEVATION (FT):	6009.90	OLD WELL NUMBER:	70-89
NORTH: 748799	AREA: PLANT	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	TAL
EAST: 2083280	LOCATOR NUMBER: K8	BOREHOLE DIAMETER (IN):	11	DATE DRILLED:	02/06/90

LOG OF BORING NUMBER: P320089

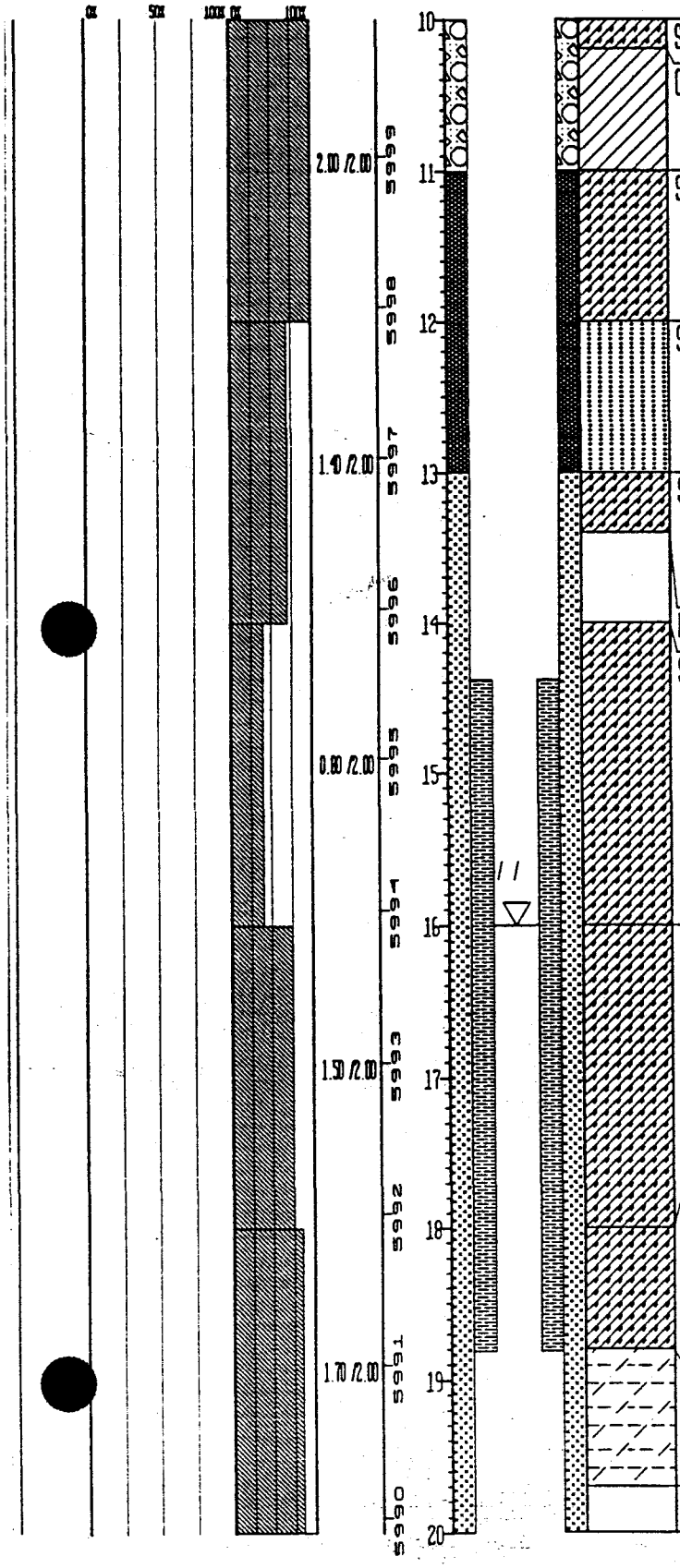
REMARKS: Hollow Stem Auger. Weston Log.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.70 /2.00	6009	1			CL:	Gravelly Clay - brownish black (5 YR 2/1), non-laminated. Organics (roots). 2 cm. to 4 cm., broken lithic gravels. Some to trace quartzose sand. Trace silt, non to low plasticity, stiff, damp.
				6008	2			GC:	Clayey Sandy Gravel - pale red (10 R 6/2) to grayish red (10 R 4/2), non-laminated, mottled. 1 cm. to 5 cm., sub-rounded to broken, lithic and quartzite gravels. F.g. to c.g. quartzose sand, sub-angular to sub-rounded. Trace to some clay, non to low plasticity, very stiff, dry.
								NO SAMPLE:	NO SAMPLE.
			0.60 /2.00	6007	3			SM:	Gravelly Silty Sand - mod. brown (5 YR 4/4), non-laminated. 1 cm. to 7 cm. gravels, same as above. Predom. f.g. quartzose sand, some c.g. sand, sub-angular to sub-rounded, silty. Trace clay, stiff, dry.
				6006	4			SC:	Gravelly Clayey Sand - mod. brown (5 YR 4/4), non-laminated. 1 cm. to 2 cm., sub-angular to sub-rounded gravels. Sand same as above. Trace to some silt. Non-plastic to low plasticity. Some caliche toward bottom, very pale orange (10 YR 8/2), HCl reaction (calcareous), stiff, dry.
			1.80 /2.00	6005	5				
				6004	6			SC:	Gravelly Clayey Sand - dark yellowish orange (10 YR 6/6) to grayish olive (10 Y 4/2), non-laminated, mottled. Gravels same as above. Sand same as above, with iron staining. Stiff, damp, occasionally grading to Gravelly Sandy Clay, same as above.
			1.30 /2.00	6003	7				
				6002	8			SC:	Gravelly Clayey Sand - same as above. Mod. yellow (5 Y 7/6) to grayish orange (10 YR 7/4).
			2.00 /2.00	6001	9				
				6000	10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 20.9	GROUND ELEVATION (FT): 6009.90	OLD WELL NUMBER: 70-89	LOG OF BORING NUMBER:	
NORTH: 748799	AREA: PLANT	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: TAL	P320089	
EAST: 2083280	LOCATOR NUMBER: K8	BOREHOLE DIAMETER (IN): 11	DATE DRILLED: 02/06/90		

REMARKS: Hollow Stem Auger. Weston Log.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50%) | PERCENT RECOVERY (100% 0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Gravelly Clayey Sand - same as above.
CL:	Clay - pale yellowish brown (10 YR 6/2). Non-laminated, homogeneous, med. plasticity, firm damp.
SC:	Gravelly Clayey Sand - same as above (reference interval 10.0' to 10.2'), occasionally grading to Gravelly Sandy Clay.
SP:	Sand - light brown (5 YR 5/6), non-laminated, homogeneous, m.g. quartzose and feldspathic sand, sub-angular to sub-rounded, mod. well sorted, some c.g. sand. Trace clay, firm, damp.
SC:	Clayey Sand - pale yellowish brown (10 YR 6/2) to mod. yellowish brown (10 YR 5/4), non-laminated, mottled. Sand same as above. Trace to some clay, low plasticity, firm, damp, occasionally grading to Sandy Clay.
NO SAMPLE:	NO SAMPLE.
SC:	Gravelly Clayey Sand - same as above (reference interval 11.0' to 12.0').
SC:	Gravelly Clayey Sand - mod. yellowish brown (10 YR 5/4) to light brown (5 YR 5/6), non-laminated, mottled. 1 cm. to 2 cm. gravels, sub-rounded to broken, quartzose and lithic. F.g. to c.g. quartzose sand, sub-rounded to sub-angular. Trace to some clay, non to low plasticity, some iron staining, stiff and wet.
SC:	Gravelly Sand - grayish orange (10 YR 7/4) to mod. yellowish brown (10 YR 5/4). Non-laminated, mottled. F.g. to c.g. sand, sub-angular to sub-rounded. 1 cm. to 2 cm. gravels, sub-rounded to broken. Trace to some clay. Non-plastic, firm, wet.
SILTY CLAYSTONE:	Top of Bedrock. Light gray (N 7/0) to mod. olive brown (5 Y 4/4), non-laminated, mottled, silty, some blocky texture, iron staining, homogeneous, poorly consol., damp.
NO SAMPLE:	NO SAMPLE.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 20.9	GROUND ELEVATION (FT):	6009.90	OLD WELL NUMBER:	70-89	LOG OF BORING NUMBER:
NORTH:	748799	AREA: PLANT	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	TAL	P320089
EAST:	2083280	LOCATOR NUMBER: K8	BOREHOLE DIAMETER (IN):	11	DATE DRILLED:	02/06/90	

REMARKS: Hollow Stem Auger. Weston Log.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	0.90 /0.90	5989	20				SILTY CLAYSTONE: Pale yellowish brown (10 YR 6/2) to light gray (N 7/0) - same as above.
					5988	21				Total Drilled Depth = 20.9'
					5987	22				
					5986	23				
					5985	24				
					5984	25				
					5983	26				
					5982	27				
					5981	28				
					5980	29				
						30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 44.3	GROUND ELEVATION (FT): 5982.25	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 749674	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42792
EAST: 2085337	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan; K. Maley.
Borehole abandoned on 4/7/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5982	0			SC:	Clayey Sand with some Gravel and Silt. Dark yellowish brown (10 YR 4/2) to dusky brown (5 YR 2/2). Sand well graded. Pred. sub-angular quartz and some quartzite in coarser fraction and sub-angular quartz and some feldspar in med. and fine fraction. Becomes more gravelly in lower half of interval. Low plasticity. No root development. Weathered. Slightly moist. 15% gravel, 59% sand, 8% silt, 18% clay.
	BH001EB			1.40 /2.00	5981	1				
	BH001SB								NO SAMPLE:	No recovery.
					5980	2			GC:	Clayey Gravel with some Sand and trace Silt. Grayish red (5 R 4/2) at top grading to mod. brown (5 YR 4/4) at bottom of interval. Slightly damp, mod. plasticity. Gravel well graded overall. Very coarse at top (2.5 in. max.), becoming smaller with depth (one 2 in. pebble at bottom). Lithology consists of quartzite, granite or schist fragments and some quartz, sub-angular to angular. Sand fraction same as 0' to 1.4' interval description. Interval weathered. 60% gravel, 18% sand, 4% silt, 22% clay.
					5979	3				
	BH001									
				2.00 /4.00	5978	4			GP:	Sandy Gravel with trace Silt and Clay. Calcareous. Pale yellowish brown (10 YR 6/2) with very pale orange (10 YR 4/2). Very poor sample. Gravel matrix ratio estimated. Gravel indicated to be poorly graded, max. size 2 in., sub-angular quartzite. Interval weathered. (gp-gc) 70% gravel, 20% sand, 5% silt, 5% clay.
					5977	5			NO SAMPLE:	No recovery.
					5976	6				
					5975	7			SC:	Clayey Sand with some Gravel and Silt. Grayish orange (10 YR 7/4), slightly calcareous. Interval damp, low plasticity. Weathered. Sand poorly graded; m.g. to f.g. Pred. sub-angular quartz. Some feldspar. Trace mica. 15% gravel, 57% sand, 11% silt, 17% clay.
	BH001EB									
				1.40 /3.20	5974	8			SC:	Gravelly Sand with abundt. Clay and trace Silt. Mod. brown (5 YR 4/4). Dry, med. plasticity, weathered. Sand well graded. Pred. sub-angular to angular quartz. Some quartzite in coarse fraction. Some feldspar (all sizes). Poor sample. Gravelly matrix ratio estimated. 30% gravel, 37% sand, 4% silt, 29% clay.
	BH001EB				5973	9			NO SAMPLE:	No recovery.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 44.3	GROUND ELEVATION (FT): 5982.25	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 749674	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42792
EAST: 2085337	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan; K. Maley.
Borehole abandoned on 4/7/92.

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% / 50%)	PERCENT RECOVERY (100% OK / 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0.00 /0.50	5972	10			NO SAMPLE:	No recovery.
			1.30 /1.70	5971	11			GC:	Sandy Gravel with some Clay and trace Silt. Light brown (5 YR 5/6). Dry, low plasticity, weathered. Gravel well graded, max. pebble size 2.25 in. Dom. lithology quartzite (sub-angular). Sand same as interval from 7.8' to 8.2'. 60% gravel, 27% sand, 4% silt, 9% clay.
				5970	12			NO SAMPLE:	No recovery.
10318B			1.00 /2.00	5969	13			GW:	Sandy Gravel with some Clay and trace Silt. Same as above (reference interval 10.5' to 11.8'). Max. pebble size 1.25 in. Poor sample. Gravel to matrix ratio estimated. (gw-gc) 60% gravel, 30% sand, 4% silt, 6% clay.
10320B								NO SAMPLE:	No recovery.
10321B				5968	14				
10319B				5967	15			GW:	Sandy Gravel with some Silt and Clay. Same as above (reference interval 12.2' to 13.2'). Max. pebble size 1.5 in. (gw-gc) 50% gravel, 38% sand, 5% silt, 7% clay.
			1.50 /3.00	5966	16			NO SAMPLE:	No recovery.
				5965	17				
				5964	18			NO SAMPLE:	Center bit drilled. No recovery.
			0.00 /2.00	5963	19				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 44.3	GROUND ELEVATION (FT): 5982.25	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749574	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42792
EAST:	2085337	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan; K. Maley.
Borehole abandoned on 4/7/92.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00 /2.00	5962	20			SC:	Gravelly Sand with some Silt and Clay. Grayish orange (10 YR 7/4) with dark yellowish orange (10 YR 6/6) Fe staining, and light gray (N7) clayey zones. Gravel imbedded in middle of core to depth indicated. Sand well graded, pred. sub-angular to angular quartz, becoming more rounded (trace well rounded grains) in finer fractions. Interval damp, low plasticity. Well weathered and oxidized. 20% gravel, 54% sand, 8% silt, 18% clay.
					5961	21				
					5960	22			SANDSTONE:	Top of Bedrock at 20.4'. Sandstone with some Silt and Clay. Grayish orange (10 YR 7/4) at top grading to dark yellowish orange (10 YR 6/6) and to pred. yellowish gray (5 Y 7/2) at bottom of interval. Clay associated with some claystone clasts and increases in clay content with depth. Core unconsol., well oxidized at top (abundt. Fe staining) and very friable. Sand well sorted, f.g. quartz, sub-rounded to rounded. Both clear and frosted quartz grains. Possible Arapahoe Formation. 85% sand, 6% silt, 9% clay.
				2.40 /2.30	5959	23				
					5958	24			SANDY CLAYSTONE:	Sandy Claystone with some Silt. Grayish orange (10 YR 7/4) with yellowish gray (5 Y 7/2) interbedded silty claystone beds. Core mod. well cemented, mod. friable, slightly damp. Apparent inclined bedding at approx. 30 degrees (consistent throughout interval). Heavy Fe staining, some Mn staining. Sand well sorted, f.g., sub-angular quartz. Trace sub-rounded. 33% sand, 10% silt, 57% clay.
					5957	25				
					5956	26				
				5.00 /5.00	5955	27				
					5954	28				
					5953	29			CLAYEY SANDSTONE:	Clayey Sandstone with some Silt. Dark yellowish orange (10 YR 6/6) with yellowish gray (5 Y 7/2) clayey lenses. Interval slightly damp, mod. cemented (argillaceous), friable, well oxidized. Sand poorly sorted (m.g. to v.f.g.), sub-angular quartz with some sub-rounded and spherical (well rounded) grains. Apparent inclined bedding at approx. 30 degrees. 46% sand, 15% silt, 39% clay.
				0.70 /0.70						

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 44.3	GROUND ELEVATION (FT): 5982.25	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748674	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42792
EAST: 2085337	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan; K. Maley.
Borehole abandoned on 4/7/92.

GEOTECHNICAL SAMPLE DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.20 /4.30; 5.00 /5.00; 0.70 /0.70

DATUM (FT): 5952, 5951, 5950, 5949, 5948, 5947, 5946, 5945, 5944, 5943

DEPTH (FT): 30, 31, 32, 33, 34, 35, 36, 37, 38, 39

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

NO SAMPLE: No recovery.

SANDY CLAYSTONE: Sandy Claystone with some Silt. Same as above (reference interval 22.2' to 28.8'). Persistant 30 degree inclined bedding.
28% sand, 21% silt, 51% clay.

SILTY CLAYSTONE: Silty Claystone with some Sand. Similar to interval from 34.3' to 35.6' except more silt and sand occurs in sandy lenses. Color variegated from yellowish gray (5 Y 7/2) to dark yellowish orange (10 YR 6/6). Heavy Fe staining and some FeO coating. Indications of some healed fractures (vertical?). Core slightly damp, mod. to slightly friable, mod. well cemented. 30 degree inclined bedding prevalent.
8% sand, 35% silt, 57% clay.

SITLY CLAYSTONE: Silty Claystone with some Sand. Same as above (reference interval 35.6' to 39.3'), except increase in sand percentage. Sand is well sorted, v.f.g., sub-angular quartz. Mod. cemented, friable to mod. friable, slightly damp. Extensively broken and fragmented in some intervals. Indications that inclined bedding is less consistent. Bedding angle 30 (?) degrees.
22% sand, 21% silt, 47% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 44.3	GROUND ELEVATION (FT): 5982.25	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748674	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42792
EAST: 2085337	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan; K. Maley.
Borehole abandoned on 4/7/92.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE
SAMPLE NUMBER
SAMPLE GRAIN SIZE
PERCENT RECOVERY
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

0% 50% 100% 0% 100%

4.30 /4.30

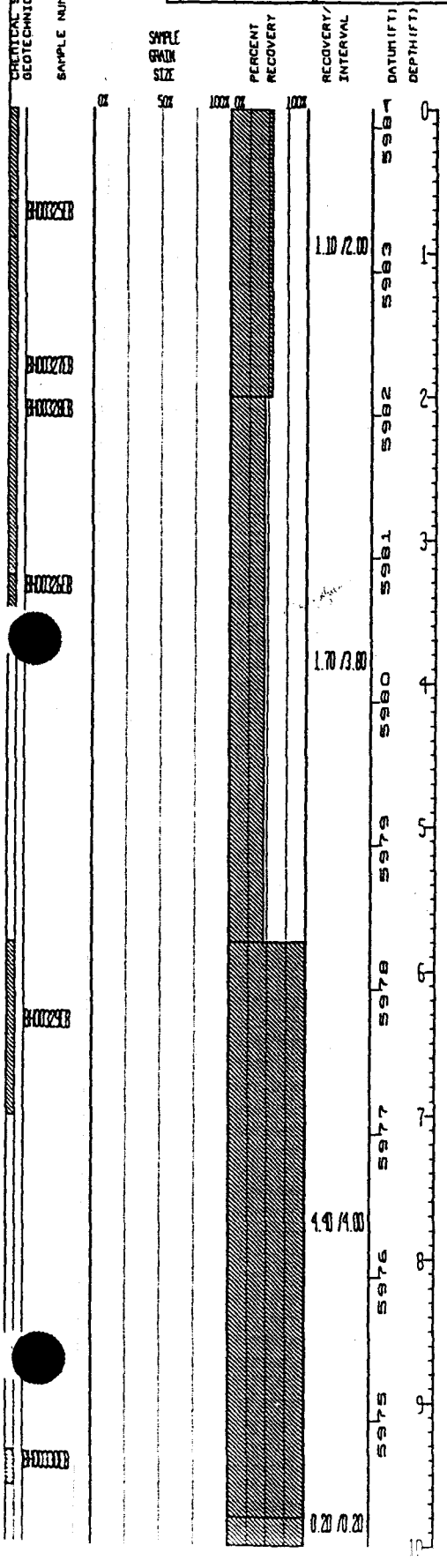
5942 5941 5940 5939 5938 5937 5936 5935 5934 5933

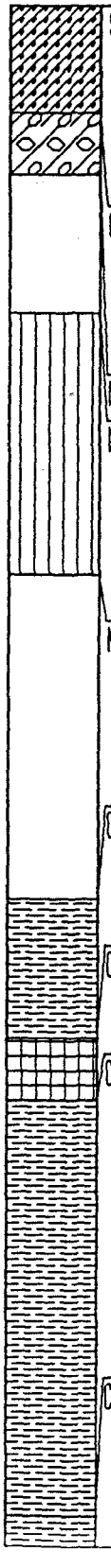
40 41 42 43 44 45 46 47 48 49

Total Drilled Depth = 44.3'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT):	5984.13	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.





UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Gravelly Sand with some Clay and Silt. Grayish brown (5 YR 3/2). Sample dry, low plasticity. Sand well graded, pred. quartz and quartzite in c.g. fraction; and quartz and feldspar in m.g. to f.g. fraction, pred. sub-angular to sub-rounded. Slightly calcareous at bottom of interval. 25% gravel, 40% sand, 14% silt, 20% clay.
GC:	Sandy Gravel with some Clay and Silt. Grayish brown (5 YR 3/2). Caliche cemented. Gravel poorly graded, dom. lithology quartzite, max. pebble size 2.0", sub-angular. Sand lithology same as above (reference interval 0.0' to 0.7'). 50% gravel, 27% sand, 7% silt, 16% clay.
NO SAMPLE:	No recovery.
ML:	Caliche, composed of calcareous cement and clayey Silt with some Sand and Gravel. Pred. very pale orange (10 YR 8/2). Unconsol. Gravel pred. at bottom of interval with one 3.0" cobble, and one 2.0" pebble. Some smaller gravel throughout interval. 12% gravel, 17% sand, 43% silt, 28% clay.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone boulder or slab. Yellowish gray (5 Y 7/2), some grayish orange (10 YR 7/2) streaks (Fe staining). Some hematite nodules. Core coated with caliche (or smeared). 95% clay.
CALICHE:	Caliche with Claystone fragments and quartzite gravel at contact with bedrock. 95% clay.
CLAYSTONE:	Top of Bedrock at 7.0'. Claystone with some Silt and trace Sand. Yellowish gray (5 Y 7/2) with dark yellowish orange (10 YR 6/6). Heavy-Fe staining. Silt and sand occur in silty or sandy claystone lenses. Layer of hematite nodules (lenses) occuring at approx. 1.2' from top of interval. Numerous caliche lenses in upper 1.5' of interval. Claystone is dense and indurated, non-friable. Core breaks along silty or sandy zones. Core dry. No well defined bedding. <5% sand, 15% silt, 80% clay.
CLAYSTONE:	Claystone. Yellowish gray (5 Y 7/2). Slightly damp and pliable. Non-friable. Hematite nodules and mineralization at approx. 11.4'. Some caliche lenses below 11.7'. No apparent bedding. 95% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5994.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5974	10				
					5973	11				
				4.60 /4.60	5972	12				
					5971	13			CLAYSTONE:	Claystone. Color change to light olive gray (5 Y 5/2) grading to brownish gray (5 YR 4/1). Core slightly damp and friable at top, becomes very dense and indurated with depth. Some slightly silty intervals. Core pred. non-friable. Trace to some FeO staining, trace Mn staining. Core extensively fractured (drilling induced) in some intervals. No apparent natural fractures. No apparent bedding. >95% clay.
					5970	14				
					5969	15				
					5968	16				
				2.50 /5.00	5967	17				
					5966	18			NO SAMPLE:	No recovery.
					5965	19				
				0.40 /0.40					CLAYSTONE:	Claystone. Same as lower half of interval from 12.3' to 17.5'. 95% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT):	5984.13	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748876	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE OR GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5964	20				
					5963	21			CLAYSTONE:	Claystone with some Silt. Brownish gray (5 YR 4/1) with mod. abundt. dark yellowish orange (10 YR 6/6) FeO staining and mineralized fractures. Interval extensively fractured with disturbed sediments and/or breccia. Longitudinal section of core reveals numerous mineralized and healed fractures (no distinct fracture angle). Fracture angles from horiz. to approx. 45 degrees. 10% silt, 90% clay.
				2.00 /1.60	5962	22			NO SAMPLE:	No recovery.
					5961	23				
					5960	24				
					5959	25			CLAYSTONE:	Claystone with some silt. Same as above (reference interval from 20.5' to 22.0') except color change to pred. light olive gray (5 Y 6/1). Heavy dark yellowish orange (10 YR 6/6) FeO mineralization and staining in some intervals. Core extensively fractured. Intact core is very dense and indurated. Dry and non-friable to slightly friable. Some silty zones. Some Mn staining occuring with Fe mineralization. 60 degree fractures occurring in lower foot of interval. Numerous fractures indicated throughout interval with disturbed sediments or some breccia zones. 10% silt, 90% clay.
					5958	26				
				5.00 /5.00	5957	27				
					5956	28				
					5955	29				
				0.00 /0.40		30			NO SAMPLE:	Expansion Plug at top of run.

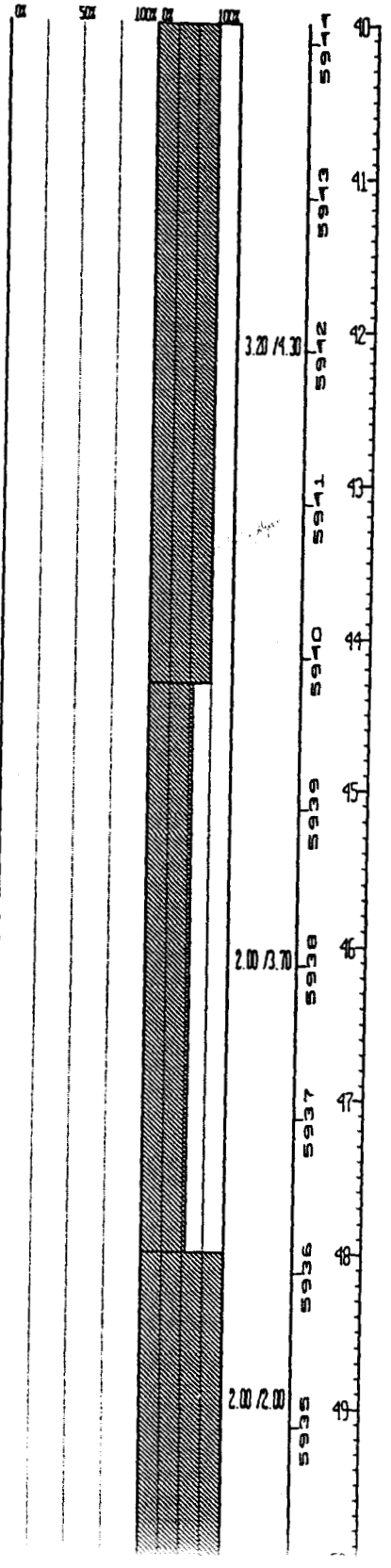
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT):	5984.13	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748876	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

HISTORICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50%)	PERCENT RECOVERY (100% 0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5954	30			CLAYSTONE:	Claystone. Light olive gray (5 Y 6/1) grading to brownish gray (5 YR 4/1), abundt. dark yellowish orange (10 YR 6/6) and grayish orange (10 YR 7/4) FeO staining at top of interval. Decreases with depth. Top 5" of interval consists of soft, slightly damp and pliable clay with 2.5" quartzite pebble imbedded in middle of core (sluff). Remainder of interval consists of slightly damp, dense claystone. Non-friable, some slightly pliable. Vertical sections reveal laminated claystone layers. Some showing deformation or disturbed bedding. Laminations indicate possible horiz. bedding. Trace Mn staining. Most of interval washed and undersize. 95% clay.
					5953	31				
					5952	32				
					5951	33				
				6.50 /8.00	5950	34				
					5949	35				
					5948	36				
					5947	37			NO SAMPLE:	No recovery.
					5946	38			CLAYSTONE:	Claystone. Olive gray (5 Y 4/1). Very distorted by drilling. Varies from slightly damp and dense, to damp, and pliable. Not representative of interval. 95% clay.
				2.00 /2.00	5945	39				
						40				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT):	5994.13	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone. Olive gray (5 Y 4/1) to brownish gray (5 YR 4/1). Highly distorted by drilling. Pred. damp and pliable. 95% clay.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone. Same as above (reference interval 44.3' to 46.3'). 95% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				5934	50			NO SAMPLE:	No recovery.
				5933	51				
				5932	52				
				5931	53				
			0.00 /8.00	5930	54				
				5929	55				
				5928	56				
				5927	57				
				5926	58				
			0.00 /2.00	5925	59				
					60				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	42892
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

Recovery/Interval	Depth (ft)	Unified Soils Classification or Rock Type	Description
	60		
	61		
0.00 /3.00			
	62		
	63	NO SAMPLE:	No recovery, rotary drilled.
0.00 /2.60	64		
	65	CLAYSTONE:	Claystone. Olive gray (5 Y 4/1). Damp, soft and pliable, possibly sluff. 95% clay.
	66	SANDY CLAYSTONE:	Sandy Claystone with some Silt. Light olive gray (5 Y 6/1) with olive gray (5 Y 4/1) claystone lenses and brownish black (5 YR 2/1) carbonaceous laminae. Sand v.f.g. well sorted, sub-angular quartz. Core slightly damp, well cemented, mod. friable. No bedding, min. visual porosity. 36% sand, 19% silt, 45% clay.
2.00 /2.40	67	CLAYSTONE:	Claystone. Olive gray (5 Y 4/1). Core dry to slightly damp, dense and indurated. Slightly friable. >90% clay.
	68	NO SAMPLE:	No recovery.
2.00 /2.00	69	CLAYSTONE:	Claystone with some Silt. Med. gray (N5) to dark gray (N3) and brownish gray (5 YR 4/1). Some brownish black (5 YR 2/1) carbonaceous laminae. Core slightly damp, generally dense and mod. indurated. Non-friable to slightly friable. Some to mod. abundt. carbon. Core breaks with coincoidal surface. Bedding questionable. May be roughly horiz. to slightly dipping. No distinct fractures. Indications of possible approx. 30 degree healed fractures. 10% silt, 90% clay.
	70		

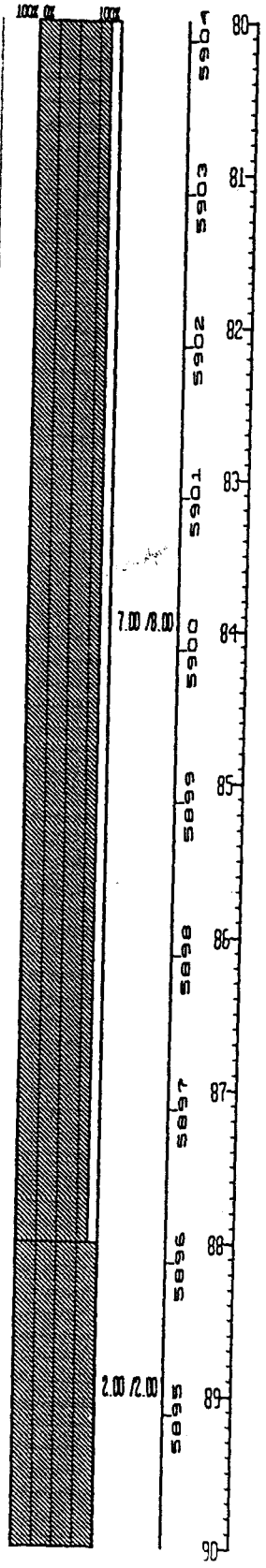
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	42892
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, STMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%		5914	70				
				5913	71				
				5912	72				
				5911	73				
			8.00 /8.00	5910	74				
				5909	75				
				5908	76				
				5907	77			SILTY CLAYSTONE	Silty Claystone with trace Sand. Light olive gray (5 Y 6/1). Some olive black (5 Y 2/1) mottling. Core dry, well cemented, slightly friable, some carbon. <2% sand, 25% silt, 73% clay.
				5906	78			CLAYSTONE	Claystone with some Silt. Olive gray (5 Y 4/1) to olive black (5 Y 2/1) in top half of interval. Grades to dusky yellowish brown (10 YR 2/2) in lower half of interval. Bottom foot of core becomes more silty with some yellowish gray (5 Y 8/1) silty lenses. Core broken in top foot of interval with indications of vertical fractures. Interval is damp, intact core slightly friable. Core generally slightly damp, dense, and indurated, non-friable. Some carbon throughout. Indications of possible healed fractures (30 degrees at 81.9'). Bedding varying from horiz. to 5 degrees on avg. 5-10% silt, 90-95% clay.
			2.00 /2.00	5905	79				
					80				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:	
NORTH: 749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892	
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92		

REMARKS: Drilling Equipment: CME 750 ATV, STMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.



NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with some Silt. Dusky yellowish brown (10 YR 2/2) to brownish black (5 YR 2/1). Core consists of damp, uncon-sol. intervals and slightly damp to dry intact core. Intact core is dense and indurated. Pred. non-friable. Unconsol. core consists of disturbed or brecciated sediment fragments. Some to mod. abundt. carbon. Indicated possible horiz. to slightly dipping (5 degrees) bedding. Indicated 30 degree and 45 degree fractures. 10% silt, 90% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5894	90				
					5893	91				
					5892	92				
					5891	93				
				8.00 /8.00	5890	94				
					5889	95				
					5888	96				
					5887	97			SILTY CLAYSTONE:	Silty Claystone. Light gray (N7) with dark gray (N3) to olive gray (5 Y 4/1) claystone lenses. Interval extensively fractured. Core fragments dry, indurated, and slightly friable. 30% silt, 70% clay.
					5886	98			CLAYSTONE:	Claystone. Olive black (5 Y 2/1). Some light olive gray (5 Y 6/1) silty lenses in top 2.0' of interval. Some to mod. abundt. carbon. Some siltstone nodules. Some fragments with slickensides. Overall core dry, dense, and indurated. Non-friable. Core breaks indicate horiz. to approx. 7 degree bedding. 95% clay.
				2.00 /2.00	5885	99				
						100				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

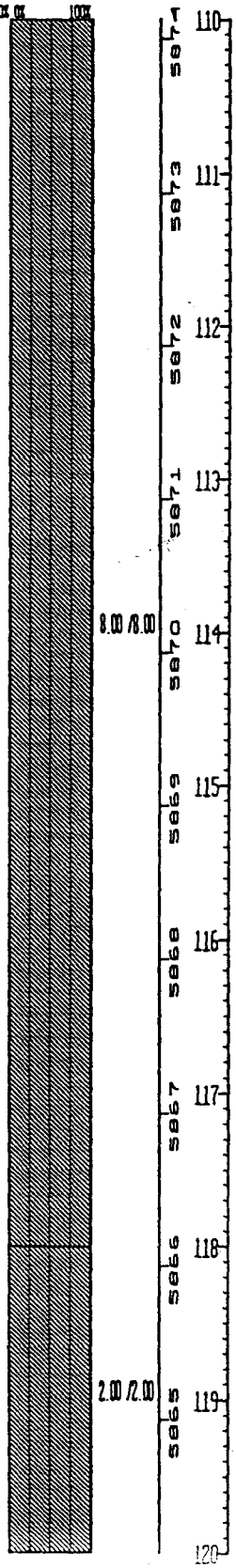
REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE INT / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.00 /3.00	5984	100				
					5983	101				
					5982	102				
					5981	103				
					5980	104			NO SAMPLE:	No recovery.
				0.40 /5.00	5979	105				
					5978	106				
					5977	107				
					5976	108			CLAYSTONE:	Claystone. Olive black (5 Y 2/1). Core similar to above (reference interval from 98.0' to 103.4'). Dense and indurated. Non-friable. Some slightly damp fractured zones. 30 degree and 60 degree fractures. Some slickensides. Possible horiz. bedding. Some carbon. 95% clay.
				2.00 /2.00	5975	109				
						110				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% – 50%) | PERCENT RECOVERY (0% – 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



SILTY CLAYSTONE: Silty Claystone with some Sand. Light gray (N7) with some dark gray (N3) claystone lenses and/or laminae. Core dry, well cemented (argillaceous). Slightly friable, some indications of slumping (dipping laminae). Lower foot of interval fractured (drilling induced). Some carbon throughout interval. No apparent bedding.
10% sand, 18% silt, 72% clay.

SANDY CLAYSTONE: Sandy Claystone with some Silt. Very light gray (N8) to light gray (N7) with dark gray (N3) claystone laminae. Lithology varies throughout interval. Core dry, well cemented (argillaceous). Mod. friable to slightly friable. Some to mod. abundt. carbon. Visual porosity nil. Sand is f.g., well sorted, sub-angular quartz. Some soft sediment deformation, no apparent bedding.
39% sand, 12% silt, 49% clay.

CLAYSTONE: Claystone with some Silt. Light gray (N7), some dark gray (N3) claystone laminae. Core dry, dense and indurated. Slightly friable.
20% silt, 80% clay.

SANDY CLAYSTONE: Sandy Claystone with some Silt. Light gray (N7) with dark gray (N3) claystone laminae. Core dry, mod. well cemented (argillaceous), mod. friable. Indicated soft sediment deformation. Possibly some bioturbation, no fractures or apparent bedding.
28% sand, 14% silt, 58% clay.

STATE PLANE COORDINATE:
NORTH: 749876
EAST: 2085012

TOTAL DEPTH (FT): 159.6
AREA: SITEWIDE
LOCATOR NUMBER: L9

GROUND ELEVATION (FT): 5984.13
CASING DIAMETER (IN):
BOREHOLE DIAMETER (IN): 10.0/3.75

PROJECT NUMBER: SITEWIDE
GEOLOGIST: F. GRIGSBY
DATE DRILLED: 05/12/92

LOG OF BORING NUMBER: 42892

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						5864	120				
						5863	121				
						5862	122			SILTSTONE:	Calcareous Siltstone. Med. light gray (N6), some grayish black (N2) laminae and carbonaceous zones. Hard, well cemented (argillaceous), non-friable. No sieve analysis
						5861	123			CLAYSTONE:	Claystone with some Silt. Olive gray (5 Y 4/1) to olive black (5 Y 2/1) and some light olive gray (5 Y 6/1) silty lenses. Silt content varies. Silty interval at top and bottom of interval. Core pred. dry, dense and indurated. Non-friable. Abundt. carbon in some zones. Fractures as follows: 123.5' - 30 degrees, no slickensides. 124.9' - 30 degrees, oblique slickensides (weak) 126.6' - 30 degrees, healed fractures - vertical slickensides on fresh surface break. Bedding not apparent or well defined. >/=10% silt, <= 90% clay.
				7.80 /8.00		5860	124				
						5859	125				
						5858	126				
						5857	127				
						5856	128			NO SAMPLE:	No recovery.
				2.00 /2.00		5855	129			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Light olive gray (5 Y 6/1) with olive gray (5 Y 4/1) to olive black (5 Y 2/1) claystone lenses and/or laminae. Core is dry and indurated, slightly friable. Breaks are uneven, no apparent bedding or fractures. Core has mottled appearance, some laminated intervals with indicated soft sediment deformation. Some carbon throughout interval. <3% sand, 30% silt, 67% clay
							130				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:	
NORTH: 748876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892	
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92		

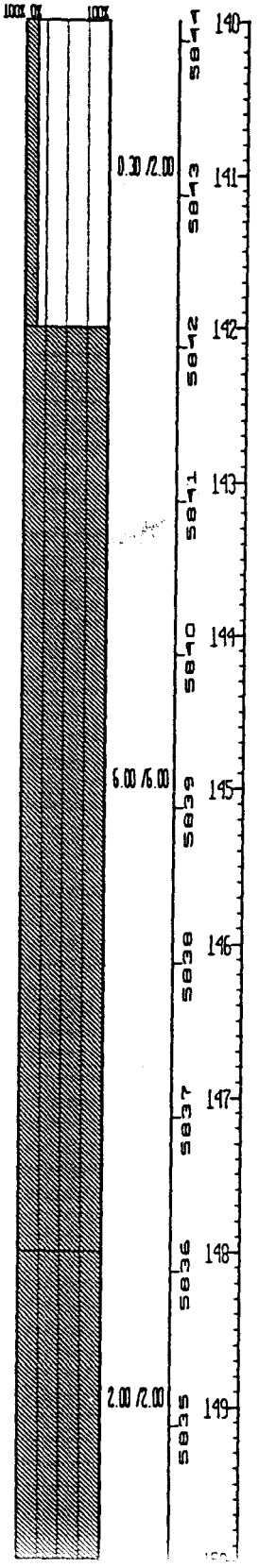
REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

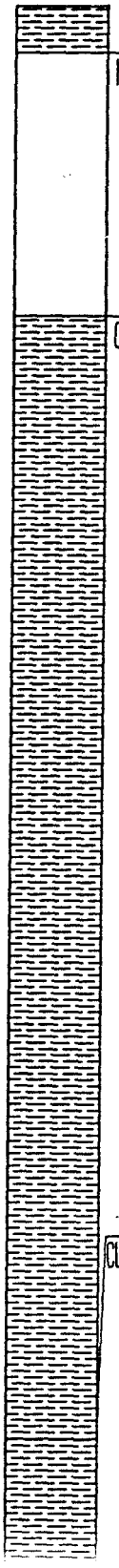
GEOTECHNICAL SAMPLE NUMBER	SAMPLE GRADIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%		5854	130				
				5853	131				
				5852	132				
				5851	133				
			5.30 /8.00	5850	134				
				5849	135			CLAYSTONE:	Claystone with some Silt. Olive black (5 Y 2/1). Core fractured in lower 0.2' (approx.). Indications of possible fracture in upper intact core. Intact core dense, non-friable. 10% silt, 90% clay.
				5848	136			NO SAMPLE:	No recovery.
				5847	137				
				5846	138			CLAYSTONE:	Claystone. Olive black (5 Y 2/1). Some intervals with mod. abundt. carbon. Interval extensively fractured. Some indications of disturbed sediments and/or breccia. Core fragments and intact core are dry and indurated. Pred. non-friable. Some to mod. abundt. carbon. 95% clay.
			2.00 /2.00	5845	139				
					140				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT):	5984.13	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748876	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE DEPT
GEOTECHNICAL SAMPLE
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION





UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with some Silt. Olive black (5 Y 2/1). Interval from 142.0' to 146.3' consists of both intact core and damp, unconsol. intervals. Intact core is dense, indurated and non-friable. 30 degree and 45 degree fractures with possible slickensides at approx. 143.0'. Some to mod. abundt. carbon in this interval with possible biofeeding structure at bottom of interval. Interval from 146.3' to 149.2' becomes slightly more silty with some carbon. Indications of some healed fractures (angle undetermined). Core very dense and indurated. Non-friable. 5-10% silt, 90-95% clay.
CLAYSTONE:	Claystone with some Silt. Same as above (reference interval 142.0' to 149.2'). Essentially very consistent, dense, and indurated claystone, non-friable. Some slight variations in silt content, some carbon. Fractures as follows: 150.5' - 60 degrees, no slickensides; 151.6' - vertical, vertical slickensides; 155.3' - 30 degrees, no slickensides; 156.0' - 30 degrees, no slickensides; 157.3' to 159.3' - vertical and 60 degrees, some vertical slickensides. 5-10% silt, 90-95% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT):	5984.13	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748876	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

GEOTECHNICAL SAMPLE

SAMPLE NUMBER

SAMPLE GRAIN SIZE (0% 50% 100%)

PERCENT RECOVERY (0% 100%)

RECOVERY/INTERVAL: 6.00 /6.00; 3.60 /3.60

DATUM (FT): 5931, 5930, 5929, 5928, 5927, 5926, 5925

DEPTH (FT): 150, 151, 152, 153, 154, 155, 156, 157, 158, 159

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

Total Drilled Depth = 159.6'

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 40.2	GROUND ELEVATION (FT): 5995.19	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:	
NORTH: 749231	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: L. HOST	42992	
EAST: 2083962	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/24/92		

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: Laurie Host. EBASCO Geologist: K. Tegtmeyer. Borehole filled with bentonite grout and abandoned on 4/29/92.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	BH00367EB			1.20 /2.20	5995 5994	0 1			GW:	Sandy Gravel with some Silt and trace Clay. Matrix mod. brown (5 YR 3/4) to dusky yellowish brown (10 YR 2/2). Gravel mod. graded, granules to 1.5 in., angular to sub-rounded. Sand well graded, v.f.g. to v.c.g., angular to sub-rounded. Bedding not apparent, interval damp to dry, slightly calcareous. Clay content increases at bottom. (gw-gm) 46% gravel, 44% sand, 8% silt, 2% clay.
					5993	2			NO SAMPLE:	No recovery.
	BH00369EB			2.80 /3.60	5992 5991	3 4			SM:	Gravelly Sand with some Silt and Clay. Matrix pale yellowish brown (10 YR 6/2) to grayish orange (10 YR 7/4). Gravel mod. graded, 0.25 in. to 2.0 in., sub-angular to sub-rounded. Sand mod. graded, pred. v.f.g. but ranges from v.c.g. to v.f.g. Three distinct size ranges, v.c.g., m.g. and v.f.g. No apparent bedding, caliche cemented. Sand is sub-rounded to angular, f.g. is mostly sub-rounded. Interval damp to dry. 30% gravel, 36% sand, 20% silt, 14% clay.
	BH00368EB				5990	5			NO SAMPLE:	No recovery.
					5989	6			SM:	Gravelly Sand with some Silt and Clay. Same as above (reference interval 2.2' to 5.0') with matrix color change to mod. yellowish brown (10 YR 5/4). Interval still mod. to slightly calcareous. Trace carb. material toward bottom of interval. Slighlty damp. 30% gravel, 36% sand, 20% silt, 14% clay.
					5988	7			CLAYSTONE:	Top of Bedrock at 6.5'. Claystone with some Silt. Light olive gray (5 Y 6/1). Trace dark yellowish orange (10 YR 6/6) staining/mottling. Core weathered, non-friable, indurated, damp. Trace carbonaceous material. Bedding appears massive. Some caliche (calcareous) zones at approx. 6.5', and approx. 8.5', present as stringers between. 20% silt, 80% clay.
	BH00372EB			5.00 /4.10						
	BH00371EB				5987	8			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Light olive gray (5 Y 6/1) to greenish gray (5 GY 6/1), some dark yellowish orange (10 YR 6/6) mottling/staining. Core slightly friable, weathered. Trace carbonaceous material. Trace caliche (calcareous) stringers and patches. Sand v.f.g. Massive bedding. 1% sand, 25-30% silt, 70-75% clay.
					5986	9				
	BH00370EB								SILTY CLAYSTONE:	Silty Claystone with trace Sand. Same as above (reference interval 8.6' to 9.9').

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 40.2	GROUND ELEVATION (FT): 5995.19	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749231	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: L. HOST	42992
EAST:	2083962	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/24/92	

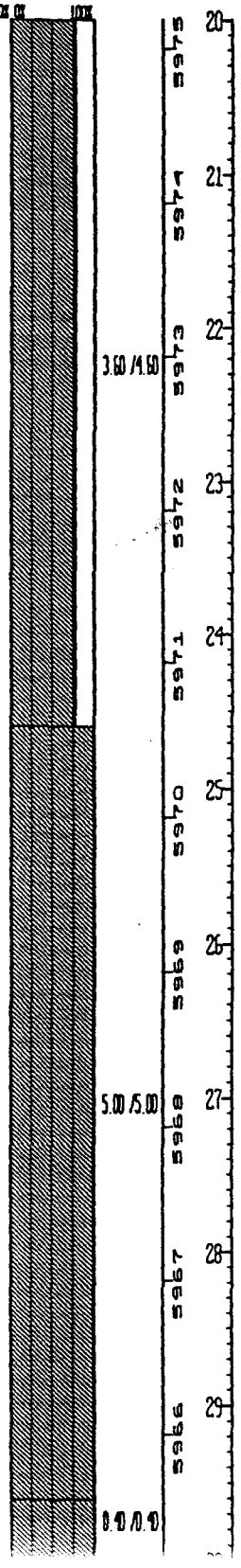
REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: Laurie Host. EBASCO Geologist: K. Tegtmeyer. Borehole filled with bentonite grout and abandoned on 4/29/92.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%		5985	10				
				5984	11			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Same as above (reference interval 8.6' to 9.9'). Interval has more dark yellowish orange (10 YR 6/6) discoloration, more of a "tint" than mottling. Slightly more friable than above. Interval damp, non-calcareous. Slightly more silt than above. Weathered. Sand v.f.g. 1-2% sand, 40-45% silt, 50-55% clay.
			2.40/3.70	5983	12				
								NO SAMPLE:	No recovery.
				5982	13			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1) with dark yellowish orange (10 YR 6/6) mottling and staining. Bedding appears massive. Trace carbonaceous material, interval damp. Interval friable in some zones. Mod. indurated in some zones. Numerous horiz. fractures, drilling induced. Weathered. Trace white non-calcareous mineralization. Trace v.f.g. sand. Grades to claystone with some silt at approx. 16.5'. Trace sand, 40-45% silt, 55-60% clay.
			2.40/0.90	5981	14				
				5980	15				
				5979	16				
			3.90/5.10	5978	17				
				5977	18				
								NO SAMPLE:	No recovery.
				5976	19			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Same as above (reference interval 12.6' to 18.4'). Very friable in center of interval. Siltier than above, trace v.f.g. sand. 5% sand, <20% silt, >75% clay
			0.40/0.40						

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 40.2	GROUND ELEVATION (FT):	5995.19	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749231	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	L. HOST	42992
EAST:	2083362	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	04/24/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: Lourie Host. EBASCO Geologist: K. Tegtmeyer. Borehole filled with bentonite grout and abandoned on 4/29/92.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



DATUM (FT)	DEPTH (FT)
5975	20
5974	21
5973	22
5972	23
5971	24
5970	25
5969	26
5968	27
5967	28
5966	29

CLAYSTONE: Claystone with some Silt and trace Sand. Light olive gray (5 Y 6/1) with dark yellowish orange (10 YR 6/6) mottling. Interval is damp. Trace carbonaceous material. No apparent bedding (massive). Trace iron staining. Interval indurated, horiz. fractures drilling induced. Slightly friable. Trace sand, 10-20% silt, 80-90% clay.

NO SAMPLE: No recovery.

SILTY CLAYSTONE: Silty Claystone with trace Sand. Light olive gray (5 Y 6/1) with abundt. dark yellowish orange (10 YR 6/6) iron staining from 24.6' to approx. 25.9'. Staining mostly in small fractures throughout rest of interval. Entire interval appears highly weathered, friable in most areas to mod. friable in some areas. Trace carbonaceous material - localized. Some (carb.?) mineralization occuring in fracture planes. Pred. non-calcareous, trace $CaCO_3$ in some microfractures. Some zones have less to no silt. Interval damp. Trace v.f.g. sand, angular.
0-5% v.f.g. sand, <20% silt, >75% clay.

CLAYSTONE: Claystone with some Silt. Dusky yellowish brown (10 YR 2/2) to dark yellowish brown (10 YR 4/2) to olive gray (5 Y 4/1). Dark yellowish orange (10 YR 6/6) in fractures. Interval highly weathered, loose, friable. Bedding appears massive. Dark (carb.?) mineralization (staining) in some fractures. Grayish yellow (5 Y 8/4) silt on outside of core and in some fractures (surfaces), probably washed down from above siltier zones. Interval damp to dry.
<20% silt, >80% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 40.2	GROUND ELEVATION (FT): 5995.19	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749231	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: L. HOST	42992
EAST:	2083962	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/24/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: Laurie Host. EBASCO Geologist: K. Tegtmeyer. Borehole filled with bentonite grout and abandoned on 4/29/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE #	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%		5965	30				
					5964	31			CLAYSTONE:	Claystone with some Silt. Same as above (reference interval 29.6' to 31.1'). Color change to olive gray (5 Y 4/1). Interval friable and weathered but not as much as above, especially in lower 1.0'. Less iron staining (dark yellowish orange (10 YR 6/6)) than above except at very bottom of interval. <10% silt, >90% clay.
				3.90 /4.60	5963	32				
					5962	33			NO SAMPLE:	No recovery.
					5961	34			CLAYSTONE:	Claystone with some Silt and trace Sand. Same as above (reference interval 29.6' to 31.1'). Slightly more iron staining than interval from 31.1' to 33.9' above. Interval becomes more silty towards bottom. Begins to grade to sandy claystone at very bottom of interval. Trace sand, 10-15% silt, 80-90% clay.
					5960	35			CLAYEY SANDSTONE:	Clayey Sandstone with some Silt. Light olive gray (5 Y 5/2) to yellowish gray (5 Y 8/1) in sandier zones. Mod. indurated, slightly to mod. friable, trace carbonaceous material. One healed fracture filled with carbonaceous material. Damp, dry. Sand v.f.g., sub-rounded. 43% sand, 34% clay, 23% silt.
					5959	36			CLAYSTONE:	Claystone with some Silt and trace Sand. Interval grades back to claystone with some silt at approx. 37.8'. Color change to olive gray (5 Y 4/1). Near vertical, irregular fracture at approx. 38.6' shows indications of near horiz., irregular bedding in the form of very thin silt layers. 38.6' to 39.3' not as weathered as above. Slightly more indurated, less friable. 2% sand, 18% silt, 80% clay.
				4.70 /5.00	5958	37				
					5957	38			NO SAMPLE:	No recovery.
					5956	39			SILTY CLAYSTONE:	Interbedded Silty Claystone and Silty Sandstone. Yellowish gray (5 Y 8/1) to olive gray (5 Y 4/1). Irregular laminations are horiz., approx. 1 mm. thick. Interval is friable. Some dark yellowish orange (10 YR 4/4) staining, very heavily at bottom. Less sand at bottom. Remnants of an iron nodule can be seen at very bottom. Sand fraction is v.f.g., well sorted, sub-rounded to rounded. Interval dry. 30% sand, 35% silt, 35% clay. NOTE: 0.7' extra core recovery from 39.6' to 40.2'
				0.60 /0.40						

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 40.2	GROUND ELEVATION (FT):	5995.19	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749231	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	L. HOST	42992
EAST:	2083962	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	04/24/92	

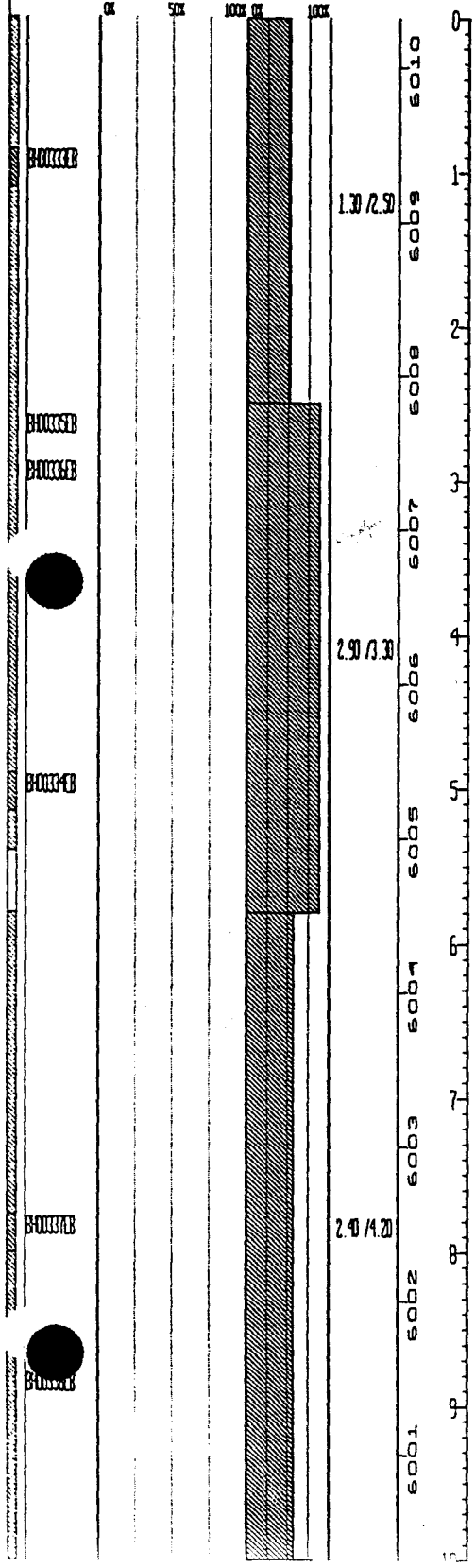
REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: Lourie Host. EBASCO Geologist: K. Tegtmeyer. Borehole filled with bentonite grout and abandoned on 4/29/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				0.70 / 0.20	5955	40				Total Drilled Depth = 40.2'.
					5954	41				
					5953	42				
					5952	43				
					5951	44				
					5950	45				
					5949	46				
					5948	47				
					5947	48				
					5946	49				
						50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT): 6010.32	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748995	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	43192
EAST: 2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/14/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE / SAMPLE NUMBER / SAMPLE GRAIN SIZE (0% 50% 100%) / PERCENT RECOVERY (0% 100%) / RECOVERY/INTERVAL / DATUM (FT) / DEPTH (FT) / WELL OR PIEZOMETER CONSTRUCTION / LITHOLOGY / UNIFIED SOILS CLASSIFICATION OR ROCK TYPE / DESCRIPTION

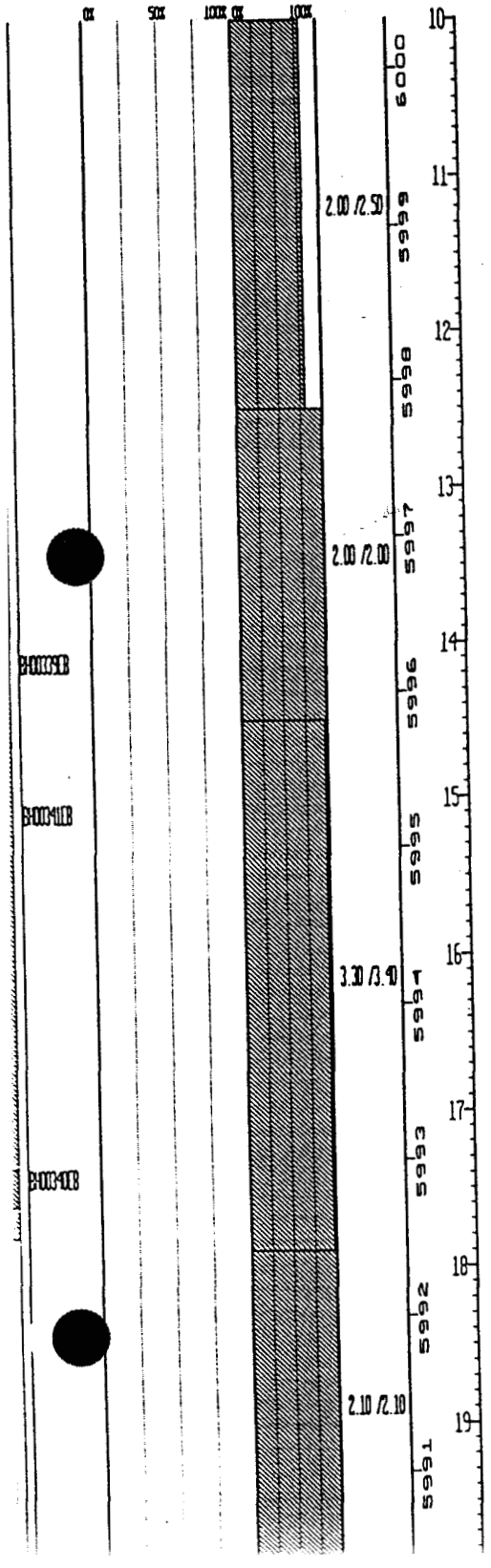


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Gravelly Sand with some Clay and trace Silt. Grayish brown (5 YR 3/2) topsoil. Sample dry, low plasticity, weathered. Sand well graded, sub-angular, pred. quartz, some quartzite and feldspar. 25% gravel, 60% sand, 5% silt, 10% clay.
SC:	Gravelly Sand with abundt. Clay and trace Silt. Same as below (reference interval 2.5' to 4.9'). 30% gravel, 38% sand, 5% silt, 27% clay.
NO SAMPLE:	No recovery.
SC:	Gravelly Sand with abundt. Clay and trace Silt. Mod. reddish brown (10 R 4/6). Slightly damp. Med. plasticity, weathered. Sand well graded, pred. sub-angular to angular quartz, some quartzite and feldspar. Gravel well graded, max. pebble size 2.5 in. Dom. lithology quartzite and granite fragments. 30% gravel, 38% sand, 5% silt, 27% clay.
GC:	Sandy Gravel with some Clay and trace Silt. Same as below (reference interval 5.8' to 7.75').
NO SAMPLE:	No recovery.
GC:	Sandy Gravel with some Clay and trace Silt. Grayish orange (10 YR 7/4). Matrix dry, low to med. plasticity, weathered. Clayey interval from approx. 7.0' to 7.4' with color change to mod. yellowish brown (10 YR 5/4). Some Mn staining in clay. Gravel well graded, max. pebble size to 2.5 in. Lithology quartzite, some granite clasts, sub-angular, calcareous. 65% gravel, 19% sand, 4% silt, 12% clay.
SC:	Gravelly Sand with some Clay and Silt. Same as below (reference interval 10.0' to 10.8').
NO SAMPLE:	No recovery.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT): 6010.32	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748995	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	43192
EAST: 2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/14/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



SC:	Gravelly Sand with some Clay and Silt. Light brown (5 YR 5/6). Slightly damp, low plasticity, weathered. Sand well graded, pred. sub-angular with some sub-rounded quartz. Non-calcareous. 20% gravel, 57% sand, 6% silt, 17% clay.
SC:	Clayey Sand with some Gravel and Silt. Undisturbed sample pred. dark yellowish orange (10 YR 6/6). Slightly damp, low plasticity, weathered (oxidized). Sand well graded. Same lithology as interval from 10.0' to 10.8'. Slightly calcareous. 20% gravel, 45% sand, 12% silt, 23% clay.
NO SAMPLE:	No recovery.
SC:	Gravelly Sand with some Clay and Silt. Light brown (5 YR 6/6 to 5 YR 6/4). Sand well graded, m.g. and c.g. fraction pred. sub-angular to sub-rounded quartz with some feldspar and trace mica. F.g. fraction sub-angular quartz, some feldspar, trace mica. Gravel well graded, max. pebble size 2 in., avg. size .25 to 1 in. Dom. lithology quartzite. Matrix low plasticity. Sample dry and weathered. 30% gravel, 49% sand, 6% silt, 15% clay
CL:	Sandy Clay with some Silt. Pale yellowish brown (10 YR 6/2) clayey zones with light brown (5 YR 6/6 to 5 YR 6/4) sandy zones. Slightly damp, low to med. plasticity, weathered. Sand poorly sorted, f.g., sub-angular quartz. Trace mica. 32% sand, 20% silt, 48% clay.
SM:	Gravelly Sand with some Silt and Clay. Mod. brown (5 YR 3/4) and mod. yellowish brown (10 YR 5/4). Dry, low plasticity, weathered. Sand poorly graded, pred. c.g. and m.g. All material composed of fragments of apparent silicious clays and hematite nodules. All hard, angular to sub-angular. Non-calcareous. Possible paleo surface. 22% gravel, 51% sand, 15% silt, 12% clay.
CLAYSTONE:	Top of Bedrock at 17.2'. Claystone with some Silt. Yellowish gray (5 Y 7/2) with grayish orange (10 YR 7/4). Slightly damp, non-friable. Some slightly silty lenses. Core is dense, mod. indurated. Fe staining, some Mn stain. >90% clay.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with some Silt. Yellowish gray (5 Y 7/2) and grayish yellow (5 Y 8/4). Some silty intervals. Core dry, slightly to non-friable (intact core). Extensively drilling fractured. Some Mn staining. Fractured core fragments friable. No apparent bedding or natural fractures. NOTE: Extra core recovery (from previous run). Total core recovery from 17.9' to 23.9' indicated NO core loss. This is confirmed by measurement of core, therefore no lost core is shown on this log from 17.9' to 23.9'. 10% silt, 90% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT):	6010.32	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748995	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	43192
EAST:	2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	04/14/92	

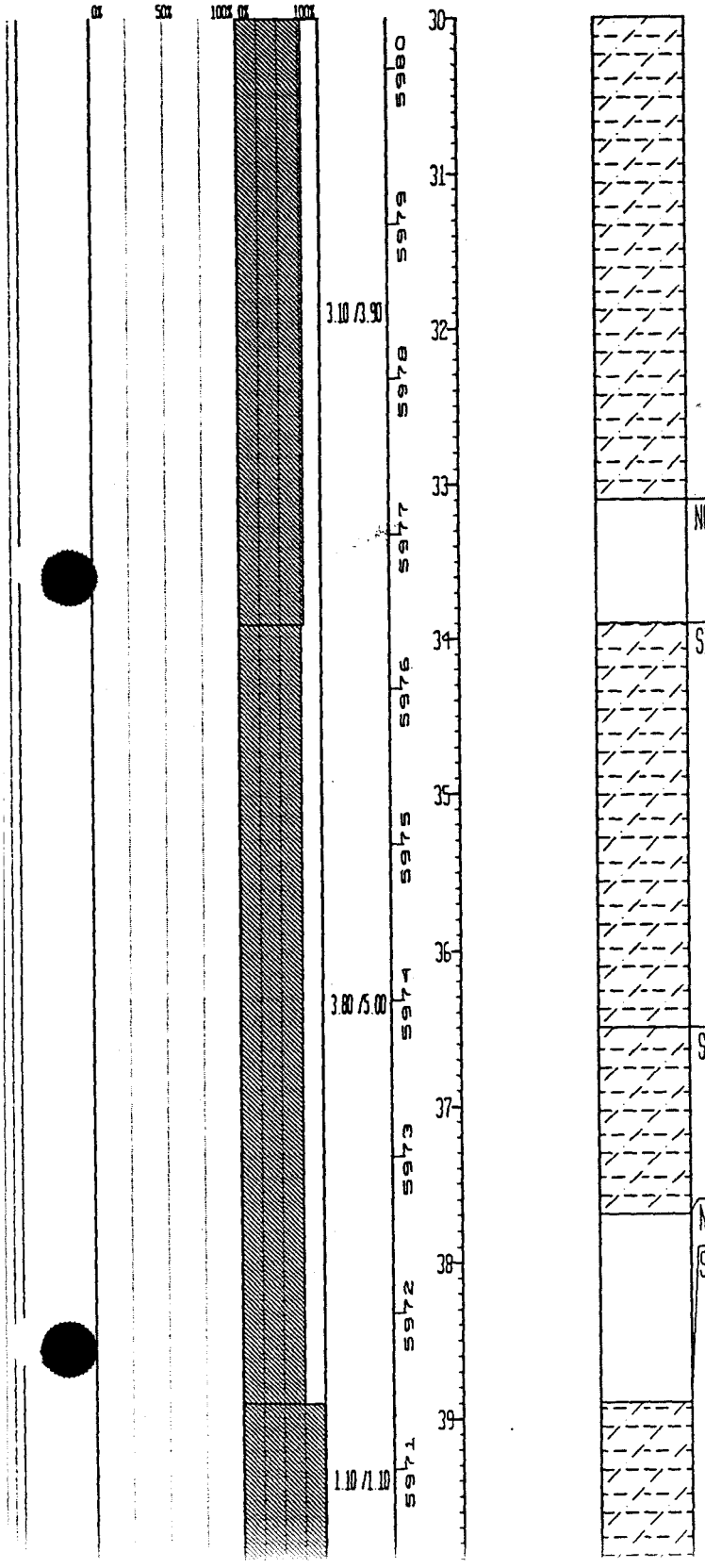
REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE #	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%							
					5990	20				
				1.60 /2.10	5989	21				
					5988	22				
				2.60 /1.80	5987	23				
					5986	24			CLAYSTONE:	Claystone with some Silt (varies). Pale yellowish orange (10 YR 8/6) at top grading to dusky yellowish brown (10 YR 2/2) over most of interval. Top 0.4' of interval is silty. Lower part of core pred. claystone. Claystone indicates disturbed sediments (randomly oriented clasts recemented by clay). Core dry to slightly damp. Slightly friable to mod. friable due to drilling induced fracturing. No apparent bedding. Some Mn stain. 85% clay, 15% silt
					5985	25				
						26			NO SAMPLE:	No recovery.
				1.50 /5.00	5984					
					5983	27				
					5982	28			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Color varies from dark yellowish brown (10 YR 4/2) and dusky yellowish brown (10 YR 2/2) to intervals of grayish orange (10 YR 7/4). Entire core extensively fractured (drilling induced). Core dry, intact core slightly friable, fractured core fragments mod. friable to friable. Core fragments indicate possible intervals of disturbed sediments and/or breccia. <5% sand 20% silt 75% clay
				1.10 /1.10	5981	29				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT):	6010.32	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748995	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F. GRIGSBY	43192
EAST:	2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	04/14/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



NO SAMPLE:	No recovery.
SILTY CLAYSTONE:	Silty Claystone with trace Sand. Same as above (reference interval 28.9' to 33.1').
SILTY CLAYSTONE:	Silty Claystone with some Sand. Grayish orange (10 YR 7/4) with some pale yellowish orange (10 YR 8/6) and light gray (N7) lenses or laminae. Interval dry, slightly friable. Drilling induced fracturing. FeO staining. 18% sand, 24% silt, 58% clay.
NO SAMPLE:	No recovery.
SILTY CLAYSTONE:	Silty Claystone with some Sand. Dark yellowish brown (10 YR 4/2) and yellowish gray (5 Y 7/2) with some light brown (5 YR 5/6) FeO staining on fracture surfaces. Core dry and extensively fractured (drilling induced). Fragments are friable, intact core mod. friable. Indicated natural fractures with FeO staining occuring at approx. 40.9' to 41.9' (vertical?). Mod. abundt. carbon throughout interval, some Mn staining. Sand well sorted, v.f.g., sub-angular with some sub-rounded quartz. 20% sand, 32% silt, 48% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT): 6010.32	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749995	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	43192
EAST:	2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/14/92	

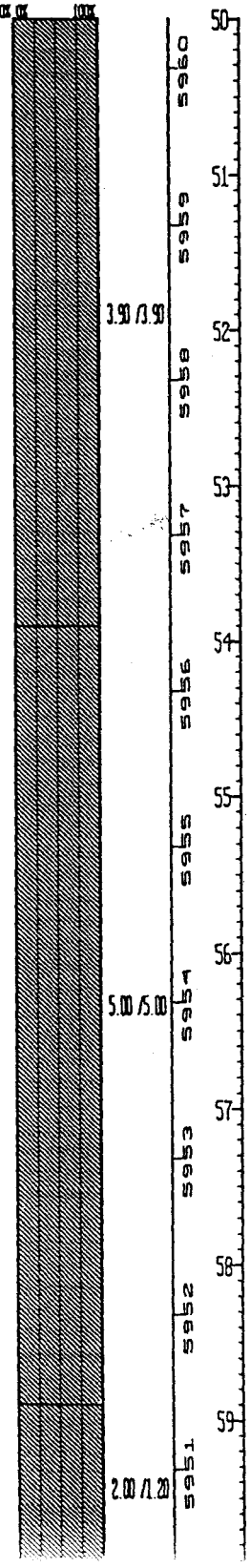
REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 4/16/92.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE D.	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.90 /3.90	5970	40			SANDY CLAYSTONE:	Sandy Claystone with some Silt. Light olive gray (5 Y 6/1) with brownish black (5 YR 2/1) laminations. Laminations are vertical. Core dry, mod. well to well cemented (argillaceous) and friable to mod. friable. Becomes sandier at bottom of interval. Mod. abundt. carbon. Trace Fe and Mn staining. Sand same as interval from 38.9' to 43.2'. 26% sand, 18% silt, 56% clay.
					5969	41				
					5968	42				
					5967	43				
					5966	44			SILTY CLAYSTONE:	Silty Claystone with some Sand. Light olive gray (5 Y 6/1) grading to olive gray (5 Y 4/1) at bottom of interval. Interval consists of both extensively fractured silty to sandy claystone, and intact, well cemented (argilloceous) silty claystones. Intact core is dry and slightly to non-friable. Fractured core fragments are friable to fissle. Some indications of disturbed sediments and/or breccia in fragmented segments. Some FeO staining on apparent fracture surfaces. Trace to some carbon. 10% sand, 27% silt, 63% clay.
					5965	45				
				3.10 /5.00	5964	46				
					5963	47			NO SAMPLE:	No recovery.
					5962	48				
				1.10 /1.10	5961	49			CLAYSTONE:	Claystone with some Silt, grades to carbonaceous Claystone over most of interval. Brownish black (5 YR 2/1) to olive black (5 Y 2/1). Core slightly damp, extensively fragmented. Fragments are fissle, slightly friable. Interval consists of laminated carbonaceous material and claystone. Possible horiz. bedding. No apparent fractures (natural). Some thin coal streaks. 15% silt, 85% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT): 6010.32	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748995	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	43192
EAST: 2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/14/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE #
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone with some Silt. Light olive gray (5 Y 6/1) to dark gray (N3). Pred. fragmented core with some intact segments. Core dry. Intact core non-friable. Some fragmented pieces indicated disturbed sediments and/or breccia zones. -Silt content varies. Some carbon. 10% silt, 90% clay.
CLAYSTONE:	Claystone. Dark gray (N3) to grayish black (N2). Core dry, dense and indurated. Non-friable. Silt content increase at bottom of interval. 90-95% clay.
CLAYSTONE:	Claystone with some Silt. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Core dry, indurated. Intact portions non-friable. Most of core is well laminated. Claystone laminae well indurated and fissle. Possible (apparent) horiz. bedding. Some localized intervals indicating disturbed sediments or breccia. Most fracturing and fragmentation appears drilling induced. Trace to some carbon. NOTE: '0.8' extra core. 20% silt, 80% clay.

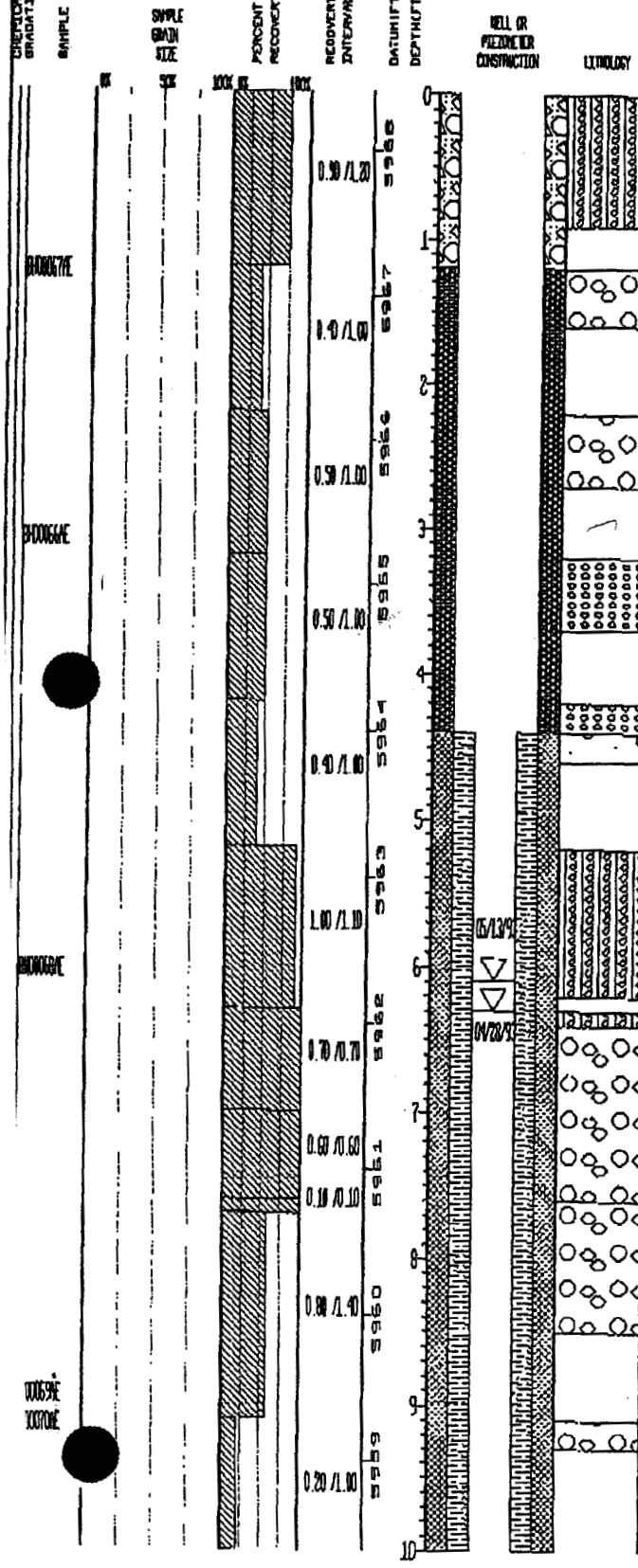
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 60.1	GROUND ELEVATION (FT): 6010.32	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748995	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	43192
EAST: 2083061	LOCATOR NUMBER: K9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 04/14/92	

REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

CHEMICAL SAMPLE INTV / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%		5950 5949 5948 5947 5946 5945 5944 5943 5942 5941	60 61 62 63 64 65 66 67 68 69				Total Drilled Depth = 60.1'

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 14.1	GROUND ELEVATION (FT): 5968.40	PROJECT NUMBER: 004-WARP	LOG OF BORING NUMBER:	
NORTH: 750484	AREA: PA, B-Pond Area	CASING DIAMETER (IN): 2	GEOLOGIST: KWP/KRM	05193	
EAST: 2085225	LOCATOR NUMBER: N10	BOREHOLE DIAMETER (IN): 8	DATE DRILLED: 04/28/93		

REMARKS: Replacement for old well no 3787. Hollow stem auger and conventional coring. Rig geology by Ken Pacheco, core logging by Kerry Miyoshi. Well completed as alluvial monitoring well.



CHEMICAL SAMPLE GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				0.90/1.20	5968	0			SM:	Gravelly SAND with some silt (0.0-0.9'). Yellowish brown (10 YR 5/4), sand poorly graded, v.f.g. to c.g., sub-rounded to rounded, pred. quartz/feldspar/caliche, low plasticity fines, no visible bedding, dry. 27% Gravel, 54% Sand, 18% Silt, 1% Clay
						1			:	No recovery (0.9-1.2')
	BH00067AE			0.40/1.00	5967				GW:	Sandy GRAVEL with some silt (1.2-1.6'). Reddish brown (5 YR 4/4), sand well graded, v.f.g. to c.g., sub-angular to sub-rounded, pred. quartz/feldspar, some caliche, no visible bedding, low plasticity fines, dry. 61% Gravel, 32% Sand, 6% Silt, 1% Clay
						2			:	No recovery (1.6-2.2')
				0.50/1.00	5966				GW:	Sandy GRAVEL with some silt (2.2-2.7'). Same as above.
									:	No recovery (2.7-3.2')
	BH00066AE			0.50/1.00	5965	3			SW:	Gravelly SAND with some silt (3.2-4.4'). Weak red (10 YR 4/4), sand well graded, v.f.g. to c.g., sub-angular to sub-rounded, pred. quartz/feldspar, no caliche, low plasticity fines, no visible bedding, dry-hard. 22% Gravel, 67% Sand, 10% Silt, 1% Clay
						4			:	No recovery (3.7-4.2').
				0.40/1.00	5964				SW:	Gravelly SAND with some silt (4.2-4.4'). Same as above.
									GP:	Sandy GRAVEL with trace silt (4.4-4.6'). Yellowish brown (10 YR 5/6), sand poorly graded, v.f.g. to c.g., sub-angular to sub-rounded, pred. quartz/feldspar, no caliche, low plasticity fines, no visible bedding, dry. 61% Gravel, 33% Sand, 5% Silt, 1% Clay.
				1.00/1.10	5963	5			:	No recovery (4.6-5.2')
	BH00068AE						05/13/93		SM:	Silty SAND with some gravel (5.2-6.4'). Very pale brown (10 YR 7/3), sand poorly graded, v.f.g. to c.g., sub-angular to sub-rounded, pred. quartz/feldspar, abundant caliche, low plasticity fines, no visible bedding, dry. 15% Gravel, 63% Sand, 20% Silt, 2% Clay.
				0.70/0.70	5962	6	04/28/93		:	No recovery (6.2-6.3').
				0.60/0.60	5961	7			SM:	Silty SAND with some gravel (6.3-6.4'). Same as above.
				0.10/0.10					GW:	Sandy GRAVEL with some silt (6.4-7.6'). Brownish yellow (10 YR 6/6), sand well graded, v.f.g. to c.g., sub-angular to subrounded, some caliche, low plasticity fines, pred. quartz/feldspar, no visible bedding, dry. 56% Gravel, 37% Sand, 6% Silt, 1% Clay.
				0.80/1.40	5960	8			GW:	Sandy GRAVEL (7.6-10.7'). Yellowish brown (10 YR 5/6), sand well graded, v.f.g. to c.g. sub-angular to sub-rounded, some caliche, low plasticity fines, pred. quartzite, no visible bedding, dry. 74% Gravel, 24% Sand, 2% Silt, trace Clay.
	00069AE 00070AE			0.20/1.00	5959	9			:	No recovery (8.5-9.1').
									GW:	Sandy GRAVEL (9.1-9.3'). Same as above.
						10			:	No recovery (9.3-10.1')

STATE PLANE COORDINATE:
NORTH: 750494
EAST: 2065225

TOTAL DEPTH (FT): 14.1
AREA: PM, B-Pond Area
LOCATION NUMBER: M10

GROUND ELEVATION (FT): 5958.40
CASING DIAMETER (IN): 2
BOREHOLE DIAMETER (IN): 8

PROJECT NUMBER: 004-WRP
GEOLOGIST: KAP/KRM
DATE DRILLED: 04/28/93

LOG OF BORING NUMBER: 05193

REMARKS: Replacement for old well no. 3787. Hollow stem auger and conventional coring. Rig geology by Ken Pacheco, core logging by Kerry Miyoshi. Well completed as alluvial monitoring well.

Sample Number	Sample Grain Size	Percent Recovery	Recovery/Interval	Datum (ft)	Depth (ft)	Well or Piezometer Construction	Lithology	Unified Soils Classification or Rock Type	Description
					10				No recovery (9.3-10.1').
			1.00 /1.00	5956				GW:	Sandy Gravel (10.1-10.7'). Same as above.
					11			SW:	Gravelly SAND with some silt (10.7-11.6'). Brownish yellow (10 YR 6/6), sand well graded, v.f.g. to c.g., sub-angular to sub-rounded, no caliche present, interval previously wet, low plasticity fines, pred. quartz/feldspar, no visible bedding. 35% Gravel, 52% Sand, 12% Silt, 1% Clay.
			0.50 /1.00	5957					
					12				No recovery (11.6-12.1'). Top of bedrock at 12.1'
			1.00 /1.00	5956				SANDY CLAYSTONE:	Sandy Claystone (12.1-14.0'). Light yellowish brown (2.5 Y 6/4), sand poorly sorted, v.f.g. to m.g., sub-angular to sub-rounded, pred. quartz/feldspar, dry, 2% porosity estimated, argillaceous cement, no caliche, some Fe-oxide staining, some organic material throughout interval, small friable zone at 12.9-13.1'. 48% Sand, trace Silt, 52% Clay.
					13				
			0.90 /1.00	5955					
					14				No recovery (14.0-14.1').
				5954					Total depth drilled 14.1'. Total depth casing 13.4'. Base of filter 11.4'.
				5953	15				
				5952	16				
				5951	17				
				5950	18				
				5949	19				
					20				

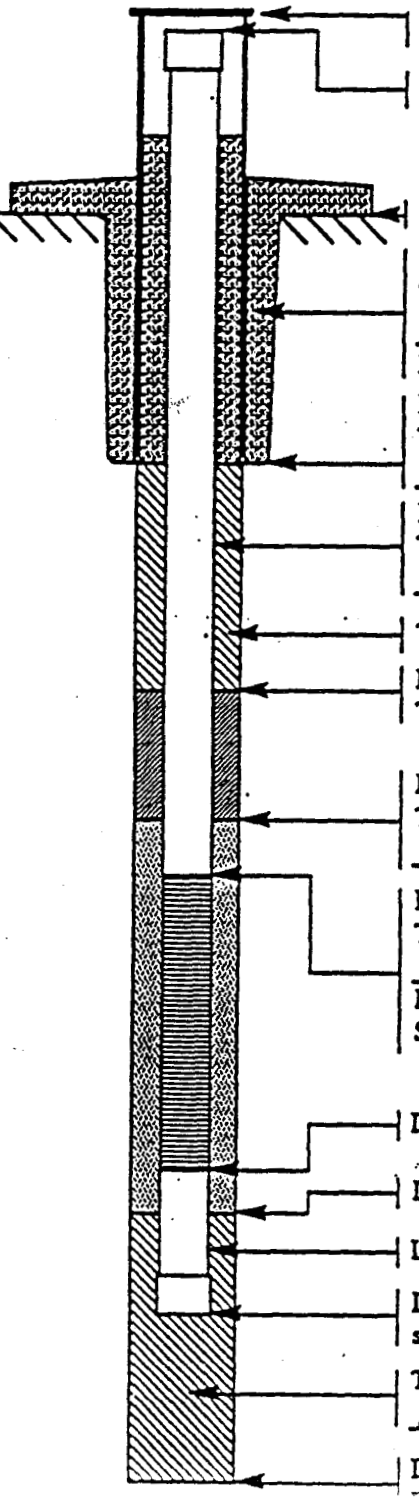
U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.6A (REV. 2)

Groundwater Monitoring Well and Piezometer Report

PROJECT NAME OU4 Phase I RFI/RI	WELL NO. 05193
LOCATION E. of B-Series Ponds	SCREENED INTERVAL
DATE COMPLETED 4-28-93 TOTAL HOLE DEPTH (FT) ~~13~~ 14.1	DEPTH (FT) 4.4 to 11.4
CHECKED BY _____ DATE _____	LITHOLOGY GC & SC

NOTE: All measurements will be from ground surface. Centralizer depths (when applicable) will also be shown.

Surface Casing Used (Check 1): ____ Yes ____ No (If Yes, See Form GT.3A for specific information)



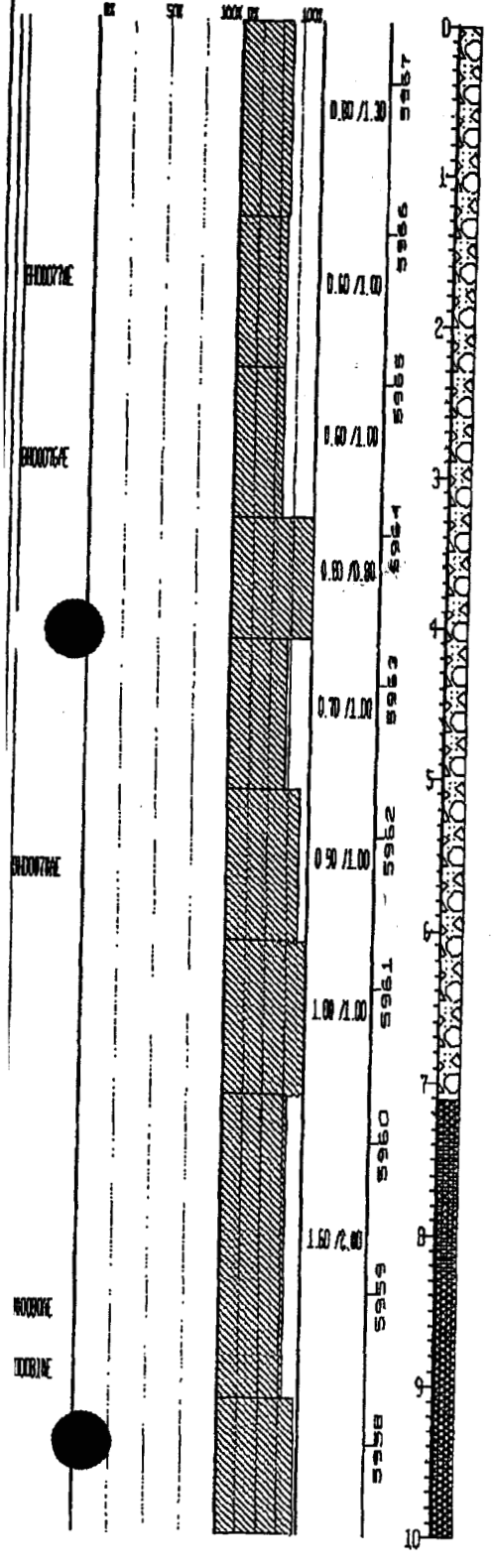
Height of top of protective casing (Ft)	~~2.5~~ 2.76
Height of top of well casing (Ft)	2.18
Ground Elevation (Ft)	5968.4
I.D. of protective casing (In)	8"
Type of protective casing: steel	
Depth of protective casing (Ft)	1.2'
Depth of surface seal (Ft)	1.2'
Type of surface seal: Cement	
I.D. of well casing (In)	2"
Type of well casing: 2" Sch 80 PVC	
Type of backfill: Bentonite Pellets Grout Pure Gold	
Depth of top of seal (Ft)	1.2
Type of seal: Bentonite Pellets (3/8")	
Depth of top of filter pack / bottom of seal (Ft)	4.4
Type of filter pack: Silica Sand 16-40	
Depth of top of screened section (Ft)	4.4
Type of screened section: 0.010 in Sch 80 PVC	
I.D. of screened section (In)	2"
Size of screen openings (In)	0.010
Depth of bottom of screened section (Ft)	11.4
Depth of bottom of filter pack (Ft)	11.4
Length of plugged blank section - Sump (Ft)	2
Depth of bottom of plugged blank section - Sump (Ft)	13.4
Type of backfill below filter pack: Bentonite Pellets	0.4' Bottom Cap
Diameter of hole (In)	8

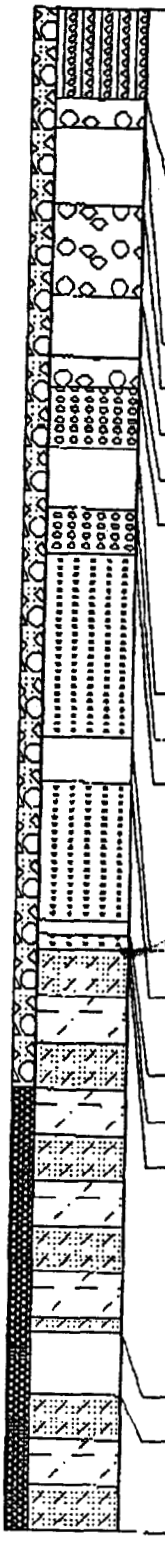
Generalized Stratigraphy and Water Level Summary (Based on Rig Geologist Notes)

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 24.1	GROUND ELEVATION (FT):	5957.10	PROJECT NUMBER:	0014-WRP
NORTH: 750549	AREA: PA, Around Ponds	CASING DIAMETER (IN):	2	GEOLOGIST:	KRM/KRM
EAST: 2085223	LOCATION NUMBER: M10	BOREHOLE DIAMETER (IN):	8	DATE DRILLED:	05/04/93

LOG OF BORING NUMBER: 05393

REMARKS: Replacement for old well no. P210289. Hollow stem auger and conventional coring. Rig geology by Kerry Miyoshi and core logging by Kerry Miyoshi. Well completed as bedrock monitoring well.





UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SM:	Silty SAND with some gravel (0.0-0.6'). Dark reddish brown (5 YR 3/3) sand poorly graded, f.g. to m.g., sub-angular to sub-rounded, pred. quartz/feldspar/caliche, caliche present (HCl react), low plasticity fines, no visible bedding, dry. 14% Gravel, 79% Sand, 4% Silt, 3% Clay.
GW:	Sandy GRAVEL with some silt (0.6-2.5'). Dark reddish brown (5 YR 3/2), sand well graded, f.g. to c.g., sub-angular to sub-rounded, pred. quartz/feldspar/caliche, slight amount caliche present (HCl react), low plasticity fines, no visible bedding, dry. 60% Gravel, 32% Sand, 6% Silt, 2% Clay.
:	No recovery (0.8-1.3').
GW:	Sandy GRAVEL with some silt (1.3-1.9'). Same as above.
:	No recovery (1.9-2.3').
GW:	Sandy GRAVEL with some silt (2.3-2.5'). Same as above.
SM:	Gravelly SAND with some silt (2.5-3.6'). Dark red (2.5 YR 3/6), sand well graded, f.g. to c.g., angular to sub-angular, pred. quartz/feldspar/caliche, slight amount of caliche present (HCl react), low plasticity fines, no visible bedding, moist, sticky. 28% Gravel, 62% Sand, 9% silt, 1% Clay.
:	No recovery (2.9-3.3').
SM:	Gravelly SAND with some silt (3.3-3.6'). Same as above.
SP:	Clayey SAND (3.6-4.8'). White (10 YR 8/2), v.f.g. to m.g., poorly graded, sub-angular to sub-rounded, pred. quartz/caliche, high amount caliche (HCl react), no visible bedding, dry, calcareous cement. 8% Gravel, 75% Sand, trace Silt, 25% Clay.
:	No recovery (4.8-5.1')
SP:	Clayey SAND (5.1-6.0'). Same as above. At 5.1-5.2' caliche mixed with slump.
:	No recovery (6.0-6.1').
SP:	Clayey SAND (6.1-6.2'). Same as above.
SANDY SILTSTONE:	Top of bedrock at 6.2'. Clayey Sandy Siltstone (6.2-10.6'). Pale yellow (2.5 Y 7/3). V.f.g. to f.g., well sorted, sub-angular, pred quartz/feldspar/caliche, some frosted quartz grains, moist-dry, estimated 2% porosity, argillaceous cement, calcareous (HCl react). Slightly friable, caliche filled fractures to 8.0', Fe-oxide staining abundant, no visible bedding. 38% Sand, 56% Silt, 6% Clay.
:	No recovery (8.7-9.1').
SANDY SILTSTONE:	Clayey Sandy Siltstone (9.1-10.6'). Same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 24.1	GROUND ELEVATION (FT):	5957.40	PROJECT NUMBER:	004-MWP	LOG OF BORING NUMBER:	
NORTH: 750649	AREA: PA, Around Ponds	CASING DIAMETER (IN):	2	GEOLOGIST:	KRM/KRM		
EAST: 2085223	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	8	DATE DRILLED:	05/04/93		05393

REMARKS: Replacement for old well no. PZ10289. Hollow stem auger and conventional coring. Rig geology by Kerry Miyoshi and core logging by Kerry Miyoshi. Well completed as bedrock monitoring well.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.00 /2.00	5957	10				SANDY SILTSTONE: Clayey Sandy Siltstone (9.1-10.6'). Same as above.
				5956	11				SANDY CLAYSTONE: Silty Sandy Claystone (10.6-13.2'). Light yellowish brown (10 YR 6/4). V.f.g. to f.g., well sorted, sub-angular to sub-rounded, pred. quartz/feldspar, 2% porosity estimated, argillaceous cement, some calcite (slight HCl react), low friability, some Fe-oxide staining, dry-moist, organic material at 13.2'. 32% Sand, 27% Silt, 41% Clay.
			2.00 /2.00	5955	12				No recovery (11.1-11.2').
									SANDY CLAYSTONE: Silty Sandy Claystone (11.2-13.2'). Same as above.
				5954	13				SANDY CLAYSTONE: Silty Sandy Claystone (13.2-17.0'). Ligh gray (2.5 Y 7/2), v.f.g. to f.g., well sorted, sub-angular to sub-rounded, pred. quartz/feldspar, 2% porosity estimated, argillaceous cement, trace caliche (trace HCl react), low friability, abundant Fe-oxide staining, dry-moist, 10 degree caliche filled fracture at 14.6', 80 degree Fe-oxide filled fracture at 16.0' 29% Sand, 21% Silt, 50% Clay.
			1.90 /1.90	5953	14				
				5952	15				
			2.00 /2.00	5951	16				
				5950	17				SANDY SILTSTONE: Clayey Sandy Siltstone (17.0-24.1'). Light brownish gray (10 YR 6/2), v.f. to f.g., well sorted, sub-angular to sub-rounded, pred. quartz/feldspar, dry, estimated 5% porosity, argillaceous cement, very slightly calcareous (little HCl react), very friable, Fe-oxide staining, high amount of organic matter. 39% Sand, 46% Silt, 15% Clay.
			2.10 /2.10	5949	18				
				5948	19				
					20				

STATE PLANE COORDINATE:
NORTH: 750549
EAST: 2085223

TOTAL DEPTH (FT): 24.1
AREA: PA, Around Ponds
LOCATOR NUMBER: M10

GROUND ELEVATION (FT): 5967.40
CASING DIAMETER (IN): 2
BOREHOLE DIAMETER (IN): 8

PROJECT NUMBER: OU4-WAPP
GEOLOGIST: KRM/KRM
DATE DRILLED: 05/04/93

LOG OF BORING NUMBER: 05393

REMARKS: Replacement for old well no. P210289. Hollow stem auger and conventional coring. Rig geology by Kerry Miyoshi and core logging by Kerry Miyoshi. Well completed as bedrock monitoring well.

CHEMICAL SAMPLE OR GRADATIONAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%	2.00 /2.00	5947	20				SANDY SILTSTONE: Clayey Sandy Siltstone (17.0-24.1'). Same as above.
				0.90 /0.90	5946	21				
					5945	22				
				2.00 /2.00	5944	23				
					5943	24				Total depth drilled 24.1'. Total depth casing 24.1'. Base of Filter 22.1'
					5942	25				
					5941	26				
					5940	27				
					5939	28				
					5938	29				
						30				

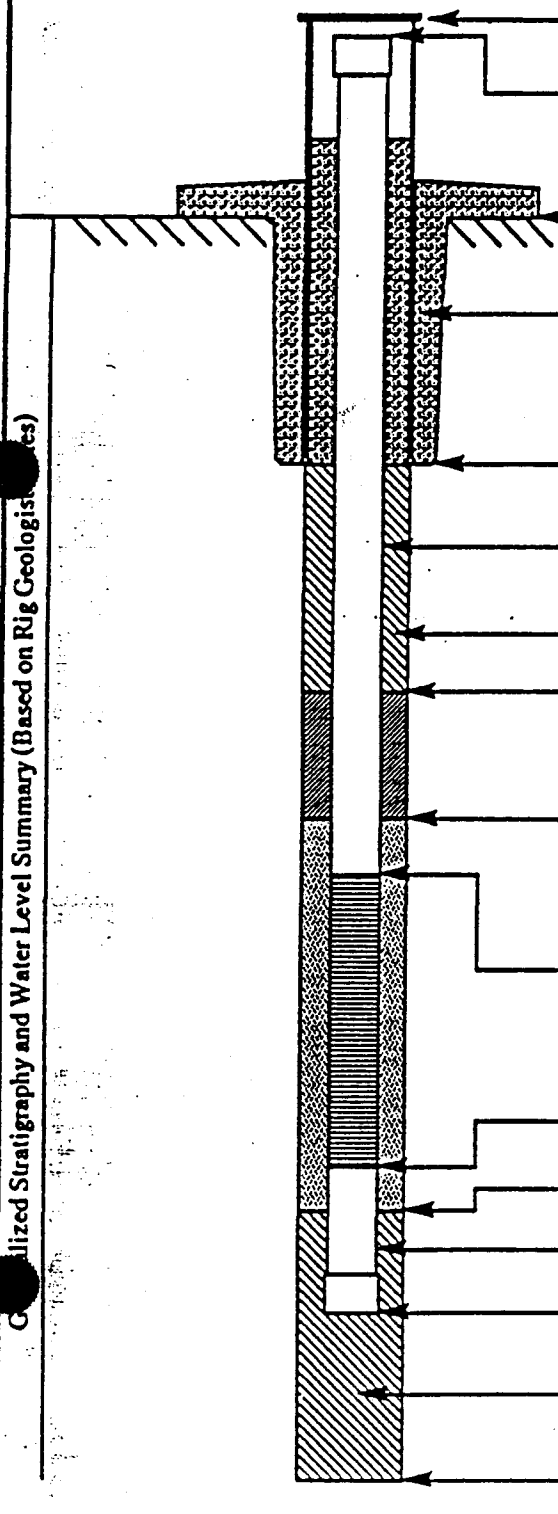
U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.6A (REV. 2)

Groundwater Monitoring Well and Piezometer Report

PROJECT NAME OU4 - WARP	WELL NO. 05393
LOCATION PA - around ponds	SCREENED INTERVAL
DATE COMPLETED 5/4/93 TOTAL HOLE DEPTH (FT) 24.1	DEPTH (FT) 12.1 to 22.1
CHECKED BY _____ DATE _____	LITHOLOGY Claystone

NOTE: All measurements will be from ground surface. Centralizer depths (when applicable) will also be shown.

Surface Casing Used (Check 1): ____ Yes ____ No (If Yes, See Form GT.3A for specific information)



Height of top of protective casing (Ft)	~~2.5~~ 2.72
Height of top of well casing (Ft)	~~2.1~~ 2.29
Ground Elevation (Ft)	5967.4
I.D. of protective casing (In)	8
Type of protective casing: steel	
Depth of protective casing (Ft)	1.6
Depth of surface seal (Ft)	1.6
Type of surface seal: cement	
I.D. of well casing (In)	2.0
Type of well casing: sch 80 PVC	
Type of backfill: grout	
Depth of top of seal (Ft)	7.1
Type of seal: bentonite pellets	
Depth of top of filter pack / bottom of seal (Ft)	10.1
Type of filter pack: 16-40 sand	
Depth of top of screened section (Ft)	12.1
Type of screened section: Sch 80 PVC	
I.D. of screened section (In)	2.0
Size of screen openings (In)	0.01
Depth of bottom of screened section (Ft)	22.1
Depth of bottom of filter pack (Ft)	22.1
Length of plugged blank section - Sump (Ft)	2.0
Depth of bottom of plugged blank section - Sump (Ft)	24.1
Type of backfill below filter pack: native - no backfill	
Diameter of hole (In)	8.0
Depth of hole (Ft)	24.1

Generalized Stratigraphy and Water Level Summary (Based on Rig Geologist Notes)

APPENDIX C3.7
DAM BORING LITHOLOGY AND PIEZOMETER CONSTRUCTION LOGS

BOREHOLE LOG

BOREHOLE NO.: TH046392 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 1 OF 1

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 41 DEPTH TO WATER TABLE (FT): 32.0 DATE: 10/1/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
0	5	FILL	GRAVEL, FINE TO MEDIUM, SUBROUND, SANDY, FINE TO COARSE, ANGULAR
			SILTY, MEDIUM PLASTICITY, DRY BROWN
5	14 ~~4~~ LVS	FILL	CLAY, MEDIUM TO HIGH PLASTICITY, ~~STIFF TO~~ LVS VERY STIFF, GRAVELLY,
			FINE TO COARSE, SUBANGULAR, SANDY, FINE TO MEDIUM, ANGULAR TO
			SUBROUND, MOIST, GREY BROWN w/SOME OLIVE, BLACK, TAN
14	41	FILL	CLAY, STIFF TO VERY STIFF, MEDIUM TO HIGH PLASTICITY, SANDY, COARSE TO FINE,
			SUBROUND TO SUBANGULAR, ~~TRACE SILT~~ LVS, MOIST, BROWN, GREY, OLIVE
			TRACE SILT, SOME Fe STAINING, TOPSOIL AT 28'-29' w/ROOTS
			WATER AT 32.0' POSSIBLE ANHYDRITE w VOIDS @ 33.0'
41	48	CS	CLAYSTONE, HARD TO VERY HARD, HIGH PLASTICITY (shavings)
	MRM 12-16-92		SLIGHTLY MOIST, DARK GREY/BLUE

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD/STIFF	HARDNESS: VERY HARD/STIFF	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
5.7	19/14	~~EH~~ CAL	FILL		X			20	5	5	10	30	50				BROWN					X							BLACK	.3
7.9	53/30	CAL	FILL																											0
11	—	ST	FILL																											0
14	10/10	CAL	FILL																											0
14.7	4/8	CAL	FILL		X			20					80				BROWN													.3
14-16	—	BAG	FILL		X								100				BROWN													2.0
206-226	—	ST	FILL		X								100				BROWN GREY												OLIVE	2.0
23.7	11/19	CAL	FILL		X			10	10				90				BROWN GREY													.3
28.1	12/14	CAL	FILL	X									100				BLACK												ROOTS	.3
32.5	10/13	CAL	FILL		X								100				BROWN BLACK												WATER	.3
36.7	24/9	CAL	FILL		X			20		20			80				BROWN GREY													.3
40.7	18/33	CAL	CS	X												X	DARK GREY/BLUE													.3
MRM 12-16-92 [illegible]	60/5"	CAL	CS													X	DARK GREY/BLUE													.3

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: TH046692 PROJECT NAME: B1, R3, A3, and Landfill Dams Analysis PAGE 1 OF 3

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 27.1 NE This Date MRM 12-16-92 DEPTH TO WATER TABLE (FT): 8.0 DATE: 10/6/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
0	3.5	FILL	GRAVEL, FINE TO COARSE, ANGULAR TO SUBROUND, CLAYEY, HI PLASTICITY, MOIST, BROWN
3.5	7.0	FILL	CLAY, HIGH PLASTICITY, GRAVELLY, FINE TO MEDIUM, SUBANGULAR TO SUBROUND, SANDY, FINE TO COARSE, ANGULAR TO SUBROUND MOIST, BROWN & BLACK
7.0	17.0	FILL	CLAY, HI PLASTICITY, SLIGHTLY WET TO WET, STIFF, GREY TO DARK GREY, TRACE ROOTS, 10-20% SAND, FINE @ 17'
17.0	27.1	~~FILL~~ NATIVE MRM 12-16-92	CLAY/GRAVEL 50% CLAY 50% GRAVEL CLAY HI PLASTICITY GRAVEL SUBANGULAR TO SUBROUND, COARSE VERY WET, BLACK/DARK GREY
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD/STIFF	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
4.4	7/8	CAL	FILL		X			10	X				90				GREY BROWN				X									.3
5.0-7.0	–	ST	FILL		X			10	←	10	→	20	70				BROWN BLACK													2
0-5	–	BKT	FILL		X								100				BROWN													1
7.3-9.3	–	ST	FILL		X	X							100				~~BROWN DK GREY~~													2
5-10	–	BKT	FILL		X	X							100				BROWN DK GREY													1
11.0	7/10	CAL	FILL				X	10	10				~~100~~ ~~80~~ 90				DARK GREY													.3
12-14	–	ST	FILL				X						100				DARK GREY													2
14.7-4	7/8	CAL	FILL				X						100				GREY TO DK GREY													.3
15-17	–	ST	FILL				X						100				DARK GREY													2
10-15	–	BKT	FILL				X						100				DARK GREY													1
18.7	6/9/12/13	CAL	FILL				X	20	X				80				DARK GREY													.3
20-22	–	ST	FILL					30 ~~60~~	10	10	10	30	40				BLACK													2
22.7	15/30	CAL	FILL									50	50				BLACK DK GREY													0

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: TH04692 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 2 OF 3

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): NE DEPTH TO WATER TABLE (FT): 8.0 DATE: 10/6/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
15-20	–	BKT	FILL			X	X						100				DEGREY BLACK													1
23.7	8/17	CAL	FILL				X					50	50				DARK GREY													.3
																	LVS													

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: T11046692 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 3 OF 3

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 27 DEPTH TO WATER TABLE (FT): 8 DATE: 10/7/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
27.1	36	CS	CLAYSTONE, HARD TO VERY HARD, MOIST TO VERY MOIST, GREY TO DARK GREY & BROWN
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	CONDITION: OTHERS	RECOVERY (FT)
27.9	24/36	CAL	CS		X								100			X	BROWN GREY				X									.3
31.7	30/50	CAL	CS			X							100			X	GREY					X								.3
34.7	30/50	CAL	CS			X							100			X	DARK GREY					X								.3
20-25	—	BKT	FILL			X	X						100				DARK GREY													—
													LVS																	

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: THØ46792 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 1 OF 1

RIG GEOLOGIST: Mike May SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 14.Ø DEPTH TO WATER TABLE (FT): NE DATE: 10-22-92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
Ø	2	Fill	Gravel, fine to coarse, angular to subround, sandy, fine to medium grained, angular to subangular, medium dense, dry to moist, brown.
2	14.Ø	Fill	Clay, Low to medium plasticity, sandy, fine to medium grained, angular to subangular, stiff to very stiff, moist, brown, gray, dark gray, iron staining
14.Ø	19.7	CS and SS	Sandstone, Bedrock fine to medium grained, subangular to subround, clayey, moist, brown, dark gray, iron oxide staining, very hard
			Claystone Bedrock, sandy, fine to medium grained, subangular to subround, very hard, moist, brown, gray, dark gray.

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
1	6/16	Cal	Fill	X				3Ø	X			1Ø	3Ø				Brown													.3
3	NA	ST	Fill		X			2Ø	X				8Ø				Brown													1.Ø
4.5	8/15	Cal	Fill		X			2Ø		X		2Ø	6Ø				Brown													.3
Ø-5	NA	Bucket	Fill		X			2Ø	X			1Ø	7Ø				Brown													NA
9	4/1Ø	Cal	Fill		X			1Ø	X				9Ø				Brown, Gray, Black													.3
5-1Ø	NA	Bucket	Fill		X			2Ø	X				8Ø				Brown, Gray, Black													NA
13	9/28	Cal	Fill		X			1Ø	X				9Ø				Brown													.3
1Ø-15	NA	Bucket	Fill BRH-15		X			1Ø	X				9Ø				Brown													NA
16	27/5Ø2"	Cal	CS and SS		X			1Ø 8Ø	X				9Ø 2Ø	X		X	Brown Gray					X								.3
19	4Ø/5Ø(3")	Cal	CS and SS		X			1Ø 8Ø	X				9Ø 2Ø	X		X	Brown D.Gray					X							FeOxide Staining	.3

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

U5

BOREHOLE LOG

BOREHOLE NO.: THØ46892 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 21 DEPTH TO WATER TABLE (FT): NE DATE: 10/13/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
Ø	1	FILL	GRAVEL, FINE TO COARSE, ANGULAR TO SUBANGULAR, DRY, BLUE
1	1Ø	FILL	CLAY, STIFF, LOW TO MEDIUM PLASTICITY, SANDY, FINE TO
			MEDIUM, ANGULAR, SLIGHTLY MOIST, BROWN TO DARK BROWN
1Ø	21	FILL	CLAY, STIFF TO VERY STIFF, HIGH PLASTICITY, MOIST TO VERY
			MOIST, DARK GREY, DARK BROWN, LIGHT GREY, BLACK, TRACE
			GREEN, TAN TRACE TO SOME ROOTS 1/64" TO 1/8"
21	26.5	SS	SANDSTONE BEDROCK, HARD TO VERY HARD, ~~CLAYEY (25%)~~ LVS
			FINE GRAINED, ANGULAR, CLAYEY (25%), SLIGHTLY MOIST
			BROWN TO TAN TO GREY, SOME IRON CONCRETIONS
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
2	8/12	CAL	FILL	X				4Ø	2Ø	1Ø			6Ø				BROWN													.3
4-6	—	ST	FILL	X				6Ø	2Ø	1Ø	2Ø	1Ø	3Ø				BROWN													Ø
6	6/7	CAL	FILL																											Ø
7	5/6	CAL	FILL		X			25	2Ø		5		75				BROWN													.3
Ø-5	—	BKT	FILL	X				2Ø	←	2Ø	→		8Ø				BROWN													1
11	4/5	CAL	FILL		X								1ØØ				DARK GREY													.3
12-14	—	ST	FILL		X								1ØØ				~~DK GREY~~ BLACK													1
5-1Ø	—	BKT	FILL		X			5	5				95				~~DK BROWN~~ GREY													1
14-15	—	ST	FILL		X								1ØØ				GREY													1
15	4/7	CAL	FILL		X	X		15	15				85				GREY BLACK													.3
1Ø-15	—	BKT	FILL		X	X							1ØØ				~~DK GREY~~ BROWN													1
15-17	—	ST	FILL		X								1ØØ				GREY													4"
17	7/11	CAL	FILL		X	X		2Ø	2Ø				8Ø				GREY													.1

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4085-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: TH-96892 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 2 OF 2

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 21 DEPTH TO WATER TABLE (FT): NE DATE: 10/13/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
19	10/11	CAL	FILL		X	X					5		95				DARK GREY													3
15-20	–	BKT	FILL		X	X					5		95				DARK GREY													1
20-21	–	ST	FILL																											0
21	25/30	CAL	SS	X									25	X							X	X							IRON	3
25.5	26/50 (6"/1")	CAL	SS	X									25	X							X	X								3
																	LVS													

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: THOA6992 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 1 OF 2

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 25 DEPTH TO WATER TABLE (FT): 20 DATE: 10/12/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
0	2.5	FILL	GRAVEL FINE TO COARSE VERY ANGULAR (BROKEN) TO SUBROUND
			CLAYEY MEDIUM PLASTICITY DRY TO SLIGHTLY MOIST BROWN
			DARK GREY
2.5	13	FILL	CLAY STIFF TO VERY STIFF, MEDIUM PLASTICITY, SANDY
			FINE TO COARSE, ANGULAR TO SUBROUND, DRY TO SLIGHTLY MOIST,
			BROWN, GREY
13	25	FILL	CLAY, STIFF TO VERY STIFF, HIGH PLASTICITY, MOIST TO VERY MOIST,
			DARK GREY, ~~FRAGE~~ SOME LVS GREEN GREY, BLACK, BROWN, SOME GRAVEL 21'-25'
25	31	MS	SILTSTONE, VERY HARD, SLIGHTLY MOIST, BROWN TO DARK BLUE
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD/STIFF	HARDNESS: VERY HARD/STIFF	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
2	29/18	CAL	FILL	X				20	20			70	80				DARK GREY BROWN													.3
4	4/13	CAL	FILL	X				10	10				90				BROWN GREY													.3
0-5	—	BKT	FILL	X				30	10	10	10	30	40				BROWN													—
6	5/18	CAL	FILL	X				30	10	10	10		70				BROWN													.3
5-10	—	BKT	FILL	X				90			10		90				BROWN													—
9	12/10	CAL	FILL																											0
10	11/11	CAL	FILL	X				30	15	15			70				BROWN													0
12	8/10	CAL	FILL		X			20	10	10			80				BROWN DARK BROWN													.3
13-15	—	ST	FILL		X								100				DARK GREY													8"
10-15	—	BKT	FILL		X			10	10				90				BROWN													—
17-19	—	ST	FILL		X	X							100				GREEN GREY BLACK													8"
20	6/6	CAL	FILL			X						10	90				GREEN DARK GREY			X	X									.3
15-20	—	BKT	FILL			X						10	90				↓			X	X									—

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: THO46992 PROJECT NAME: B1, R3, A3, and Landfill Dams Analysis PAGE 2 OF 2

RIG GEOLOGIST: LVS SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 25 DEPTH TO WATER TABLE (FT): 20 DATE: 10/12/92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
			LVS

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
21-23	—	ST	FILL			X						5	85				GREY DARK GREY													8"
23	—	CAL	FILL				X					70	30				BROWN GREY													3
25	62/45	CAL	MS	X									100		X		BROWN					X								.3
30	—	CAL	MS	X									100		X		DARK BLUE					X								.3
													LVS																	

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: TH047092 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 1 OF 1

RIG GEOLOGIST: Michael May SUBCONTRACTOR: Woodward-Clyde

DEPTH TO BEDROCK (FT): 11.0 DEPTH TO WATER TABLE (FT): 7.0 DATE: 10-23-92

CLASSIFICATION OF LAYERS

DEPTH (FT) FROM	DEPTH (FT) TO	SOIL SYMBOL	SOIL DESCRIPTION
0	2	Fill	Clay, low plasticity, sandy, fine to medium grained, angular to subangular, stiff, dry to moist, brown.
2	11	Fill	Clay, high plasticity, some sand, fine grained, angular to subangular, stiff, moist to wet, brown, dark gray, black.
11	16.5	CS	Claystone Bedrock, some sand, fine grained, angular to subangular, hard to very hard, moist, light gray, dark gray, brown, iron oxide staining.

CLASSIFICATION OF INDIVIDUAL SAMPLES

TOP DEPTH (FT)	BLOW COUNT	SAMPLE TYPE	SOIL SYMBOL	MOISTURE: DRY	MOISTURE: MOIST	MOISTURE: VERY MOIST	MOISTURE: WET	% SAND	GRADING: FINE	GRADING: MEDIUM	GRADING: COARSE	GRADING: GRAVEL	% FINES (-#200)	BEDROCK: SANDSTONE	BEDROCK: SILTSTONE	BEDROCK: CLAYSTONE	COLOR	HARDNESS: VERY SOFT	HARDNESS: SOFT	HARDNESS: FIRM	HARDNESS: HARD	HARDNESS: VERY HARD	CONDITION: CEMENTED	CONDITION: MASSIVE	CONDITION: STRATIFIED	CONDITION: POROUS	CONDITION: FRACTURED	CONDITION: CALCAREOUS	OTHERS	RECOVERY (FT)
1	8/12	Cal	Fill	X				30	X	X		20	50				Brown S. White													.3
4	NA	ST	Fill			X		10	X				90				Brown D. Gray												Black	1
0-5	NA	Bucket	Fill		X		X	MRM	Mix of Clay and sandy clay																					NA
6	7/30	Cal	Fill				X	10	X				90				D. Gray Black												Brown	.3
5-10	NA	Bucket	Fill			X		10	X				90				D. Gray Black												Brown	NA
10	13/24	Cal	Fill		X								100				D. Gray Brown												L. Gray	.3
16	7 50 9"	Cal	CS		X			10	X				90			X	L. Gray D. Gray					X							Brown	.3

NOTES: 1. SAMPLE TYPES: SS = 2" O.D. SPLIT SPOON CAL = CALIFORNIA SPOON ST = SHELBY TUBE

2. S = SLIGHT M = MODERATE H = HIGHLY

(4035-210-542) (W-C Log Form) (9/4/92 10:59 AM)

APPENDIX C4
OU6 PHASE I POND SEDIMENT CORE LITHOLOGIC DATA

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60000WC Site ID: IHSS 142.1
LOCATION SED60092 RAI AI POND
CORE NUMBER 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0910 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad Screen
DEPTH OF WATER: .8 (FEET) TOTAL LENGTH OF CORE: 1.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, cloudy & Calm
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 9.5"	Black (2.5Y 2/0) to olive gray (5Y 4/2)	OL Organic clay with abundant silt and some very fine sand	Organics abundant
9.5" to 18"	Black (2.5Y 2.5/1)	CL Silty Clay	

Sampler: KBT / MAC

Prepared By: Kent Trimbach (Print Name) Kent Trimbach (Signature) 10-29-92 (Date)

Transmitted to RFEDS By: (Print Name) (Signature) (Date)

RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60000WC Site ID: IHSS 142.1
LOCATION: SED60092 A1Pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60000WC	VOA BNA Metals Rads Rad Screen	

Sampler: KBT / MAC

Prepared By: Kent Trimbach (Print Name) Kent Trimbach (Signature) 10-29-92 (Date)

Transmitted to RFEDS By: (Print Name) (Signature) (Date)

RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60119WC Site ID: IHSS 142.1
LOCATION SED60092 Alford RA1
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0950 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H2O over sampling equipment
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD60000WT
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Bad Screen
DEPTH OF WATER: N/A (FEET) TOTAL LENGTH OF CORE: N/A (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, Cloudy & Calm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)

Sampler: KBT

Prepared By: Kent Trimpach (Print Name) Kent Trimpach (Signature) 10-29-92 (Date)

Transmitted to RFEDS By: (Print Name) (Signature) (Date)

RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60119WC Site ID: IHSS 142.1
LOCATION: SED60092 At Pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number

Sampler: KBT

Prepared By: Kent Trimbach Kent Trimbach 10-29-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60001WC Site ID: IH55142.1
LOCATION: SedLOC92 Rl Pond Ent
CORE NUMBER: _____ Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: ~~Organics Stainless Steel~~ / ~~Non-Organics Polycarbonate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-02-92 QUARTER: 1 2 3 4
COLLECTION TIME: 830 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 996492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple cores composite
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: SD6002
COLLECTION METHOD: GRAVITY CORER ~~HAND-HELD CORER~~
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES (DESCRIPTION)
OTHER: Rad Screen
DEPTH OF WATER: 0.5 (FEET) TOTAL LENGTH OF CORE: 1.2 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy, windy, cool
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 7.5"	grayish brown (2.5YR 5/2)	Silty Clay (CL) with trace fine sand	
7.5" to 16.25"	Black (2.5YR 2/0) to yellowish red (4/6)	Organic (OL) Silty Clay w/ fine sand	

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-02-92 (Date)
Transmitted to RFEDS By: _____ Print Name _____ Signature _____ Date
RFEDS Data Verified By: _____ Print Name _____ Signature _____ Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60001WC Site ID: 1HSS142.1
LOCATION: Sed 60192 A Pond RA2
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60001WC	VOA	
		BNA	
		Metals	
		Trads	
		Rad Screen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature] 11-2-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60121WC Site ID: 1A05142.1
LOCATION Sept 60192 A1 pond RA2
CORE NUMBER: 0 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: ~~Organics-Stainless Steel~~ / ~~Non-Organics-Polybutyrate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-2-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0800 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H2O over sampling equip
QC TYPE: REAL MS MSD LR DUP (RNS) QC PARTNER SD60001WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER stainless dipper
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: _____
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: cloudy cool windy
COMMENTS _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ie. Vegetation, Roots, Organisms, Objects)

Sampler: KIST/MAC
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-02-92 (Date)
Transmitted to RFEDS By: _____ (Print Name) _____ (Signature) _____ (Date)
RFEDS Data Verified By: _____ (Print Name) _____ (Signature) _____ (Date)

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6ØØØ2WC Site ID: IHSS 142.1
LOCATION SED6Ø292 Al Pond RA3
CORE NUMBER 1 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics-Stainless Steel~~ / ~~Non-Organics-Polybutyrate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1045 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple core composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
DEPTH OF WATER: 1.1 (FEET) TOTAL LENGTH OF CORE: 1.6 (FEET)
SECTIONED CORE: YES / NO IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, Cloudy, & calm
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
Ø.Ø" to 9.8"	Black (7.5YR 2/Ø)	OL Organic clay with abundant silt	Plant roots. Strong organic odor Organics abundant
9.8" to 19.3"	~~Black~~ GRS Black (5Y 2.5/2)	CL Silty Clay	Bands of organic matter with plant roots from 16" to 19.3"

Sampler: KBT/MAC/SAM/MGG
Prepared By: Kent Trimbach [signature] 10-29-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60002WC Site ID: IHSS 142.1
LOCATION: SED60292
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
~~1~~		~~SD60002WC~~ KBT 10-29-92	
1	SD60002WC	VOA	
		BNA	
		Metals	
		TRuds	
		Rad screen	

Sampler: KBT/MAC/SAM/MGG

Prepared By: Kent Trombach [signature] 10-29-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6003WC Site ID: IHSS 142.1
LOCATION SD6 392 Deepest
CORE NUMBER: 1 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics Stainless Steel Alg-Organics Polybutyrate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1500 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple cores taken & composited
QC TYPE: REG MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER rad screen
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: 1.85 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, calm, & cloudy
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 3.3"	Black (2.5Y 3/0)	OL organic clay with some silt	Organics abundant, strong organic smell, plant roots
3.3" to 20.0"	dark olive gray (5Y 3/2)	CL Silty clay	

Sampler: KBT / MAC / SAM / MGG
Prepared By: Kent Trimbach (Print Name) [signature] (Signature) 10-29-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6000 3WC Site ID: IHSS 142.1
LOCATION: SED60392
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD6000 3WC	VOA BNA METALS TRADS RAD SCREEN	

Sampler: KBT / MAC / SAM / MGG

Prepared By: Kent Trimbach Kent Trimbach 10-29-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60003WCMS/MSD Site ID: IHSS 142.1
LOCATION SED 60392
CORE NUMBER 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics-Stainless Steel / Non-Organics-Polybutyrate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: ~~HOD~~ PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: ~~YES~~ NO COMPOSITE DESCRIPTION Mult. cores composited
QC TYPE: REAL ~~MS~~ ~~MSD~~ LR DUP RNS QC PARTNER SD60003WC
COLLECTION METHOD: GRAVITY CORER ~~HAND-HELD CORER~~
TYPE OF SAMPLE: METALS RADIONUCLIDES ~~VOLATILES~~ ~~SEMI-VOLATILES~~ DESCRIPTION
OTHER:
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, calm, cloudy
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler KBT

Prepared By: Kent Trimbach (Print Name) [signature] (Signature) 10-29-92 (Date)

Transmitted to RFEDS By: (Print Name) (Signature) (Date)

RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60003wx MS/MSD Site ID: IHSS 142.1
LOCATION: SED 60 392
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60003wx MS/MSD	VOA SVA Metals	

Sampler: KBT

Prepared By: Kent Trumbach Kent Trumbach 10-29-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6ØØ3WCLR Site ID: IHSS 142.1
LOCATION SED6Ø392
CORE NUMBER 1 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: ~~Organics Stainless Steel / Non-Organics Polycarbonate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1466 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores composited
QC TYPE: REAL MS MSD DUP RNS QC PARTNER SD6ØØ3WC
COLLECTION METHOD: GRAVITY CORER ~~HAND HELD CORER~~
TYPE OF SAMPLE: METALS ~~RADIONUCLIDES~~ VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: _____
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: 20 (FEET)
SECTIONED CORE: YES / NO IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, Calm & Cloudy
COMMENTS _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: KBT
Prepared By: Kent Trimbach (Print Name) Kent Trimbach (Signature) 10-29-92 (Date)
Transmitted to RFEDS By: _____ (Print Name) _____ (Signature) _____ (Date)
RFEDS Data Verified By: _____ (Print Name) _____ (Signature) _____ (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6000 3WCLR Site ID: IHSS 142.1
LOCATION: SED6 0397
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD6000 3WCLR	T Rads	

Sampler: KBT

Prepared By: Kent Trimbach [signature] 10-29-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6012ØWC Site ID: IHSS 142.1
LOCATION SED6Ø392
CORE NUMBER: Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics Standard / Non-Organics Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1400 PURPOSE/PROJECT DUD PROJECT CHARGE NUMBER: 986497
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple cons taken & composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD6ØØ2WC
COLLECTION METHOD: GRAVITY CORER HAND-FIELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION KBT 10-29-92
OTHER: Red Screen
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: 1.85 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, calm, & Cloudy
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: KBT
Prepared By: Kent Trimbach (Print Name) [signature] (Signature) 10-29-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60120 WC Site ID: IHSS 142.1
LOCATION: SED60392
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60120wx	VOA	
		BNA	
		metals	
		T Rads	
		Rad screen	

Sampler: KBT

Prepared By: Kent Trimbach [signature] 10-29-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60004 WC Site ID: NFSS 142.1
LOCATION: Sed604 WC Alpard intlwet
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-2-92 QUARTER: 1 2 3 4
COLLECTION TIME: 915 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composite same
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad screen
DEPTH OF WATER: 0.5 (FEET) TOTAL LENGTH OF CORE: 1.6 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cold cloudy windy
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 5.5"	Black (2.5Y 2/0)	OL Organic silt with some clay and very fine sand saturated	
5.5" to 10.5"	Dark gray (5Y 4/1)	CL Silty clay with some very fine sand saturated	
10.5-13.5'	Olive gray (5Y 5/2)	CL Silty clay with some very fine sand saturated	Firmer than 5.5 to 10.5"

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-02-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60004WC Site ID: 1HSS142.1
LOCATION: Sed 60492 A1 pond influent
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60004WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature] 11-02-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60005UX Site ID: IHSS 142.2
LOCATION: Sed 6059 C RAI
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: Organics-Stainless-Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-12-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1330 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple Cores Composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad Screen
DEPTH OF WATER: 0.8 (FEET) TOTAL LENGTH OF CORE: 5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool P/C 1 threeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.00" to 7.5	Black (5Y 2.5/1)	Silty clay w/ some fine sand (CL)	Low plasticity Extensive plant roots
NAH 3-16-95 per logbook			

Sampler: KBT/CRIT
Prepared By: Lawrence A Carpenter [signature] 11-12-95
Print Name Signature Date
Transmitted to RFEDS By: NA
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

COPY

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60005WC Site ID: 1HSS142.2
LOCATION: Sed 60592 A2 pond RA1
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60005WC	VOA	
		BNA	
		Metals	
		Trads	
		radscreen	

Sampler: KBT/CRH

Prepared By: Lawrence A Carpenter [signature] 11-12-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60006WC Site ID: PH55142.2
LOCATION 7CR60692 A2 pond Rt2
CORE NUMBER ____ Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Organics Stainless Steel~~ / ~~Non-Organics Polybutyrate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-12-92 QUARTER: 1 2 ~~3~~ ~~4~~
COLLECTION TIME: 830 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 906492
COMPOSITE: (YES / NO) COMPOSITE DESCRIPTION Multiple Cores composite
QC TYPE: (REAL) MS MSD LR DUP RNS ~~QC PARTNER~~ SHANE
COLLECTION METHOD: ~~GRAVITY CORER~~ ~~HAND-HELD CORER~~
TYPE OF SAMPLE: (METALS) ~~RADIONUCLIDES~~ ~~VOLATILES~~ ~~SEMI-VOLATILES~~ ~~DESCRIPTION~~
OTHER: Vad Screen
DEPTH OF WATER: 0.8 (FEET) TOTAL LENGTH OF CORE 0.8 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy cool 1 threat
COMMENTS ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 8.5"	Black (5Y 2.5/2)	Silty clay with fine sand and 1" gravel (CL)	Low plasticity Extensive plant roots
to	Dark olive gray (5Y 3/2)	Sandy Clay with silt (CL) F-C Sand	1-1" gravel at top of interval

Sampler: CAC
Prepared By: Lawrence A Crispenty (Print Name) Lawrence Crispenty (Signature) 11-12-92 (Date)
Transmitted to RFEDS By: ____ Print Name ____ Signature ____ Date
RFEDS Data Verified By: ____ Print Name ____ Signature ____ Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60006WC Site ID: 1HSS142.2
LOCATION: Sed 60692 A2 pond RA2
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60006WC	VOA	
		BNA	
		Metal	
		Trads	
		Rad screen	

Sampler: LAC

Prepared By: Lawrence A Carpenter [signature] 11-12-91
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6007WC Site ID: 1HS6142.2
LOCATION Sed 60792 AZ RA3
CORE NUMBER: 1 Liner Decontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-12-92 QUARTER: 1 2 3 4
COLLECTION TIME: 930 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION multiple cores composite
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: radscreen
DEPTH OF WATER: 10 (FEET) TOTAL LENGTH OF CORE: 10 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy cool gusty
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0"-3.5"	Black (2.5Y 2.5/0)	Organic clay with silt (OL) NAH 3-16-95 per logbook	~~Extensive plant roots~~ JPC Strong organic odor Low plasticity
3.5"-6.0"	Dark olive gray (5Y 3/2)	Silty clay w/ fine to medium sand (CL) NAH 3-16-95 per logbook	Extensive plant roots Low plasticity FeOX Staining

Sampler: CAC/CRH
Prepared By: Lawrence A Carpenter [signature] 11-12-92
Print Name Signature Date
Transmitted to RFEDS By: N/A
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

COPY

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60007WC Site ID: 1HSS1422
LOCATION: Sed 60792 AC Pond RAS
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60007WC	VOA	
		BNA	
		Metals	
		TRads	
		Rdscreen	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 11-12-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60008WK Site ID: 1155 1422
LOCATION: See 60890 A2 pond deep
CORE NUMBER: 1 Liner Decontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Glass~~ ~~Stainless Steel~~ / ~~Non-Organics~~ ~~Polybutyrate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-12-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1045 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: Multiple Cores & dredges Composited
QC TYPE: (REA) MS MSD LR DUP RNS QC PARTNER: None
COLLECTION METHOD: ~~GRAVITY CORER~~ ~~HAND HELD CORER~~ Dredge
TYPE OF SAMPLE: ~~METALS~~ ~~RADIONUCLIDES~~ ~~VOLATILES~~ ~~SEMI-VOLATILES~~ DESCRIPTION
OTHER: Radscreen, Gamma, Rad tox in Vault
DEPTH OF WATER: ____ (FEET) TOTAL LENGTH OF CORE: ____ (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy Cool Windy
COMMENTS: ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 2.5"	Black (2.5YR 2.5/1)	Organic clay with silt and fine sand	Extensive plant roots Strong organic odor Low Plasticity
2.5" to 6.0"	Black (5Y 2.5/1)	Silty clay w/ fine sand	Moderate plasticity shell fragments

Sampler: LAC / KBT
Prepared By: Lawrence A Carpenter (Print Name) ____ (Signature) ____ (Date) 11-12-92
Transmitted to RFEDS By: ____ (Print Name) ____ (Signature) ____ (Date)
RFEDS Data Verified By: ____ (Print Name) ____ (Signature) ____ (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60008WC Site ID: 1HSS142.2
LOCATION: Sed 60897 A2 pond deep
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60008WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	
0 to 5		Gamma	
5 to 10		Gamma	
10 to 15		Gamma	
15 to 20		Gamma	
20 to 25		Gamma	
25 to 30		Gamma	
30 to 35		Gamma	
35 to 40		Gamma	

Sampler: LAC/KBT

Prepared By: Laurence A Carpenter [signature] 11-12-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60009WC Site ID: 1HSS142.2
LOCATION: Sed 60992 A2 pond Int
CORE NUMBER: _____ Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-12-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1430 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: Ø (FEET) TOTAL LENGTH OF CORE: .5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C windy cool
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
Ø.Ø" to 8.Ø"	Black (2.5YR 2.5/Ø) to yellowish red (5YR 4/6) to reddish brown (5YR 4/4)	Silty clay with fine sand	Extensive plant roots organic oder moderate plasticity FeOx staining

Sampler: KBT
Prepared By: Lawrence A Carpenter [signature] 11-12-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60009WC Site ID: 1HSS142.2
LOCATION: Sed 60992 A2 pond influent
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60009WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: KBT

Prepared By: Lawrence A Carpenter [signature] 11-12-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60010WC Site ID: IHSS 142.3
LOCATION: Sec 61092 A3 pond RA3
CORE NUMBER: 1 Liner Decontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: (Organics-Stainless Steel) / (Non-Organics-Polyethylene) NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-21-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1400 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple core taken & composite same
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: rad screen
Logged by Jon Pierre Girod
DEPTH OF WATER: 5.5 (FEET) TOTAL LENGTH OF CORE: 2.0 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C lt breeze Warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 14.2"	Dark gray (5Y 4/1)	CL Silty clay with very fine sand	Plant roots scarce
14.2" to 22.7"	Black (2.5Y 2/0)	OL Organic clay with silt.	Abundant Plant roots and organic matter

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-21-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60010WC Site ID: IHSS 142.3
LOCATION: Sed 61092 A3 pond RAS
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60010WC	UOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: LAC/~~BT~~ LAC KBT

Prepared By: Lawrence A Carpenter [signature] 10-21-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60011 WC Site ID: 1HSS142.3
LOCATION Sed 61192 A3 pond RA2
CORE NUMBER: 1 Liner Decontaminated: (Yes) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: (Organics-Stainless Steel) (Non-Organics-Polybutyrate) NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-21-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1515 PURPOSE/PROJECT 906 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION multiple cores taken and composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORE)
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: rad screen
DEPTH OF WATER: 4.2 (FEET) TOTAL LENGTH OF CORE: 1.3 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy, warm, lt breeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 4.1"	Black (5Y 2.5/1)	Organic clay with some silt and very fine sand	Strong organic odor Dark layer (organics 3.0" to 4.3"
4.1" to 14.4"	Olive-gray (5Y 4/2)	Cl Silty clay with fine sand	

Sampler: KBT/CRH
Prepared By: Lawrence A Carpenter [signature] 10-21-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60011WC Site ID: 1HSS142.3
LOCATION: Sec 61192 A3pond RAZ
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60011WC	VOA	
		BNA	
		Metal	
		Trad	
		Radscreen	

Sampler: KBT/CRH

Prepared By: Lawrence A Carpeter [signature] 10-21-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD0012WC Site ID: 1142.3
LOCATION Sed 10/29/92 Pond B3 and B4
CORE NUMBER: 1 Liner Uncontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Sequence Stainless Steel~~ ~~Clear Cellulose Polycarbonate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 0400 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: Multiple cores taken and composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER SAME
COLLECTION METHOD: ~~GRAVITY CORER~~ ~~HAND HELD CORER~~
TYPE OF SAMPLE: ~~METALS~~ ~~RADIONUCLIDES~~ ~~VOLATILES~~ ~~SEMI-VOLATILES~~ ~~DESCRIPTION~~
OTHER: Food Screen
DEPTH OF WATER: 2.8 (FEET) TOTAL LENGTH OF CORE: 1.0 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING FORM ON PAGE 2/2.
WEATHER: cloudy, lt breeze, warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (e.g. Vegetation, Roots, Organisms, Objects)
0.0" to 10.2"	Dark Olive gray (5Y 3/2) to Black (5Y 2.5/1)	CL Silty Clay with very fine to fine sand	Strong organic odor Pockets of organic matter Plant roots Top 2.1" less firm than 2.1" to 10.2"
10.2" to 12.4"	Olive (5Y 4/3)	CL Silty clay with very fine to fine sand	Plant roots Clay is firmer than upper section 0.0" to 10.2"

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenty (Print Name) [signature] (Signature) 10-22-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD0012 WC Site ID: IHSS 142.3
LOCATION: Sed 61292 A3 pond RA3
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD0012WC	VOA	
		BNA	
		Metals	
		Rads	
		Rad Screen	

Sampler: LAC / KBT

Prepared By: Lawrence A Carpenter [signature] 10-2292
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60109WC Site ID: IHSS 142.3
LOCATION Sec 61292 A3 and RA3
CORE NUMBER: 0 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: [illegible] NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-22-92 QUARTER: 1 2 3 4
COLLECTION TIME: 815 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H2O over sampling equit
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD60012WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER stainless dipper
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy warm lt breeze
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
RINSATE			

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter [signature] 10-22-92
Print Name Signature Date
Transmitted to RFEDS By: NA
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60013WC Site ID: 1HSS142.3
LOCATION: Sed 61392 A3 pond deepest
CORE NUMBER: 1 Liner Decontaminated: (Yes) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel Yellow-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-21-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1130 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple cores and dreges taken
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: SAME
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER dredge
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: gamma scan, autotox, microtox, radscreen
DEPTH OF WATER: 6.0 (FEET) TOTAL LENGTH OF CORE: 1.6 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: lt breeze, warm clear
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 4.9"	Black 5Y(2.5/2)	~~OL Organic~~ JPG ~~Clay with some~~ JPG ~~silt~~ JPG SC - Clayey Sand fine to medium grained (subangular grains) with some silt	Strong organic odor.
4.9" to 14.1"	Dark gray (5Y 4/1)	OL organic clay with silt and vf. to fine Sand	Strong organic odor Plant roots

Sampler: LAC/CRH
Prepared By: Lawrence A Carpenter [signature] 10-21-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: 5D60013WC Site ID: 1HSS-142.3
LOCATION: Sec 61392 A3 pond deepest
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	5D60013WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	
0-5 cm		gamma	
5-10 cm		gamma	
10-15 cm		gamma	
15-20 cm		gamma	
20-25 cm		gamma	
25-30 cm		gamma	
30-35 cm		gamma	
35-40 cm		gamma	

Sampler: CAC/CRH

Prepared By: Lawrence A Carpenter [signature] 10-21-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60108WC Site ID: 1HSS142.3
LOCATION: Sed 61392 A3 pond deepest
CORE NUMBER: Ø Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-21-92 QUARTER: 1 2 3 4
COLLECTION TIME: 815 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Distilled H_2O over sampling equip
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: SD60013WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER NA
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: calm warm clear
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: KBT/CRH
Prepared By: Lawrence H Carpenter [signature] 10-21-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60014WC Site ID: 1HSS 142.3
LOCATION SD61492 A3 pond in fluent
CORE NUMBER 1 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-22-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1000 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores taken & composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 0.5 (FEET) TOTAL LENGTH OF CORE: 1.0 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, Lt breeze, Warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.1"	Dark olive Gray (5Y 3/2)	CL Silty Clay with very fine to fine sand.	Strong organic oder Plant roots
2.1" to 9.3"	Dark grayish brown (2.5Y 4/2)	CL Silty Clay with very fine to fine sand	Plant roots
9.3" to 12.0"	Very dark grayish brown (2.5Y 3/2)	CL Silty Clay	

Sampler: KBT/SAM
Prepared By: Lawrence A Campeth [signature] 10-22-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60014WC Site ID: HSS142.3
LOCATION: SD61492 A3 pond Inflow
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60014WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: KBT/LAC

Prepared By: Lawrence A Campeti [signature] 10-22-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60015WC site ID: I HSS 142.4 Seq 61592 ~~61692~~ RLR
LOCATION A4pond Random site 1 OU6 RFI
Logger: Jon Pierre Gind (JPG)
CORE NUMBER
NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-14-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1420 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 486492
COMPOSITE: (YES) / NO
COMPOSITE DESCRIPTION: 4 cores taken and composited from
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER SAME
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
CORE LINER TYPE: (STAINLESS STEEL) (PLASTIC)
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) VOLATILES (SEMI-VOLATILES) (DESCRIPTION)
OTHER: Rad Screen
DEPTH OF WATER: 4.6 FEET
TOTAL LENGTH OF CORE: .7 FEET
WEATHER:
Clear Calm Hot Sunny (Part. Cloudy) (Lt. Breeze) (Warm) Fog Cloudy Windy Cool Rain
Gusty Cold Sleet V. Cold Snow Other:

REQUEST FOR ANALYSIS NUMBER:
CHANIN OF CUSTODY NUMBER:
SHIP DATE:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
Ø.Ø in to 1.3"	2.5YR(4/2) to 2.5YR(3/2) dk-yellowish gry brn to V. dk. yell. gry brn	CL Sandy f-medium grained Clay with some silt and course grain sand and trace gravel (1/2") (subangular)	Plant roots Ø.Ø inches to 6.3" Abundant plant roots Ø.8" to 1.5" $CaCO_3$ veins Ø.Ø" to 1.2"
1.3" in to 6.3 in.	2.5YR(4/2) dk yellowish gry brn	CL Silty very fine to fine grain Clay stone with medium grained sand (sub-angular) Arapahoe Formation	Plant roots with plant root ~~Eigenfo~~ ~~Wurzel~~ ~4.Ø" to 4.5" Contact between coarser and finer clay is gradational Sequence coarsens upward

Sampler:
Prepared By: Lawrence A Carpenter (Print Name) (Signature)
Company: WCF

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

Se261692

SAMPLE ID: SD60015WC Site ID: IHSS 142.4
LOCATION: A4 Pond - Random site 1 OU6 RFI
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
0-8 Inches	SD60015WC	metals	
		rads	
		VOA	
		Semi VOA	
		rad screen	

Sampler: LAC/SAM

Prepared By: Lawrence A Carpenter [signature] 10-14-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3

Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60016WC Site ID: IHSS 142.4 SED61692
LOCATION Random site 2. A4 POND - 15 feet from dam
CORE NUMBER: ____ Laser Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10/15/92 QUARTER: 1 2 3 4
COLLECTION TIME: 13:20 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Samples dredged 0-4".
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER ____
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER dredge
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad screen
DEPTH OF WATER: 14.2 (FEET) TOTAL LENGTH OF CORE: 0.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Partly cloudy / Light breeze / warm
COMMENTS: ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 1.2"	Very dark yellowish gray brown (2.5YR 3/2)	CL Sandy (fine to medium grained) Clay with some silt	Plant roots in top 1.0"
1.2" to 1.8"	Brownish-yellow (10YR 6/8)	Thin silty fine to coarse grain sandstone Arapahoe (weathered)	Iron brownish-yellow staining
1.8" to 2.8"	Grayish-brown (10YR 5/2)	Sandy (fine to medium grained) claystone with some silt. Weathered Arapahoe	Iron staining to much less degree.

Sampler: ____

Prepared By: ____
Print Name Signature Date

Transmitted to RFEDS By: ____
Print Name Signature Date

RFEDS Data Verified By: ____
Print Name Signature Date

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60017WC Site ID: IHSS142.2
LOCATION RA3-Sed61792 OU6 A4 pond RFI

CORE NUMBER 1
NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-15-92 QUARTER: 1 2 3 4
COLLECTION TIME: 10:15 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO
COMPOSITE DESCRIPTION: 6 cores taken from 0 to 8 inches
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
CORE LINER TYPE: STAINLESS-STEEL PLASTIC
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 8.5 FEET
TOTAL LENGTH OF CORE: .7 FEET (6.6 inches)
WEATHER:
Clear Calm Hot Sunny Part. Cloudy Lt. Breeze Warm Fog Cloudy Windy Cool Rain
Gusty Cold Sleet V. Cold Snow Other:

REQUEST FOR ANALYSIS NUMBER:
CHANIN OF CUSTODY NUMBER:
SHIP DATE:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 3.0"	2.5YR (4/2) to (4/4) dk grayish brown to olive brown	CL very fine to fine sandy ~~silt with~~ ~~some~~ clay with some silt	Roots and worms abundant top 3.0"
3.0" to 6.6"	10YR (5/3) to (4/2) brown to dk-grayish brown	Silty Claystone with very fine to fine sand grains Weathered Arapahoe	Roots less abundant No worms

Sampler: LAC/SAM
Prepared By: Lawrence A Carpenter [signature]
Print Name Signature
Company: WCFS

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60016WC Site ID: Sed 61692 1HISS142.4
LOCATION: Random site 2 A4 pond 15 ft est from dam
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 10-15-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

Sed 61792

SAMPLE ID: SD60017WC Site ID: IHSS 142.2
LOCATION: RA3 Sed 61792 OU6
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60017WC	VOA	
		Metals	
		BNA	
		Rads	
		Rad Screen	

Sampler: LAC / SAM

Prepared By: Lawrence A Campbell [signature] 10-15-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60018WC Site ID: IH135142.4
LOCATION Sec 6 1892, deepest part of A4 pond

CORE NUMBER 1
NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-19-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 11:00 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO
COMPOSITE DESCRIPTION: dredged from 0 to 5 inches and composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER) Dredge
CORE LINER TYPE: (STAINLESS STEEL) PLASTIC
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: radiscreen, gamma screen, acute tox
DEPTH OF WATER: 14.2 FEET
TOTAL LENGTH OF CORE: 0-5 FEET
WEATHER:
Clear (Calm) Hot Sunny (Part. Cloudy) Lt. Breeze (Warm) Fog Cloudy Windy Cool Rain
Gusty Cold Sleet V. Cold Snow Other:

REQUEST FOR ANALYSIS NUMBER:
CHANIN OF CUSTODY NUMBER:
SHIP DATE:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 1.0"	Black (5YR 2.5/2)	CL Silty Clay with some very fine to fine Sand	Plant roots and shells visible to 0.4"
1.0 to 2.8"	very dark grayish brown (2.5YR 3/2)	CL Silty Clay with some very fine to fine Sand and Slight gravel (up to 1/2" at base of core)	Small plant roots ~~in top 0.7~~ 1.0" to 1.5"

Sampler: LAC/SAM
Prepared By: Laurence A Carpenter [signature]
Print Name Signature
Company: WCFS

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

Sed 61892

SAMPLE ID: SD60018WC Site ID: IHSS 142.4
LOCATION: Deepest part of A4 pond Sed 61892
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60018WC	VOA	
		metals	
		BNA	
		Rads	
		Radscreen	
0 to 5 cm		Gamma scan	

Sampler: LAC/SAM

Prepared By: Lawrence A Carpenter [signature] 10-1992
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60105WC Site ID: IHSS 142.4
LOCATION A4 pond deepest sed 61892
CORE NUMBER: 0 Liner Decontaminated: YES NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0900 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES NO COMPOSITE DESCRIPTION distilled H2O over sampling equipt
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD60018WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Calm P/C, warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: KBT/SAM
Prepared By: Lawrence A Carpenter [signature] 10-19-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60019WC Site ID: THISS 142.4 Sed 61992
LOCATION A4 pond 3 ft from influent OU6 RFI

CORE NUMBER 1
NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-15-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1145 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO
COMPOSITE DESCRIPTION: 4 cores taken from 0 to 10 inches
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
CORE LINER TYPE: STAINLESS-STEEL PLASTIC
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2 FEET
TOTAL LENGTH OF CORE: .9 FEET 9.4"
WEATHER:
Clear Calm Hot Sunny Part. Cloudy Lt. Breeze Warm Fog Cloudy Windy Cool Rain
Gusty Cold Sleet V. Cold Snow Other:

REQUEST FOR ANALYSIS NUMBER:
CHANIN OF CUSTODY NUMBER:
SHIP DATE:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.5"	dark grayish brown (2.5Y 4/2)	CL Sandy (very fine to medium) clay with some silt	plant roots abundant shell fragments
2.5" to 3.5"	grayish brown (2.5YR 5/2)	SC Clayey (medium grained) Sand with silt	plant roots less abundant
3.5" to 9.4"	dark brown (10YR 3/3)	CL Silty clay with (very fine to fine sand)	plant roots less abundant

Sampler:
Prepared By: Lawrence A Carpenter [signature]
Print Name Signature
Company: WCFS

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

sed 61992

SAMPLE ID: SD60019WC Site ID: IH155142.4
LOCATION: A4 pond, 5ft from influent OU6 RFI
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
0-10"	SD60019WC	metals	
		rads	
		VOA	
		semi VOA	
		radscreen	

Sampler: LAC/SAM

Prepared By: Lawrence A Carpenter [signature] 10-14-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6W20WC Site ID: 1HSS142.5
LOCATION 9.2 62092 Bipond 51 RA1
CORE NUMBER: ____ Laser Decontaminated: (YES / NO)
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Glass~~ ~~Stainless Steel~~ ~~Non-Organic Polyethylene~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-6-92 QUARTER: 1 2 3 4
COLLECTION TIME: 845 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES / NO) COMPOSITE DESCRIPTION Multiple core composited
QC TYPE: (RIN) MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screens
DEPTH OF WATER: 3.5 (FEET) TOTAL LENGTH OF CORE: 2.8 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Calm 60 warm P/C
COMMENTS ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 6.0"	Black (2.5YR 2.5/0)	organic clay w/silt and fine sand (OL)	Strong organic oder Low plasticity Abundant plant roots
6.0" to 13.0"	Gray (5Y 5/1)	Silty clay w/fine sand (CL)	Moderate plasticity
13.0" to 25"	Black (2.5YR 2.5/0)	Organic clay w/silt and fine sand	Strong organic oder Abundant plant roots Low plasticity
25" to 29"	dark olive gray (5Y 3/2)	Silty clay w/fine sand	Moderate plasticity plant roots

Sampler: LAC/CRIT
Prepared By: Lawrence A Carpenter (Print Name) (Signature) (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60020WC Site ID: IHSS1425
LOCATION: Sec62092
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60020WC	NOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: 21260125 WX Site ID: IHSS 142.5
LOCATION: Sed 62092 RI RA1
CORE NUMBER: 1 Liner Decontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: ~~Organics-Stainless Steel~~ / ~~Non-Organics-Polybutyrate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-16-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0945 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple grab composited
QC TYPE: (EQA) MS MSD LR DUP RNS QC PARTNER: SWMU
COLLECTION METHOD: GRAVITY CORER ~~HAND-HELD CORER~~
TYPE OF SAMPLE: ~~METALS~~ ~~RADIONUCLIDES~~ ~~VOLATILES~~ ~~SEMI-VOLATILES~~ ~~DESCRIPTION~~
OTHER: _____
DEPTH OF WATER: 3.5 (FEET) TOTAL LENGTH OF CORE: _____ (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: _____
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: _____

Prepared By: _____ Print Name _____ Signature _____ Date _____

Transmitted to RFEDS By: _____ Print Name _____ Signature _____ Date _____

RFEDS Data Verified By: _____ Print Name _____ Signature _____ Date _____

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60125WC Site ID: IHSS 142.5
LOCATION: Seal 62092 B1 Pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60125WC	BNA Metals TRGDS Rad Screen	

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60021WC Site ID: 1 Hss 142.5
LOCATION Sed 62192 B1 RA2
CORE NUMBER: Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel Non-Organics-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-16-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1000 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 984492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad Screen
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: 1.0 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, warm, calm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.0"	Black (2.5YR 2.5/0)	organic clay w/ silt (OL)	plant roots strong organic odor Low Plasticity
2.0" to 11.0"	very dark gray (5Y 3/1)	Silty clay with gravel and fine sand	extensive plant root gravel (1/2") at top of sequence 2"-3.0" Low plasticity

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60021WC Site ID: 1HSS142.5
LOCATION: Sed 62192
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60021WC	VOA	
		BNA	
		Metals	
		T Rads	
		Radscreen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60022WC SITE ID: 11SS 142.5
LOCATION 766262292 BI RA3
CORE NUMBER: 1 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Stainless Steel / Non-Organics-Polybutylene~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-16-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1045 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple core composite
QC TYPE: REAL MS MSD LR DUP RINS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: radscan
DEPTH OF WATER: 3.0 (FEET) TOTAL LENGTH OF CORE 0 to 2 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: PC, calm warm
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 6"	Black (2.5YR 2.5/0)	Organic clay with silt and f-sand (OL)	Plant roots ~~strong~~ JPG strong organic oder Low plasticity
6.0" to 11.0"	Olive gray (5Y 4/2)	Silty clay w/organics (OL)	plant roots strong organic oder Low plasticity
11.0" to 24"	Black (2.5YR 2.5/0)	Organic clay	plant roots strong organic oder Low plasticity

Sampler: KBT/CRH
Prepared By: Lawrence A Carpenter (Print Name) (Signature) 11-16-92 (Date)
Transmitted to REEDS By: (Print Name) (Signature) (Date)
REEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60022WC Site ID: 1HSS1425
LOCATION: Sed 62292 Alpard RA3
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60022WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: KBT/KRH

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60126WC Site ID: 1HSS1425
LOCATION: Sec 6 2292
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60126WC	BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: KBT/CRH

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3

Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2

Core Sample Data Form (CSDF)

Form SW.17A

SAMPLE ID: SD60023WX Site ID: 1455 142.5

LOCATION Sec 6 2339 B1 pond deep

CORE NUMBER: Liner Decontaminated: (YES) NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINER: ~~Organic Sleeve, Soil Liner, Organic, Polybutyrate~~ NORTH OR Y: N/A EAST OR X: N/A

COLLECTION DATE: 11-16-92 QUARTER: 1 2 3 (4)

COLLECTION TIME: 1245 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492

COMPOSITE: (YES) NO COMPOSITE DESCRIPTION: multiple locs composite

QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: same

COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: red green cecile tox mercury pulam

DEPTH OF WATER: 3 (FEET) TOTAL LENGTH OF CORE: 2.0 (FEET)

SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.

WEATHER: P/C, warm 17g breeze

COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 17.0"	~~Black~~ 5PG Black (2.5YR 2.5/0)	Organic silty clay w/ trace COLS	Very strong organic odor extensive plant roots Low Plasticity
17.0" to 18.0"	Dark olive green (5Y 3/2)	Silty clay with some fine sand and gravel (1").	Extensive plant roots One 1" gravel at top of interval Low plasticity

Sampler: LAC/CRIT

Prepared By: Laurence A Carpenter (Print Name) Signature Date 11-16-92

Transmitted to RFEDS By: Print Name Signature Date

RFEDS Data Verified By: Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60023WC Site ID: 1HSS142.5
LOCATION: Sed 62392 Bldg deep
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60023WC	OCA	
		BNA	
		Metals	
		TRads	
		Radscree	
0-5		Gamma	
6-10		Gamma	
10-15		Gamma	
16-20		Gamma	
21-25		Gamma	
26-30		Gamma	
31-35		Gamma	
36-40		Gamma	
41-45		Gamma	
46-50		Gamma	
51-55		Gamma	
56-60		Gamma	

Sampler: LAC / CRH

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60024WK Site ID: 11SS1425
LOCATION Sed 62492 Oil pond Influent
CORE NUMBER: ____ Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Organics-Stainless Steel~~ / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-16-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1400 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 4986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple cores composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad Screen
DEPTH OF WATER: 0.1 (FEET) TOTAL LENGTH OF CORE: 1.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: ____
COMMENTS: ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 7.0"	Black to (2.5YR 2/0) DK olive gray (5Y 3/2)	Silty clay w/ organics (OL)	Black organic matter strong odor Plant roots extensive Low Plasticity
7.0" to 18.0"	olive gray (5Y 4/2)	Silty clay w/ some fine sand (CL)	Plant roots extensive organic layer from 15" to 16.5" Low Plasticity

Sampler: LAC
Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date
Transmitted to RFEDS By: ____
Print Name Signature Date
RFEDS Data Verified By: ____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60024WC Site ID: 1HSS142.5
LOCATION: Sed 62492 B1 pond Influent
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60024WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	

Sampler: LAC

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60124WC (DUPLICATE) Site ID: 1455142.5
LOCATION: See 62492
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60124WC	VOA	
		SVOA	
		Metals	
		TRads	
		Rad Screen	

Sampler: LAC

Prepared By: Lawrence A Carpenter Lawrence A Carpenter 11-16-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60025WC Site ID: IHSS 142.6
LOCATION Sed 62592
CORE NUMBER: 1 Liner Decontaminated (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: [illegible] NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-18-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 915 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple cores composite
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 5.0 (FEET) TOTAL LENGTH OF CORE: 2.0 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/S cool lt breeze
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 6.0"	Black (2.5YR 2.5/0)	Organic clay w/silt and fine sand (OL)	Abundant plant roots Strong odor
6.0" to 20.0"	dark grayish brown (2.5Y 4/2)	Silty clay with fine sand	Shell fragments Plant roots

Sampler: CRH/MAC
Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60025WC Site ID: IHSS 142.6
LOCATION: Sed 62592 B2 Pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60025WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	

Sampler: CRH/MAC

Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60D26WC Site ID: IHSS142.6
LOCATION Sec 6 T2 S R69W 32 and 33 R1A2
CORE NUMBER: 1 Lower Decontamination (Y/N) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics-Stainless Steel~~ / ~~Non-Organics-Polycarbonate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-18-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1045 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composited
QC TYPE: (FA) MS MSD LR DUP RIS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rad Screen
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: 0.3 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, 1 breeze, cool
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Objects)
0.0" to 2.0"	Black (5Y 2.5/2)	Silty Clay w/some fine sand (CL)	Plant roots Strong odor Low plasticity
2.0" to 6.0"	olive (5Y 4/3)	Silty clay with some fine sand (CL)	Abundant plant roots Low plasticity
6.0" to 8.0"	olive gray to gray (5Y 5/1 - 5/2)	Silty clay with fine sand ~~(CH/SP-SC)~~ SP6 and trace coarse sand (CL)	Moderate to High plasticity Plant roots abundant

Sampler: KBT/MAC
Prepared By: Laurence A Carpenter (Print Name) Lawrence A Carpenter (Signature) 11-18-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60026WC Site ID: IHSS 142.6
LOCATION: Sed 62692 B2 Pond RAL
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60026WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: KBT/MAC

Prepared By: Laurence A Carpenter Laurence Carpenter 11-18-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60027WC Site ID: 1A55142.6
LOCATION: Sed 62792 B2 pond RAJ
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-18-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1330 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.5 (FEET) TOTAL LENGTH OF CORE: 0.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, Hbreeze, cool
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.0"	Black (2.5YR 2.5/0)	Organic clay with silt and fine sand (OL)	Plant roots extensive Strong odor low plasticity
2.0" to 6.0"	Black (2.5YR 2.5/0) to Black (5Y 2.5/1)	Organic clay with silt and fine sand (OL)	Plant roots extensive Strong odor low plasticity

Sampler: LAC / CRH
Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60027WC Site ID: 1HSS142.6
LOCATION: Sed62792 B2 Pond RA3
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60027WC	VOA	
		BNA	
		Metals	
		Rads	
		Rad Screen	

Sampler: LAC/CRA

Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60028WC Site ID: 1HSS142.6
LOCATION: Sed 62892 B2 pond deepest
CORE NUMBER: _____ Liner Decontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: ~~Organics-Stainless Steel/Non-Organics-Polyethylene~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-18-92 QUARTER: 1 2 3 0
COLLECTION TIME: 1330 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple cores composite
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: SAM
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
TYPE OF SAMPLE: ~~METALS~~ ~~RADIONUCLIDES~~ ~~VOLATILES~~ ~~SEMI-VOLATILES~~ ~~DESCRIPTION~~
OTHER: rad screen
DEPTH OF WATER: 8.5 (FEET) TOTAL LENGTH OF CORE: 1.9 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cool, Hbreeze, P/C
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2"	Black (2.5YR/2.5/2)	Organic clay with silt and fine sand	Plant roots abundant
2.0" to 14.0"A	olive (5Y 4/3)	Silty clay w/ fine sand	Plant roots

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60028WC Site ID: LHSS142.6
LOCATION: Sed 62892 132 pond Deedest
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60028WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	
0 to 5		gamma	
6 to 10		gamma	
11 to 15		gamma	
16 to 20		gamma	
21 to 25		gamma	
26 to 30		gamma	
31 to 35		gamma	
36 to 40		gamma	
41 to 45		gamma	
46 to 50		gamma	
51 to 51		gamma	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60029WC Site ID: 1HSS142.6
LOCATION: Sed 62992 B2 pond Influent
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-18-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1115 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple cores composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 1.5 (FEET) TOTAL LENGTH OF CORE: 1.1 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, cool lt breeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 9.0"	Black (2.5YR 2.5/0)	Organic clay w/ Silt and fine sand (OL)	Extensive Plant roots Low Plasticity
9.0" to 14.0"	Olive gray (5Y 5/2)	Silty clay w/ fine sand	Plant roots Moderate plasticity
14.0" to 15.0"	Strong brown (7.5YR 5/6)	Silty clay w/ fine sand	Low plasticity $CaCO_3$ (strong HCL reaction) shell fragments FeOx staining

Sampler: LAC / ~~LAC~~ CRH
Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date
Transmitted to RFEDS By: NA
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

COPY

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60029WC Site ID: IHSS 142.6
LOCATION: Sed62992 B2 Pond Influent
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60029WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 11-18-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60030WC Site ID: 1HSS142.7
LOCATION: Scd 63092 B3 Pond RAI
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel (Non-Organics-Polybutyrate) NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-27-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0830 PURPOSE/PROJECT: OU10 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Food Screen
DEPTH OF WATER: 0.8 (FEET) TOTAL LENGTH OF CORE: 1.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, lt breeze, warm
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 3.8"	DK olive gray (5Y 3/2)	SP/SM ~~Slightly~~ Silty Sand with medium to coarse sand	Plant roots
3.8" to 7.9"	Black (7.5YR 2/0)	OL Organic clay with abundant silt	Organics ~~Strong~~ Strong organic order plant roots
7.9" to 12.5"	Gray (5Y 5/1)	CL Silty clay	

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter [signature] 10-27-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60030WC Site ID: 11SS142.7
LOCATION: Sed 63092 B3 pond RAI
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60030WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: LAC / KBT

Prepared By: Lawrence A Carpenter [signature] 10-27-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60115WC Site ID: 1HSS 142.7
LOCATION Seal 63092 B3 Pond RA1
CORE NUMBER: 0 Liner Decontaminated: (Yes) NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: Organics-Stainless Steel Non-Organics-Polybutyrate NORTH OR Y: EAST OR X:
COLLECTION DATE: 10-27-92 QUARTER: 1 2 3 4
COLLECTION TIME: 745 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H2O over sampling equipt
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD60030WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER stainless clipper
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, lt breeze warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-27-92 (Date)
Transmitted to RFEDS By: NA (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

856D0160.004

COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60031WC Site ID: 1HSS142.7
LOCATION Sed 631WC B3 pond RA2
CORE NUMBER 1 Liner Decontaminated Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics Sampling Tube~~ / ~~Non-Organics Polyhedron~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-27-92 QUARTER: 1 2 3 4
COLLECTION TIME: 11:45 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE YES / NO COMPOSITE DESCRIPTION multiple cores taken & composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rack Screen
DEPTH OF WATER: 0.5 (FEET) TOTAL LENGTH OF CORE: 1.4 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C warm lt breeze
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 3.2"	Black (2.5Y 3/0)	OL Organic clay with silt	strong organic odor organics plant roots abundant
3.2" to 16.0"	olive gray (5Y 4/2)	CL silty clay	plant roots pockets of organic matter

Sampler: KBT / CRH
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-27-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60031WC Site ID: IHSS 142.7
LOCATION: Sec 6 31 92 B3 pond RA2
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60031WC	VOA	
		BNA	
		Metals	
		TRads	
		Rad Screen	

Sampler: KBT/CRH

Prepared By: Lawrence A Carpenter [signature] 10-27-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60032WC Site ID: IHSS142.7
LOCATION: Sed63293 B3 Pond RH3
CORE NUMBER: 1 Liner Decontaminated: (Yes) NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyvinyl NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 4
COLLECTION TIME: 815 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: SAME
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 4.2 (FEET) TOTAL LENGTH OF CORE: 0.02 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy, calm, cool
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 12.6"	Black (7.5YR 3/0)	OL Organic clay with abundant silt	Strong organic odor plant roots abundant
12.6" to 20.4"	Dark olive gray (5Y 3/2)	CL Silty clay with some very fine to fine sand	

Sampler: LAC / KBT
Prepared By: Lawrence A Carpenter [signature] 10-28-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60032WC Site ID: IHSS 142.7
LOCATION: Sed 63292 B3 pond RA3
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60032WC	VOA	
		BNA	
		metals	
		TRads	
		Radscreen	

Sampler: LAC / KBT

Prepared By: Lawrence A Carpenter [signature] 10-28-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60017 WC Site ID: 1HSS142.7
LOCATION SCD 63292 B3 POND PLAS
CORE NUMBER ____ Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LENGTH: ~~Organics Shipping Sized / Non-Organics Polyvinyl~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 4
COLLECTION TIME: 245 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 906492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H2O over sampling equipment
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD60032 WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rock Slurry
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy cool lt breeze
COMMENTS ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Objects)

Sampler LAC
Prepared By Laurence A Carpenter (Print Name) [signature] (Signature) 10-28-92 (Date)
Transmitted to RFEDS By: ____ (Print Name) ____ (Signature) ____ (Date)
RFEDS Data Verified By: ____ (Print Name) ____ (Signature) ____ (Date)

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6011BWC Site ID: 1HSS142.7
LOCATION Sed 63292 B3 pond RA3
CORE NUMBER: 1 Liner Decontaminated: (Yes) NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyethylene NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 815 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION Multiple cores composite
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) VOLATILES (SEMI-VOLATILES) (DESCRIPTION)
OTHER: Rad Screen
DEPTH OF WATER: 4.2 (FEET) TOTAL LENGTH OF CORE 2 to 24 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Cloudy cool lt breeze
COMMENTS _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter [signature] 10-28-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60118WC Site ID: 1HSS142.7
LOCATION: Sed 63292 B3 pond RA3
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60118WC	BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature] 10-28-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60033WC Site ID: 1A55142.7
LOCATION SCC163392 B3, and deeper
CORE NUMBER 1 Lower Decontaminated (Yes / No)
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LENTH: NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-27-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0930 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple cores composited
QC TYPE: REP MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: PCB screen, Mis Metals, Acute tox, PU/AM
DEPTH OF WATER: 2.5 (FEET) TOTAL LENGTH OF CORE 0 to 2 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER P/C, Breeze, warm
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Odors)
0	~~Very dark gray (2.5Y 3/0)~~	~~CL Silty clay with organics to fine sand JPG~~ JPG	
0.0" to 9.2"	Black (7.5YR 2/0)	OL organic clay with abundant silt	Strong organic odor Organics
9.2" to 25.5"	Black (5Y 2.5/2)	CL Silty clay	plant roots

Sampler: LAC / CRIT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-27-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60033WC Site ID: 1HSS1427
LOCATION: Sed 63392 133 Pond Cleaves
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD6033WC	VOA	
		BNA	
		Metals	
		Trucks	
		Rad scrn	
0+5		gamma	
5+10		gamma	
10+15		gamma	
15+20		gamma	
20+25		gamma	
25+30		gamma	
30+35		gamma	
35+40		gamma	
40+45		gamma	
45+50		gamma	
50+55		gamma	
55+60		gamma	
60+65		gamma	
65+70		gamma	
70+75		gamma	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 10-27-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60116WX Site ID: 1H55142.7
LOCATION 5426 63392 B3 Pond Creek 1
CORE NUMBER: ____ Liner Decontaminated (Yes / NO)
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: (Stainless Steel / Non-Organic Polycarbonate) NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-27-92 QUARTER: 1 2 (4)
COLLECTION TIME: 0930 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION Multiple cores composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-DRIVEN CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES (SEMI-VOLATILES) DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.5 (FEET) TOTAL LENGTH OF CORE 2.8 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: lt breeze, warm, P/C
COMMENTS ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)

Sampler: LAC / CRIT
Prepared By: Laurence A Campeth (Print Name) [signature] (Signature) 10-27-92 (Date)
Transmitted to RFEDS By: ____ Print Name ____ Signature ____ Date
RFEDS Data Verified By: ____ Print Name ____ Signature ____ Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

IHSS 142.7

SAMPLE ID: SD60116WC Site ID: Sed63392
LOCATION: Sed63392 B3 pond deepest
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60116WC	BNA	
		Metals	
		Trads	
		Radiscreen	

Sampler: LAC/CRIT

Prepared By: Lawrence A Carpenter [signature] 10-27-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60034WC Site ID: 1/4 55/42 7
LOCATION Sec 6 5 9 92 B3 Dual Inflow
CORE NUMBER: 1 Laser Decontaminated: (YES) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINED: (Teflon) Stainless Steel Plastic Other Polycarbonate NORTH OR Y: NIT EAST OR X: NIT
COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 930 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 980492
COMPOSITE: (YES) NO COMPOSITE DESCRIPTION: multiple cores composite
QC TYPE: (EAL) MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: Pick-Sieve
DEPTH OF WATER: 2.2 (FEET) TOTAL LENGTH OF CORE: 0.8 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: cloudy cool ~1 breeze
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 5.2"	Dark olive gray (5Y 3/2)	CL Silty clay	
5.2" to 6.4"	Very dark gray (5Y 3/1)	CL Silty clay	organics

Sampler: LAC / KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-28-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60034WC Site ID: 1HSS142.7
LOCATION: Sed 63992 B3 pond inflow
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60034WC	VOA	
		BNA	
		Metals	
		Trads	
		Radiation	

Sampler: LAC/KBT

Prepared By: Lawrence A Campbell [signature] 10-28-97
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60035WC Site ID: IHSS 142.8
LOCATION Sec 6 T3S R68 B4 Pond B4
CORE NUMBER: 1 Laser Decontaminated (YES) / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics Stainless Steel Plastic Cryomacro Polycarbonate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1520 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION multiple cores taken from same
QC TYPE: (REG) MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER (HAND) FIELD CORER
TYPE OF SAMPLE: (METALS) RADIONUCLIDES (VOLATILES) SEMI-VOLATILES (DESCRIPTION)
OTHER: Rad-screen
DEPTH OF WATER: .3 (FEET) TOTAL LENGTH OF CORE 0 to 2 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: PC lt breeze Warm
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Objects)
0.0" to 6.2"	Very dark gray (2.5 Y 3/0)	CL Silty Clay with very fine to fine sand	Plant roots organic matter
6.2" to 18.3"	Olive gray (5Y 4/2) to Dark gray (5Y 4/1)	SM Silty Sand fine to medium grained	
18.3" to 28.3"	Dark olive gray (5Y 3/2)	CL Silty Clay with very fine to fine sand	Plant roots organic matter

Sampler: LAC / KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-22-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60035WC Site ID: 1HSS 142.8
LOCATION: Sed 63592 B4 pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60035WC	VOA	
		BNTF	
		metals	
		Trads	
		Radscreen	

Sampler: LAC/KBT

Prepared By: Lawrence Carpenter [signature] 10-20-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60111WC Site ID: IHSS 142.8
LOCATION Sed 63592 BU Pond RA1
CORE NUMBER: 1 Liner Decontaminated YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyvinyl NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-22-92 QUARTER: 1 2 3
COLLECTION TIME: 1530 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple cores taken & composite
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: read screen
DEPTH OF WATER: .3 (FEET) TOTAL LENGTH OF CORE 2 to 2.3 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: PC, 1+ breeze, warm
COMMENTS _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: LAC/KBT
Prepared by: Lawrence A Carpenter [signature] 10-22-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: LAC 6 SD60111WC Site ID: IHSS 142.8
LOCATION: Seal 63592 B4 pond RMA
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60111WC	VOA BNA Metals TRads Radscreen	

Sampler: LAC/KBT
Prepared By: Lawrence A Carpenter Lawrence A Carpenter 10-22-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6002360W Site ID: 1455 142.9
LOCATION Sed 6 & 92 134 Pond 142
CORE NUMBER: 1 Liner Decontaminated: Y/N
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Stainless Steel~~ ~~PVC~~ ~~Polyethylene~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 0930 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION multiple cores taken and composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rock screen
DEPTH OF WATER: 0.5 (FEET) TOTAL LENGTH OF CORE: 1.6 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: calm, warm, clear
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 2.9"	Dark grayish brown (2.5Y 4/2)	SM/SP silty fine to coarse grained sand with some silt	Black organics (2.5Y 2/0) on top 0" to 0.3" Plant roots
			Black organics (2.5YR 2/0) from 2.1" to 2.7"
2.9" to 15.9"	Very dark gray (~~2.5Y 3/A~~) (5Y 3/1)	CL Silty clay with some sand	Plant roots and pockets of organic matter

Sampler: KBT/LAC
Prepared By: Lawrence A Cuppett (Print Name) Signature Date 10-26-92
Transmitted to RFEDS By: Print Name Signature Date
RFEDS Data Verified By: Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60036WC Site ID: 1HSS142.8
LOCATION: Sed 63692 B4 pond DA2
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60036WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	

Sampler: KBT/LAC

Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60112WC Site ID: IA-SS 142.8
LOCATION: Sediment Basin BY Pond EAST
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Cellulose Acetate Butyrate / Polycarbonate / Polyvinylchloride~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0930 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: ~~[illegible]~~ & 10% H2O core equipt.
QC TYPE: REAL MS MSD LR DUP RINS QC PARTNER: SD6OO36WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER Stainless clipper
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: calm clear warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)

Sampler: KBT / LAC
Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60037WC Site ID: IHSS 142.8
LOCATION: Sed 63792 ~~B4 RA3~~ B4 RA3
CORE NUMBER: 1 Limit Decontaminated (Yes)/ NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics-Stainless Steel / Non-Organics-Polybutyrate~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1300 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES NO COMPOSITE DESCRIPTION: Multiple cores pulled and composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.0 (FEET) TOTAL LENGTH OF CORE: 0 TO 2 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Calm clear warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 18.7"	very dark gray (5Y 3/1)	CL Silty clay with some fine sand	Plant roots and reed root
18.7 to 31.5"	dark gray 5Y (4/1)	CL Silty clay with some fine to very fine sand	Plant roots and organic matter in pockets

Sampler: LAC/CRH
Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date
Transmitted to RFEDS By: Print Name Signature Date
RFEDS Data Verified By: Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60037WC Site ID: 1HSS142.8
LOCATION: Sed 63792 B4 pond ~~RA2 [illegible]~~ RA3 [illegible]
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60037WC	VOA	
		BNA	
		Metals	
		TRACS	
		Rad Screen	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60114WC Site ID: 1H5142.8
LOCATION: Sec 16 3 N2 SW Pond RH3
CORE NUMBER: 1 Lamy Decontaminated Grav/NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics Sampling Spec/X Non-Organics Polyethylene~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1500 PURPOSE/PROJECT: OUG PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple cores taken & composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: SAME
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES ~~PESTICIDES~~ SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.0 (FEET) TOTAL LENGTH OF CORE 22.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: cum warm clear
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)

Sampler: CRW/LAC
Prepared By: Lawrence A Carpenter (Print Name) Lawrence A Carpenter (Signature) 10-26-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60114WC Site ID: 1HSS1428
LOCATION: Sed 63792 134 Pond RA3
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60114WC	~~[illegible]~~ LAC	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.1 A

SAMPLE ID: SD60038WC Site ID: IHSS 142.8
LOCATION Sed 63847 134 pond deep
CORE NUMBER: 1 Laser Decontaminated (Yes) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: (Stainless Steel) / (Non-Chlorinated Polyvinyl) NORTH OR Y: N/A EAST OR X N/A
COLLECTION DATE: 10-22-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1550 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) NO COMPOSITE DESCRIPTION Multiple cores taken and composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER SAME
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: Pond Screen
DEPTH OF WATER: 1.8 (FEET) TOTAL LENGTH OF CORE 0 to 2 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: HC warm lt breeze
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Objects)
0.0" to 25.4"	dark-olive gray (5Y 3/2)	CL Silty clay with very fine to fine sand	Organic matter layer 4.0" to 6.0" with plant roots
25.4 to 30.9	Black (2.5Y 2/0)	OL Organic clay with silt and very fine to fine sand	Abundant organic matter plant roots.

Sampler: LAC / SHM
Prepared By: Lawrence A Campato / Sam Shutt 10-22-92
Print Name / Signature / Date
Transmitted to RFEDS By: Print Name / Signature / Date
RFEDS Data Verified By: Print Name / Signature / Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60038WC Site ID: 11HSS 142.8
LOCATION: Sed 63892 B4 pond dep
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60038WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	
05 cm		gamma	
5-10 cm		gamma	
10-15 cm		gamma	
15-20 cm		gamma	
25-30 cm		gamma	
30-35 cm		gamma	
35-40 cm		gamma	
45-50 cm		gamma	
50-55 cm		gamma	
55-60 cm		gamma	
60-65 cm		gamma	
65-70 cm		gamma	
70-75 cm		gamma	
75-80 cm		gamma	
80-85 cm		gamma	
85-90 cm		gamma	

Sampler: LAC/SAM

Prepared By: Lawrence A Carpet [signature] 10-22-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6110WC Site ID: 1A55142.8
LOCATION: Sed 63892 B4 deepest
CORE NUMBER: 1 Liner Decontaminated (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polypropylene NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-22-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1330 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple cores taken & composite
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: _____
DEPTH OF WATER: 1.8 (FEET) TOTAL LENGTH OF CORE: 2 to 3 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C lt breeze warm
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: LAC / SAM
Prepared By: Lawrence A Carpenter [signature] 10-22-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6110WC Site ID: 1HSS 142.8
LOCATION: Sed 63892 134 deep
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD6110WC	VOA	
		Metals	
		BNA	
		Trads	
		Radscreen	

Sampler: LAC/SAM

Prepared By: Lawrence A Carpenter [signature] 10-22-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

36/52

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60039WC Site ID: 1HSS142.8
LOCATION Sec 63992 B4 Pond inflow
CORE NUMBER 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1030 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores taken and composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 0.1 (FEET) TOTAL LENGTH OF CORE: 0401.8 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Calm warm clear
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 10.2"	Very dark gray (5Y 3/1)	Silty Sand (V fine to fine grained (SM) NAH 3-16-95	Abundant plant roots and organic matter Black (2.5Y 2/0) from 4.1" to 6.0"
10.2" to 12.9"		Sandy silt with some clay and trace gravel (up to 1/4") (Very fine to fine grained (ML) NAH 3-16-95	Plant roots are abundant

Sampler: LAC
Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date
Transmitted to RFEDS By: NA
Print Name Signature Date
RFEDS Data Verified By: NA
Print Name Signature Date

856D0160.004

COPY

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60039WC Site ID: IHSS142.8
LOCATION: Sed 63997 B4 pond inflow
CORE NUMBER: _____ REQUEST FOR ANALYSIS NUMBER: _____
CHAIN OF CUSTODY NUMBER: _____

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60039WC	VOA	
		BAA	
		Metals	
		Rads	
		Rad screen	

Sampler: LAC

Prepared By: Lawrence A Carpenter [signature] 10-26-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60113WC Site ID: 1H50 1H2B
LOCATION Sec 6 3N 72 BY Pond Inflow
CORE NUMBER: ____ Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Organics-Stainless Steel / Non-Organics-Polycarbonate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 4
COLLECTION TIME: 10:30 PURPOSE/PROJECT 0006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores taken & composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER 3D60123SWC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Pad Sorbent
DEPTH OF WATER: 0.1 (FEET) TOTAL LENGTH OF CORE 0 to 1.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Calm warm clear
COMMENTS: ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)

Sampler: LAC
Prepared By: Lawrence A Carpenter (Print Name) Lawrence A Carpenter (Signature) 10-26-92 (Date)
Transmitted to RFEDS By: LAC (Print Name) LAC (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60113WC Site ID: IHSS 1428
LOCATION: Sed 63992 By pond influent
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60113WC	DOA	
		BNA	
		Metals	
		Rads	
		Rad screen	

Sampler: LAC

Prepared By: Lawrence A Caperton [signature] 10-26-95
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60040 WC Site ID: IHISS 142.9
LOCATION: Sed 64092 B5 pond RAI
CORE NUMBER: 1 Liner Decontaminated: (Yes) / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: (Organics-Stainless Steel) / (Non-Organics-Polybutyrate) NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-19-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1520 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: 4 cores taken from 0 to 10 inches
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER (HANDHELD CORER)
TYPE OF SAMPLE: METALS (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: rad screen
DEPTH OF WATER: 8.1 (FEET) TOTAL LENGTH OF CORE: .9 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: windy warm clear
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 7.0"	Black (5Y 2.5/2)	OL Organic clay with some silt and vf. sand	Abundant plant roots 2.0" to 3.0" Strong organic odor
7.0" to 8.5"	dark olive gray (5Y 3/2)	SP Silty sand fine to medium grained sand (subangular grains) with some coarse grains.	No plant roots

Sampler: LAC / SAM
Prepared By: Lawrence A Carpenter [signature] 10-19-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60040WC Site ID: IHISS 142.9
LOCATION: Sed 64042 B5 pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60040WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: LAC / SAM

Prepared By: Lawrence A Carpenter [signature] 10-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6CX041 WC Site ID: IMSS 142.9
LOCATION Sec 6 41 92 BS Pond RA2
CORE NUMBER 1 Laser Dimensionalized (YES) NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: (Organics-Stainless Steel) / (Inorganics-Polybutyrate) NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-19-92 QUARTER: 1 2 X 4
COLLECTION TIME: 1400 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) NO COMPOSITE DESCRIPTION dredge pulls taken and composited
QC TYPE: (REAL) MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER) dredge
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: rock screen
DEPTH OF WATER: 7.3 (FEET) TOTAL LENGTH OF CORE: 0.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, warm light breeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 1.0"	Very dark olive gray (5Y 3/2)	OL Organic clay with some silt and very fine sand	Plant roots present.
1.0" to 5.6" NAM 3-16-95	Olive (5Y 4/4) to olive (5Y 4/3)	CL Silty clay with very fine to medium sand lens	Mottled with a white inhomogeneous zone from 3.0" to 3.8"

Sampler: CAC/SMM
Prepared By: Lawrence A Carpenter (Print Name) Signature Date 10-19-92
Transmitted to RFEDS By: (Print Name) Signature Date
RFEDS Data Verified By: (Print Name) Signature Date

COPY

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60041WC Site ID: 1HISS142.9
LOCATION: Sed 64192 B5 Pond RA2
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60041WC	VOA	
		BNA	
		Metals	
		TRad	
		Rad screen	

Sampler: LAC/SAM

Prepared By: Lawrence A Carpenter [signature] 10-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60106WC Site ID: IHSS142.9
LOCATION: Sed 64292 B5 pond RA3
CORE NUMBER: 1 Liner Decontaminated: YES NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organic-Stainless Steel / Non-Organic-Polycarbonate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4
COLLECTION TIME: 945 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: dredge pulls taken and composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: SD0042WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER Dredge
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 8.8 (FEET) TOTAL LENGTH OF CORE: 0 to 4 (FEET)
SECTIONED CORE: YES / NO IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Clear warm lt breeze
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.9"	Olive (5Y 4/3)	CL Sandy Clay with some silt and fine to medium sand	No plant roots
2.9" to 8.4"	Olive (5Y 4/3) to Black (5Y 2.5/1)	OL Organic clay with silt and some very fine sand to coarse sand and some gravel (up to 1/2")	Strong organic odor

Sampler: CRH/LAC
Prepared By: Lawrence A Carpenter [signature] 10-20-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60106WC Site ID: IHSS 142.9
LOCATION: B5 pond RA-3 scd 64292
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60106WC	VOA BNA metals Rad Radscreen	

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 10-20-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2

Core Sample Data Form (CSDF)

Form SW.17A

SAMPLE ID: ~~SD064WE~~ SD60042WE LAC Site ID: IHISS1429

LOCATION Sed 64292 BS RA3

CORE NUMBER: 1 Liner Decontaminated: Yes / NO

REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____

CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: NA EAST OR X: NA

COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4

COLLECTION TIME: 0945 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492

COMPOSITE: YES / NO COMPOSITE DESCRIPTION: dredge pulls taken and composite

QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: Same

COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER dredge

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: Rad screen

DEPTH OF WATER: 8.8 (FEET) TOTAL LENGTH OF CORE: 0 to 4 (FEET)

SECTIONED CORE: YES / NO IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.

WEATHER: clear calm warm

COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: LAC / KBT

Prepared By: Lawrence Carpenter (Print Name) James Olyott (Signature) 10-20-92 (Date)

Transmitted to RFEDS By: _____ (Print Name) _____ (Signature) _____ (Date)

RFEDS Data Verified By: _____ (Print Name) _____ (Signature) _____ (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
SD60042WC **Form SW.17A**

SAMPLE ID: ~~SD004WC~~ LAC Site ID: IHDS 142.9
LOCATION: Sed 64292 BS RAS
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
~~SD004WC~~ LAC 1	SD004WC	VOA	
	SD	BNA	
		Metal	
		Trads	
		Rdscreen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature]
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60042WC Site ID: 1ASS 1429
LOCATION Sed 64292 BS-RA3
CORE NUMBER: 1 Liner Decontaminated Yes / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyethylene NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-20 QUARTER: 1 2 3 4
COLLECTION TIME: 0945 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION dredge pulls taken and composited
QC TYPE: REAL MS/MSD LR DUP RNS QC PARTNER SD60004WC Real
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: _____
DEPTH OF WATER: 8.8 (FEET) TOTAL LENGTH OF CORE: 15 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: warm clear calm
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 10-20-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

Sed 64292

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6107 WC Site ID: 1H155142.9
LOCATION: ~~Sed 64292~~ 135 Pond RA3
CORE NUMBER: Ø Later Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polybutyrate NORTH OR Y: _____ EAST OR X: _____
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0815 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: distilled H2O over sampling equt
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: SD60042 WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER NA
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION LAC
OTHER: _____
DEPTH OF WATER: NA (FEET) TOTAL LENGTH OF CORE: NA (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Calm warm clear
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: KBT/CRIT

Prepared By: Lawrence A Carpenter [signature] Print Name Signature Date

Transmitted to RFEDS By: _____ Print Name Signature Date

RFEDS Data Verified By: _____ Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60042WC Site ID: 1HSS 142.9
LOCATION Sed 64292 05-RA3
CORE NUMBER 1 Liner Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: ~~Organics-Stainless Steel~~ / ~~Non-Organics-Polypropylene~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4
COLLECTION TIME: 945 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION dredge pulls taken & composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER dredge
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: _____
DEPTH OF WATER: 8.8 (FEET) TOTAL LENGTH OF CORE: .4 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: calm clear warm
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)

Sampler: LAC / CRH
Prepared By: Lawrence A Carpenter [signature] 10-22-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60129WC (Duplicate) Site ID: 1HSS142.12
LOCATION: Sed 64692 WI pond RAL
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60129WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60043WC Site ID: 1415S 1429
LOCATION Seal 64392 135 2nd dep
CORE NUMBER: 1 Liner Decontaminated (YES) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1200 PURPOSE/PROJECT CSU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION Multiple cores Composited
QC TYPE: (NA) MS MSD LR DUP RNS QC PARTNER: SAME
COLLECTION METHOD: GRAVITY CORER (HAND-HELD CORER)
TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) (DESCRIPTION)
OTHER: Microtox Acute tox gamma screen rad screen
DEPTH OF WATER: 20 (FEET) TOTAL LENGTH OF CORE: 0 to 1.0 (FEET)
SECTIONED CORE: (YES) / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: Hot, lt breeze, clear
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 6.9"	Black (2.5YR 3/0) to very dark gray (5YR 3/1)	OL Organic layer silts with very fine sand	very small plant roots strong organic odor
6.9" to 8.5"	Olive (5YR 5/3)	SM/SW Silty fine to very coarse sand (well graded) Subangular to Subrounded grains (Qtz, K-spar)	No roots

Sampler: LAC/RBT CR17
Prepared By: Laurence Chapman (Print Name) Signature Date 10-20-92
Transmitted to RFEDS By: Print Name Signature Date
RFEDS Data Verified By: Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60043WC Site ID: IHISS 142.9
LOCATION: Sed 64392 B5 pond deep
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60043WC	VOA	
		BNA	
		TRads	
		Metals	
		Radscreen	
0-5cm		gamma	
5-10cm		gamma	
10-15cm		gamma	
15-20cm		gamma	

Sampler: LAC / ~~KBT~~ LAC CRH

Prepared By: Lawrence Carpenter [signature] 10-20-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6044WC Site ID: 1HISS 1429
LOCATION Sec 6 4492 135 yard in West
CORE NUMBER 1 Liner Decontaminated YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Stainless Steel / Plastic (Polycarbonate) NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 O
COLLECTION TIME: 1500 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 496492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION average pulls taken out compass, rod same
QC TYPE: NEAT MS MSD LR DUP RNS QC PARTNER
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 1.6 (FEET) TOTAL LENGTH OF CORE: 0 to 3 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: warm clear, breezy
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (e.g. Vegetation, Roots, Organisms, Objects)
0.0" to 1.2"	Olive Gray (5Y 5/2)	SM Silty fine to medium sand with some coarse sand	plant roots
1.2" to 2.5"	Black ~~5Y 2/1~~ (5Y 2.5/1)	OL Organic clay with silt	Abundant roots

Sampler: KBT / CRH
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-20-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6044WC Site ID: IHISS 142.9
LOCATION: Sed 64492 BS pond influent
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD6044WC	VOA	
		BNA	
		Metals	
		Trads	
		Rdscreen	

Sampler: KBT/CRH

Prepared By: Laurence H Carpenter [signature] 10-20-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

10/35

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60045WC Site ID: 11SS 142.12
LOCATION: W1 Pond RAI Scd 64592
CORE NUMBER: 1 Lacy Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: ~~Stainless Steel~~ ~~Acrylic~~ ~~Polyethylene~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 915 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores composited
QC TYPE: RAI MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.5 (FEET) TOTAL LENGTH OF CORE: 0.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: cool, p/c, lt breeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ie. Vegetation, Roots, Organisms, Objects)
0.0" to 5.0"	Black (2.5YR 2.5/0)	Organic clay w/silt and fine sand (OL)	Extensive plant roots Strong organic odor Low plasticity
5.0" to 11.5"	dark olive gray (5Y 3/2)	Silty Sand (fine grained) (SM)	NAH 3-16-95 per logbook

Sampler: ~~KA~~ LAC/CRW
Prepared By: Lawrence A Carpenter (Print Name) Signature: [signature] Date: 11-19-92
Transmitted to RFEDS By: (Print Name) Signature: Date:
RFEDS Data Verified By: (Print Name) Signature: Date:

856D0160.004

COPY

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60045WC Site ID: 1HSS142.12
LOCATION: Sed 64592 WI pond RA1
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60045WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD00046WC Site ID: IHS 142.12
LOCATION: Sed64692 WJ pond RHC
CORE NUMBER: 1 Liner Intact/Intact: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Glass / Stainless Steel / Non-Corrosive Polymer NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1000 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 98649 2
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple cores Composite
QC TYPE: BLANK MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rock Screen
DEPTH OF WATER: 2.0 (FEET) TOTAL LENGTH OF CORE: 1.9 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: O/C, cool, breeze
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vermicum, Roots, Organisms, Objects)
0.0" to 9.5"	Black (2.5YR 2.5/0) to Dark olive gray (5Y 3/2)	Organic clay with silt and fine to medium sand (OL)	Extensive plant roots Strong organic odor low plasticity Saturated
9.5" to 15.0"	Dark olive gray (5Y 3/2)	Silty clay with fine sand (CL)	Some plant roots moderate plasticity saturated
15.0" to 22.0"	olive gray (5Y 4/2) to brownish yellow (10YR 6/8)	Silty clay with fine sand and trace coarse sand (CL)	FeOX staining Moderate plasticity wet

Sampler: CRH/LAC
Prepared By: Lawrence A Carpenter (Print Name) Lawrence A Carpenter (Signature) 11-19-92 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60046WC Site ID: 1HSS142.12
LOCATION: Sed64692 W Pond RA2
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60046WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: LAC/CRH

Prepared By: Laurence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

BEST AVAILABLE COPY

18/35

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60129WC (Duplicate) NAH 3-16-95 per logbook Site ID: 1HSS142.12
LOCATION: Sed 64692 WI Pond RAL
CORE NUMBER: REQUEST FOR ANALYSIS NUMBER: NA
CHAIN OF CUSTODY NUMBER: See Below

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60129WC	VOA	WCU6SL0065
		BNA	WCU6SL0073
		Metals	WCU6OT0023
		Trads	
		Radscreen	

Sampler: CRH/LAC

Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By: NA
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

856D0160.004

COPY

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60047WL Site ID: 1HSS 142.12
LOCATION Sed 64792 W1 pond RA3
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyethylene NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1030 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.0 (FEET) TOTAL LENGTH OF CORE: 0.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: P/C, Hbreeze, Cool
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.0"	dark olive gray (5Y 3/2)	Silty clay with fine sand (CL)	plant roots moderate plasticity
2.0" to 5.0"	Black (2.5YR 2.5/0)	Organic Clay w/ silt and fine sand (OL)	Extensive plant roots strong organic odor low plasticity Shell fragments

Sampler: CRH / LAC
Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date
Transmitted to RFEDS By: _____
Print Name Signature Date
RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60047WC Site ID: IHSS 142.12
LOCATION: Sed64792 WI RA3
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60047WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: LAC/CRIT

Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60048WC Site ID: 1A55142.12
LOCATION: Sed 64892 WI pond deep
CORE NUMBER: 1 Liner Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyethylene NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1300 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES NO COMPOSITE DESCRIPTION: multiple cores & dredges composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: radscreen, microtox, acute tox, PU/AM/U
DEPTH OF WATER: 4 (FEET) TOTAL LENGTH OF CORE: 1.0 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: PC, cool, lt breeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 6.0"	dark grayish brown (10YR 4/2) to yellowish red (5YR 5/8)	Silty clay with trace fine sand (CL)	moderate to high plasticity FeOx staining plant roots
6.0" to 11.0"	dark olive gray (5Y 3/2)	Silty clay with some fine sand (CL)	low plasticity Sand content increases ~~Leaf~~ JPG fragment of leaf plant roots

Sampler: KBT/CRH
Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date
Transmitted to RFEDS By:
Print Name Signature Date
RFEDS Data Verified By:
Print Name Signature Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60048WC Site ID: IHSS 142.12
LOCATION: Sed648WC WJ Pond deepest
CORE NUMBER: _____ REQUEST FOR ANALYSIS NUMBER: _____
CHAIN OF CUSTODY NUMBER: _____

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60048WC	VOA	
		BNA	
		Metals	
		Pesticides	
		Blackscreen	
0 to 5		Gamma	
6 to 10		Gamma	
11 to 15		Gamma	
16 to 20		Gamma	
21 to 25		Gamma	
26 to 30		Gamma	

Sampler: KBT/CRH

Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By: _____
Print Name Signature Date

RFEDS Data Verified By: _____
Print Name Signature Date

APPENDIX 3
Core Sample Data Form (CSDF)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60049WC Site ID: 11SS 142.12
LOCATION: Sd 64992 W7 Pond Inlet
CORE NUMBER: ___ Laser Decontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: ___ CHAIN OF CUSTODY NUMBER: ___ SHIP DATE: ___
CORE LINER: (Organics-Stainless Steel) / Non-Organics-Polybutyrate) NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1115 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 98649 2
COMPOSITE: YES NO COMPOSITE DESCRIPTION: Multiple Cores composite
QC TYPE: (PAI) MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Rock Screen
DEPTH OF WATER: 0.5 (FEET) TOTAL LENGTH OF CORE: 0.7 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: cool, P/C, lt breeze
COMMENTS: ___

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Rocks, Organisms, Objects)
0.0" to 4.0"	dk olive gray (5Y 3/2)	Sandy clay w/silt (Fine Sand) (CL)	Low plasticity abundant plant roots
4.0" to 6.0"	Black (2.5YR 2.5/0)	Organic clay with silt (OL)	Strong oder low plasticity abundant plant roots
6.0" to 7.0"	Brown (10YR 5/3)	Silty Sand (f-c grained) (SM)	Slight #4 gravel well graded sand

Sampler: LAC/CRH
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-19-92 (Date)
Transmitted to RFEDS By: ___ Print Name ___ Signature ___ Date
RFEDS Data Verified By: ___ Print Name ___ Signature ___ Date

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SP60049WC Site ID: 1HSS142.12
LOCATION: Sed 64992 W I Pond Influent
CORE NUMBER: 1 REQUEST FOR ANALYSIS NUMBER:
CHAIN OF CUSTODY NUMBER:

Core Sectioning Information

Core Section Number	Sample Number	Analysis Types	Chain of Custody Number
1	SD60049WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	

Sampler: LAC/CRH

Prepared By: Lawrence A Carpenter [signature] 11-19-92
Print Name Signature Date

Transmitted to RFEDS By:
Print Name Signature Date

RFEDS Data Verified By:
Print Name Signature Date

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1186	5720.1	5710.3	9.8	6-Jan-88
1186	5720.1	5712.4	7.7	24-Feb-88
1186	5720.1	5712.2	7.9	14-Mar-88
1186	5720.1	5712.4	7.7	11-Apr-88
1186	5720.1	5711.4	8.7	12-May-88
1186	5720.1	5714.4	5.7	15-Jun-88
1186	5720.1	5710.3	9.8	15-Jul-88
1186	5720.1	5709.9	10.2	18-Aug-88
1186	5720.1	5713.4	6.7	15-Sep-88
1186	5720.1	5711.1	9	22-Oct-88
1186	5720.1	5709.9	10.2	15-Nov-88
1186	5720.1	5710.2	9.9	15-Dec-88
1186	5720.1	5710.0	10.1	15-Jan-89
1186	5720.1	5711.5	8.6	27-Feb-89
1186	5720.1	5710.9	9.2	10-Mar-89
1186	5720.1	5712.0	8.1	26-Apr-89
1186	5720.1	5711.3	8.8	5-May-89
1186	5720.1	5710.8	9.3	15-Jun-89
1186	5720.1	5709.6	10.45	14-Jul-89
1186	5720.1	5708.7	11.4	11-Aug-89
1186	5720.1	5714.5	5.6	12-Sep-89
1186	5720.1	5709.2	10.9	1-Nov-89
1186	5720.1	dry	-1	16-Jan-90
1186	5720.1	5715.7	4.43	11-Apr-90
1186	5720.1	5714.2	5.85	15-May-90
1186	5720.1	5710.1	9.98	11-Jul-90
1186	5720.1	5711.2	8.88	11-Sep-90
1186	5720.1	5713.9	6.16	3-Oct-90
1186	5720.1	5713.8	6.3	13-Nov-90
1186	5720.1	5710.3	9.84	2-Jan-91
1186	5720.1	5714.3	5.76	18-Mar-91
1186	5720.1	5714.0	6.07	1-Apr-91
1186	5720.1	5713.8	6.3	2-May-91
1186	5720.1	5712.6	7.45	2-Jul-91
1186	5720.1	5710.7	9.43	17-Jul-91
1186	5720.1	5711.0	9.08	1-Oct-91
1186	5720.1	5710.4	9.72	14-Oct-91
1186	5720.1	5714.4	5.66	6-Jan-92
1186	5720.1	5711.8	8.31	20-Jan-92
1186	5720.1	5711.8	8.31	20-Jan-92
1186	5720.1	5715.0	5.14	2-Apr-92
1186	5720.1	5714.4	5.68	14-Apr-92
1186	5720.1	5710.4	9.69	2-Jul-92
1186	5720.1	5711.9	8.15	14-Jul-92
1186	5720.1	5711.3	8.75	2-Oct-92
1186	5720.1	5710.9	9.23	6-Oct-92
1186	5720.1	5711.0	9.14	13-Jan-93
1186	5720.1	5714.8	5.25	1-Apr-93
1186	5720.1	5714.7	5.4	23-Jun-93
1186	5720.1	5710.4	9.7	13-Jul-93
1386	5839.7	5831.9	7.8	7-Jan-88
1386	5839.7	5832.0	7.7	4-Feb-88
1386	5839.7	5832.5	7.2	14-Mar-88
1386	5839.7	5831.3	8.4	11-Apr-88
1386	5839.7	5831.8	7.9	12-May-88
1386	5839.7	5831.0	8.7	15-Jun-88
1386	5839.7	5831.3	8.4	15-Jul-88
1386	5839.7	5831.4	8.3	18-Aug-88
1386	5839.7	5830.3	9.4	15-Sep-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1386	5839.7	5830.7	9	22-Oct-88
1386	5839.7	5832.5	7.2	15-Nov-88
1386	5839.7	5833.1	6.6	15-Dec-88
1386	5839.7	5834.0	5.7	15-Jan-89
1386	5839.7	5834.2	5.5	17-Feb-89
1386	5839.7	5835.0	4.7	10-Mar-89
1386	5839.7	5834.2	5.5	25-Apr-89
1386	5839.7	5834.1	5.6	12-May-89
1386	5839.7	5833.5	6.2	15-Jun-89
1386	5839.7	5833.1	6.64	14-Jul-89
1386	5839.7	5832.8	6.9	11-Aug-89
1386	5839.7	5830.8	8.92	12-Sep-89
1386	5839.7	5830.9	8.86	13-Nov-89
1386	5839.7	5834.2	5.5	17-Jan-90
1386	5839.7	5834.3	5.44	22-Feb-90
1386	5839.7	5835.4	4.37	11-Apr-90
1386	5839.7	5833.9	5.82	25-May-90
1386	5839.7	5832.1	7.67	10-Jul-90
1386	5839.7	5832.4	7.32	2-Aug-90
1386	5839.7	5828.7	11	7-Aug-90
1386	5839.7	5829.8	9.92	11-Sep-90
1386	5839.7	5832.0	7.72	3-Oct-90
1386	5839.7	5833.5	6.2	15-Oct-90
1386	5839.7	5834.0	5.74	7-Nov-90
1386	5839.7	5834.2	5.52	6-Dec-90
1386	5839.7	5834.5	5.2	2-Jan-91
1386	5839.7	5834.2	5.5	14-Mar-91
1386	5839.7	5834.2	5.58	1-Apr-91
1386	5839.7	5834.3	5.48	23-Apr-91
1386	5839.7	5834.2	5.57	6-May-91
1386	5839.7	5834.8	4.98	6-Jun-91
1386	5839.7	5833.4	6.29	2-Jul-91
1386	5839.7	5833.4	6.31	15-Jul-91
1386	5839.7	5830.9	8.83	7-Aug-91
1386	5839.7	5833.2	6.49	5-Sep-91
1386	5839.7	5833.4	6.3	1-Oct-91
1386	5839.7	5833.8	5.94	21-Oct-91
1386	5839.7	5827.8	11.98	4-Nov-91
1386	5839.7	5834.5	5.25	4-Dec-91
1386	5839.7	5836.3	3.4	3-Jan-92
1386	5839.7	5834.7	5.05	3-Feb-92
1386	5839.7	5834.6	5.14	4-Mar-92
1386	5839.7	5835.4	4.38	2-Apr-92
1386	5839.7	5834.7	5.02	14-Apr-92
1386	5839.7	5834.2	5.54	4-May-92
1386	5839.7	5834.0	5.7	5-Jun-92
1386	5839.7	5833.6	6.11	1-Jul-92
1386	5839.7	5833.1	6.62	29-Jul-92
1386	5839.7	5829.2	10.49	4-Aug-92
1386	5839.7	5830.1	9.62	3-Sep-92
1386	5839.7	5831.6	8.11	2-Oct-92
1386	5839.7	5831.1	8.67	12-Oct-92
1386	5839.7	5833.0	6.73	1-Nov-92
1386	5839.7	5834.2	5.53	2-Dec-92
1386	5839.7	5834.3	5.44	13-Jan-93
1386	5839.7	5834.5	5.24	1-Feb-93
1386	5839.7	5834.4	5.3	26-Mar-93
1386	5839.7	5834.9	4.87	2-Apr-93
1386	5839.7	5834.5	5.2	12-Apr-93
1386	5839.7	5834.1	5.61	12-May-93
1386	5839.7	5833.6	6.1	11-Jun-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1386	5839.7	5833.0	6.77	12-Jul-93
1386	5839.7	5832.7	7.03	3-Aug-93
1386	5839.7	5829.6	10.16	23-Aug-93
1386	5839.7	5829.9	9.79	7-Sep-93
1386	5839.7	5831.4	8.35	6-Oct-93
1386	5839.7	5834.0	5.72	27-Oct-93
1386	5839.7	5834.0	5.71	1-Nov-93
1386	5839.7	5834.4	5.3	1-Dec-93
1386	5839.7	5834.5	5.27	3-Jan-94
1486	5849.4	5840.1	9.3	7-Jan-88
1486	5849.4	5840.0	9.4	4-Feb-88
1486	5849.4	5839.8	9.6	14-Mar-88
1486	5849.4	5839.3	10.1	11-Apr-88
1486	5849.4	5839.2	10.2	12-May-88
1486	5849.4	5792.0	57.4	15-Jun-88
1486	5849.4	5838.5	10.9	15-Jul-88
1486	5849.4	5838.5	10.9	18-Aug-88
1486	5849.4	5838.6	10.8	15-Sep-88
1486	5849.4	5839.0	10.4	22-Oct-88
1486	5849.4	5839.4	10	15-Nov-88
1486	5849.4	5831.4	18	15-Dec-88
1486	5849.4	5839.9	9.5	15-Jan-89
1486	5849.4	5839.9	9.5	17-Feb-89
1486	5849.4	5839.4	10	10-Mar-89
1486	5849.4	5839.2	10.2	25-Apr-89
1486	5849.4	5839.1	10.3	12-May-89
1486	5849.4	5838.6	10.8	30-Jun-89
1486	5849.4	5838.4	11.01	21-Jul-89
1486	5849.4	5838.5	10.88	11-Aug-89
1486	5849.4	5835.9	13.44	12-Sep-89
1486	5849.4	5839.7	9.7	29-Nov-89
1486	5849.4	5839.6	9.8	17-Jan-90
1486	5849.4	5839.8	9.58	20-Mar-90
1486	5849.4	5838.8	10.53	11-Apr-90
1486	5849.4	5812.0	37.42	4-May-90
1486	5849.4	5838.3	11.05	10-Jul-90
1486	5849.4	5838.3	11.08	19-Jul-90
1486	5849.4	5838.6	10.8	2-Oct-90
1486	5849.4	5838.9	10.52	24-Oct-90
1486	5849.4	5839.6	9.81	2-Jan-91
1486	5849.4	5839.5	9.86	14-Mar-91
1486	5849.4	5838.7	10.71	1-Apr-91
1486	5849.4	5838.9	10.48	23-Apr-91
1486	5849.4	5838.4	11.01	2-Jul-91
1486	5849.4	5838.4	10.98	11-Jul-91
1486	5849.4	5838.6	10.8	1-Oct-91
1486	5849.4	5838.8	10.62	21-Oct-91
1486	5849.4	5839.6	9.8	3-Jan-92
1486	5849.4	5839.4	10.02	24-Mar-92
1486	5849.4	5837.7	11.69	2-Apr-92
1486	5849.4	5837.9	11.52	14-Apr-92
1486	5849.4	5838.4	11	1-Jul-92
1486	5849.4	5838.3	11.1	16-Jul-92
1486	5849.4	5838.5	10.91	2-Oct-92
1486	5849.4	5838.6	10.8	12-Oct-92
1486	5849.4	5839.6	9.77	13-Jan-93
1486	5849.4	5839.6	9.79	2-Feb-93
1486	5849.4	5839.2	10.21	2-Apr-93
1486	5849.4	5839.1	10.29	12-Apr-93
1486	5849.4	5838.0	11.39	12-Jul-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1486	5849.4	5837.9	11.44	2-Aug-93
1486	5849.4	5838.1	11.29	6-Oct-93
1486	5849.4	5838.4	10.98	28-Oct-93
1486	5849.4	5839.1	10.28	3-Jan-94
1586	5850.6	5843.9	6.7	7-Jan-88
1586	5850.6	5843.9	6.7	4-Feb-88
1586	5850.6	5844.0	6.6	14-Mar-88
1586	5850.6	5843.9	6.7	11-Apr-88
1586	5850.6	5843.8	6.8	12-May-88
1586	5850.6	5843.6	7	15-Jun-88
1586	5850.6	5843.6	7	15-Jul-88
1586	5850.6	5843.2	7.4	18-Aug-88
1586	5850.6	5843.3	7.3	15-Sep-88
1586	5850.6	5843.5	7.1	22-Oct-88
1586	5850.6	5843.6	7	15-Nov-88
1586	5850.6	5843.6	7	15-Dec-88
1586	5850.6	5843.7	6.9	15-Jan-89
1586	5850.6	5843.8	6.8	17-Feb-89
1586	5850.6	5844.2	6.4	10-Mar-89
1586	5850.6	5844.2	6.4	25-Apr-89
1586	5850.6	5844.3	6.3	12-May-89
1586	5850.6	5843.6	7	30-Jun-89
1586	5850.6	5843.4	7.21	21-Jul-89
1586	5850.6	5843.4	7.25	11-Aug-89
1586	5850.6	5843.9	6.78	12-Sep-89
1586	5850.6	5843.6	7.08	16-Nov-89
1586	5850.6	5843.8	6.87	17-Jan-90
1586	5850.6	5843.8	6.81	23-Feb-90
1586	5850.6	5845.2	5.44	11-Apr-90
1586	5850.6	5844.4	6.26	4-May-90
1586	5850.6	5843.8	6.81	10-Jul-90
1586	5850.6	5843.6	7.03	19-Jul-90
1586	5850.6	5843.5	7.13	2-Oct-90
1586	5850.6	5843.6	7.04	10-Oct-90
1586	5850.6	5843.7	6.98	2-Jan-91
1586	5850.6	5843.9	6.73	4-Mar-91
1586	5850.6	5844.3	6.34	1-Apr-91
1586	5850.6	5844.2	6.47	18-Apr-91
1586	5850.6	5843.7	6.94	2-Jul-91
1586	5850.6	5843.9	6.75	11-Jul-91
1586	5850.6	5843.6	7.02	1-Oct-91
1586	5850.6	5843.7	6.97	21-Oct-91
1586	5850.6	5843.7	6.9	3-Jan-92
1586	5850.6	5843.8	6.82	15-Jan-92
1586	5850.6	5845.0	5.62	2-Apr-92
1586	5850.6	5844.3	6.32	13-Apr-92
1586	5850.6	5843.6	7.02	1-Jul-92
1586	5850.6	5843.5	7.16	16-Jul-92
1586	5850.6	5843.5	7.16	2-Oct-92
1586	5850.6	5843.6	7.08	7-Oct-92
1586	5850.6	5843.6	7.03	13-Jan-93
1586	5850.6	5843.7	6.9	5-Feb-93
1586	5850.6	5844.4	6.22	2-Apr-93
1586	5850.6	5844.1	6.54	12-Apr-93
1586	5850.6	5843.2	7.42	12-Jul-93
1586	5850.6	5843.0	7.64	2-Aug-93
1586	5850.6	5843.2	7.43	6-Oct-93
1586	5850.6	5843.7	6.96	20-Oct-93
1586	5850.6	5843.6	7.01	3-Jan-94

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1686	5869.6	5864.3	5.3	7-Jan-88
1686	5869.6	5864.4	5.2	4-Feb-88
1686	5869.6	5864.3	5.3	14-Mar-88
1686	5869.6	5864.0	5.6	11-Apr-88
1686	5869.6	5863.8	5.8	12-May-88
1686	5869.6	5863.1	6.5	15-Jun-88
1686	5869.6	5862.8	6.8	15-Jul-88
1686	5869.6	5862.8	6.8	18-Aug-88
1686	5869.6	5792.7	76.9	18-Aug-88
1686	5869.6	5862.8	6.8	15-Sep-88
1686	5869.6	5863.0	6.6	22-Oct-88
1686	5869.6	5863.7	5.9	15-Nov-88
1686	5869.6	5834.6	35	15-Dec-88
1686	5869.6	5864.3	5.3	15-Jan-89
1686	5869.6	5864.4	5.2	17-Feb-89
1686	5869.6	5864.0	5.6	10-Mar-89
1686	5869.6	5863.8	5.8	26-Apr-89
1686	5869.6	5863.6	6	12-May-89
1686	5869.6	5863.0	6.6	30-Jun-89
1686	5869.6	5862.6	6.91	21-Jul-89
1686	5869.6	5862.7	6.87	11-Aug-89
1686	5869.6	5857.3	12.28	13-Sep-89
1686	5869.6	5863.2	6.32	13-Nov-89
1686	5869.6	5863.9	5.66	17-Jan-90
1686	5869.6	5864.2	5.4	16-Mar-90
1686	5869.6	5863.7	5.85	11-May-90
1686	5869.6	5862.7	6.81	10-Jul-90
1686	5869.6	5862.8	6.8	25-Sep-90
1686	5869.6	5855.9	13.69	2-Oct-90
1686	5869.6	5862.8	6.78	22-Oct-90
1686	5869.6	5863.8	5.73	2-Jan-91
1686	5869.6	5863.9	5.68	14-Mar-91
1686	5869.6	5862.7	6.9	1-Apr-91
1686	5869.6	5863.3	6.22	23-Apr-91
1686	5869.6	5862.6	6.92	2-Jul-91
1686	5869.6	5862.6	6.99	9-Jul-91
1686	5869.6	5862.6	6.92	1-Oct-91
1686	5869.6	5860.7	8.84	8-Oct-91
1686	5869.6	5863.9	5.62	3-Jan-92
1686	5869.6	5864.0	5.55	13-Jan-92
1686	5869.6	5864.1	5.46	2-Apr-92
1686	5869.6	5864.1	5.5	7-Apr-92
1686	5869.6	5861.0	8.6	1-Jul-92
1686	5869.6	5862.8	6.77	21-Jul-92
1686	5869.6	5862.9	6.66	2-Oct-92
1686	5869.6	5863.0	6.54	12-Oct-92
1686	5869.6	5864.1	5.43	13-Jan-93
1686	5869.6	5864.2	5.4	1-Feb-93
1686	5869.6	5863.9	5.68	2-Apr-93
1686	5869.6	5863.8	5.74	22-Apr-93
1686	5869.6	5862.2	7.35	18-Jun-93
1686	5869.6	5862.5	7.02	12-Jul-93
1686	5869.6	5862.4	7.17	2-Aug-93
1686	5869.6	5862.6	6.93	6-Oct-93
1686	5869.6	5862.9	6.65	28-Oct-93
1686	5869.6	5863.7	5.86	3-Jan-94
1786	5869.6	5863.2	6.4	7-Jan-88
1786	5869.6	5863.3	6.3	4-Feb-88
1786	5869.6	5863.4	6.2	14-Mar-88
1786	5869.6	5864.4	5.2	11-Apr-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1786	5869.6	5863.3	6.3	12-May-88
1786	5869.6	5863.3	6.3	15-Jun-88
1786	5869.6	5863.2	6.4	15-Jul-88
1786	5869.6	5863.2	6.4	18-Aug-88
1786	5869.6	5863.4	6.2	15-Sep-88
1786	5869.6	5863.3	6.3	22-Oct-88
1786	5869.6	5863.3	6.3	15-Nov-88
1786	5869.6	5863.3	6.3	15-Dec-88
1786	5869.6	5863.2	6.4	15-Jan-89
1786	5869.6	5863.1	6.5	17-Feb-89
1786	5869.6	5863.4	6.2	10-Mar-89
1786	5869.6	5863.1	6.5	25-Apr-89
1786	5869.6	5864.5	5.1	12-May-89
1786	5869.6	5863.1	6.5	30-Jun-89
1786	5869.6	5863.0	6.57	21-Jul-89
1786	5869.6	5862.9	6.67	11-Aug-89
1786	5869.6	5863.5	6.06	13-Sep-89
1786	5869.6	5863.8	5.74	4-Dec-89
1786	5869.6	5863.0	6.61	17-Jan-90
1786	5869.6	5863.3	6.23	13-Feb-90
1786	5869.6	5864.2	5.36	11-Apr-90
1786	5869.6	5863.3	6.31	7-May-90
1786	5869.6	5863.1	6.45	10-Jul-90
1786	5869.6	5863.2	6.41	20-Jul-90
1786	5869.6	5863.1	6.48	7-Aug-90
1786	5869.6	5863.1	6.51	11-Sep-90
1786	5869.6	5863.3	6.31	2-Oct-90
1786	5869.6	5863.3	6.3	12-Oct-90
1786	5869.6	5863.4	6.2	6-Nov-90
1786	5869.6	5853.1	16.49	6-Dec-90
1786	5869.6	5863.0	6.62	2-Jan-91
1786	5869.6	5863.4	6.17	4-Mar-91
1786	5869.6	5862.7	6.83	1-Apr-91
1786	5869.6	5863.0	6.61	18-Apr-91
1786	5869.6	5863.5	6.08	6-May-91
1786	5869.6	5863.4	6.18	6-Jun-91
1786	5869.6	5862.8	6.75	2-Jul-91
1786	5869.6	5862.8	6.74	9-Jul-91
1786	5869.6	5863.2	6.33	7-Aug-91
1786	5869.6	5862.9	6.68	5-Sep-91
1786	5869.6	5863.0	6.59	1-Oct-91
1786	5869.6	5862.9	6.68	10-Oct-91
1786	5869.6	5863.2	6.37	4-Nov-91
1786	5869.6	5863.1	6.47	4-Dec-91
1786	5869.6	5863.0	6.62	3-Jan-92
1786	5869.6	5862.9	6.7	9-Jan-92
1786	5869.6	5862.9	6.65	3-Feb-92
1786	5869.6	5864.2	5.42	4-Mar-92
1786	5869.6	5864.2	5.37	2-Apr-92
1786	5869.6	5863.6	6.02	7-Apr-92
1786	5869.6	5863.1	6.44	4-May-92
1786	5869.6	5863.5	6.08	1-Jun-92
1786	5869.6	5863.0	6.54	1-Jul-92
1786	5869.6	5862.9	6.67	27-Jul-92
1786	5869.6	5862.8	6.75	4-Aug-92
1786	5869.6	5863.2	6.33	3-Sep-92
1786	5869.6	5863.0	6.61	2-Oct-92
1786	5869.6	5861.0	8.54	7-Oct-92
1786	5869.6	5863.1	6.44	1-Nov-92
1786	5869.6	5863.2	6.34	2-Dec-92
1786	5869.6	5862.9	6.68	13-Jan-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1786	5869.6	5863.1	6.46	1-Feb-93
1786	5869.6	5863.0	6.56	26-Mar-93
1786	5869.6	5863.7	5.92	2-Apr-93
1786	5869.6	5864.1	5.5	16-Apr-93
1786	5869.6	5862.9	6.65	12-May-93
1786	5869.6	5862.7	6.88	16-Jun-93
1786	5869.6	5862.7	6.89	12-Jul-93
1786	5869.6	5862.5	7.06	2-Aug-93
1786	5869.6	5862.4	7.13	23-Aug-93
1786	5869.6	5862.5	7.04	7-Sep-93
1786	5869.6	5862.6	6.99	6-Oct-93
1786	5869.6	5863.3	6.24	29-Oct-93
1786	5869.6	5863.1	6.49	1-Nov-93
1786	5869.6	5863.0	6.58	1-Dec-93
1786	5869.6	5862.8	6.78	3-Jan-94
1886	5888.0	dry	-1	7-Jan-88
1886	5888.0	dry	-1	4-Feb-88
1886	5888.0	dry	-1	14-Mar-88
1886	5888.0	dry	-1	11-Apr-88
1886	5888.0	5878.7	9.3	15-Jun-88
1886	5888.0	dry	-1	15-Jul-88
1886	5888.0	5878.2	9.8	18-Aug-88
1886	5888.0	dry	-1	15-Sep-88
1886	5888.0	dry	-1	22-Oct-88
1886	5888.0	5878.2	9.8	15-Nov-88
1886	5888.0	dry	-1	15-Dec-88
1886	5888.0	dry	-1	15-Jan-89
1886	5888.0	dry	-1	17-Feb-89
1886	5888.0	5879.8	8.2	14-Mar-89
1886	5888.0	5879.9	8.1	26-Apr-89
1886	5888.0	5879.6	8.4	12-May-89
1886	5888.0	dry	-1	30-Jun-89
1886	5888.0	dry	-1	21-Jul-89
1886	5888.0	dry	-1	11-Aug-89
1886	5888.0	dry	-1	12-Sep-89
1886	5888.0	dry	-1	14-Dec-89
1886	5888.0	dry	-1	17-Jan-90
1886	5888.0	5880.4	7.56	11-Apr-90
1886	5888.0	5879.0	8.99	24-May-90
1886	5888.0	5877.8	10.18	1-Oct-91
1886	5888.0	5878.0	9.99	4-Nov-91
1886	5888.0	5878.0	10	4-Mar-92
1886	5888.0	5879.1	8.83	2-Apr-92
1886	5888.0	5879.0	9	9-Apr-92
1886	5888.0	5878.0	9.96	1-Jul-92
1886	5888.0	dry	-1	22-Jul-92
1886	5888.0	5878.0	9.97	4-Aug-92
1886	5888.0	5878.0	9.97	3-Sep-92
1886	5888.0	dry	-1	2-Oct-92
1886	5888.0	dry	-1	1-Nov-92
1886	5888.0	dry	-1	2-Dec-92
1886	5888.0	5878.0	10	13-Jan-93
1886	5888.0	5880.5	7.49	1-Feb-93
1886	5888.0	5879.0	8.96	26-Mar-93
1886	5888.0	5878.8	9.16	5-Apr-93
1886	5888.0	5878.1	9.85	12-May-93
1886	5888.0	5878.0	9.97	11-Jun-93
1886	5888.0	5879.1	8.91	23-Jun-93
1886	5888.0	dry	-1	12-Jul-93
1886	5888.0	dry	-1	23-Aug-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1886	5888.0	dry	-1	7-Sep-93
1886	5888.0	dry	-1	6-Oct-93
1886	5888.0	dry	-1	1-Nov-93
1886	5888.0	dry	-1	1-Dec-93
1886	5888.0	dry	-1	3-Jan-94
1986	5943.9	5941.3	2.6	1-Feb-88
1986	5943.9	5941.0	2.9	29-Feb-88
1986	5943.9	5941.0	2.9	21-Mar-88
1986	5943.9	5941.1	2.8	18-Apr-88
1986	5943.9	5940.6	3.3	16-May-88
1986	5943.9	5940.4	3.5	15-Jun-88
1986	5943.9	5940.5	3.4	15-Jul-88
1986	5943.9	5940.5	3.4	18-Aug-88
1986	5943.9	5940.4	3.5	15-Sep-88
1986	5943.9	5940.5	3.4	22-Oct-88
1986	5943.9	5940.8	3.1	15-Nov-88
1986	5943.9	5941.0	2.9	15-Dec-88
1986	5943.9	5941.0	2.9	15-Jan-89
1986	5943.9	5941.4	2.5	24-Feb-89
1986	5943.9	5941.7	2.2	31-Mar-89
1986	5943.9	5940.8	3.1	27-Apr-89
1986	5943.9	5941.3	2.6	25-May-89
1986	5943.9	5940.5	3.4	30-Jun-89
1986	5943.9	5940.3	3.58	28-Jul-89
1986	5943.9	5940.3	3.57	30-Aug-89
1986	5943.9	5940.8	3.07	12-Sep-89
1986	5943.9	5940.9	2.98	3-Nov-89
1986	5943.9	5940.9	2.96	18-Jan-90
1986	5943.9	5941.1	2.81	12-Feb-90
1986	5943.9	5941.5	2.41	25-Apr-90
1986	5943.9	5941.0	2.85	9-May-90
1986	5943.9	5940.7	3.19	11-Jul-90
1986	5943.9	5940.7	3.15	25-Jul-90
1986	5943.9	5940.5	3.35	15-Aug-90
1986	5943.9	5940.3	3.53	4-Sep-90
1986	5943.9	5940.6	3.28	3-Oct-90
1986	5943.9	5940.6	3.24	18-Oct-90
1986	5943.9	5940.7	3.12	2-Nov-90
1986	5943.9	5940.9	2.98	4-Jan-91
1986	5943.9	5941.7	2.16	3-Jun-91
1986	5943.9	5941.7	2.16	3-Jun-91
1986	5943.9	5941.2	2.67	3-Jul-91
1986	5943.9	5940.8	3.06	31-Jul-91
1986	5943.9	5941.0	2.89	5-Aug-91
1986	5943.9	5940.9	3.01	4-Sep-91
1986	5943.9	5940.9	3.01	1-Oct-91
1986	5943.9	5940.7	3.15	2-Oct-91
1986	5943.9	5941.0	2.84	4-Nov-91
1986	5943.9	5941.3	2.57	3-Dec-91
1986	5943.9	5941.2	2.71	7-Jan-92
1986	5943.9	5941.3	2.55	30-Jan-92
1986	5943.9	5941.2	2.68	6-Feb-92
1986	5943.9	5941.1	2.78	2-Mar-92
1986	5943.9	5941.5	2.34	2-Apr-92
1986	5943.9	5941.3	2.53	8-Apr-92
1986	5943.9	5941.1	2.74	1-May-92
1986	5943.9	5941.1	2.78	8-Jun-92
1986	5943.9	5941.0	2.85	1-Jul-92
1986	5943.9	5941.0	2.85	10-Jul-92
1986	5943.9	dry	-1	6-Aug-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
1986	5943.9	5940.8	3.02	7-Aug-92
1986	5943.9	5941.0	2.85	4-Sep-92
1986	5943.9	5940.8	3.07	5-Oct-92
1986	5943.9	5940.8	3.07	7-Oct-92
1986	5943.9	5941.2	2.71	3-Nov-92
1986	5943.9	5941.3	2.6	7-Dec-92
1986	5943.9	5941.1	2.73	13-Jan-93
1986	5943.9	5941.3	2.61	3-Feb-93
1986	5943.9	5941.3	2.53	12-Feb-93
1986	5943.9	5941.7	2.17	29-Mar-93
1986	5943.9	5941.9	1.92	1-Apr-93
1986	5943.9	5941.0	2.84	12-May-93
1986	5943.9	5941.1	2.79	7-Jun-93
1986	5943.9	5942.1	1.74	22-Jun-93
1986	5943.9	5940.8	3.06	1-Jul-93
1986	5943.9	5940.5	3.34	4-Aug-93
1986	5943.9	5940.6	3.24	3-Sep-93
1986	5943.9	5940.7	3.2	4-Oct-93
1986	5943.9	5941.3	2.6	1-Nov-93
1986	5943.9	5941.3	2.52	17-Nov-93
1986	5943.9	5941.3	2.6	1-Dec-93
1986	5943.9	5941.1	2.73	10-Jan-94
2187	5929.7	5922.3	7.4	27-Jan-88
2187	5929.7	5922.6	7.1	29-Feb-88
2187	5929.7	5921.3	8.4	21-Mar-88
2187	5929.7	5921.9	7.8	18-Apr-88
2187	5929.7	5920.9	8.8	17-May-88
2187	5929.7	5920.0	9.7	15-Jun-88
2187	5929.7	5921.2	8.5	15-Jul-88
2187	5929.7	5921.7	8	18-Aug-88
2187	5929.7	5921.8	7.9	15-Sep-88
2187	5929.7	5922.1	7.6	22-Oct-88
2187	5929.7	5920.2	9.5	15-Nov-88
2187	5929.7	5920.3	9.4	15-Dec-88
2187	5929.7	5920.5	9.2	15-Jan-89
2187	5929.7	5921.1	8.6	24-Feb-89
2187	5929.7	5920.7	9	31-Mar-89
2187	5929.7	5924.1	5.6	27-Apr-89
2187	5929.7	5924.3	5.4	25-May-89
2187	5929.7	5923.3	6.4	30-Jun-89
2187	5929.7	5923.6	6.11	28-Jul-89
2187	5929.7	5923.8	5.94	30-Aug-89
2187	5929.7	5921.7	8.01	11-Sep-89
2187	5929.7	5922.6	7.05	10-Nov-89
2187	5929.7	5919.3	10.35	17-Jan-90
2187	5929.7	5920.0	9.69	6-Feb-90
2187	5929.7	5921.4	8.33	24-Apr-90
2187	5929.7	5922.2	7.5	18-May-90
2187	5929.7	5921.0	8.69	10-Jul-90
2187	5929.7	5923.3	6.42	5-Sep-90
2187	5929.7	5919.4	10.29	1-Oct-90
2187	5929.7	5920.7	8.96	11-Dec-90
2187	5929.7	5918.7	10.95	4-Jan-91
2187	5929.7	5921.8	7.93	23-Apr-91
2187	5929.7	5920.7	8.97	10-Jun-91
2187	5929.7	5919.4	10.27	3-Jul-91
2187	5929.7	5921.2	8.52	5-Aug-91
2187	5929.7	5921.0	8.7	1-Oct-91
2187	5929.7	5921.3	8.41	16-Oct-91
2187	5929.7	5920.0	9.71	8-Jan-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
2187	5929.7	5920.1	9.56	15-Jan-92
2187	5929.7	5920.6	9.08	26-Feb-92
2187	5929.7	5919.5	10.24	2-Apr-92
2187	5929.7	5920.1	9.57	15-Apr-92
2187	5929.7	5922.0	7.67	1-Jul-92
2187	5929.7	5923.1	6.56	23-Jul-92
2187	5929.7	5921.9	7.84	5-Oct-92
2187	5929.7	5921.9	7.84	12-Oct-92
2187	5929.7	5920.9	8.78	13-Jan-93
2187	5929.7	5921.3	8.35	3-Feb-93
2187	5929.7	5921.1	8.56	1-Apr-93
2187	5929.7	5921.7	8.03	15-Apr-93
2187	5929.7	5922.3	7.39	1-Jul-93
2187	5929.7	5923.4	6.25	2-Aug-93
2187	5929.7	5921.3	8.44	4-Oct-93
2187	5929.7	5921.6	8.1	2-Nov-93
2187	5929.7	5920.4	9.3	6-Jan-94
2287	5932.8	5852.3	80.5	27-Jan-88
2287	5932.8	5852.1	80.7	29-Feb-88
2287	5932.8	5852.2	80.6	21-Mar-88
2287	5932.8	5852.3	80.5	18-Apr-88
2287	5932.8	5852.1	80.7	17-May-88
2287	5932.8	5852.0	80.8	15-Jun-88
2287	5932.8	5851.8	81	15-Jul-88
2287	5932.8	5852.0	80.8	18-Aug-88
2287	5932.8	5852.1	80.7	15-Sep-88
2287	5932.8	5852.3	80.5	22-Oct-88
2287	5932.8	5852.4	80.4	15-Nov-88
2287	5932.8	5852.3	80.5	15-Dec-88
2287	5932.8	5852.5	80.3	15-Jan-89
2287	5932.8	5852.1	80.7	24-Feb-89
2287	5932.8	5852.0	80.8	31-Mar-89
2287	5932.8	5852.7	80.1	27-Apr-89
2287	5932.8	5852.3	80.5	26-May-89
2287	5932.8	5852.1	80.7	30-Jun-89
2287	5932.8	5852.1	80.7	28-Jul-89
2287	5932.8	5852.2	80.62	30-Aug-89
2287	5932.8	5852.0	80.8	11-Sep-89
2287	5932.8	5852.4	80.45	10-Nov-89
2287	5932.8	5854.1	78.7	17-Jan-90
2287	5932.8	5852.5	80.3	8-Feb-90
2287	5932.8	5852.7	80.1	24-Apr-90
2287	5932.8	5852.6	80.21	25-May-90
2287	5932.8	5852.0	80.79	10-Jul-90
2287	5932.8	5852.1	80.67	14-Aug-90
2287	5932.8	5852.1	80.67	1-Oct-90
2287	5932.8	5852.4	80.39	11-Dec-90
2287	5932.8	5852.5	80.34	4-Jan-91
2287	5932.8	5852.4	80.36	23-Apr-91
2287	5932.8	5852.2	80.64	10-Jun-91
2287	5932.8	5852.0	80.78	3-Jul-91
2287	5932.8	5852.2	80.56	5-Aug-91
2287	5932.8	5852.2	80.6	1-Oct-91
2287	5932.8	5852.4	80.4	23-Oct-91
2287	5932.8	5852.4	80.38	8-Jan-92
2287	5932.8	5852.3	80.55	28-Jan-92
2287	5932.8	5852.3	80.46	2-Apr-92
2287	5932.8	5852.4	80.44	15-Apr-92
2287	5932.8	5852.0	80.78	1-Jul-92
2287	5932.8	5852.3	80.5	23-Jul-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
2287	5932.8	5852.2	80.57	5-Oct-92
2287	5932.8	5852.2	80.57	12-Oct-92
2287	5932.8	5852.4	80.37	13-Jan-93
2287	5932.8	5852.4	80.4	3-Feb-93
2287	5932.8	5852.4	80.38	1-Apr-93
2287	5932.8	5852.5	80.3	15-Apr-93
2287	5932.8	5852.4	80.37	1-Jul-93
2287	5932.8	5852.3	80.49	2-Aug-93
2287	5932.8	5852.3	80.55	4-Oct-93
2287	5932.8	5852.2	80.56	2-Nov-93
2287	5932.8	5852.7	80.14	6-Jan-94
2786	5963.9	5881.1	82.8	27-Jan-88
2786	5963.9	5893.4	70.5	29-Feb-88
2786	5963.9	5899.5	64.4	21-Mar-88
2786	5963.9	5864.6	99.3	18-Apr-88
2786	5963.9	5884.5	79.4	17-May-88
2786	5963.9	5868.9	95	15-Jun-88
2786	5963.9	5886.8	77.1	15-Jul-88
2786	5963.9	5892.1	71.8	18-Aug-88
2786	5963.9	5854.3	109.6	15-Sep-88
2786	5963.9	5872.4	91.5	22-Oct-88
2786	5963.9	5890.0	73.9	15-Nov-88
2786	5963.9	5840.4	123.5	15-Dec-88
2786	5963.9	5879.1	84.8	15-Jan-89
2786	5963.9	5889.9	74	24-Feb-89
2786	5963.9	5893.3	70.6	31-Mar-89
2786	5963.9	5878.7	85.2	27-Apr-89
2786	5963.9	5888.0	75.9	26-May-89
2786	5963.9	5873.4	90.5	30-Jun-89
2786	5963.9	5887.5	76.4	28-Jul-89
2786	5963.9	5896.6	67.29	30-Aug-89
2786	5963.9	5900.4	63.44	11-Sep-89
2786	5963.9	5878.5	85.42	30-Oct-89
2786	5963.9	5882.1	81.82	17-Jan-90
2786	5963.9	5892.8	71.11	13-Feb-90
2786	5963.9	5884.7	79.2	24-Apr-90
2786	5963.9	5837.4	126.5	14-May-90
2786	5963.9	5877.8	86.08	10-Jul-90
2786	5963.9	5888.5	75.43	3-Aug-90
2786	5963.9	5880.3	83.56	1-Oct-90
2786	5963.9	5896.3	67.61	13-Nov-90
2786	5963.9	5876.0	87.91	4-Jan-91
2786	5963.9	5906.5	57.35	24-Apr-91
2786	5963.9	5869.2	94.65	10-Jun-91
2786	5963.9	5853.0	110.92	3-Jul-91
2786	5963.9	5868.8	95.12	23-Jul-91
2786	5963.9	5883.8	80.12	1-Oct-91
2786	5963.9	5886.7	77.16	8-Oct-91
2786	5963.9	5892.1	71.77	7-Jan-92
2786	5963.9	5897.6	66.31	27-Jan-92
2786	5963.9	5883.3	80.62	2-Apr-92
2786	5963.9	5887.9	75.98	13-Apr-92
2786	5963.9	5836.0	127.88	2-Jul-92
2786	5963.9	5855.9	108.03	21-Jul-92
2786	5963.9	5886.9	77	5-Oct-92
2786	5963.9	5890.6	73.33	15-Oct-92
2786	5963.9	5892.1	71.82	13-Jan-93
2786	5963.9	5899.0	64.89	9-Feb-93
2786	5963.9	5884.6	79.32	20-Apr-93
2786	5963.9	5881.7	82.16	21-Jun-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
2786	5963.9	5884.1	79.8	1-Jul-93
2786	5963.9	5891.5	72.38	22-Jul-93
2786	5963.9	5883.4	80.45	4-Oct-93
2786	5963.9	5890.9	72.95	25-Oct-93
2786	5963.9	5887.0	76.85	10-Jan-94
2886	5964.4	5958.6	5.8	27-Jan-88
2886	5964.4	5958.8	5.6	29-Feb-88
2886	5964.4	5958.6	5.8	21-Mar-88
2886	5964.4	5958.7	5.7	18-Apr-88
2886	5964.4	5958.1	6.3	17-May-88
2886	5964.4	5958.3	6.1	15-Jun-88
2886	5964.4	5958.2	6.2	15-Jul-88
2886	5964.4	5957.9	6.5	18-Aug-88
2886	5964.4	5957.6	6.8	15-Sep-88
2886	5964.4	5956.9	7.5	22-Oct-88
2886	5964.4	5956.0	8.4	15-Nov-88
2886	5964.4	5955.9	8.5	15-Dec-88
2886	5964.4	5955.6	8.8	15-Jan-89
2886	5964.4	5956.5	7.9	24-Feb-89
2886	5964.4	5956.5	7.9	31-Mar-89
2886	5964.4	5957.1	7.3	27-Apr-89
2886	5964.4	5958.2	6.2	26-May-89
2886	5964.4	5958.4	6	30-Jun-89
2886	5964.4	5957.4	7.03	28-Jul-89
2886	5964.4	5957.3	7.13	30-Aug-89
2886	5964.4	5959.0	5.42	11-Sep-89
2886	5964.4	5957.2	7.2	30-Oct-89
2886	5964.4	5955.9	8.5	17-Jan-90
2886	5964.4	5955.6	8.75	13-Feb-90
2886	5964.4	5959.5	4.9	24-Apr-90
2886	5964.4	5958.7	5.7	15-May-90
2886	5964.4	5957.6	6.78	10-Jul-90
2886	5964.4	5957.5	6.84	3-Aug-90
2886	5964.4	5957.2	7.14	10-Aug-90
2886	5964.4	5956.8	7.61	5-Sep-90
2886	5964.4	5956.3	8.06	1-Oct-90
2886	5964.4	5955.8	8.61	2-Nov-90
2886	5964.4	5956.9	7.51	13-Nov-90
2886	5964.4	5955.4	8.99	4-Jan-91
2886	5964.4	5956.0	8.43	23-Apr-91
2886	5964.4	5958.4	5.99	7-Jun-91
2886	5964.4	5958.3	6.13	10-Jun-91
2886	5964.4	5957.4	6.98	3-Jul-91
2886	5964.4	5957.0	7.38	23-Jul-91
2886	5964.4	5956.9	7.48	2-Aug-91
2886	5964.4	5956.4	7.95	4-Sep-91
2886	5964.4	5955.9	8.48	1-Oct-91
2886	5964.4	5955.7	8.65	9-Oct-91
2886	5964.4	5955.4	8.95	1-Nov-91
2886	5964.4	5956.9	7.45	3-Dec-91
2886	5964.4	5956.3	8.11	7-Jan-92
2886	5964.4	5956.0	8.34	27-Jan-92
2886	5964.4	5955.9	8.46	6-Feb-92
2886	5964.4	5955.5	8.9	2-Mar-92
2886	5964.4	5959.6	4.75	2-Apr-92
2886	5964.4	5959.0	5.41	13-Apr-92
2886	5964.4	5958.4	6.02	1-May-92
2886	5964.4	5958.0	6.39	8-Jun-92
2886	5964.4	5957.1	7.29	2-Jul-92
2886	5964.4	5956.8	7.6	21-Jul-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
2886	5964.4	5956.3	8.12	7-Aug-92
2886	5964.4	5956.6	7.83	4-Sep-92
2886	5964.4	5955.6	8.83	5-Oct-92
2886	5964.4	5955.5	8.87	14-Oct-92
2886	5964.4	5957.8	6.57	7-Dec-92
2886	5964.4	dry	-1	13-Jan-93
2886	5964.4	dry	-1	3-Feb-93
2986	5960.7	dry	-1	27-Jan-88
2986	5960.7	dry	-1	29-Feb-88
2986	5960.7	dry	-1	21-Mar-88
2986	5960.7	dry	-1	18-Apr-88
2986	5960.7	5952.4	8.3	15-Jun-88
2986	5960.7	5950.5	10.2	15-Jul-88
2986	5960.7	dry	-1	18-Aug-88
2986	5960.7	5950.5	10.2	15-Sep-88
2986	5960.7	dry	-1	22-Oct-88
2986	5960.7	dry	-1	15-Nov-88
2986	5960.7	dry	-1	15-Dec-88
2986	5960.7	dry	-1	15-Jan-89
2986	5960.7	dry	-1	24-Feb-89
2986	5960.7	dry	-1	31-Mar-89
2986	5960.7	5950.5	10.2	27-Apr-89
2986	5960.7	5950.6	10.1	26-May-89
2986	5960.7	5950.7	10	30-Jun-89
2986	5960.7	dry	-1	28-Jul-89
2986	5960.7	dry	-1	30-Aug-89
2986	5960.7	dry	-1	11-Sep-89
2986	5960.7	dry	-1	30-Oct-89
2986	5960.7	dry	-1	17-Jan-90
2986	5960.7	5953.0	7.65	24-Apr-90
2986	5960.7	5951.9	8.82	16-May-90
2986	5960.7	5951.7	8.96	7-Jun-91
2986	5960.7	5951.6	9.05	10-Jun-91
2986	5960.7	5950.1	10.6	1-Oct-91
2986	5960.7	5953.3	7.43	2-Apr-92
2986	5960.7	5951.6	9.06	30-Apr-92
2986	5960.7	5950.8	9.89	1-May-92
2986	5960.7	5950.3	10.37	8-Jun-92
2986	5960.7	dry	-1	1-Jul-92
2986	5960.7	dry	-1	7-Aug-92
2986	5960.7	dry	-1	4-Sep-92
2986	5960.7	dry	-1	5-Oct-92
2986	5960.7	dry	-1	7-Oct-92
2986	5960.7	dry	-1	3-Nov-92
2986	5960.7	dry	-1	7-Dec-92
2986	5960.7	dry	-1	14-Jan-93
2986	5960.7	dry	-1	3-Feb-93
2986	5960.7	5950.3	10.42	29-Mar-93
2986	5960.7	5950.3	10.42	1-Apr-93
2986	5960.7	5950.2	10.44	12-May-93
2986	5960.7	dry	-1	7-Jun-93
2986	5960.7	5950.2	10.45	1-Jul-93
2986	5960.7	5950.2	10.44	4-Aug-93
2986	5960.7	5950.2	10.44	3-Sep-93
2986	5960.7	5950.2	10.44	4-Oct-93
2986	5960.7	5950.2	10.44	1-Nov-93
2986	5960.7	5950.2	10.48	1-Dec-93
2986	5960.7	5950.2	10.45	6-Jan-94
3086	5958.4	5952.5	5.9	1-Feb-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3086	5958.4	5953.3	5.1	29-Feb-88
3086	5958.4	5953.4	5	21-Mar-88
3086	5958.4	5953.5	4.9	18-Apr-88
3086	5958.4	5953.1	5.3	15-Jun-88
3086	5958.4	5952.6	5.8	15-Jul-88
3086	5958.4	5952.5	5.9	18-Aug-88
3086	5958.4	5952.7	5.7	15-Sep-88
3086	5958.4	5952.8	5.6	22-Oct-88
3086	5958.4	5952.6	5.8	15-Nov-88
3086	5958.4	5953.0	5.4	15-Dec-88
3086	5958.4	5952.2	6.2	15-Jan-89
3086	5958.4	5952.9	5.5	24-Feb-89
3086	5958.4	5954.3	4.1	31-Mar-89
3086	5958.4	5954.0	4.4	27-Apr-89
3086	5958.4	5954.0	4.4	26-May-89
3086	5958.4	5953.9	4.5	30-Jun-89
3086	5958.4	5953.0	5.35	28-Jul-89
3086	5958.4	5952.9	5.45	30-Aug-89
3086	5958.4	5953.1	5.29	12-Sep-89
3086	5958.4	5952.9	5.47	8-Nov-89
3086	5958.4	5952.8	5.6	17-Jan-90
3086	5958.4	5952.9	5.53	7-Feb-90
3086	5958.4	5953.8	4.58	25-Apr-90
3086	5958.4	5953.4	5.01	31-May-90
3086	5958.4	5952.7	5.65	10-Jul-90
3086	5958.4	5953.0	5.42	14-Aug-90
3086	5958.4	5952.2	6.17	2-Oct-90
3086	5958.4	5952.8	5.61	4-Jan-91
3086	5958.4	5953.0	5.35	29-Apr-91
3086	5958.4	5954.4	3.95	29-May-91
3086	5958.4	5953.5	4.93	5-Jul-91
3086	5958.4	5952.5	5.85	6-Aug-91
3086	5958.4	5953.5	4.85	1-Oct-91
3086	5958.4	5951.7	6.73	10-Oct-91
3086	5958.4	5952.3	6.07	7-Jan-92
3086	5958.4	5952.6	5.78	28-Jan-92
3086	5958.4	5954.5	3.93	2-Apr-92
3086	5958.4	5953.4	5.02	30-Apr-92
3086	5958.4	5952.2	6.22	2-Jul-92
3086	5958.4	5952.1	6.34	7-Jul-92
3086	5958.4	5951.0	7.36	5-Oct-92
3086	5958.4	5951.0	7.36	8-Oct-92
3086	5958.4	5951.1	7.28	13-Jan-93
3086	5958.4	5950.8	7.55	3-Feb-93
3086	5958.4	5953.7	4.68	20-Apr-93
3086	5958.4	5952.3	6.09	1-Jul-93
3086	5958.4	5951.9	6.51	2-Aug-93
3086	5958.4	5951.2	7.22	4-Oct-93
3086	5958.4	5951.3	7.09	19-Oct-93
3086	5958.4	5951.1	7.25	10-Jan-94
3286	5967.9	5913.1	54.8	1-Feb-88
3286	5967.9	5913.9	54	29-Feb-88
3286	5967.9	5913.2	54.7	21-Mar-88
3286	5967.9	5910.7	57.2	18-Apr-88
3286	5967.9	5912.2	55.7	15-Jun-88
3286	5967.9	5913.6	54.3	15-Jul-88
3286	5967.9	5914.1	53.8	18-Aug-88
3286	5967.9	5906.2	61.7	15-Sep-88
3286	5967.9	5912.1	55.8	22-Oct-88
3286	5967.9	5913.8	54.1	15-Nov-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3286	5967.9	5893.4	74.5	15-Dec-88
3286	5967.9	5913.4	54.5	15-Jan-89
3286	5967.9	5914.2	53.7	24-Feb-89
3286	5967.9	5914.4	53.5	31-Mar-89
3286	5967.9	5913.2	54.7	27-Apr-89
3286	5967.9	5914.1	53.8	26-May-89
3286	5967.9	5908.4	59.5	30-Jun-89
3286	5967.9	5913.7	54.25	28-Jul-89
3286	5967.9	5914.3	53.6	30-Aug-89
3286	5967.9	5914.4	53.5	12-Sep-89
3286	5967.9	5913.3	54.65	14-Nov-89
3286	5967.9	5913.8	54.14	17-Jan-90
3286	5967.9	5914.8	53.16	12-Mar-90
3286	5967.9	5912.4	55.51	25-Apr-90
3286	5967.9	5902.4	65.51	10-Jul-90
3286	5967.9	5914.0	53.93	31-Aug-90
3286	5967.9	5909.5	58.42	2-Oct-90
3286	5967.9	5912.8	55.1	23-Oct-90
3286	5967.9	5913.6	54.3	4-Jan-91
3286	5967.9	5914.9	53.03	25-Apr-91
3286	5967.9	5910.4	57.55	30-May-91
3286	5967.9	5908.9	59.06	3-Jul-91
3286	5967.9	5913.2	54.71	6-Aug-91
3286	5967.9	5912.5	55.43	1-Oct-91
3286	5967.9	5913.0	54.9	14-Oct-91
3286	5967.9	5913.8	54.12	8-Jan-92
3286	5967.9	5914.5	53.43	3-Mar-92
3286	5967.9	5908.8	59.09	2-Apr-92
3286	5967.9	5912.1	55.87	16-Apr-92
3286	5967.9	5914.8	53.12	21-Jun-92
3286	5967.9	5913.8	54.14	1-Jul-92
3286	5967.9	5913.9	54.03	7-Jul-92
3286	5967.9	5914.0	53.91	5-Oct-92
3286	5967.9	5914.0	53.91	8-Oct-92
3286	5967.9	5914.3	53.64	13-Jan-93
3286	5967.9	5914.6	53.3	10-Feb-93
3286	5967.9	5913.9	54.03	22-Apr-93
3286	5967.9	5913.6	54.34	1-Jul-93
3286	5967.9	5914.2	53.72	29-Jul-93
3286	5967.9	5913.4	54.5	4-Oct-93
3286	5967.9	5914.1	53.8	2-Nov-93
3286	5967.9	5913.7	54.25	10-Jan-94
3486	5914.0	5891.9	22.1	11-Jan-88
3486	5914.0	5892.0	22	29-Feb-88
3486	5914.0	5892.0	22	21-Mar-88
3486	5914.0	5892.1	21.9	18-Apr-88
3486	5914.0	5891.8	22.2	16-May-88
3486	5914.0	5892.1	21.9	15-Jun-88
3486	5914.0	5892.1	21.9	15-Jul-88
3486	5914.0	5892.0	22	18-Aug-88
3486	5914.0	5891.9	22.1	15-Sep-88
3486	5914.0	5891.8	22.2	22-Oct-88
3486	5914.0	5891.7	22.3	15-Nov-88
3486	5914.0	5891.8	22.2	15-Dec-88
3486	5914.0	5892.1	21.9	15-Jan-89
3486	5914.0	5892.1	21.9	24-Feb-89
3486	5914.0	5892.1	21.9	31-Mar-89
3486	5914.0	5892.3	21.7	27-Apr-89
3486	5914.0	5892.4	21.6	26-May-89
3486	5914.0	5892.4	21.6	30-Jun-89

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3486	5914.0	5892.3	21.66	28-Jul-89
3486	5914.0	5892.3	21.62	30-Aug-89
3486	5914.0	5892.3	21.65	12-Sep-89
3486	5914.0	5892.2	21.8	29-Nov-89
3486	5914.0	5892.2	21.75	17-Jan-90
3486	5914.0	5892.3	21.7	24-Jan-90
3486	5914.0	5892.8	21.2	11-Apr-90
3486	5914.0	5892.7	21.25	21-May-90
3486	5914.0	5892.5	21.42	11-Jul-90
3486	5914.0	5892.6	21.4	30-Jul-90
3486	5914.0	5892.3	21.62	3-Oct-90
3486	5914.0	5891.2	22.71	18-Oct-90
3486	5914.0	5892.2	21.73	2-Jan-91
3486	5914.0	5892.5	21.49	14-Mar-91
3486	5914.0	5892.2	21.78	1-Apr-91
3486	5914.0	5892.4	21.51	22-Apr-91
3486	5914.0	5892.6	21.36	3-Jul-91
3486	5914.0	5892.6	21.38	8-Jul-91
3486	5914.0	5892.4	21.54	3-Oct-91
3486	5914.0	5892.4	21.56	7-Oct-91
3486	5914.0	5892.6	21.38	6-Jan-92
3486	5914.0	5892.6	21.4	10-Jan-92
3486	5914.0	5893.1	20.9	7-Apr-92
3486	5914.0	5892.8	21.11	2-Jul-92
3486	5914.0	5892.4	21.57	5-Aug-92
3486	5914.0	5892.5	21.5	1-Oct-92
3486	5914.0	5892.6	21.34	10-Dec-92
3486	5914.0	5892.5	21.43	15-Jan-93
3486	5914.0	5892.7	21.3	4-Mar-93
3486	5914.0	5892.8	21.13	7-Apr-93
3486	5914.0	5892.9	21.08	6-May-93
3486	5914.0	5892.6	21.33	9-Jul-93
3486	5914.0	5892.5	21.45	22-Sep-93
3486	5914.0	5892.2	21.76	1-Oct-93
3486	5914.0	5892.5	21.44	14-Dec-93
3486	5914.0	5892.3	21.65	7-Jan-94
3586	5912.8	5904.5	8.3	11-Jan-88
3586	5912.8	5905.7	7.1	29-Feb-88
3586	5912.8	5906.0	6.8	21-Mar-88
3586	5912.8	5905.8	7	18-Apr-88
3586	5912.8	5904.7	8.1	16-May-88
3586	5912.8	5904.7	8.1	15-Jun-88
3586	5912.8	5904.2	8.6	15-Jul-88
3586	5912.8	5904.0	8.8	18-Aug-88
3586	5912.8	5903.6	9.2	15-Sep-88
3586	5912.8	5903.6	9.2	22-Oct-88
3586	5912.8	5903.3	9.5	15-Nov-88
3586	5912.8	5903.3	9.5	15-Dec-88
3586	5912.8	5903.2	9.6	15-Jan-89
3586	5912.8	5903.4	9.4	24-Feb-89
3586	5912.8	5903.8	9	31-Mar-89
3586	5912.8	5904.9	7.9	27-Apr-89
3586	5912.8	5904.6	8.2	25-May-89
3586	5912.8	5904.7	8.1	30-Jun-89
3586	5912.8	5903.7	9.03	28-Jul-89
3586	5912.8	5903.7	9.03	12-Sep-89
3586	5912.8	5903.2	9.59	5-Dec-89
3586	5912.8	5903.3	9.45	17-Jan-90
3586	5912.8	5903.4	9.35	23-Jan-90
3586	5912.8	5908.1	4.65	11-Apr-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3586	5912.8	5903.9	8.9	18-Jun-90
3586	5912.8	5904.3	8.5	11-Jul-90
3586	5912.8	5903.6	9.2	21-Aug-90
3586	5912.8	5903.3	9.47	3-Oct-90
3586	5912.8	5903.1	9.64	3-Dec-90
3586	5912.8	5903.2	9.6	2-Jan-91
3586	5912.8	5904.2	8.57	14-Mar-91
3586	5912.8	5904.2	8.6	1-Apr-91
3586	5912.8	5904.5	8.28	29-Apr-91
3586	5912.8	5904.5	8.23	3-Jul-91
3586	5912.8	5904.3	8.48	8-Jul-91
3586	5912.8	5903.6	9.19	3-Oct-91
3586	5912.8	5903.5	9.31	7-Oct-91
3586	5912.8	5903.9	8.82	6-Jan-92
3586	5912.8	5903.7	9.04	9-Jan-92
3586	5912.8	5906.6	6.15	7-Apr-92
3586	5912.8	5905.1	7.7	1-Jun-92
3586	5912.8	5904.5	8.26	2-Jul-92
3586	5912.8	5903.9	8.89	4-Aug-92
3586	5912.8	5903.9	8.9	5-Aug-92
3586	5912.8	5903.7	9.08	3-Sep-92
3586	5912.8	5902.9	9.87	1-Oct-92
3586	5912.8	5903.5	9.22	2-Nov-92
3586	5912.8	5903.9	8.85	3-Dec-92
3586	5912.8	5903.9	8.86	10-Dec-92
3586	5912.8	5904.0	8.77	15-Jan-93
3586	5912.8	5904.3	8.42	2-Feb-93
3586	5912.8	5904.4	8.35	4-Mar-93
3586	5912.8	5905.1	7.67	26-Mar-93
3586	5912.8	5906.1	6.65	7-Apr-93
3586	5912.8	5905.2	7.58	6-May-93
3586	5912.8	5903.4	9.33	17-Jun-93
3586	5912.8	5903.0	9.76	9-Jul-93
3586	5912.8	5902.7	10.06	24-Aug-93
3586	5912.8	5898.8	13.95	3-Sep-93
3586	5912.8	5903.6	9.18	21-Sep-93
3586	5912.8	5903.3	9.51	1-Oct-93
3586	5912.8	5903.6	9.16	2-Nov-93
3586	5912.8	5903.6	9.12	1-Dec-93
3586	5912.8	5903.5	9.22	13-Dec-93
3586	5912.8	5903.2	9.56	7-Jan-94
3686	5885.2	5877.7	7.5	7-Jan-88
3686	5885.2	5877.8	7.4	24-Feb-88
3686	5885.2	5877.9	7.3	14-Mar-88
3686	5885.2	5879.4	5.8	11-Apr-88
3686	5885.2	5879.1	6.1	12-May-88
3686	5885.2	5879.2	6	15-Jun-88
3686	5885.2	5878.0	7.2	15-Jul-88
3686	5885.2	5877.6	7.6	18-Aug-88
3686	5885.2	dry	-1	15-Sep-88
3686	5885.2	dry	-1	22-Oct-88
3686	5885.2	dry	-1	15-Nov-88
3686	5885.2	dry	-1	15-Dec-88
3686	5885.2	dry	-1	15-Jan-89
3686	5885.2	dry	-1	27-Feb-89
3686	5885.2	5877.9	7.3	10-Mar-89
3686	5885.2	5877.9	7.3	26-Apr-89
3686	5885.2	5878.6	6.6	5-May-89
3686	5885.2	5879.5	5.7	18-Jun-89
3686	5885.2	5879.3	5.93	14-Jul-89

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3686	5885.2	5879.1	6.11	11-Aug-89
3686	5885.2	5878.5	6.69	12-Sep-89
3686	5885.2	5879.1	6.16	14-Dec-89
3686	5885.2	5879.5	5.71	17-Jan-90
3686	5885.2	5879.6	5.66	24-Jan-90
3686	5885.2	5879.9	5.35	11-Apr-90
3686	5885.2	5879.0	6.21	17-May-90
3686	5885.2	5877.8	7.42	11-Jul-90
3686	5885.2	5877.6	7.66	22-Aug-90
3686	5885.2	5877.1	8.17	3-Oct-90
3686	5885.2	5878.9	6.37	2-Jan-91
3686	5885.2	5878.4	6.78	18-Mar-91
3686	5885.2	5877.3	7.88	1-Apr-91
3686	5885.2	5877.6	7.64	29-Apr-91
3686	5885.2	5879.0	6.23	3-Jul-91
3686	5885.2	5878.9	6.37	9-Jul-91
3686	5885.2	5877.9	7.28	3-Oct-91
3686	5885.2	5877.9	7.32	7-Oct-91
3686	5885.2	5877.1	8.09	6-Jan-92
3686	5885.2	5877.1	8.12	9-Jan-92
3686	5885.2	5877.1	8.12	9-Jan-92
3686	5885.2	5879.8	5.4	2-Apr-92
3686	5885.2	5879.7	5.52	7-Apr-92
3686	5885.2	5879.5	5.73	1-Jun-92
3686	5885.2	5879.0	6.2	2-Jul-92
3686	5885.2	5878.4	6.84	23-Jul-92
3686	5885.2	5877.3	7.92	4-Aug-92
3686	5885.2	5877.3	7.97	3-Sep-92
3686	5885.2	5877.1	8.14	2-Oct-92
3686	5885.2	5877.0	8.19	12-Oct-92
3686	5885.2	dry	-1	1-Nov-92
3686	5885.2	dry	-1	2-Dec-92
3686	5885.2	5877.2	8.04	14-Jan-93
3686	5885.2	5877.3	7.91	1-Feb-93
3686	5885.2	5877.3	7.9	18-Feb-93
3686	5885.2	5878.6	6.66	26-Mar-93
3686	5885.2	5879.1	6.15	1-Apr-93
3686	5885.2	5878.9	6.36	6-May-93
3686	5885.2	5877.6	7.6	13-May-93
3686	5885.2	5877.5	7.74	16-Jun-93
3686	5885.2	5877.4	7.81	23-Jun-93
3686	5885.2	dry	-1	13-Jul-93
3686	5885.2	dry	-1	12-Aug-93
3686	5885.2	dry	-1	23-Aug-93
3686	5885.2	dry	-1	7-Sep-93
3686	5885.2	dry	-1	5-Oct-93
3686	5885.2	dry	-1	1-Nov-93
3686	5885.2	dry	-1	1-Dec-93
3686	5885.2	dry	-1	3-Jan-94
3786	5798.3	dry	-1	24-Feb-88
3786	5798.3	5791.8	6.5	14-Mar-88
3786	5798.3	5790.4	7.9	12-May-88
3786	5798.3	5791.3	7	17-May-88
3786	5798.3	5790.6	7.7	15-Jun-88
3786	5798.3	5791.5	6.8	15-Jul-88
3786	5798.3	5791.8	6.5	18-Aug-88
3786	5798.3	5792.2	6.1	15-Sep-88
3786	5798.3	5792.3	6	22-Oct-88
3786	5798.3	5790.9	7.4	15-Nov-88
3786	5798.3	5791.2	7.1	15-Dec-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3786	5798.3	5792.2	6.1	15-Jan-89
3786	5798.3	5792.3	6	27-Feb-89
3786	5798.3	5792.4	5.9	10-Mar-89
3786	5798.3	5796.2	2.1	5-May-89
3786	5798.3	5794.6	3.7	16-Jun-89
3786	5798.3	5794.7	3.59	12-Sep-89
3786	5798.3	5792.8	5.42	28-Nov-89
3786	5798.3	5790.6	7.64	17-Jan-90
3786	5798.3	5791.1	7.17	25-Jan-90
3786	5798.3	5795.0	3.22	11-Apr-90
3786	5798.3	5793.6	4.63	16-May-90
3786	5798.3	5794.1	4.2	25-Jul-90
3786	5798.3	5792.6	5.71	3-Oct-90
3786	5798.3	5792.8	5.47	15-Oct-90
3786	5798.3	5796.5	1.77	2-Jan-91
3786	5798.3	5793.5	4.73	18-Mar-91
3786	5798.3	5789.0	9.3	1-Apr-91
3786	5798.3	5790.3	7.94	29-Apr-91
3786	5798.3	5792.1	6.17	2-Jul-91
3786	5798.3	5792.8	5.46	16-Jul-91
3786	5798.3	5792.2	6.02	3-Oct-91
3786	5798.3	5792.6	5.67	14-Oct-91
3786	5798.3	5793.1	5.21	6-Jan-92
3786	5798.3	5792.8	5.5	22-Jan-92
3786	5798.3	5792.8	5.5	22-Jan-92
3786	5798.3	5793.6	4.68	2-Apr-92
3786	5798.3	5793.7	4.55	13-Apr-92
3786	5798.3	5793.2	5.03	2-Jul-92
3786	5798.3	5795.3	2.93	17-Sep-92
3786	5798.3	5789.8	8.44	2-Oct-92
3786	5798.3	5790.2	8.02	12-Oct-92
3786	5798.3	5793.8	4.48	14-Jan-93
3786	5798.3	5793.8	4.42	18-Feb-93
3786	5798.3	5795.5	2.8	8-Apr-93
3786	5798.3	5790.1	8.18	10-May-93
3786	5798.3	5792.1	6.12	13-Jul-93
3786	5798.3	5793.8	4.46	22-Sep-93
3786	5798.3	5790.0	8.27	5-Oct-93
3786	5798.3	5794.6	3.64	13-Dec-93
3786	5798.3	5790.2	8.04	3-Jan-94
3886	5736.1	5730.6	5.5	7-Jan-88
3886	5736.1	5731.5	4.6	24-Feb-88
3886	5736.1	5731.1	5	14-Mar-88
3886	5736.1	5731.3	4.8	11-Apr-88
3886	5736.1	5730.8	5.3	12-May-88
3886	5736.1	5728.8	7.3	15-Jun-88
3886	5736.1	5727.7	8.4	15-Jul-88
3886	5736.1	5727.3	8.8	18-Aug-88
3886	5736.1	5727.7	8.4	15-Sep-88
3886	5736.1	5727.5	8.6	22-Oct-88
3886	5736.1	5727.1	9	15-Nov-88
3886	5736.1	5728.2	7.9	15-Dec-88
3886	5736.1	5730.4	5.7	15-Jan-89
3886	5736.1	5730.8	5.3	27-Feb-89
3886	5736.1	5730.9	5.2	10-Mar-89
3886	5736.1	5730.9	5.2	5-May-89
3886	5736.1	5730.5	5.6	16-Jun-89
3886	5736.1	5727.7	8.4	14-Jul-89
3886	5736.1	5727.3	8.82	11-Aug-89
3886	5736.1	5730.9	5.18	12-Sep-89

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3886	5736.1	5729.9	6.15	7-Nov-89
3886	5736.1	5730.9	5.16	16-Jan-90
3886	5736.1	5731.0	5.13	29-Jan-90
3886	5736.1	5731.8	4.25	11-Apr-90
3886	5736.1	5731.5	4.63	15-May-90
3886	5736.1	5727.8	8.29	12-Jul-90
3886	5736.1	5727.6	8.45	25-Jul-90
3886	5736.1	5727.8	8.31	3-Oct-90
3886	5736.1	5727.7	8.42	8-Oct-90
3886	5736.1	5728.2	7.93	2-Jan-91
3886	5736.1	5730.1	5.95	18-Mar-91
3886	5736.1	5730.1	5.98	1-Apr-91
3886	5736.1	5731.1	4.99	6-May-91
3886	5736.1	5728.4	7.7	2-Jul-91
3886	5736.1	5727.8	8.32	15-Jul-91
3886	5736.1	5726.1	9.94	24-Sep-91
3886	5736.1	5725.5	10.6	14-Oct-91
3886	5736.1	5725.2	10.87	6-Jan-92
3886	5736.1	5731.4	4.64	2-Apr-92
3886	5736.1	5731.3	4.76	13-Apr-92
3886	5736.1	5727.8	8.32	2-Jul-92
3886	5736.1	5727.5	8.61	20-Jul-92
3886	5736.1	5725.6	10.47	2-Oct-92
3886	5736.1	5725.6	10.52	8-Oct-92
3886	5736.1	5725.3	10.8	13-Jan-93
3886	5736.1	dry	-1	17-Feb-93
3886	5736.1	5728.8	7.26	1-Mar-93
3886	5736.1	5730.6	5.44	1-Apr-93
3886	5736.1	5731.0	5.12	14-Apr-93
3886	5736.1	5727.3	8.78	13-Jul-93
3886	5736.1	dry	-1	12-Aug-93
3886	5736.1	5725.3	10.76	5-Oct-93
3886	5736.1	5725.3	10.8	3-Jan-94
3887	5973.9	dry	-1	27-Jan-88
3887	5973.9	dry	-1	29-Feb-88
3887	5973.9	dry	-1	21-Mar-88
3887	5973.9	dry	-1	18-Apr-88
3887	5973.9	dry	-1	17-May-88
3887	5973.9	5964.2	9.7	15-Jul-88
3887	5973.9	5964.2	9.7	18-Aug-88
3887	5973.9	5964.5	9.4	15-Sep-88
3887	5973.9	5964.1	9.8	22-Oct-88
3887	5973.9	5963.5	10.4	15-Nov-88
3887	5973.9	5963.3	10.6	15-Dec-88
3887	5973.9	5963.3	10.6	15-Jan-89
3887	5973.9	5963.3	10.6	24-Feb-89
3887	5973.9	5963.3	10.6	31-Mar-89
3887	5973.9	5963.3	10.6	27-Apr-89
3887	5973.9	5964.6	9.3	26-May-89
3887	5973.9	5965.0	8.9	30-Jun-89
3887	5973.9	5964.4	9.46	28-Jul-89
3887	5973.9	5964.4	9.55	30-Aug-89
3887	5973.9	5964.3	9.65	11-Sep-89
3887	5973.9	5964.0	9.95	16-Nov-89
3887	5973.9	5963.1	10.8	17-Jan-90
3887	5973.9	5963.0	10.95	23-Feb-90
3887	5973.9	5965.2	8.72	24-Apr-90
3887	5973.9	5964.7	9.22	23-May-90
3887	5973.9	5964.2	9.67	10-Jul-90
3887	5973.9	5964.0	9.93	23-Aug-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
3887	5973.9	5963.6	10.34	4-Oct-90
3887	5973.9	5963.4	10.55	8-Nov-90
3887	5973.9	5963.1	10.8	4-Jan-91
3887	5973.9	5962.9	11.02	24-Apr-91
3887	5973.9	5964.7	9.18	4-Jun-91
3887	5973.9	5964.4	9.54	3-Jul-91
3887	5973.9	5963.9	10.02	30-Jul-91
3887	5973.9	5962.5	11.41	1-Oct-91
3887	5973.9	5962.1	11.78	10-Oct-91
3887	5973.9	5963.7	10.17	7-Jan-92
3887	5973.9	5963.5	10.4	21-Jan-92
3887	5973.9	5963.5	10.4	21-Jan-92
3887	5973.9	5965.4	8.47	3-Apr-92
3887	5973.9	5964.9	9.03	20-Apr-92
3887	5973.9	5964.0	9.91	1-Jul-92
3887	5973.9	5963.1	10.82	10-Aug-92
3887	5973.9	5962.8	11.15	5-Oct-92
3887	5973.9	5962.5	11.37	19-Oct-92
3887	5973.9	5963.6	10.3	13-Jan-93
3887	5973.9	5963.1	10.8	9-Feb-93
3887	5973.9	5963.5	10.38	1-Apr-93
3887	5973.9	5965.0	8.92	6-Apr-93
3887	5973.9	dry	-1	1-Jul-93
3887	5973.9	dry	-1	4-Oct-93
3887	5973.9	dry	-1	10-Jan-94
3987	5948.4	5862.5	85.93	25-Apr-90
3987	5948.4	5838.8	109.64	22-Jun-90
3987	5948.4	5838.6	109.84	10-Jul-90
3987	5948.4	5853.9	94.52	16-Aug-90
3987	5948.4	5851.7	96.69	2-Oct-90
3987	5948.4	5834.1	114.3	17-Dec-90
3987	5948.4	5839.0	109.41	4-Jan-91
3987	5948.4	5872.7	75.75	24-Apr-91
3987	5948.4	5849.5	98.9	5-Jun-91
3987	5948.4	5843.4	105.03	3-Jul-91
3987	5948.4	5854.2	94.25	30-Jul-91
3987	5948.4	5856.8	91.6	1-Oct-91
3987	5948.4	5857.4	90.98	3-Oct-91
3987	5948.4	5865.8	82.62	7-Jan-92
3987	5948.4	5866.2	82.18	9-Jan-92
3987	5948.4	5863.5	84.88	2-Apr-92
3987	5948.4	5865.2	83.23	9-Apr-92
3987	5948.4	5863.1	85.32	1-Jul-92
3987	5948.4	5869.6	78.85	29-Jul-92
3987	5948.4	5858.9	89.54	5-Oct-92
3987	5948.4	5867.0	81.41	13-Jan-93
3987	5948.4	5871.4	77.05	4-Feb-93
3987	5948.4	5854.4	93.99	1-Apr-93
3987	5948.4	5860.8	87.67	21-Apr-93
3987	5948.4	5858.7	89.71	1-Jul-93
3987	5948.4	5865.9	82.49	28-Jul-93
3987	5948.4	5856.7	91.72	4-Oct-93
3987	5948.4	5862.8	85.59	25-Oct-93
3987	5948.4	5859.6	88.79	10-Jan-94
4087	5884.6	5877.0	7.6	6-Jan-88
4087	5884.6	5877.1	7.5	4-Feb-88
4087	5884.6	5878.4	6.2	14-Mar-88
4087	5884.6	5879.3	5.3	11-Apr-88
4087	5884.6	5880.2	4.4	12-May-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
4087	5884.6	5877.4	7.2	15-Jun-88
4087	5884.6	5877.8	6.8	15-Jul-88
4087	5884.6	5877.4	7.2	18-Aug-88
4087	5884.6	dry	-1	15-Sep-88
4087	5884.6	dry	-1	22-Oct-88
4087	5884.6	dry	-1	15-Nov-88
4087	5884.6	dry	-1	15-Dec-88
4087	5884.6	dry	-1	15-Jan-89
4087	5884.6	dry	-1	17-Feb-89
4087	5884.6	5876.5	8.1	3-Mar-89
4087	5884.6	5876.6	8	14-Apr-89
4087	5884.6	5879.8	4.8	5-May-89
4087	5884.6	5880.8	3.8	16-Jun-89
4087	5884.6	5878.6	6.05	7-Jul-89
4087	5884.6	5876.6	8.03	4-Aug-89
4087	5884.6	dry	-1	11-Sep-89
4087	5884.6	dry	-1	8-Nov-89
4087	5884.6	dry	-1	15-Jan-90
4087	5884.6	5882.2	2.4	10-Apr-90
4087	5884.6	5879.8	4.8	5-Jun-90
4087	5884.6	5878.3	6.33	10-Jul-90
4087	5884.6	5877.6	7.06	7-Aug-90
4087	5884.6	5877.2	7.39	16-Aug-90
4087	5884.6	5880.6	3.99	6-Jun-91
4087	5884.6	5878.8	5.77	2-Jul-91
4087	5884.6	5878.3	6.3	15-Jul-91
4087	5884.6	5876.5	8.1	7-Aug-91
4087	5884.6	5875.9	8.69	1-Oct-91
4087	5884.6	5879.7	4.96	6-Jan-92
4087	5884.6	5880.1	4.52	5-Feb-92
4087	5884.6	5879.9	4.73	20-Feb-92
4087	5884.6	5879.7	4.89	2-Mar-92
4087	5884.6	5881.9	2.7	2-Apr-92
4087	5884.6	5880.8	3.78	27-Apr-92
4087	5884.6	5880.1	4.55	4-May-92
4087	5884.6	5880.6	4.01	3-Jun-92
4087	5884.6	5878.7	5.95	1-Jul-92
4087	5884.6	5878.3	6.3	9-Jul-92
4087	5884.6	5876.4	8.25	4-Aug-92
4087	5884.6	5877.1	7.56	3-Sep-92
4087	5884.6	5876.0	8.59	1-Oct-92
4087	5884.6	dry	-1	1-Nov-92
4087	5884.6	dry	-1	4-Dec-92
4087	5884.6	dry	-1	22-Dec-92
4087	5884.6	dry	-1	14-Jan-93
4087	5884.6	dry	-1	26-Jan-93
4087	5884.6	dry	-1	1-Feb-93
4087	5884.6	5879.5	5.13	26-Feb-93
4087	5884.6	5879.7	4.9	22-Mar-93
4087	5884.6	5879.6	5.05	26-Mar-93
4087	5884.6	5881.2	3.39	1-Apr-93
4087	5884.6	5881.3	3.31	20-Apr-93
4087	5884.6	5879.5	5.13	13-May-93
4087	5884.6	5878.8	5.86	18-Jun-93
4087	5884.6	5877.6	7.02	7-Jul-93
4087	5884.6	5876.4	8.22	4-Aug-93
4087	5884.6	5876.0	8.59	7-Sep-93
4087	5884.6	5876.0	8.58	7-Oct-93
4087	5884.6	5876.0	8.61	1-Nov-93
4087	5884.6	5876.0	8.6	1-Dec-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
4187	5884.5	5824.3	60.2	6-Jan-88
4187	5884.5	5795.7	88.8	4-Feb-88
4187	5884.5	5829.1	55.4	14-Mar-88
4187	5884.5	5840.9	43.6	11-Apr-88
4187	5884.5	5848.3	36.2	12-May-88
4187	5884.5	5798.4	86.1	15-Jun-88
4187	5884.5	5819.7	64.8	15-Jul-88
4187	5884.5	5831.9	52.6	18-Aug-88
4187	5884.5	5810.8	73.7	15-Sep-88
4187	5884.5	5826.7	57.8	22-Oct-88
4187	5884.5	5833.3	51.2	15-Nov-88
4187	5884.5	5837.2	47.3	15-Dec-88
4187	5884.5	5828.2	56.3	15-Jan-89
4187	5884.5	5843.0	41.5	17-Feb-89
4187	5884.5	5846.8	37.7	8-Mar-89
4187	5884.5	5825.2	59.3	14-Apr-89
4187	5884.5	5836.1	48.4	5-May-89
4187	5884.5	5847.0	37.5	18-Jun-89
4187	5884.5	5816.3	68.16	7-Jul-89
4187	5884.5	5837.4	47.06	4-Aug-89
4187	5884.5	5844.7	39.83	11-Sep-89
4187	5884.5	5829.3	55.2	8-Nov-89
4187	5884.5	5833.9	50.62	15-Jan-90
4187	5884.5	5840.5	44.02	5-Feb-90
4187	5884.5	5834.1	50.4	10-Apr-90
4187	5884.5	5849.1	35.38	19-Jun-90
4187	5884.5	5809.8	74.7	10-Jul-90
4187	5884.5	5840.7	43.78	9-Aug-90
4187	5884.5	5835.1	49.41	22-Aug-90
4187	5884.5	5822.9	61.64	1-Oct-90
4187	5884.5	5836.0	48.52	30-Oct-90
4187	5884.5	5833.5	50.95	2-Jan-91
4187	5884.5	5848.3	36.2	11-Mar-91
4187	5884.5	5809.6	74.93	2-Apr-91
4187	5884.5	5831.8	52.71	6-May-91
4187	5884.5	5830.6	53.91	2-Jul-91
4187	5884.5	5835.6	48.86	15-Jul-91
4187	5884.5	5838.7	45.8	1-Oct-91
4187	5884.5	5842.4	42.12	16-Oct-91
4187	5884.5	5849.0	35.46	6-Jan-92
4187	5884.5	5848.6	35.85	19-Feb-92
4187	5884.5	5827.3	57.24	2-Apr-92
4187	5884.5	5838.1	46.43	27-Apr-92
4187	5884.5	5833.8	50.7	1-Jul-92
4187	5884.5	5838.8	45.67	16-Jul-92
4187	5884.5	5839.2	45.33	1-Oct-92
4187	5884.5	5841.9	42.58	12-Oct-92
4187	5884.5	5838.1	46.4	22-Dec-92
4187	5884.5	5843.9	40.64	14-Jan-93
4187	5884.5	5846.0	38.47	26-Jan-93
4187	5884.5	5850.0	34.48	26-Feb-93
4187	5884.5	5849.9	34.6	1-Mar-93
4187	5884.5	5814.4	70.13	22-Mar-93
4187	5884.5	5822.6	61.93	1-Apr-93
4187	5884.5	5833.5	50.98	20-Apr-93
4187	5884.5	5841.0	43.5	7-Jul-93
4187	5884.5	5847.5	37	9-Aug-93
4187	5884.5	5835.9	48.64	7-Oct-93
4187	5884.5	5844.0	40.48	4-Nov-93
4187	5884.5	5836.9	47.63	4-Jan-94

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
4287	5855.9	5852.7	3.2	6-Jan-88
4287	5855.9	5852.6	3.3	4-Feb-88
4287	5855.9	5852.6	3.3	14-Mar-88
4287	5855.9	5852.4	3.5	11-Apr-88
4287	5855.9	5851.8	4.1	12-May-88
4287	5855.9	5849.8	6.1	15-Jun-88
4287	5855.9	dry	-1	15-Jul-88
4287	5855.9	dry	-1	18-Aug-88
4287	5855.9	dry	-1	15-Sep-88
4287	5855.9	dry	-1	22-Oct-88
4287	5855.9	dry	-1	15-Nov-88
4287	5855.9	dry	-1	15-Dec-88
4287	5855.9	dry	-1	15-Jan-89
4287	5855.9	5852.6	3.3	27-Feb-89
4287	5855.9	5852.8	3.1	10-Mar-89
4287	5855.9	5852.4	3.5	14-Apr-89
4287	5855.9	5852.4	3.5	5-May-89
4287	5855.9	5852.5	3.4	16-Jun-89
4287	5855.9	5849.5	6.36	14-Jul-89
4287	5855.9	dry	-1	11-Aug-89
4287	5855.9	dry	-1	12-Sep-89
4287	5855.9	dry	-1	26-Oct-89
4287	5855.9	5852.4	3.45	15-Jan-90
4287	5855.9	5853.1	2.81	21-Mar-90
4287	5855.9	5852.7	3.15	10-Apr-90
4287	5855.9	5851.1	4.82	5-Jun-90
4287	5855.9	5852.4	3.45	2-Apr-91
4287	5855.9	5852.5	3.33	2-May-91
4287	5855.9	5852.4	3.52	6-Jun-91
4287	5855.9	5850.1	5.77	2-Jul-91
4287	5855.9	5848.2	7.69	1-Oct-91
4287	5855.9	5852.4	3.47	3-Dec-91
4287	5855.9	5852.4	3.51	6-Jan-92
4287	5855.9	5852.5	3.39	16-Jan-92
4287	5855.9	5852.5	3.33	7-Feb-92
4287	5855.9	5852.5	3.37	2-Mar-92
4287	5855.9	5852.5	3.38	2-Apr-92
4287	5855.9	5852.3	3.58	21-Apr-92
4287	5855.9	5851.5	4.42	4-May-92
4287	5855.9	5852.5	3.35	3-Jun-92
4287	5855.9	5849.9	5.97	1-Jul-92
4287	5855.9	dry	-1	14-Jul-92
4287	5855.9	dry	-1	4-Aug-92
4287	5855.9	5850.3	5.55	3-Sep-92
4287	5855.9	dry	-1	2-Oct-92
4287	5855.9	dry	-1	1-Nov-92
4287	5855.9	dry	-1	4-Dec-92
4287	5855.9	5852.5	3.39	22-Dec-92
4287	5855.9	5852.5	3.41	14-Jan-93
4287	5855.9	5852.8	3.1	26-Jan-93
4287	5855.9	5852.8	3.06	1-Feb-93
4287	5855.9	5852.5	3.4	17-Feb-93
4287	5855.9	5852.5	3.4	18-Feb-93
4287	5855.9	5852.6	3.29	26-Feb-93
4287	5855.9	5852.6	3.32	22-Mar-93
4287	5855.9	5852.5	3.36	26-Mar-93
4287	5855.9	5852.6	3.23	1-Apr-93
4287	5855.9	5851.9	3.94	10-May-93
4287	5855.9	5851.5	4.33	13-May-93
4287	5855.9	5852.5	3.35	18-Jun-93
4287	5855.9	5848.8	7.03	7-Jul-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
4287	5855.9	dry	-1	4-Aug-93
4287	5855.9	dry	-1	7-Sep-93
4287	5855.9	dry	-1	7-Oct-93
4287	5855.9	dry	-1	1-Nov-93
4287	5855.9	dry	-1	1-Dec-93
4287	5855.9	5851.8	4.06	4-Jan-94
6087	5986.0	5973.9	12.1	5-Jan-88
6087	5986.0	5973.8	12.2	4-Feb-88
6087	5986.0	5974.6	11.4	14-Mar-88
6087	5986.0	5975.7	10.3	11-Apr-88
6087	5986.0	5974.4	11.6	12-May-88
6087	5986.0	5974.8	11.2	15-Jun-88
6087	5986.0	5974.0	12	15-Jul-88
6087	5986.0	5973.6	12.4	18-Aug-88
6087	5986.0	5972.9	13.1	15-Sep-88
6087	5986.0	5972.7	13.3	22-Oct-88
6087	5986.0	5972.3	13.7	15-Nov-88
6087	5986.0	5972.2	13.8	15-Dec-88
6087	5986.0	5972.0	14	15-Jan-89
6087	5986.0	5972.1	13.9	17-Feb-89
6087	5986.0	5974.0	12	3-Mar-89
6087	5986.0	5973.8	12.2	14-Apr-89
6087	5986.0	5973.0	13	5-May-89
6087	5986.0	5975.5	10.5	16-Jun-89
6087	5986.0	5973.3	12.65	7-Jul-89
6087	5986.0	5972.7	13.26	4-Aug-89
6087	5986.0	5972.6	13.41	11-Sep-89
6087	5986.0	5972.3	13.7	26-Oct-89
6087	5986.0	5972.5	13.46	15-Jan-90
6087	5986.0	5972.3	13.65	1-Feb-90
6087	5986.0	5980.1	5.85	10-Apr-90
6087	5986.0	5975.8	10.2	6-Jun-90
6087	5986.0	5974.1	11.89	10-Jul-90
6087	5986.0	5973.0	12.99	28-Aug-90
6087	5986.0	5973.3	12.65	2-Oct-90
6087	5986.0	5972.9	13.11	11-Oct-90
6087	5986.0	5972.3	13.65	2-Jan-91
6087	5986.0	5972.7	13.31	4-Mar-91
6087	5986.0	5972.1	13.86	2-Apr-91
6087	5986.0	5973.5	12.47	18-Apr-91
6087	5986.0	5975.6	10.41	1-Jul-91
6087	5986.0	5974.9	11.1	18-Jul-91
6087	5986.0	5972.6	13.32	2-Oct-91
6087	5986.0	5972.5	13.48	10-Oct-91
6087	5986.0	5972.4	13.54	6-Jan-92
6087	5986.0	5975.5	10.42	6-Mar-92
6087	5986.0	5981.1	4.86	1-Apr-92
6087	5986.0	5979.0	7	17-Apr-92
6087	5986.0	5975.2	10.74	1-Jul-92
6087	5986.0	5974.4	11.54	20-Jul-92
6087	5986.0	5972.5	13.45	1-Oct-92
6087	5986.0	5972.4	13.61	14-Oct-92
6087	5986.0	5972.7	13.28	22-Dec-92
6087	5986.0	5972.3	13.65	14-Jan-93
6087	5986.0	5972.3	13.66	26-Jan-93
6087	5986.0	5972.4	13.56	19-Feb-93
6087	5986.0	5972.4	13.55	26-Feb-93
6087	5986.0	5972.8	13.18	22-Mar-93
6087	5986.0	5975.6	10.37	1-Apr-93
6087	5986.0	5977.0	8.96	9-Apr-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6087	5986.0	5973.1	12.83	7-Jul-93
6087	5986.0	5972.4	13.55	11-Aug-93
6087	5986.0	5972.1	13.89	4-Oct-93
6087	5986.0	5972.1	13.83	27-Oct-93
6087	5986.0	5972.0	14.01	4-Jan-94
6187	5985.8	5972.8	13	6-Jan-88
6187	5985.8	5973.5	12.3	4-Feb-88
6187	5985.8	5974.0	11.8	21-Mar-88
6187	5985.8	5973.1	12.7	11-Apr-88
6187	5985.8	5974.0	11.8	12-May-88
6187	5985.8	5974.5	11.3	15-Jun-88
6187	5985.8	5973.9	11.9	15-Jul-88
6187	5985.8	5973.5	12.3	18-Aug-88
6187	5985.8	5972.9	12.9	15-Sep-88
6187	5985.8	5972.8	13	22-Oct-88
6187	5985.8	5972.3	13.5	15-Nov-88
6187	5985.8	5972.2	13.6	15-Dec-88
6187	5985.8	5971.9	13.9	15-Jan-89
6187	5985.8	5972.1	13.7	17-Feb-89
6187	5985.8	5973.2	12.6	8-Mar-89
6187	5985.8	5973.3	12.5	14-Apr-89
6187	5985.8	5973.6	12.2	5-May-89
6187	5985.8	5974.9	10.9	16-Jun-89
6187	5985.8	5973.1	12.65	14-Jul-89
6187	5985.8	5972.6	13.18	11-Aug-89
6187	5985.8	5972.6	13.19	12-Sep-89
6187	5985.8	5972.1	13.67	1-Nov-89
6187	5985.8	5972.3	13.5	16-Jan-90
6187	5985.8	5972.0	13.75	5-Mar-90
6187	5985.8	5978.7	7.07	10-Apr-90
6187	5985.8	5976.3	9.44	8-May-90
6187	5985.8	5973.6	12.13	10-Jul-90
6187	5985.8	5974.8	10.97	23-Jul-90
6187	5985.8	5972.8	12.95	1-Oct-90
6187	5985.8	5972.6	13.21	19-Oct-90
6187	5985.8	5972.0	13.77	3-Jan-91
6187	5985.8	5972.2	13.56	12-Mar-91
6187	5985.8	5972.0	13.8	2-Apr-91
6187	5985.8	5972.6	13.14	19-Apr-91
6187	5985.8	5974.2	11.56	1-Jul-91
6187	5985.8	5973.8	11.98	12-Jul-91
6187	5985.8	5972.4	13.34	2-Oct-91
6187	5985.8	5972.3	13.47	16-Oct-91
6187	5985.8	5972.4	13.38	6-Jan-92
6187	5985.8	5972.2	13.61	15-Jan-92
6187	5985.8	5979.7	6.05	17-Mar-92
6187	5985.8	5979.4	6.39	1-Apr-92
6187	5985.8	5976.8	8.99	23-Apr-92
6187	5985.8	5974.2	11.6	1-Jul-92
6187	5985.8	5973.5	12.32	17-Jul-92
6187	5985.8	5972.4	13.38	1-Oct-92
6187	5985.8	5972.3	13.5	14-Oct-92
6187	5985.8	5972.5	13.25	22-Dec-92
6187	5985.8	5972.2	13.55	13-Jan-93
6187	5985.8	5972.2	13.59	26-Jan-93
6187	5985.8	5972.2	13.58	29-Jan-93
6187	5985.8	5972.2	13.53	26-Feb-93
6187	5985.8	5972.5	13.29	22-Mar-93
6187	5985.8	5974.9	10.91	2-Apr-93
6187	5985.8	5976.8	9.02	16-Apr-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6187	5985.8	5972.8	12.95	8-Jul-93
6187	5985.8	5972.4	13.37	4-Aug-93
6187	5985.8	5972.0	13.73	6-Oct-93
6187	5985.8	5972.0	13.73	26-Oct-93
6187	5985.8	5972.0	13.81	4-Jan-94
6287	5986.4	5972.3	14.1	6-Jan-88
6287	5986.4	5972.8	13.6	4-Feb-88
6287	5986.4	5973.2	13.2	21-Mar-88
6287	5986.4	5972.7	13.7	11-Apr-88
6287	5986.4	5984.4	2	12-May-88
6287	5986.4	5973.7	12.7	15-Jun-88
6287	5986.4	5973.2	13.2	15-Jul-88
6287	5986.4	5971.2	15.2	15-Jul-88
6287	5986.4	5972.8	13.6	18-Aug-88
6287	5986.4	5972.3	14.1	15-Sep-88
6287	5986.4	5972.1	14.3	22-Oct-88
6287	5986.4	5970.8	15.6	22-Oct-88
6287	5986.4	5971.7	14.7	15-Nov-88
6287	5986.4	5970.5	15.9	15-Nov-88
6287	5986.4	5971.8	14.6	15-Dec-88
6287	5986.4	5971.4	15	15-Jan-89
6287	5986.4	5971.6	14.8	17-Feb-89
6287	5986.4	5972.4	14	8-Mar-89
6287	5986.4	5972.5	13.9	14-Apr-89
6287	5986.4	5972.9	13.5	5-May-89
6287	5986.4	5974.2	12.2	16-Jun-89
6287	5986.4	5972.5	13.85	14-Jul-89
6287	5986.4	5972.0	14.38	11-Aug-89
6287	5986.4	5972.1	14.27	12-Sep-89
6287	5986.4	5971.6	14.75	2-Nov-89
6287	5986.4	5971.7	14.65	16-Jan-90
6287	5986.4	5971.5	14.85	26-Feb-90
6287	5986.4	5977.8	8.6	10-Apr-90
6287	5986.4	5973.7	12.7	14-Jun-90
6287	5986.4	5972.9	13.46	10-Jul-90
6287	5986.4	5972.3	14.06	23-Aug-90
6287	5986.4	5972.2	14.19	1-Oct-90
6287	5986.4	5971.7	14.65	6-Dec-90
6287	5986.4	5971.5	14.85	3-Jan-91
6287	5986.4	5971.8	14.62	5-Mar-91
6287	5986.4	5971.5	14.91	2-Apr-91
6287	5986.4	5972.0	14.42	19-Apr-91
6287	5986.4	5973.5	12.88	1-Jul-91
6287	5986.4	5971.1	15.31	12-Jul-91
6287	5986.4	5971.9	14.52	2-Oct-91
6287	5986.4	5971.7	14.66	24-Oct-91
6287	5986.4	5971.7	14.67	6-Jan-92
6287	5986.4	5971.7	14.68	18-Feb-92
6287	5986.4	5978.6	7.81	1-Apr-92
6287	5986.4	5976.4	9.93	21-Apr-92
6287	5986.4	5973.6	12.82	1-Jul-92
6287	5986.4	5972.4	14.01	30-Jul-92
6287	5986.4	5971.8	14.59	1-Oct-92
6287	5986.4	5971.3	15.12	5-Oct-92
6287	5986.4	5971.9	14.5	22-Dec-92
6287	5986.4	5971.6	14.73	13-Jan-93
6287	5986.4	5971.6	14.75	26-Jan-93
6287	5986.4	5971.6	14.78	29-Jan-93
6287	5986.4	5971.6	14.74	26-Feb-93
6287	5986.4	5971.8	14.58	22-Mar-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6287	5986.4	5973.6	12.8	2-Apr-93
6287	5986.4	5972.2	14.22	8-Jul-93
6287	5986.4	5971.5	14.84	6-Oct-93
6287	5986.4	5971.5	14.89	4-Jan-94
6487	5987.3	5979.8	7.5	9-Jan-88
6487	5987.3	5969.7	17.6	4-Feb-88
6487	5987.3	5980.4	6.9	24-Feb-88
6487	5987.3	5980.5	6.8	7-Mar-88
6487	5987.3	5969.4	17.9	21-Mar-88
6487	5987.3	5980.6	6.7	4-Apr-88
6487	5987.3	5969.1	18.2	11-Apr-88
6487	5987.3	5980.4	6.9	2-May-88
6487	5987.3	5968.9	18.4	12-May-88
6487	5987.3	5970.2	17.1	15-Jun-88
6487	5987.3	5970.2	17.1	15-Jul-88
6487	5987.3	5969.9	17.4	18-Aug-88
6487	5987.3	5973.7	13.6	15-Sep-88
6487	5987.3	5966.5	20.8	15-Sep-88
6487	5987.3	5968.1	19.2	22-Oct-88
6487	5987.3	5967.6	19.7	15-Nov-88
6487	5987.3	5967.6	19.7	15-Dec-88
6487	5987.3	5967.2	20.1	15-Jan-89
6487	5987.3	5967.0	20.3	17-Feb-89
6487	5987.3	5966.9	20.4	8-Mar-89
6487	5987.3	5966.8	20.5	14-Apr-89
6487	5987.3	5966.6	20.7	5-May-89
6487	5987.3	5966.8	20.56	11-Sep-89
6487	5987.3	5966.6	20.72	6-Nov-89
6487	5987.3	5966.5	20.89	16-Jan-90
6487	5987.3	5966.3	21.05	14-Feb-90
6487	5987.3	5967.5	19.82	10-Apr-90
6487	5987.3	5971.1	16.2	15-Jun-90
6487	5987.3	5971.0	16.37	10-Jul-90
6487	5987.3	5970.6	16.76	7-Aug-90
6487	5987.3	5969.3	18	11-Sep-90
6487	5987.3	5968.9	18.41	21-Sep-90
6487	5987.3	5968.7	18.65	1-Oct-90
6487	5987.3	5967.8	19.55	7-Nov-90
6487	5987.3	5967.7	19.68	19-Nov-90
6487	5987.3	5967.2	20.11	6-Dec-90
6487	5987.3	5966.9	20.45	3-Jan-91
6487	5987.3	5966.5	20.81	11-Mar-91
6487	5987.3	5966.2	21.13	2-Apr-91
6487	5987.3	5966.2	21.16	2-May-91
6487	5987.3	5966.1	21.24	6-Jun-91
6487	5987.3	5967.2	20.17	1-Jul-91
6487	5987.3	5967.6	19.75	9-Jul-91
6487	5987.3	5967.6	19.78	7-Aug-91
6487	5987.3	5967.2	20.1	4-Sep-91
6487	5987.3	5966.9	20.44	2-Oct-91
6487	5987.3	5966.8	20.55	21-Oct-91
6487	5987.3	5966.6	20.75	6-Nov-91
6487	5987.3	5966.3	21.03	3-Dec-91
6487	5987.3	5966.3	21.06	6-Jan-92
6487	5987.3	5966.0	21.32	3-Feb-92
6487	5987.3	5966.0	21.37	19-Feb-92
6487	5987.3	5966.0	21.32	2-Mar-92
6487	5987.3	5968.8	18.51	1-Apr-92
6487	5987.3	5971.3	16.05	21-Apr-92
6487	5987.3	5971.7	15.64	4-May-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6487	5987.3	5972.3	15.03	1-Jun-92
6487	5987.3	5972.5	14.86	1-Jul-92
6487	5987.3	5971.9	15.47	29-Jul-92
6487	5987.3	5971.8	15.51	4-Aug-92
6487	5987.3	5970.5	16.8	3-Sep-92
6487	5987.3	5969.5	17.89	1-Oct-92
6487	5987.3	5969.2	18.13	6-Oct-92
6487	5987.3	5968.4	18.98	1-Nov-92
6487	5987.3	5967.3	20.06	4-Dec-92
6487	5987.3	5967.2	20.15	22-Dec-92
6487	5987.3	5966.8	20.53	13-Jan-93
6487	5987.3	5966.7	20.62	26-Jan-93
6487	5987.3	5966.4	20.92	1-Feb-93
6487	5987.3	5966.6	20.77	8-Feb-93
6487	5987.3	5966.3	21.02	26-Feb-93
6487	5987.3	5966.2	21.13	22-Mar-93
6487	5987.3	5966.2	21.17	26-Mar-93
6487	5987.3	5966.3	21.05	2-Apr-93
6487	5987.3	5966.1	21.21	12-Apr-93
6487	5987.3	5966.3	21.06	12-May-93
6487	5987.3	5966.3	21.09	16-Jun-93
6487	5987.3	5966.2	21.16	8-Jul-93
6487	5987.3	5966.0	21.36	9-Aug-93
6487	5987.3	5966.0	21.34	23-Aug-93
6487	5987.3	5966.0	21.35	7-Sep-93
6487	5987.3	5966.1	21.28	6-Oct-93
6487	5987.3	5966.0	21.32	14-Oct-93
6487	5987.3	5966.0	21.36	1-Nov-93
6487	5987.3	5965.8	21.5	1-Dec-93
6487	5987.3	5965.9	21.41	4-Jan-94
6587	5985.0	5970.5	14.5	6-Jan-88
6587	5985.0	5971.8	13.2	4-Feb-88
6587	5985.0	5971.9	13.1	21-Mar-88
6587	5985.0	5972.6	12.4	11-Apr-88
6587	5985.0	5972.0	13	12-May-88
6587	5985.0	5972.6	12.4	15-Jun-88
6587	5985.0	5972.2	12.8	15-Jul-88
6587	5985.0	5971.8	13.2	18-Aug-88
6587	5985.0	5970.7	14.3	22-Oct-88
6587	5985.0	5969.7	15.3	15-Nov-88
6587	5985.0	5969.7	15.3	15-Dec-88
6587	5985.0	5969.1	15.9	15-Jan-89
6587	5985.0	5969.5	15.5	17-Feb-89
6587	5985.0	5971.9	13.1	8-Mar-89
6587	5985.0	5971.9	13.1	14-Apr-89
6587	5985.0	5972.2	12.8	5-May-89
6587	5985.0	5973.7	11.3	16-Jun-89
6587	5985.0	5969.6	15.42	16-Jan-90
6587	5985.0	5975.4	9.57	22-Mar-90
6587	5985.0	5977.0	8	10-Apr-90
6587	5985.0	5975.5	9.48	1-May-90
6587	5985.0	5971.9	13.05	10-Jul-90
6587	5985.0	5972.0	12.98	18-Jul-90
6587	5985.0	5971.0	14	1-Oct-90
6587	5985.0	5970.5	14.5	17-Oct-90
6587	5985.0	5969.4	15.55	3-Jan-91
6587	5985.0	5968.9	16.12	2-Apr-91
6587	5985.0	5969.4	15.57	19-Apr-91
6587	5985.0	5972.6	12.39	1-Jul-91
6587	5985.0	5972.0	12.96	12-Jul-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6587	5985.0	5978.1	6.85	16-Aug-91
6587	5985.0	5970.6	14.4	2-Oct-91
6587	5985.0	5970.6	14.4	24-Oct-91
6587	5985.0	5970.8	14.16	6-Jan-92
6587	5985.0	5970.4	14.59	18-Feb-92
6587	5985.0	5977.8	7.22	1-Apr-92
6587	5985.0	5975.9	9.13	21-Apr-92
6587	5985.0	5972.8	12.24	1-Jul-92
6587	5985.0	5971.7	13.28	27-Jul-92
6587	5985.0	5970.9	14.09	1-Oct-92
6587	5985.0	5970.8	14.22	6-Oct-92
6587	5985.0	5970.5	14.48	22-Dec-92
6587	5985.0	5970.0	14.97	13-Jan-93
6587	5985.0	5969.8	15.17	26-Jan-93
6587	5985.0	5969.8	15.18	29-Jan-93
6587	5985.0	5969.4	15.55	26-Feb-93
6587	5985.0	5969.7	15.25	22-Mar-93
6587	5985.0	5971.3	13.65	2-Apr-93
6587	5985.0	5971.5	13.54	8-Jul-93
6587	5985.0	5970.4	14.61	13-Aug-93
6587	5985.0	5969.6	15.36	6-Oct-93
6587	5985.0	5969.5	15.48	18-Oct-93
6587	5985.0	5970.2	14.78	4-Jan-94
6687	5983.7	5970.7	13	5-Jan-88
6687	5983.7	5971.8	11.9	4-Feb-88
6687	5983.7	5972.2	11.5	14-Mar-88
6687	5983.7	5972.8	10.9	11-Apr-88
6687	5983.7	5972.0	11.7	12-May-88
6687	5983.7	5972.7	11	15-Jun-88
6687	5983.7	5972.2	11.5	15-Jul-88
6687	5983.7	5971.8	11.9	18-Aug-88
6687	5983.7	5971.4	12.3	15-Sep-88
6687	5983.7	5970.8	12.9	22-Oct-88
6687	5983.7	5969.8	13.9	15-Nov-88
6687	5983.7	5969.7	14	15-Dec-88
6687	5983.7	5969.3	14.4	15-Jan-89
6687	5983.7	5969.5	14.2	17-Feb-89
6687	5983.7	5972.7	11	3-Mar-89
6687	5983.7	5972.1	11.6	14-Apr-89
6687	5983.7	5972.0	11.7	5-May-89
6687	5983.7	5974.0	9.7	16-Jun-89
6687	5983.7	5971.8	11.89	7-Jul-89
6687	5983.7	5971.0	12.63	4-Aug-89
6687	5983.7	5971.4	12.32	12-Sep-89
6687	5983.7	5970.6	13.1	3-Nov-89
6687	5983.7	5969.6	14.11	17-Jan-90
6687	5983.7	5971.2	12.43	12-Mar-90
6687	5983.7	5977.6	6.1	10-Apr-90
6687	5983.7	5975.5	8.15	2-May-90
6687	5983.7	5971.9	11.82	10-Jul-90
6687	5983.7	5976.4	7.3	24-Jul-90
6687	5983.7	5971.1	12.58	2-Oct-90
6687	5983.7	5970.0	13.65	6-Dec-90
6687	5983.7	5969.5	14.16	3-Jan-91
6687	5983.7	5969.2	14.43	11-Mar-91
6687	5983.7	5968.9	14.74	2-Apr-91
6687	5983.7	5970.3	13.42	2-May-91
6687	5983.7	5972.7	10.99	1-Jul-91
6687	5983.7	5972.0	11.65	15-Jul-91
6687	5983.7	5970.6	13.06	2-Oct-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6687	5983.7	5970.3	13.4	23-Oct-91
6687	5983.7	5970.9	12.75	6-Jan-92
6687	5983.7	5970.4	13.26	20-Feb-92
6687	5983.7	5978.2	5.44	1-Apr-92
6687	5983.7	5975.2	8.48	27-Apr-92
6687	5983.7	5972.7	11.02	1-Jul-92
6687	5983.7	5971.6	12.07	27-Jul-92
6687	5983.7	5970.8	12.83	1-Oct-92
6687	5983.7	5970.7	12.99	7-Oct-92
6687	5983.7	5970.5	13.2	22-Dec-92
6687	5983.7	5970.0	13.71	19-Jan-93
6687	5983.7	5969.8	13.85	26-Jan-93
6687	5983.7	5969.6	14.1	10-Feb-93
6687	5983.7	5969.5	14.22	26-Feb-93
6687	5983.7	5969.7	13.96	22-Mar-93
6687	5983.7	5971.3	12.42	1-Apr-93
6687	5983.7	5974.5	9.15	20-Apr-93
6687	5983.7	5971.3	12.35	12-Jul-93
6687	5983.7	5970.4	13.23	9-Aug-93
6687	5983.7	5969.7	13.98	6-Oct-93
6687	5983.7	5969.5	14.13	14-Oct-93
6687	5983.7	5970.3	13.4	4-Jan-94
6787	5971.8	5967.5	4.3	6-Jan-88
6787	5971.8	5961.4	10.4	4-Feb-88
6787	5971.8	5961.8	10	21-Mar-88
6787	5971.8	5961.9	9.9	11-Apr-88
6787	5971.8	5961.7	10.1	12-May-88
6787	5971.8	5961.6	10.2	15-Jun-88
6787	5971.8	5961.1	10.7	15-Jul-88
6787	5971.8	5960.8	11	18-Aug-88
6787	5971.8	5960.3	11.5	15-Sep-88
6787	5971.8	5960.3	11.5	22-Oct-88
6787	5971.8	5960.1	11.7	15-Nov-88
6787	5971.8	5960.1	11.7	15-Dec-88
6787	5971.8	5960.2	11.6	15-Jan-89
6787	5971.8	5960.5	11.3	17-Feb-89
6787	5971.8	5963.0	8.8	8-Mar-89
6787	5971.8	5962.1	9.7	14-Apr-89
6787	5971.8	5962.0	9.8	5-May-89
6787	5971.8	5962.8	9	16-Jun-89
6787	5971.8	5961.2	10.61	7-Jul-89
6787	5971.8	5960.2	11.58	11-Aug-89
6787	5971.8	5960.6	11.15	11-Sep-89
6787	5971.8	5960.0	11.75	8-Nov-89
6787	5971.8	5960.5	11.29	16-Jan-90
6787	5971.8	5960.2	11.59	19-Feb-90
6787	5971.8	5964.5	7.26	10-Apr-90
6787	5971.8	5961.8	9.97	22-May-90
6787	5971.8	5960.2	11.56	10-Jul-90
6787	5971.8	5960.0	11.74	7-Aug-90
6787	5971.8	5959.7	12.03	11-Sep-90
6787	5971.8	5959.7	12.04	21-Sep-90
6787	5971.8	5959.8	11.98	1-Oct-90
6787	5971.8	5959.8	11.96	6-Nov-90
6787	5971.8	5959.9	11.84	7-Dec-90
6787	5971.8	5959.9	11.84	7-Dec-90
6787	5971.8	5959.8	11.98	3-Jan-91
6787	5971.8	5960.3	11.43	4-Mar-91
6787	5971.8	5960.1	11.62	2-Apr-91
6787	5971.8	5961.2	10.57	2-May-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6787	5971.8	5963.1	8.69	6-Jun-91
6787	5971.8	5961.1	10.64	1-Jul-91
6787	5971.8	5960.5	11.28	7-Aug-91
6787	5971.8	5960.1	11.69	4-Sep-91
6787	5971.8	5959.8	11.96	2-Oct-91
6787	5971.8	5959.8	11.95	22-Oct-91
6787	5971.8	5959.8	11.97	6-Nov-91
6787	5971.8	5961.0	10.76	3-Dec-91
6787	5971.8	5960.7	11.06	6-Jan-92
6787	5971.8	5961.0	10.76	3-Feb-92
6787	5971.8	5960.6	11.12	20-Feb-92
6787	5971.8	5960.5	11.22	2-Mar-92
6787	5971.8	5964.0	7.78	1-Apr-92
6787	5971.8	5961.8	9.92	27-Apr-92
6787	5971.8	5961.6	10.18	4-May-92
6787	5971.8	5961.3	10.43	3-Jun-92
6787	5971.8	5960.7	11.07	1-Jul-92
6787	5971.8	5960.4	11.39	13-Jul-92
6787	5971.8	5959.9	11.84	4-Aug-92
6787	5971.8	5960.0	11.74	3-Sep-92
6787	5971.8	5959.8	12	1-Oct-92
6787	5971.8	5959.7	12.08	5-Oct-92
6787	5971.8	5959.7	12.02	1-Nov-92
6787	5971.8	5960.0	11.8	4-Dec-92
6787	5971.8	5960.3	11.51	22-Dec-92
6787	5971.8	5960.1	11.69	13-Jan-93
6787	5971.8	5960.1	11.65	26-Jan-93
6787	5971.8	5960.2	11.57	1-Feb-93
6787	5971.8	5960.2	11.61	26-Feb-93
6787	5971.8	5960.4	11.33	22-Mar-93
6787	5971.8	5960.5	11.31	26-Mar-93
6787	5971.8	5962.1	9.65	2-Apr-93
6787	5971.8	5961.3	10.48	12-May-93
6787	5971.8	5962.9	8.82	3-Jun-93
6787	5971.8	dry	-1	6-Jul-93
6887	5970.3	5960.5	9.8	6-Jan-88
6887	5970.3	5961.2	9.1	4-Feb-88
6887	5970.3	5961.5	8.8	21-Mar-88
6887	5970.3	5962.1	8.2	11-Apr-88
6887	5970.3	5961.5	8.8	12-May-88
6887	5970.3	5961.5	8.8	15-Jun-88
6887	5970.3	5960.9	9.4	15-Jul-88
6887	5970.3	5960.6	9.7	18-Aug-88
6887	5970.3	5960.1	10.2	15-Sep-88
6887	5970.3	5960.2	10.1	22-Oct-88
6887	5970.3	5959.9	10.4	15-Nov-88
6887	5970.3	5959.9	10.4	15-Dec-88
6887	5970.3	5960.0	10.3	15-Jan-89
6887	5970.3	5960.3	10	17-Feb-89
6887	5970.3	5962.8	7.5	8-Mar-89
6887	5970.3	5961.8	8.5	14-Apr-89
6887	5970.3	5961.7	8.6	5-May-89
6887	5970.3	5962.5	7.8	18-Jun-89
6887	5970.3	5961.0	9.32	7-Jul-89
6887	5970.3	5960.1	10.27	11-Aug-89
6887	5970.3	5960.3	10.05	16-Jan-90
6887	5970.3	5960.0	10.3	19-Feb-90
6887	5970.3	5964.3	6.04	10-Apr-90
6887	5970.3	5961.6	8.72	22-May-90
6887	5970.3	5960.0	10.29	10-Jul-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
6887	5970.3	5963.6	6.69	31-Jul-90
6887	5970.3	5959.6	10.68	1-Oct-90
6887	5970.3	5959.6	10.72	2-Nov-90
6887	5970.3	5959.7	10.66	3-Jan-91
6887	5970.3	5960.2	10.17	4-Mar-91
6887	5970.3	5960.0	10.35	2-Apr-91
6887	5970.3	5961.3	9	7-May-91
6887	5970.3	5961.0	9.37	1-Jul-91
6887	5970.3	5960.5	9.82	16-Jul-91
6887	5970.3	5959.7	10.65	2-Oct-91
6887	5970.3	5959.6	10.7	18-Oct-91
6887	5970.3	5960.5	9.87	6-Jan-92
6887	5970.3	5963.8	6.55	1-Apr-92
6887	5970.3	5961.2	9.1	11-May-92
6887	5970.3	5960.5	9.8	1-Jul-92
6887	5970.3	5960.2	10.13	14-Jul-92
6887	5970.3	5959.6	10.7	1-Oct-92
6887	5970.3	5959.6	10.74	20-Oct-92
6887	5970.3	5960.1	10.24	22-Dec-92
6887	5970.3	5959.9	10.41	13-Jan-93
6887	5970.3	5959.9	10.39	26-Jan-93
6887	5970.3	5959.9	10.38	10-Feb-93
6887	5970.3	5960.0	10.33	26-Feb-93
6887	5970.3	5960.3	10.07	22-Mar-93
6887	5970.3	5961.8	8.51	2-Apr-93
6887	5970.3	5962.8	7.52	16-Apr-93
6887	5970.3	5960.3	9.99	8-Jul-93
6887	5970.3	5959.8	10.48	6-Aug-93
6887	5970.3	5959.7	10.65	6-Oct-93
6887	5970.3	5959.7	10.62	25-Oct-93
6887	5970.3	5960.2	10.17	4-Jan-94
7087	5968.4	dry	-1	6-Jan-88
7087	5968.4	dry	-1	4-Feb-88
7087	5968.4	dry	-1	21-Mar-88
7087	5968.4	5959.0	9.4	11-Apr-88
7087	5968.4	5960.3	8.1	12-May-88
7087	5968.4	5959.9	8.5	15-Jun-88
7087	5968.4	5959.6	8.8	15-Jul-88
7087	5968.4	5959.2	9.2	18-Aug-88
7087	5968.4	5958.6	9.8	22-Oct-88
7087	5968.4	5957.7	10.7	15-Nov-88
7087	5968.4	5957.6	10.8	15-Dec-88
7087	5968.4	5958.6	9.8	15-Jan-89
7087	5968.4	5958.7	9.7	17-Feb-89
7087	5968.4	5960.9	7.5	8-Mar-89
7087	5968.4	5960.2	8.2	14-Apr-89
7087	5968.4	5960.8	7.6	5-May-89
7087	5968.4	5960.9	7.5	18-Jun-89
7087	5968.4	5959.5	8.88	7-Jul-89
7087	5968.4	5958.3	10.08	4-Aug-89
7087	5968.4	5957.6	10.78	12-Sep-89
7087	5968.4	5956.7	11.65	28-Nov-89
7087	5968.4	5950.5	17.92	16-Jan-90
7087	5968.4	5950.8	17.63	9-Feb-90
7087	5968.4	5962.1	6.33	10-Apr-90
7087	5968.4	5959.6	8.78	15-Jun-90
7087	5968.4	5958.2	10.22	10-Jul-90
7087	5968.4	5957.3	11.04	7-Aug-90
7087	5968.4	5957.1	11.27	17-Aug-90
7087	5968.4	5952.3	16.12	11-Sep-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
7087	5968.4	5952.6	15.78	1-Oct-90
7087	5968.4	5953.0	15.35	6-Nov-90
7087	5968.4	5953.0	15.36	8-Nov-90
7087	5968.4	5950.3	18.04	6-Dec-90
7087	5968.4	5950.6	17.75	3-Jan-91
7087	5968.4	5951.4	17.03	2-Apr-91
7087	5968.4	5951.7	16.72	2-May-91
7087	5968.4	5960.6	7.75	6-Jun-91
7087	5968.4	5959.2	9.15	1-Jul-91
7087	5968.4	5958.4	9.94	18-Jul-91
7087	5968.4	5953.6	14.8	7-Aug-91
7087	5968.4	5955.1	13.31	4-Sep-91
7087	5968.4	5955.4	12.96	2-Oct-91
7087	5968.4	5955.4	12.94	31-Oct-91
7087	5968.4	5949.9	18.48	6-Nov-91
7087	5968.4	5950.5	17.9	3-Dec-91
7087	5968.4	5956.6	11.83	6-Jan-92
7087	5968.4	5957.6	10.8	3-Feb-92
7087	5968.4	5957.6	10.82	20-Feb-92
7087	5968.4	5952.0	16.37	2-Mar-92
7087	5968.4	5962.4	5.94	1-Apr-92
7087	5968.4	5960.9	7.49	27-Apr-92
7087	5968.4	5960.5	7.85	4-May-92
7087	5968.4	5959.7	8.67	3-Jun-92
7087	5968.4	5958.8	9.62	1-Jul-92
7087	5968.4	5957.9	10.47	22-Jul-92
7087	5968.4	5952.9	15.53	4-Aug-92
7087	5968.4	5953.7	14.68	3-Sep-92
7087	5968.4	5954.0	14.36	1-Oct-92
7087	5968.4	5954.1	14.32	5-Oct-92
7087	5968.4	5951.1	17.25	1-Nov-92
7087	5968.4	5951.6	16.75	4-Dec-92
7087	5968.4	5951.8	16.57	22-Dec-92
7087	5968.4	5951.9	16.49	13-Jan-93
7087	5968.4	5952.0	16.4	26-Jan-93
7087	5968.4	5952.0	16.35	1-Feb-93
7087	5968.4	5952.0	16.39	8-Feb-93
7087	5968.4	5950.3	18.13	26-Feb-93
7087	5968.4	5950.5	17.91	22-Mar-93
7087	5968.4	5950.5	17.89	26-Mar-93
7087	5968.4	5950.6	17.79	2-Apr-93
7087	5968.4	5951.7	16.64	12-Apr-93
7087	5968.4	5959.5	8.91	12-May-93
7087	5968.4	5958.7	9.67	11-Jun-93
7087	5968.4	5958.2	10.19	12-Jul-93
7087	5968.4	5957.3	11.13	9-Aug-93
7087	5968.4	5951.7	16.68	23-Aug-93
7087	5968.4	5951.9	16.46	1-Sep-93
7087	5968.4	5952.4	15.95	6-Oct-93
7087	5968.4	5952.6	15.79	19-Oct-93
7087	5968.4	5950.6	17.83	1-Nov-93
7087	5968.4	5951.3	17.04	1-Dec-93
7087	5968.4	5958.6	9.81	4-Jan-94
7187	5965.5	5958.4	7.1	5-Jan-88
7187	5965.5	5958.8	6.7	4-Feb-88
7187	5965.5	5959.1	6.4	14-Mar-88
7187	5965.5	5959.5	6	11-Apr-88
7187	5965.5	5958.4	7.1	12-May-88
7187	5965.5	5957.7	7.8	15-Jun-88
7187	5965.5	5957.5	8	15-Jul-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
7187	5965.5	5957.0	8.5	18-Aug-88
7187	5965.5	5957.0	8.5	15-Sep-88
7187	5965.5	5957.1	8.4	22-Oct-88
7187	5965.5	5957.3	8.2	15-Nov-88
7187	5965.5	5957.4	8.1	15-Dec-88
7187	5965.5	5957.7	7.8	15-Jan-89
7187	5965.5	5958.1	7.4	17-Feb-89
7187	5965.5	5959.5	6	3-Mar-89
7187	5965.5	5959.4	6.1	14-Apr-89
7187	5965.5	5959.7	5.8	5-May-89
7187	5965.5	5957.3	8.23	13-Sep-89
7187	5965.5	5957.4	8.1	26-Oct-89
7187	5965.5	5958.2	7.34	15-Jan-90
7187	5965.5	5958.2	7.33	15-Feb-90
7187	5965.5	5960.7	4.82	10-Apr-90
7187	5965.5	5959.7	5.79	27-Apr-90
7187	5965.5	5956.9	8.6	10-Jul-90
7187	5965.5	5956.3	9.2	14-Sep-90
7187	5965.5	5956.7	8.76	2-Oct-90
7187	5965.5	5957.4	8.12	14-Nov-90
7187	5965.5	5957.4	8.09	2-Jan-91
7187	5965.5	5958.0	7.52	4-Mar-91
7187	5965.5	5957.8	7.65	2-Apr-91
7187	5965.5	5958.5	7.01	22-Apr-91
7187	5965.5	5957.5	7.98	1-Jul-91
7187	5965.5	5957.0	8.45	17-Jul-91
7187	5965.5	5956.8	8.7	1-Oct-91
7187	5965.5	5956.9	8.58	9-Oct-91
7187	5965.5	5958.3	7.22	6-Jan-92
7187	5965.5	5958.2	7.26	16-Jan-92
7187	5965.5	5960.5	4.98	1-Apr-92
7187	5965.5	5959.0	6.52	20-Apr-92
7187	5965.5	5957.2	8.26	2-Jul-92
7187	5965.5	5956.7	8.77	22-Jul-92
7187	5965.5	5956.6	8.87	1-Oct-92
7187	5965.5	5956.7	8.76	9-Oct-92
7187	5965.5	5957.9	7.58	22-Dec-92
7187	5965.5	5957.6	7.89	14-Jan-93
7187	5965.5	5957.9	7.57	26-Jan-93
7187	5965.5	5958.0	7.48	19-Feb-93
7187	5965.5	5958.1	7.4	26-Feb-93
7187	5965.5	5958.4	7.13	22-Mar-93
7187	5965.5	5960.1	5.43	1-Apr-93
7187	5965.5	5960.0	5.48	9-Apr-93
7187	5965.5	5957.6	7.88	12-Jul-93
7187	5965.5	5956.1	9.41	11-Aug-93
7187	5965.5	5956.7	8.81	7-Oct-93
7187	5965.5	5957.3	8.17	3-Nov-93
7187	5965.5	5957.8	7.72	4-Jan-94
7287	5971.3	5965.3	6	6-Jan-88
7287	5971.3	5966.3	5	4-Feb-88
7287	5971.3	5966.6	4.7	14-Mar-88
7287	5971.3	5967.1	4.2	11-Apr-88
7287	5971.3	5914.3	57	12-May-88
7287	5971.3	5965.1	6.2	15-Jun-88
7287	5971.3	5964.5	6.8	15-Jul-88
7287	5971.3	5963.8	7.5	18-Aug-88
7287	5971.3	5963.7	7.6	15-Sep-88
7287	5971.3	5963.4	7.9	22-Oct-88
7287	5971.3	dry	-1	15-Nov-88

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
7287	5971.3	5963.0	8.3	15-Dec-88
7287	5971.3	5963.7	7.6	15-Jan-89
7287	5971.3	5964.6	6.7	17-Feb-89
7287	5971.3	5966.1	5.2	8-Mar-89
7287	5971.3	5966.6	4.7	14-Apr-89
7287	5971.3	5966.1	5.2	5-May-89
7287	5971.3	5966.8	4.5	16-Jun-89
7287	5971.3	5964.5	6.72	7-Jul-89
7287	5971.3	5963.6	7.62	4-Aug-89
7287	5971.3	5965.1	6.18	12-Sep-89
7287	5971.3	dry	-1	14-Dec-89
7287	5971.3	5965.1	6.15	17-Jan-90
7287	5971.3	5964.7	6.55	20-Feb-90
7287	5971.3	5967.8	3.47	11-Apr-90
7287	5971.3	5967.2	4.09	30-Apr-90
7287	5971.3	5964.8	6.49	10-Jul-90
7287	5971.3	5964.3	6.93	17-Jul-90
7287	5971.3	5963.9	7.4	1-Oct-90
7287	5971.3	5964.6	6.65	8-Nov-90
7287	5971.3	5963.6	7.65	3-Jan-91
7287	5971.3	5964.6	6.65	11-Mar-91
7287	5971.3	5964.1	7.16	2-Apr-91
7287	5971.3	5965.5	5.77	23-Apr-91
7287	5971.3	5965.1	6.19	1-Jul-91
7287	5971.3	5964.3	6.91	15-Jul-91
7287	5971.3	5963.1	8.17	2-Oct-91
7287	5971.3	5963.0	8.3	24-Oct-91
7287	5971.3	5965.2	6.05	6-Jan-92
7287	5971.3	5965.7	5.55	19-Feb-92
7287	5971.3	5967.8	3.44	1-Apr-92
7287	5971.3	5966.8	4.46	23-Apr-92
7287	5971.3	5965.0	6.24	1-Jul-92
7287	5971.3	5964.6	6.64	7-Jul-92
7287	5971.3	5963.3	7.93	1-Oct-92
7287	5971.3	5963.2	8.02	7-Oct-92
7287	5971.3	5965.3	5.92	22-Dec-92
7287	5971.3	5964.7	6.51	13-Jan-93
7287	5971.3	5965.1	6.15	26-Jan-93
7287	5971.3	5965.0	6.22	1-Feb-93
7287	5971.3	5964.9	6.38	26-Feb-93
7287	5971.3	5965.3	5.92	22-Mar-93
7287	5971.3	5966.8	4.46	1-Apr-93
7287	5971.3	5966.9	4.34	8-Apr-93
7287	5971.3	5963.7	7.59	12-Jul-93
7287	5971.3	5963.0	8.25	9-Aug-93
7287	5971.3	5963.2	8.05	6-Oct-93
7287	5971.3	5963.1	8.17	13-Oct-93
7287	5971.3	5965.3	5.96	4-Jan-94
40991	NA	NA	9.71	9-Dec-91
40991	NA	NA	9.68	6-Jan-92
40991	NA	NA	9.84	3-Feb-92
40991	NA	NA	9.74	3-Mar-92
40991	NA	NA	7.58	8-Apr-92
40991	NA	NA	9.02	4-May-92
40991	NA	NA	9.33	5-Jun-92
40991	NA	dry	-1	2-Jul-92
40991	NA	NA	9.63	5-Aug-92
40991	NA	NA	9.62	3-Sep-92
40991	NA	dry	-1	11-Sep-92
40991	NA	NA	9.68	2-Oct-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
40991	NA	NA	9.68	1-Nov-92
40991	NA	NA	9.51	2-Dec-92
40991	NA	dry	-1	13-Jan-93
40991	NA	NA	9.33	1-Feb-93
40991	NA	NA	9.37	26-Mar-93
40991	NA	NA	9.14	1-Apr-93
40991	NA	NA	9.22	13-May-93
40991	NA	dry	-1	16-Jun-93
40991	NA	NA	9.45	13-Jul-93
40991	NA	NA	9.63	23-Aug-93
40991	NA	NA	9.62	8-Oct-93
40991	NA	NA	9.4	3-Jan-94
41091	NA	NA	6.88	19-Dec-91
41091	NA	NA	5.57	6-Jan-92
41091	NA	NA	8.61	3-Mar-92
41091	NA	NA	5.31	17-Mar-92
41091	NA	NA	7.68	8-Apr-92
41091	NA	NA	8.92	4-May-92
41091	NA	NA	8.48	10-Jun-92
41091	NA	NA	10.56	2-Jul-92
41091	NA	NA	5.69	21-Jul-92
41091	NA	NA	8.68	2-Oct-92
41091	NA	NA	7.9	8-Oct-92
41091	NA	NA	8.3	13-Jan-93
41091	NA	NA	5.57	17-Feb-93
41091	NA	NA	5.45	1-Apr-93
41091	NA	NA	10.62	10-May-93
41091	NA	NA	5.78	21-Jun-93
41091	NA	NA	10.13	13-Jul-93
41091	NA	NA	7.45	12-Aug-93
41091	NA	NA	10.44	16-Sep-93
41091	NA	NA	11.23	5-Oct-93
41091	NA	NA	10.71	8-Nov-93
41091	NA	NA	10.76	3-Jan-94
41691	5646.0	5637.4	8.51	7-Dec-91
41691	5646.0	5637.8	8.17	9-Dec-91
41691	5646.0	5638.6	7.35	6-Jan-92
41691	5646.0	5637.5	8.43	4-Feb-92
41691	5646.0	5637.7	8.26	3-Mar-92
41691	5646.0	5639.5	6.5	1-Apr-92
41691	5646.0	5638.9	7.1	6-Apr-92
41691	5646.0	5637.7	8.25	4-May-92
41691	5646.0	5637.7	8.27	11-Jun-92
41691	5646.0	5635.9	10.06	7-Jul-92
41691	5646.0	5638.6	7.38	16-Sep-92
41691	5646.0	5637.1	8.83	2-Oct-92
41691	5646.0	5637.1	8.85	18-Nov-92
41691	5646.0	5637.4	8.58	20-Jan-93
41691	5646.0	5637.8	8.13	17-Mar-93
41691	5646.0	5638.9	7.02	6-Apr-93
41691	5646.0	5638.2	7.8	22-Jun-93
41691	5646.0	5636.1	9.9	9-Jul-93
41691	5646.0	5635.6	10.35	20-Sep-93
41691	5646.0	5635.4	10.51	5-Oct-93
41691	5646.0	5638.1	7.87	9-Dec-93
41691	5646.0	5638.1	7.9	10-Jan-94
46692	5958.2	5900.2	58.04	7-Aug-92
46692	5958.2	5901.4	56.83	23-Sep-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
46692	5958.2	5895.7	62.5	1-Oct-92
46692	5958.2	5908.5	49.71	3-Dec-92
46692	5958.2	5912.3	45.94	8-Dec-92
46692	5958.2	5877.4	80.83	17-Dec-92
46692	5958.2	5914.7	43.5	13-Jan-93
46692	5958.2	5916.8	41.38	2-Feb-93
46692	5958.2	5917.7	40.55	3-Mar-93
46692	5958.2	5915.3	42.94	29-Mar-93
46692	5958.2	5916.7	41.55	6-Apr-93
46692	5958.2	5917.7	40.54	10-May-93
46692	5958.2	5916.6	41.63	17-Jun-93
46692	5958.2	5926.3	31.91	14-Jul-93
46692	5958.2	5917.5	40.74	25-Aug-93
46692	5958.2	5917.5	40.72	7-Sep-93
46692	5958.2	5917.6	40.62	20-Sep-93
46692	5958.2	5909.3	48.89	5-Oct-93
46692	5958.2	5916.9	41.35	1-Nov-93
46692	5958.2	5917.6	40.59	1-Dec-93
46692	5958.2	5917.7	40.55	8-Dec-93
46692	5958.2	5916.2	42.04	10-Jan-94
46792	5958.3	5851.8	106.46	7-Aug-92
46792	5958.3	5852.2	106.07	1-Oct-92
46792	5958.3	5856.4	101.92	3-Dec-92
46792	5958.3	5860.3	98	8-Dec-92
46792	5958.3	5853.7	104.58	16-Dec-92
46792	5958.3	5865.1	93.25	13-Jan-93
46792	5958.3	5880.6	77.75	2-Feb-93
46792	5958.3	5893.1	65.18	2-Mar-93
46792	5958.3	5868.4	89.9	29-Mar-93
46792	5958.3	5875.4	82.9	6-Apr-93
46792	5958.3	5892.8	65.48	10-May-93
46792	5958.3	5878.1	80.18	17-Jun-93
46792	5958.3	5891.6	66.74	14-Jul-93
46792	5958.3	5900.3	57.98	25-Aug-93
46792	5958.3	5901.7	56.57	7-Sep-93
46792	5958.3	5902.5	55.8	16-Sep-93
46792	5958.3	5863.1	95.18	5-Oct-93
46792	5958.3	5885.1	73.18	1-Nov-93
46792	5958.3	5896.1	62.24	1-Dec-93
46792	5958.3	5898.6	59.75	13-Dec-93
46792	5958.3	5871.2	87.06	10-Jan-94
46892	5958.7	5804.7	153.99	7-Aug-92
46892	5958.7	5806.5	152.24	2-Oct-92
46892	5958.7	5811.6	147.09	3-Dec-92
46892	5958.7	5818.8	139.87	8-Dec-92
46892	5958.7	5804.6	154.12	16-Dec-92
46892	5958.7	5824.9	133.8	13-Jan-93
46892	5958.7	5844.3	114.44	2-Feb-93
46892	5958.7	5860.1	98.62	2-Mar-93
46892	5958.7	5827.4	131.26	29-Mar-93
46892	5958.7	5836.2	122.5	6-Apr-93
46892	5958.7	5858.7	100.05	10-May-93
46892	5958.7	5838.1	120.62	17-Jun-93
46892	5958.7	5855.8	102.89	14-Jul-93
46892	5958.7	5867.7	90.96	25-Aug-93
46892	5958.7	5869.7	89.01	7-Sep-93
46892	5958.7	5870.8	87.9	16-Sep-93
46892	5958.7	5820.4	138.32	5-Oct-93
46892	5958.7	5848.0	110.67	1-Nov-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
46892	5958.7	5862.4	96.35	1-Dec-93
46892	5958.7	5865.8	92.9	14-Dec-93
46892	5958.7	5827.4	131.35	10-Jan-94
75092	5725.3	5714.3	10.97	23-Feb-93
75092	5725.3	5710.0	15.28	1-Apr-93
75092	5725.3	5714.0	11.34	22-Apr-93
75092	5725.3	5709.0	16.31	7-Jun-93
75092	5725.3	5713.5	11.85	13-Jul-93
75092	5725.3	5715.6	9.72	12-Aug-93
75092	5725.3	5712.9	12.39	16-Sep-93
75092	5725.3	5710.6	14.75	5-Oct-93
75092	5725.3	5711.5	13.76	8-Nov-93
75092	5725.3	5713.1	12.18	11-Jan-94
75292	5756.9	5751.1	5.8	20-Jan-93
75292	5756.9	5751.6	5.31	23-Feb-93
75292	5756.9	5751.7	5.23	1-Apr-93
75292	5756.9	5751.0	5.89	22-Apr-93
75292	5756.9	5747.8	9.08	13-Jul-93
75292	5756.9	5747.8	9.11	12-Aug-93
75292	5756.9	dry	-1	21-Sep-93
75292	5756.9	5745.5	11.44	5-Oct-93
75292	5756.9	5751.4	5.47	11-Jan-94
75892	5959.2	5947.0	12.25	10-Dec-92
75892	5959.2	dry	-1	20-Jan-93
75892	5959.2	dry	-1	23-Feb-93
75892	5959.2	dry	-1	1-Apr-93
75892	5959.2	5946.9	12.28	14-Jul-93
75892	5959.2	dry	-1	5-Oct-93
75892	5959.2	dry	-1	11-Jan-94
75992	5899.1	dry	-1	23-Feb-93
75992	5899.1	5892.8	6.29	1-Apr-93
75992	5899.1	5886.3	12.79	7-Jun-93
75992	5899.1	5888.1	11	13-Jul-93
75992	5899.1	5888.1	10.98	12-Aug-93
75992	5899.1	5886.3	12.82	5-Oct-93
75992	5899.1	5891.0	8.06	11-Jan-94
76192	5963.0	5953.5	9.48	10-Dec-92
76192	5963.0	5953.5	9.52	20-Jan-93
76192	5963.0	5953.6	9.45	23-Feb-93
76192	5963.0	5953.5	9.52	7-Apr-93
76192	5963.0	5953.2	9.85	15-Jul-93
76192	5963.0	dry	-1	7-Oct-93
76192	5963.0	dry	-1	7-Jan-94
76292	5959.3	5939.6	19.75	23-Feb-93
76292	5959.3	5939.5	19.8	22-Mar-93
76292	5959.3	5942.4	16.88	1-Apr-93
76292	5959.3	5944.1	15.25	20-Apr-93
76292	5959.3	5942.8	16.47	1-Jul-93
76292	5959.3	5941.3	17.98	3-Aug-93
76292	5959.3	5940.0	19.28	4-Oct-93
76292	5959.3	5939.9	19.38	28-Oct-93
76292	5959.3	5939.5	19.76	11-Jan-94
76792	5945.5	dry	-1	10-Dec-92
76792	5945.5	dry	-1	14-Jan-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
76792	5945.5	dry	-1	23-Feb-93
76792	5945.5	dry	-1	26-Feb-93
76792	5945.5	dry	-1	22-Mar-93
76792	5945.5	dry	-1	1-Apr-93
76792	5945.5	5935.3	10.22	7-Jul-93
76792	5945.5	dry	-1	6-Oct-93
76792	5945.5	5936.9	8.58	4-Jan-94
76992	5958.0	dry	-1	10-Dec-92
76992	5958.0	dry	-1	14-Jan-93
76992	5958.0	dry	-1	23-Feb-93
76992	5958.0	dry	-1	26-Feb-93
76992	5958.0	dry	-1	22-Mar-93
76992	5958.0	dry	-1	1-Apr-93
76992	5958.0	5947.3	10.74	7-Jul-93
76992	5958.0	5945.6	12.44	6-Oct-93
76992	5958.0	5945.5	12.52	4-Jan-94
77192	5917.1	5908.6	8.51	20-Jan-93
77192	5917.1	5908.6	8.46	23-Feb-93
77192	5917.1	5908.5	8.56	8-Apr-93
77192	5917.1	5908.3	8.8	7-Jul-93
77192	5917.1	5907.9	9.17	7-Oct-93
77192	5917.1	5908.0	9.15	11-Jan-94
77392	5964.5	5954.7	9.76	10-Dec-92
77392	5964.5	5954.4	10.13	20-Jan-93
77392	5964.5	5954.3	10.19	23-Feb-93
77392	5964.5	5954.3	10.21	26-Feb-93
77392	5964.5	5954.2	10.27	22-Mar-93
77392	5964.5	5954.2	10.29	1-Apr-93
77392	5964.5	dry	-1	12-Jul-93
77392	5964.5	dry	-1	6-Oct-93
77392	5964.5	dry	-1	11-Jan-94
77492	5944.5	5930.4	14.12	23-Feb-93
77492	5944.5	5930.5	13.99	22-Mar-93
77492	5944.5	5931.3	13.23	1-Apr-93
77492	5944.5	5931.3	13.25	20-Apr-93
77492	5944.5	5931.1	13.39	2-Jul-93
77492	5944.5	5930.7	13.85	3-Aug-93
77492	5944.5	5930.5	14.01	4-Oct-93
77492	5944.5	5930.6	13.86	28-Oct-93
77492	5944.5	5930.9	13.58	2-Nov-93
77492	5944.5	5929.9	14.57	10-Jan-94
B206189	5986.6	5959.1	27.51	11-Sep-89
B206189	5986.6	5961.6	24.95	27-Sep-89
B206189	5986.6	5963.0	23.55	16-Jan-90
B206189	5986.6	5965.6	20.95	22-Mar-90
B206189	5986.6	5951.1	35.46	10-Apr-90
B206189	5986.6	5959.0	27.6	21-Jun-90
B206189	5986.6	5957.4	29.18	10-Jul-90
B206189	5986.6	5968.5	18.12	17-Aug-90
B206189	5986.6	5965.4	21.15	1-Oct-90
B206189	5986.6	5967.0	19.58	3-Dec-90
B206189	5986.6	5956.6	29.98	3-Jan-91
B206189	5986.6	5965.8	20.78	11-Mar-91
B206189	5986.6	5953.9	32.64	2-Apr-91
B206189	5986.6	5958.3	28.27	22-Apr-91
B206189	5986.6	5963.8	22.82	1-Jul-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B206189	5986.6	5964.7	21.85	9-Jul-91
B206189	5986.6	5965.5	21.07	2-Oct-91
B206189	5986.6	5965.9	20.66	21-Oct-91
B206189	5986.6	5964.1	22.46	6-Jan-92
B206189	5986.6	5965.3	21.26	5-Feb-92
B206189	5986.6	5961.6	24.95	1-Apr-92
B206189	5986.6	5965.4	21.2	21-Apr-92
B206189	5986.6	5967.3	19.23	1-Jul-92
B206189	5986.6	5969.3	17.25	23-Jul-92
B206189	5986.6	5964.5	22.03	1-Oct-92
B206189	5986.6	5965.7	20.89	14-Oct-92
B206189	5986.6	5959.3	27.27	22-Dec-92
B206189	5986.6	5962.0	24.55	13-Jan-93
B206189	5986.6	5963.1	23.48	26-Jan-93
B206189	5986.6	5964.7	21.91	26-Feb-93
B206189	5986.6	5965.2	21.34	22-Mar-93
B206189	5986.6	5965.5	21.06	2-Apr-93
B206189	5986.6	5968.7	17.9	9-Jun-93
B206289	5979.5	5955.4	24.15	17-Jan-89
B206289	5979.5	5944.4	35.06	12-Sep-89
B206289	5979.5	5947.1	32.42	28-Sep-89
B206289	5979.5	5955.4	24.15	17-Jan-90
B206289	5979.5	5962.2	17.29	9-Mar-90
B206289	5979.5	5947.4	32.1	10-Apr-90
B206289	5979.5	5959.6	19.95	1-Jun-90
B206289	5979.5	5951.2	28.3	10-Jul-90
B206289	5979.5	5956.6	22.88	7-Aug-90
B206289	5979.5	5952.5	27.01	1-Oct-90
B206289	5979.5	5959.6	19.9	3-Dec-90
B206289	5979.5	5948.1	31.36	3-Jan-91
B206289	5979.5	5960.5	19.05	11-Mar-91
B206289	5979.5	5944.9	34.57	2-Apr-91
B206289	5979.5	5951.9	27.59	22-Apr-91
B206289	5979.5	5956.3	23.25	1-Jul-91
B206289	5979.5	5958.0	21.55	16-Jul-91
B206289	5979.5	5956.0	23.53	2-Oct-91
B206289	5979.5	5958.5	21	31-Oct-91
B206289	5979.5	5954.9	24.6	6-Jan-92
B206289	5979.5	5959.0	20.55	6-Feb-92
B206289	5979.5	5954.7	24.78	1-Apr-92
B206289	5979.5	5958.0	21.48	22-Apr-92
B206289	5979.5	5956.3	23.18	1-Jul-92
B206289	5979.5	5958.7	20.76	27-Jul-92
B206289	5979.5	5954.6	24.88	1-Oct-92
B206289	5979.5	5955.2	24.32	5-Oct-92
B206289	5979.5	5956.6	22.93	22-Dec-92
B206289	5979.5	5959.0	20.51	13-Jan-93
B206289	5979.5	5960.1	19.38	26-Jan-93
B206289	5979.5	5960.7	18.85	2-Feb-93
B206289	5979.5	5945.4	34.1	26-Feb-93
B206289	5979.5	5953.1	26.42	22-Mar-93
B206289	5979.5	5955.3	24.22	1-Apr-93
B206289	5979.5	5959.0	20.5	12-Jul-93
B206289	5979.5	5960.3	19.21	9-Aug-93
B206289	5979.5	5952.9	26.6	6-Oct-93
B206289	5979.5	5955.8	23.71	27-Oct-93
B206289	5979.5	5955.0	24.46	4-Jan-94
B206389	5971.6	5955.6	16	12-Sep-89
B206389	5971.6	5955.8	15.79	28-Sep-89

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B206389	5971.6	dry	-1	16-Jan-90
B206389	5971.6	5959.6	12.05	24-May-90
B206389	5971.6	5959.7	11.87	10-Jul-90
B206389	5971.6	5959.1	12.52	26-Sep-90
B206389	5971.6	5956.7	14.93	1-Oct-90
B206389	5971.6	5958.7	12.9	8-Nov-90
B206389	5971.6	5955.6	15.97	3-Jan-91
B206389	5971.6	5956.0	15.6	11-Mar-91
B206389	5971.6	5955.2	16.36	2-Apr-91
B206389	5971.6	5955.4	16.25	22-Apr-91
B206389	5971.6	5959.6	12.03	1-Jul-91
B206389	5971.6	5959.4	12.2	9-Jul-91
B206389	5971.6	5959.0	12.56	2-Oct-91
B206389	5971.6	5958.9	12.67	21-Oct-91
B206389	5971.6	5959.4	12.21	6-Jan-92
B206389	5971.6	5959.5	12.09	6-Feb-92
B206389	5971.6	5960.6	11.04	1-Apr-92
B206389	5971.6	5960.7	10.88	27-Apr-92
B206389	5971.6	5960.9	10.74	1-Jul-92
B206389	5971.6	5959.9	11.75	1-Oct-92
B206389	5971.6	5959.7	11.9	15-Oct-92
B206389	5971.6	5959.7	11.88	22-Dec-92
B206389	5971.6	5959.9	11.72	13-Jan-93
B206389	5971.6	5959.8	11.82	26-Jan-93
B206389	5971.6	5959.8	11.82	8-Feb-93
B206389	5971.6	5959.6	11.97	26-Feb-93
B206389	5971.6	5959.6	11.99	22-Mar-93
B206389	5971.6	5959.9	11.69	2-Apr-93
B206389	5971.6	5960.2	11.45	12-Apr-93
B206389	5971.6	5960.1	11.49	12-Jul-93
B206489	5971.5	5961.4	10.07	12-Sep-89
B206489	5971.5	5964.3	7.24	27-Sep-89
B206489	5971.5	5964.9	6.61	17-Jan-90
B206489	5971.5	5964.5	7.03	20-Feb-90
B206489	5971.5	5968.1	3.37	11-Apr-90
B206489	5971.5	5966.7	4.85	31-May-90
B206489	5971.5	5964.6	6.93	10-Jul-90
B206489	5971.5	5964.2	7.27	7-Aug-90
B206489	5971.5	5963.0	8.52	1-Oct-90
B206489	5971.5	5964.3	7.2	19-Nov-90
B206489	5971.5	5963.0	8.46	3-Jan-91
B206489	5971.5	5964.4	7.09	11-Mar-91
B206489	5971.5	5962.7	8.81	2-Apr-91
B206489	5971.5	5966.1	5.43	2-May-91
B206489	5971.5	5965.2	6.35	1-Jul-91
B206489	5971.5	5964.4	7.13	15-Jul-91
B206489	5971.5	5963.3	8.22	2-Oct-91
B206489	5971.5	5963.1	8.42	31-Oct-91
B206489	5971.5	5965.2	6.35	6-Jan-92
B206489	5971.5	5963.6	7.9	19-Feb-92
B206489	5971.5	5968.3	3.23	1-Apr-92
B206489	5971.5	5966.7	4.83	16-Apr-92
B206489	5971.5	5965.0	6.46	1-Jul-92
B206489	5971.5	5963.9	7.61	29-Jul-92
B206489	5971.5	5963.5	8.01	1-Oct-92
B206489	5971.5	5964.5	7.05	5-Oct-92
B206489	5971.5	5965.0	6.5	22-Dec-92
B206489	5971.5	5964.6	6.87	13-Jan-93
B206489	5971.5	5965.0	6.55	26-Jan-93
B206489	5971.5	5964.9	6.6	1-Feb-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B206489	5971.5	5964.8	6.71	26-Feb-93
B206489	5971.5	5964.8	6.71	26-Feb-93
B206489	5971.5	5965.2	6.26	22-Mar-93
B206489	5971.5	5966.7	4.8	1-Apr-93
B206489	5971.5	5963.8	7.66	12-Jul-93
B206489	5971.5	5963.3	8.17	5-Aug-93
B206489	5971.5	5961.7	9.76	6-Oct-93
B206489	5971.5	5962.1	9.42	18-Oct-93
B206489	5971.5	5965.1	6.44	4-Jan-94
B206589	5969.7	5960.6	9.13	12-Sep-89
B206589	5969.7	5960.5	9.22	21-Sep-89
B206589	5969.7	5960.2	9.55	17-Jan-90
B206589	5969.7	5960.3	9.38	12-Mar-90
B206589	5969.7	5963.5	6.18	11-Apr-90
B206589	5969.7	5963.0	6.72	12-Jun-90
B206589	5969.7	5961.5	8.25	10-Jul-90
B206589	5969.7	5961.3	8.42	10-Aug-90
B206589	5969.7	5960.9	8.78	1-Oct-90
B206589	5969.7	5960.5	9.2	9-Nov-90
B206589	5969.7	5960.1	9.57	3-Jan-91
B206589	5969.7	5960.3	9.4	11-Mar-91
B206589	5969.7	5960.0	9.73	2-Apr-91
B206589	5969.7	5960.7	8.99	2-May-91
B206589	5969.7	5962.3	7.43	1-Jul-91
B206589	5969.7	5961.6	8.14	15-Jul-91
B206589	5969.7	5960.7	9.01	1-Oct-91
B206589	5969.7	5960.4	9.35	31-Oct-91
B206589	5969.7	5961.0	8.67	6-Jan-92
B206589	5969.7	5961.4	8.31	6-Feb-92
B206589	5969.7	5964.4	5.26	1-Apr-92
B206589	5969.7	5964.2	5.5	20-Apr-92
B206589	5969.7	5962.3	7.42	1-Jul-92
B206589	5969.7	5961.8	7.89	13-Jul-92
B206589	5969.7	5960.8	8.92	1-Oct-92
B206589	5969.7	5960.8	8.94	5-Oct-92
B206589	5969.7	5960.9	8.8	22-Dec-92
B206589	5969.7	5960.9	8.8	13-Jan-93
B206589	5969.7	5960.8	8.87	26-Jan-93
B206589	5969.7	5960.8	8.9	1-Feb-93
B206589	5969.7	5960.4	9.26	26-Feb-93
B206589	5969.7	5960.6	9.08	22-Mar-93
B206589	5969.7	5960.8	8.86	1-Apr-93
B206589	5969.7	5961.9	7.85	15-Apr-93
B206589	5969.7	5962.0	7.69	12-Jul-93
B206589	5969.7	5960.6	9.1	11-Aug-93
B206589	5969.7	5960.3	9.38	6-Oct-93
B206589	5969.7	5960.5	9.2	4-Nov-93
B206589	5969.7	5961.0	8.67	4-Jan-94
B206689	5961.2	5943.1	18.08	13-Sep-89
B206689	5961.2	5944.0	17.24	19-Sep-89
B206689	5961.2	5942.4	18.8	15-Jan-90
B206689	5961.2	5942.8	18.45	8-Feb-90
B206689	5961.2	5942.7	18.5	11-Apr-90
B206689	5961.2	5949.6	11.65	12-Jun-90
B206689	5961.2	5942.9	18.31	10-Jul-90
B206689	5961.2	5945.2	16.03	10-Aug-90
B206689	5961.2	5943.1	18.1	1-Oct-90
B206689	5961.2	5943.2	17.99	2-Oct-90
B206689	5961.2	5945.3	15.92	4-Dec-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B206689	5961.2	5941.1	20.11	3-Jan-91
B206689	5961.2	5942.4	18.78	11-Mar-91
B206689	5961.2	5949.0	12.2	2-Apr-91
B206689	5961.2	5941.5	19.69	22-Apr-91
B206689	5961.2	5946.5	14.71	1-Jul-91
B206689	5961.2	5947.8	13.45	15-Jul-91
B206689	5961.2	5945.2	16	1-Oct-91
B206689	5961.2	5946.1	15.1	31-Oct-91
B206689	5961.2	5942.5	18.74	6-Jan-92
B206689	5961.2	5944.2	16.97	21-Feb-92
B206689	5961.2	5944.2	17.05	1-Apr-92
B206689	5961.2	5946.7	14.49	22-Apr-92
B206689	5961.2	5946.7	14.54	1-Jul-92
B206689	5961.2	5947.8	13.44	15-Jul-92
B206689	5961.2	5944.1	17.06	1-Oct-92
B206689	5961.2	5944.3	16.86	5-Oct-92
B206689	5961.2	5942.8	18.38	22-Dec-92
B206689	5961.2	5943.4	17.85	14-Jan-93
B206689	5961.2	5943.6	17.56	26-Jan-93
B206689	5961.2	5944.0	17.21	10-Feb-93
B206689	5961.2	5940.6	20.6	26-Feb-93
B206689	5961.2	5941.5	19.74	22-Mar-93
B206689	5961.2	5941.8	19.36	1-Apr-93
B206689	5961.2	5943.2	17.98	20-Apr-93
B206689	5961.2	5947.0	14.17	7-Jul-93
B206689	5961.2	5948.5	12.74	9-Aug-93
B206689	5961.2	5945.5	15.68	6-Oct-93
B206689	5961.2	5942.8	18.36	18-Oct-93
B206689	5961.2	5942.4	18.8	4-Jan-94
B206789	5930.2	5915.8	14.45	12-Sep-89
B206789	5930.2	5916.8	13.37	27-Sep-89
B206789	5930.2	5917.3	12.94	15-Jan-90
B206789	5930.2	5917.7	12.53	21-Mar-90
B206789	5930.2	5913.8	16.4	10-Apr-90
B206789	5930.2	5919.1	11.07	19-Jun-90
B206789	5930.2	5913.6	16.6	10-Jul-90
B206789	5930.2	5918.3	11.94	11-Sep-90
B206789	5930.2	5913.0	17.19	1-Oct-90
B206789	5930.2	5917.9	12.28	3-Dec-90
B206789	5930.2	5914.2	15.98	3-Jan-91
B206789	5930.2	5918.1	12.13	11-Mar-91
B206789	5930.2	5913.0	17.24	2-Apr-91
B206789	5930.2	5915.5	14.72	22-Apr-91
B206789	5930.2	5918.3	11.95	1-Jul-91
B206789	5930.2	5914.9	15.35	9-Jul-91
B206789	5930.2	5917.6	12.59	2-Oct-91
B206789	5930.2	5917.8	12.41	23-Oct-91
B206789	5930.2	5917.1	13.13	6-Jan-92
B206789	5930.2	5918.0	12.25	5-Feb-92
B206789	5930.2	5918.0	12.21	1-Apr-92
B206789	5930.2	5919.5	10.73	27-Apr-92
B206789	5930.2	5918.5	11.72	1-Jul-92
B206789	5930.2	5919.1	11.12	22-Jul-92
B206789	5930.2	5918.1	12.06	1-Oct-92
B206789	5930.2	5918.4	11.76	13-Oct-92
B206789	5930.2	5917.7	12.51	22-Dec-92
B206789	5930.2	5918.5	11.74	13-Jan-93
B206789	5930.2	5918.7	11.49	26-Jan-93
B206789	5930.2	5918.9	11.34	8-Feb-93
B206789	5930.2	5913.2	17.02	26-Feb-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B206789	5930.2	5913.2	17.02	26-Feb-93
B206789	5930.2	5916.7	13.54	22-Mar-93
B206789	5930.2	5917.7	12.55	2-Apr-93
B206789	5930.2	5918.6	11.65	12-Apr-93
B206789	5930.2	5919.2	11.04	9-Jul-93
B206789	5930.2	5917.0	13.22	5-Aug-93
B206789	5930.2	5915.4	14.8	6-Oct-93
B206789	5930.2	5916.0	14.19	18-Oct-93
B206789	5930.2	5916.5	13.67	4-Jan-94
B206889	5919.2	5902.3	16.93	11-Sep-89
B206889	5919.2	5902.4	16.85	18-Sep-89
B206889	5919.2	5900.8	18.42	15-Jan-90
B206889	5919.2	5901.1	18.14	7-Feb-90
B206889	5919.2	5900.3	18.88	10-Apr-90
B206889	5919.2	5901.1	18.15	1-Jun-90
B206889	5919.2	5899.9	19.26	10-Jul-90
B206889	5919.2	5900.4	18.79	7-Aug-90
B206889	5919.2	5900.4	18.81	1-Oct-90
B206889	5919.2	5900.4	18.81	2-Oct-90
B206889	5919.2	5901.3	17.86	3-Dec-90
B206889	5919.2	5899.8	19.38	2-Jan-91
B206889	5919.2	5900.7	18.52	11-Mar-91
B206889	5919.2	5899.6	19.58	2-Apr-91
B206889	5919.2	5900.0	19.18	2-May-91
B206889	5919.2	5900.2	19.05	2-Jul-91
B206889	5919.2	5900.4	18.83	16-Jul-91
B206889	5919.2	5900.5	18.7	1-Oct-91
B206889	5919.2	5900.7	18.48	16-Oct-91
B206889	5919.2	5900.6	18.64	6-Jan-92
B206889	5919.2	5901.1	18.14	21-Feb-92
B206889	5919.2	5900.0	19.23	1-Apr-92
B206889	5919.2	5900.4	18.82	28-Apr-92
B206889	5919.2	5900.4	18.83	1-Jul-92
B206889	5919.2	5900.8	18.45	28-Jul-92
B206889	5919.2	5900.4	18.77	1-Oct-92
B206889	5919.2	5900.5	18.66	12-Oct-92
B206889	5919.2	5900.7	18.55	22-Dec-92
B206889	5919.2	5901.0	18.25	14-Jan-93
B206889	5919.2	5901.1	18.08	26-Jan-93
B206889	5919.2	5901.4	17.77	17-Feb-93
B206889	5919.2	5899.8	19.44	26-Feb-93
B206889	5919.2	5900.2	19.03	22-Mar-93
B206889	5919.2	5900.4	18.84	1-Apr-93
B206889	5919.2	5900.7	18.52	22-Apr-93
B206889	5919.2	5900.6	18.58	7-Jul-93
B206889	5919.2	5901.1	18.12	9-Aug-93
B206889	5919.2	5900.3	18.88	7-Oct-93
B206889	5919.2	5900.5	18.72	18-Oct-93
B206889	5919.2	5900.5	18.71	4-Jan-94
B206989	5884.3	5863.8	20.55	11-Sep-89
B206989	5884.3	5864.0	20.32	18-Sep-89
B206989	5884.3	5862.7	21.63	15-Jan-90
B206989	5884.3	5862.7	21.6	6-Feb-90
B206989	5884.3	5861.4	22.9	10-Apr-90
B206989	5884.3	5862.4	21.9	5-Jun-90
B206989	5884.3	5861.5	22.83	10-Jul-90
B206989	5884.3	5862.2	22.07	10-Aug-90
B206989	5884.3	5861.9	22.37	1-Oct-90
B206989	5884.3	5862.7	21.65	29-Oct-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B206989	5884.3	5862.1	22.19	2-Jan-91
B206989	5884.3	5863.1	21.24	11-Mar-91
B206989	5884.3	5860.9	23.41	2-Apr-91
B206989	5884.3	5861.3	22.96	6-May-91
B206989	5884.3	5861.1	23.21	2-Jul-91
B206989	5884.3	5861.4	22.94	15-Jul-91
B206989	5884.3	5862.2	22.07	1-Oct-91
B206989	5884.3	5862.6	21.75	16-Oct-91
B206989	5884.3	5862.1	22.16	6-Jan-92
B206989	5884.3	5862.6	21.67	20-Feb-92
B206989	5884.3	5861.4	22.88	2-Apr-92
B206989	5884.3	5862.1	22.21	27-Apr-92
B206989	5884.3	5862.0	22.3	1-Jul-92
B206989	5884.3	5862.2	22.1	9-Jul-92
B206989	5884.3	5862.7	21.61	1-Oct-92
B206989	5884.3	5863.0	21.35	12-Oct-92
B206989	5884.3	5862.4	21.9	22-Dec-92
B206989	5884.3	5862.8	21.54	14-Jan-93
B206989	5884.3	5863.0	21.35	26-Jan-93
B206989	5884.3	5863.2	21.15	11-Feb-93
B206989	5884.3	5860.5	23.81	26-Feb-93
B206989	5884.3	5860.9	23.43	22-Mar-93
B206989	5884.3	5861.0	23.3	1-Apr-93
B206989	5884.3	5861.8	22.52	20-Apr-93
B206989	5884.3	5862.4	21.92	7-Jul-93
B206989	5884.3	5863.1	21.22	9-Aug-93
B206989	5884.3	5862.1	22.18	7-Oct-93
B206989	5884.3	5862.2	22.12	11-Oct-93
B206989	5884.3	5862.3	21.97	4-Jan-94
B207089	5885.0	5862.3	22.7	7-Sep-89
B207089	5885.0	5841.0	43.93	11-Sep-89
B207089	5885.0	5863.5	21.42	15-Jan-90
B207089	5885.0	5863.9	21.08	7-Feb-90
B207089	5885.0	5862.7	22.27	10-Apr-90
B207089	5885.0	5863.7	21.22	13-Jun-90
B207089	5885.0	5859.9	25.03	10-Jul-90
B207089	5885.0	5862.1	22.85	15-Aug-90
B207089	5885.0	5860.7	24.22	1-Oct-90
B207089	5885.0	5861.8	23.12	29-Oct-90
B207089	5885.0	5861.4	23.51	2-Jan-91
B207089	5885.0	5863.3	21.68	2-Apr-91
B207089	5885.0	5863.6	21.35	25-Apr-91
B207089	5885.0	5847.6	37.35	29-Apr-91
B207089	5885.0	5860.5	24.48	13-Jun-91
B207089	5885.0	5855.4	29.56	2-Jul-91
B207089	5885.0	5858.4	26.53	16-Jul-91
B207089	5885.0	5860.6	24.36	1-Oct-91
B207089	5885.0	5861.0	23.91	17-Oct-91
B207089	5885.0	5861.4	23.55	6-Jan-92
B207089	5885.0	5862.3	22.62	19-Feb-92
B207089	5885.0	5860.6	24.36	2-Apr-92
B207089	5885.0	5861.7	23.29	27-Apr-92
B207089	5885.0	5859.8	25.11	1-Jul-92
B207089	5885.0	5860.2	24.79	9-Jul-92
B207089	5885.0	5860.5	24.49	1-Oct-92
B207089	5885.0	5860.7	24.23	13-Oct-92
B207089	5885.0	5860.6	24.4	22-Dec-92
B207089	5885.0	5861.2	23.71	14-Jan-93
B207089	5885.0	5861.5	23.42	26-Jan-93
B207089	5885.0	5862.1	22.86	26-Feb-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B207089	5885.0	5862.1	22.81	1-Mar-93
B207089	5885.0	5857.5	27.41	22-Mar-93
B207089	5885.0	5859.2	25.8	1-Apr-93
B207089	5885.0	5860.5	24.42	20-Apr-93
B207089	5885.0	5860.4	24.56	7-Jul-93
B207089	5885.0	5861.0	23.95	12-Aug-93
B207089	5885.0	5859.7	25.28	7-Oct-93
B207089	5885.0	5859.8	25.14	11-Oct-93
B207089	5885.0	5860.6	24.39	4-Jan-94
B207289	5950.5	5933.3	17.2	11-Sep-89
B207289	5950.5	5933.3	17.16	19-Sep-89
B207289	5950.5	dry	-1	15-Jan-90
B207289	5950.5	5932.6	17.88	1-Oct-91
B207289	5950.5	5881.2	69.33	4-Feb-92
B207289	5950.5	dry	-1	2-Jul-92
B207289	5950.5	dry	-1	1-Oct-92
B207289	5950.5	dry	-1	22-Dec-92
B207289	5950.5	dry	-1	14-Jan-93
B207289	5950.5	dry	-1	26-Jan-93
B207289	5950.5	dry	-1	26-Feb-93
B207289	5950.5	dry	-1	22-Mar-93
B207289	5950.5	dry	-1	1-Apr-93
B207289	5950.5	dry	-1	12-Jul-93
B207289	5950.5	dry	-1	7-Oct-93
B207289	5950.5	dry	-1	4-Jan-94
B208089	5937.1	5923.4	13.71	31-Aug-89
B208089	5937.1	5923.5	13.59	12-Sep-89
B208089	5937.1	5923.2	13.87	17-Jan-90
B208089	5937.1	5925.1	11.98	11-Apr-90
B208089	5937.1	5924.6	12.5	25-May-90
B208089	5937.1	5924.1	12.98	10-Jul-90
B208089	5937.1	5924.1	12.96	7-Aug-90
B208089	5937.1	5923.9	13.23	11-Sep-90
B208089	5937.1	5923.8	13.33	25-Sep-90
B208089	5937.1	5923.2	13.9	2-Oct-90
B208089	5937.1	5923.6	13.51	7-Nov-90
B208089	5937.1	5923.6	13.53	12-Nov-90
B208089	5937.1	5923.5	13.58	6-Dec-90
B208089	5937.1	5923.4	13.67	2-Jan-91
B208089	5937.1	5923.2	13.88	14-Mar-91
B208089	5937.1	5922.8	14.35	1-Apr-91
B208089	5937.1	5923.2	13.94	22-Apr-91
B208089	5937.1	5922.7	14.37	6-May-91
B208089	5937.1	5924.2	12.95	7-Jun-91
B208089	5937.1	5924.1	13.03	2-Jul-91
B208089	5937.1	5924.0	13.15	9-Jul-91
B208089	5937.1	5923.9	13.17	7-Aug-91
B208089	5937.1	5923.9	13.18	4-Sep-91
B208089	5937.1	5923.7	13.41	1-Oct-91
B208089	5937.1	5923.7	13.44	7-Oct-91
B208089	5937.1	5923.5	13.65	5-Nov-91
B208089	5937.1	5923.8	13.35	4-Dec-91
B208089	5937.1	5923.8	13.35	3-Jan-92
B208089	5937.1	5923.6	13.46	9-Jan-92
B208089	5937.1	5923.5	13.63	3-Feb-92
B208089	5937.1	5923.4	13.67	2-Mar-92
B208089	5937.1	5925.5	11.57	2-Apr-92
B208089	5937.1	5925.3	11.83	9-Apr-92
B208089	5937.1	5924.7	12.44	4-May-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B208089	5937.1	5924.4	12.67	3-Jun-92
B208089	5937.1	5924.4	12.7	2-Jul-92
B208089	5937.1	5924.3	12.82	14-Jul-92
B208089	5937.1	5924.1	13	4-Aug-92
B208089	5937.1	5925.1	12.03	3-Sep-92
B208089	5937.1	5923.9	13.22	2-Oct-92
B208089	5937.1	5923.8	13.27	5-Oct-92
B208089	5937.1	5923.7	13.43	1-Nov-92
B208089	5937.1	5923.4	13.69	2-Dec-92
B208089	5937.1	5923.4	13.75	13-Jan-93
B208089	5937.1	5923.3	13.8	1-Feb-93
B208089	5937.1	5923.2	13.91	4-Feb-93
B208089	5937.1	5923.1	13.98	26-Mar-93
B208089	5937.1	5923.2	13.9	5-Apr-93
B208089	5937.1	5923.7	13.41	22-Apr-93
B208089	5937.1	5923.9	13.19	12-May-93
B208089	5937.1	5923.7	13.36	16-Jun-93
B208089	5937.1	5923.8	13.34	23-Jun-93
B208089	5937.1	5923.8	13.29	13-Jul-93
B208089	5937.1	5923.7	13.41	28-Jul-93
B208089	5937.1	5923.5	13.62	23-Aug-93
B208089	5937.1	5923.4	13.69	7-Sep-93
B208089	5937.1	5923.3	13.78	6-Oct-93
B208089	5937.1	5923.2	13.88	25-Oct-93
B208089	5937.1	5922.3	14.77	1-Nov-93
B208089	5937.1	5923.3	13.76	1-Dec-93
B208089	5937.1	5923.2	13.92	3-Jan-94
B208189	5937.5	5913.8	23.69	31-Aug-89
B208189	5937.5	5909.0	28.46	12-Sep-89
B208189	5937.5	5915.9	21.62	17-Jan-90
B208189	5937.5	5917.3	20.18	21-Feb-90
B208189	5937.5	5917.3	20.25	11-Apr-90
B208189	5937.5	5919.7	17.77	25-May-90
B208189	5937.5	5912.5	25.01	10-Jul-90
B208189	5937.5	5914.1	23.38	3-Aug-90
B208189	5937.5	5913.3	24.16	2-Oct-90
B208189	5937.5	5915.9	21.65	12-Nov-90
B208189	5937.5	5912.4	25.07	2-Jan-91
B208189	5937.5	5913.7	23.79	21-Jan-91
B208189	5937.5	5913.7	23.76	1-Apr-91
B208189	5937.5	5914.7	22.78	18-Apr-91
B208189	5937.5	5916.4	21.15	2-Jul-91
B208189	5937.5	5916.7	20.8	9-Jul-91
B208189	5937.5	5914.6	22.94	1-Oct-91
B208189	5937.5	5914.9	22.57	7-Oct-91
B208189	5937.5	5916.0	21.5	3-Jan-92
B208189	5937.5	5915.0	22.52	9-Jan-92
B208189	5937.5	5933.5	4.02	2-Apr-92
B208189	5937.5	5932.5	5.03	9-Apr-92
B208189	5937.5	5915.3	22.2	2-Jul-92
B208189	5937.5	5916.0	21.5	14-Jul-92
B208189	5937.5	5914.6	22.88	2-Oct-92
B208189	5937.5	5914.8	22.72	5-Oct-92
B208189	5937.5	5914.8	22.72	6-Oct-92
B208189	5937.5	5915.4	22.09	13-Jan-93
B208189	5937.5	5916.4	21.11	4-Feb-93
B208189	5937.5	5913.4	24.12	5-Apr-93
B208189	5937.5	5914.5	23.02	22-Apr-93
B208189	5937.5	5913.1	24.45	23-Jun-93
B208189	5937.5	5914.5	23	13-Jul-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B208189	5937.5	5915.4	22.14	28-Jul-93
B208189	5937.5	5913.9	23.61	6-Oct-93
B208189	5937.5	5915.0	22.47	25-Oct-93
B208189	5937.5	5913.8	23.75	3-Jan-94
B208289	5853.0	5835.7	17.25	28-Aug-89
B208289	5853.0	5835.3	17.65	12-Sep-89
B208289	5853.0	5835.9	17.08	17-Jan-90
B208289	5853.0	5835.9	17.02	28-Feb-90
B208289	5853.0	5835.3	17.61	11-Apr-90
B208289	5853.0	5835.6	17.35	10-May-90
B208289	5853.0	5835.8	17.11	11-Jul-90
B208289	5853.0	5836.0	16.97	24-Jul-90
B208289	5853.0	5835.9	17.06	2-Oct-90
B208289	5853.0	5835.9	17.06	8-Oct-90
B208289	5853.0	5835.8	17.2	2-Jan-91
B208289	5853.0	5835.8	17.11	21-Jan-91
B208289	5853.0	5835.7	17.21	1-Apr-91
B208289	5853.0	5835.8	17.12	18-Apr-91
B208289	5853.0	5835.9	17.02	2-Jul-91
B208289	5853.0	5836.1	16.88	15-Jul-91
B208289	5853.0	5835.9	17.09	1-Oct-91
B208289	5853.0	5835.9	17.03	8-Oct-91
B208289	5853.0	5835.6	17.34	3-Jan-92
B208289	5853.0	5835.6	17.31	13-Jan-92
B208289	5853.0	5835.8	17.14	2-Apr-92
B208289	5853.0	5835.9	17.09	9-Apr-92
B208289	5853.0	5836.1	16.83	1-Jul-92
B208289	5853.0	5836.3	16.62	27-Jul-92
B208289	5853.0	5835.6	17.33	2-Oct-92
B208289	5853.0	5835.6	17.32	5-Oct-92
B208289	5853.0	5835.6	17.35	13-Jan-93
B208289	5853.0	5835.6	17.33	4-Feb-93
B208289	5853.0	5835.4	17.6	5-Apr-93
B208289	5853.0	5835.3	17.61	11-Apr-93
B208289	5853.0	5835.7	17.26	13-Jul-93
B208289	5853.0	5835.8	17.14	3-Aug-93
B208289	5853.0	5835.6	17.38	6-Oct-93
B208289	5853.0	5835.6	17.32	27-Oct-93
B208289	5853.0	5835.3	17.62	3-Jan-94
B208389	5878.7	dry	-1	28-Aug-89
B208389	5878.7	dry	-1	12-Sep-89
B208389	5878.7	dry	-1	17-Jan-90
B208389	5878.7	5867.9	10.81	1-Oct-91
B208389	5878.7	dry	-1	2-Jul-92
B208389	5878.7	dry	-1	2-Oct-92
B208389	5878.7	dry	-1	13-Jan-93
B208389	5878.7	5868.7	9.99	5-Apr-93
B208389	5878.7	5869.8	8.94	23-Jun-93
B208389	5878.7	5868.3	10.38	12-Jul-93
B208389	5878.7	5868.4	10.32	6-Oct-93
B208389	5878.7	5868.4	10.35	3-Jan-94
B208489	5878.3	dry	-1	28-Aug-89
B208489	5878.3	dry	-1	12-Sep-89
B208489	5878.3	dry	-1	17-Jan-90
B208489	5878.3	5845.9	32.44	1-Oct-91
B208489	5878.3	5846.1	32.24	2-Jul-92
B208489	5878.3	dry	-1	14-Jul-92
B208489	5878.3	dry	-1	2-Oct-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B208489	5878.3	5846.1	32.25	13-Jan-93
B208489	5878.3	5846.1	32.23	5-Apr-93
B208489	5878.3	5847.2	31.15	23-Jun-93
B208489	5878.3	5846.0	32.34	12-Jul-93
B208489	5878.3	5846.2	32.12	6-Oct-93
B208489	5878.3	dry	-1	3-Jan-94
B208589	5858.4	dry	-1	28-Aug-89
B208589	5858.4	dry	-1	13-Sep-89
B208589	5858.4	5853.5	4.9	17-Jan-90
B208589	5858.4	5854.6	3.83	15-Mar-90
B208589	5858.4	5854.8	3.62	11-Apr-90
B208589	5858.4	5853.7	4.69	11-May-90
B208589	5858.4	5852.6	5.83	10-Jul-90
B208589	5858.4	5852.6	5.83	24-Jul-90
B208589	5858.4	5853.6	4.76	2-Jan-91
B208589	5858.4	5853.7	4.73	21-Jan-91
B208589	5858.4	5853.6	4.78	1-Apr-91
B208589	5858.4	5854.0	4.4	18-Apr-91
B208589	5858.4	5852.9	5.51	2-Jul-91
B208589	5858.4	5852.7	5.66	15-Jul-91
B208589	5858.4	5852.6	5.82	1-Oct-91
B208589	5858.4	5852.5	5.87	8-Oct-91
B208589	5858.4	5853.8	4.62	3-Jan-92
B208589	5858.4	5853.9	4.52	13-Jan-92
B208589	5858.4	5855.0	3.39	2-Apr-92
B208589	5858.4	5854.5	3.95	9-Apr-92
B208589	5858.4	5852.7	5.7	1-Jul-92
B208589	5858.4	5852.5	5.87	20-Jul-92
B208589	5858.4	dry	-1	2-Oct-92
B208589	5858.4	5853.6	4.83	13-Jan-93
B208589	5858.4	5854.7	3.71	2-Apr-93
B208589	5858.4	5852.5	5.86	12-Jul-93
B208589	5858.4	5852.3	6.1	6-Oct-93
B208589	5858.4	5853.7	4.7	3-Jan-94
B208689	5869.6	5854.9	14.71	29-Aug-89
B208689	5869.6	5847.1	22.48	13-Sep-89
B208689	5869.6	5859.6	10	17-Jan-90
B208689	5869.6	5860.2	9.37	15-Mar-90
B208689	5869.6	5848.6	20.97	11-Apr-90
B208689	5869.6	5852.0	17.62	8-May-90
B208689	5869.6	5853.4	16.25	10-Jul-90
B208689	5869.6	5854.5	15.08	24-Jul-90
B208689	5869.6	5854.9	14.73	2-Oct-90
B208689	5869.6	5857.1	12.5	23-Oct-90
B208689	5869.6	5852.9	16.66	2-Jan-91
B208689	5869.6	5855.1	14.48	21-Jan-91
B208689	5869.6	5852.7	16.93	5-Apr-91
B208689	5869.6	5852.9	16.71	8-Apr-91
B208689	5869.6	5854.0	15.59	2-Jul-91
B208689	5869.6	5854.6	15.02	9-Jul-91
B208689	5869.6	5855.6	14.02	1-Oct-91
B208689	5869.6	5856.3	13.27	8-Oct-91
B208689	5869.6	5855.0	14.6	3-Jan-92
B208689	5869.6	5856.3	13.28	22-Jan-92
B208689	5869.6	5849.6	20.04	20-Feb-92
B208689	5869.6	5850.5	19.14	2-Apr-92
B208689	5869.6	5851.0	18.59	7-Apr-92
B208689	5869.6	5854.6	14.96	1-Jul-92
B208689	5869.6	5856.4	13.22	21-Jul-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B208689	5869.6	5854.8	14.8	2-Oct-92
B208689	5869.6	5855.9	13.74	12-Oct-92
B208689	5869.6	5855.5	14.15	13-Jan-93
B208689	5869.6	5856.6	13.04	1-Feb-93
B208689	5869.6	5851.7	17.92	2-Apr-93
B208689	5869.6	5853.2	16.42	22-Apr-93
B208689	5869.6	5853.0	16.6	12-Jul-93
B208689	5869.6	5855.7	13.89	2-Aug-93
B208689	5869.6	5853.6	15.98	6-Oct-93
B208689	5869.6	5855.4	14.2	27-Oct-93
B208689	5869.6	5852.9	16.7	3-Jan-94
B208789	5909.0	5896.6	12.37	28-Aug-89
B208789	5909.0	5903.1	5.93	12-Sep-89
B208789	5909.0	5897.6	11.45	17-Jan-90
B208789	5909.0	5897.4	11.62	27-Feb-90
B208789	5909.0	5903.7	5.27	11-Apr-90
B208789	5909.0	5902.2	6.83	24-May-90
B208789	5909.0	5895.3	13.72	10-Jul-90
B208789	5909.0	5902.4	6.6	1-Aug-90
B208789	5909.0	5895.0	13.96	7-Aug-90
B208789	5909.0	5895.3	13.68	11-Sep-90
B208789	5909.0	5902.5	6.55	3-Oct-90
B208789	5909.0	5901.7	7.31	22-Oct-90
B208789	5909.0	5895.2	13.82	6-Dec-90
B208789	5909.0	5895.2	13.82	2-Jan-91
B208789	5909.0	5895.2	13.8	12-Mar-91
B208789	5909.0	5895.1	13.92	9-Jul-91
B208789	5909.0	5895.2	13.85	7-Aug-91
B208789	5909.0	5895.7	13.33	5-Sep-91
B208789	5909.0	5895.7	13.26	1-Oct-91
B208789	5909.0	5895.8	13.25	8-Oct-91
B208789	5909.0	5895.1	13.93	6-Nov-91
B208789	5909.0	5899.6	9.37	4-Dec-91
B208789	5909.0	5899.5	9.55	3-Jan-92
B208789	5909.0	5900.4	8.6	13-Jan-92
B208789	5909.0	5895.6	13.41	3-Feb-92
B208789	5909.0	5895.7	13.27	2-Mar-92
B208789	5909.0	5905.2	3.83	2-Apr-92
B208789	5909.0	5905.0	3.97	8-Apr-92
B208789	5909.0	5902.9	6.07	4-May-92
B208789	5909.0	5902.8	6.21	1-Jun-92
B208789	5909.0	5902.7	6.34	2-Jul-92
B208789	5909.0	5902.2	6.84	20-Jul-92
B208789	5909.0	5895.7	13.29	4-Aug-92
B208789	5909.0	5899.1	9.86	3-Sep-92
B208789	5909.0	5899.2	9.77	2-Oct-92
B208789	5909.0	5899.2	9.79	5-Oct-92
B208789	5909.0	5895.3	13.73	1-Nov-92
B208789	5909.0	5895.4	13.63	2-Dec-92
B208789	5909.0	5895.5	13.51	13-Jan-93
B208789	5909.0	5895.5	13.47	4-Feb-93
B208789	5909.0	5895.3	13.68	26-Mar-93
B208789	5909.0	5895.7	13.27	5-Apr-93
B208789	5909.0	5903.6	5.43	12-May-93
B208789	5909.0	5903.2	5.83	16-Jun-93
B208789	5909.0	5905.2	3.78	23-Jun-93
B208789	5909.0	5903.1	5.92	12-Jul-93
B208789	5909.0	5901.9	7.14	23-Aug-93
B208789	5909.0	5901.6	7.44	7-Sep-93
B208789	5909.0	5901.0	8	6-Oct-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B208789	5909.0	5900.6	8.43	1-Nov-93
B208789	5909.0	5900.2	8.81	1-Dec-93
B208789	5909.0	5899.9	9.1	3-Jan-94
B210389	5875.3	5852.4	22.93	30-Aug-89
B210389	5875.3	dry	-1	13-Sep-89
B210389	5875.3	5851.8	23.51	17-Jan-90
B210389	5875.3	5852.4	22.91	13-Feb-90
B210389	5875.3	5850.8	24.52	11-Apr-90
B210389	5875.3	5851.8	23.5	12-Jun-90
B210389	5875.3	5850.2	25.1	10-Jul-90
B210389	5875.3	5852.2	23.12	25-Sep-90
B210389	5875.3	5849.5	25.77	2-Oct-90
B210389	5875.3	5850.4	24.9	23-Oct-90
B210389	5875.3	5851.6	23.74	2-Jan-91
B210389	5875.3	5852.0	23.3	21-Jan-91
B210389	5875.3	5851.0	24.29	1-Apr-91
B210389	5875.3	5852.1	23.22	28-May-91
B210389	5875.3	5850.2	25.11	2-Jul-91
B210389	5875.3	5850.6	24.74	15-Jul-91
B210389	5875.3	5851.6	23.7	1-Oct-91
B210389	5875.3	5852.2	23.14	21-Oct-91
B210389	5875.3	5851.6	23.75	3-Jan-92
B210389	5875.3	5851.8	23.52	13-Jan-92
B210389	5875.3	5851.2	24.09	2-Apr-92
B210389	5875.3	5851.3	24.05	7-Apr-92
B210389	5875.3	5851.4	23.89	1-Jul-92
B210389	5875.3	5851.8	23.46	21-Jul-92
B210389	5875.3	5851.4	23.88	2-Oct-92
B210389	5875.3	5851.5	23.8	5-Oct-92
B210389	5875.3	5852.4	22.91	13-Jan-93
B210389	5875.3	5852.8	22.49	1-Feb-93
B210389	5875.3	5851.1	24.24	2-Apr-93
B210389	5875.3	5852.9	22.42	12-Jul-93
B210389	5875.3	5854.9	20.44	6-Oct-93
B210389	5875.3	5856.8	18.54	3-Jan-94
B210489	5858.7	5852.2	6.53	29-Aug-89
B210489	5858.7	5852.9	5.83	13-Sep-89
B210489	5858.7	5853.7	5	17-Jan-90
B210489	5858.7	5853.8	4.93	28-Feb-90
B210489	5858.7	5855.1	3.65	11-Apr-90
B210489	5858.7	5853.9	4.81	10-May-90
B210489	5858.7	5852.8	5.9	10-Jul-90
B210489	5858.7	5852.9	5.8	27-Jul-90
B210489	5858.7	5852.6	6.15	7-Aug-90
B210489	5858.7	5852.4	6.32	11-Sep-90
B210489	5858.7	5852.7	5.97	2-Oct-90
B210489	5858.7	5853.2	5.51	1-Nov-90
B210489	5858.7	5853.6	5.12	7-Nov-90
B210489	5858.7	5853.6	5.15	6-Dec-90
B210489	5858.7	5853.8	4.9	2-Jan-91
B210489	5858.7	5853.7	5	15-Jan-91
B210489	5858.7	5853.8	4.95	1-Apr-91
B210489	5858.7	5853.7	5.02	9-Apr-91
B210489	5858.7	5854.6	4.09	6-May-91
B210489	5858.7	5854.5	4.16	6-Jun-91
B210489	5858.7	5853.1	5.62	2-Jul-91
B210489	5858.7	5853.0	5.73	15-Jul-91
B210489	5858.7	5853.5	5.19	7-Aug-91
B210489	5858.7	5852.6	6.14	5-Sep-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
B210489	5858.7	5852.9	5.83	1-Oct-91
B210489	5858.7	5853.1	5.6	21-Oct-91
B210489	5858.7	5853.7	5	5-Nov-91
B210489	5858.7	5854.2	4.54	4-Dec-91
B210489	5858.7	5853.9	4.83	3-Jan-92
B210489	5858.7	5854.0	4.73	13-Jan-92
B210489	5858.7	5854.1	4.57	3-Feb-92
B210489	5858.7	5853.8	4.87	3-Mar-92
B210489	5858.7	5855.3	3.37	2-Apr-92
B210489	5858.7	5854.5	4.16	10-Apr-92
B210489	5858.7	5853.7	4.96	4-May-92
B210489	5858.7	5853.8	4.93	3-Jun-92
B210489	5858.7	5852.8	5.92	1-Jul-92
B210489	5858.7	5852.3	6.36	20-Jul-92
B210489	5858.7	5852.1	6.62	4-Aug-92
B210489	5858.7	5852.7	5.99	3-Sep-92
B210489	5858.7	5852.3	6.42	2-Oct-92
B210489	5858.7	5850.5	8.23	8-Oct-92
B210489	5858.7	5853.1	5.57	1-Nov-92
B210489	5858.7	5853.7	5.03	2-Dec-92
B210489	5858.7	5853.6	5.11	13-Jan-93
B210489	5858.7	5854.0	4.67	1-Feb-93
B210489	5858.7	5853.0	5.72	2-Feb-93
B210489	5858.7	5854.0	4.71	26-Mar-93
B210489	5858.7	5854.9	3.84	2-Apr-93
B210489	5858.7	5854.4	4.28	19-Apr-93
B210489	5858.7	5853.6	5.08	12-May-93
B210489	5858.7	5852.8	5.91	18-Jun-93
B210489	5858.7	5852.2	6.46	12-Jul-93
B210489	5858.7	5852.0	6.68	4-Aug-93
B210489	5858.7	5852.0	6.75	23-Aug-93
B210489	5858.7	5852.1	6.56	7-Sep-93
B210489	5858.7	5852.7	5.98	6-Oct-93
B210489	5858.7	5853.2	5.51	20-Oct-93
B210489	5858.7	5853.5	5.19	1-Nov-93
B210489	5858.7	5854.0	4.71	1-Dec-93
B210489	5858.7	5853.8	4.94	3-Jan-94
P207689	5967.9	5960.2	7.71	17-Jul-89
P207689	5967.9	5960.3	7.57	11-Sep-89
P207689	5967.9	5960.8	7.11	14-Sep-89
P207689	5967.9	5959.4	8.49	17-Jan-90
P207689	5967.9	5959.6	8.35	31-Jan-90
P207689	5967.9	5961.1	6.82	24-Apr-90
P207689	5967.9	5961.0	6.94	30-Apr-90
P207689	5967.9	5960.2	7.68	10-Jul-90
P207689	5967.9	5959.7	8.18	1-Oct-90
P207689	5967.9	5959.5	8.42	15-Oct-90
P207689	5967.9	5959.2	8.74	4-Jan-91
P207689	5967.9	5959.2	8.69	25-Mar-91
P207689	5967.9	5960.4	7.52	31-May-91
P207689	5967.9	5960.1	7.82	3-Jul-91
P207689	5967.9	5959.8	8.06	2-Aug-91
P207689	5967.9	5959.2	8.69	1-Oct-91
P207689	5967.9	5959.0	8.94	9-Oct-91
P207689	5967.9	5959.7	8.24	7-Jan-92
P207689	5967.9	5959.7	8.18	15-Jan-92
P207689	5967.9	5961.1	6.85	2-Apr-92
P207689	5967.9	5960.8	7.15	15-Apr-92
P207689	5967.9	5960.2	7.72	1-Jul-92
P207689	5967.9	5959.9	8.01	13-Jul-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P207689	5967.9	5959.2	8.74	5-Oct-92
P207689	5967.9	5959.1	8.77	9-Oct-92
P207689	5967.9	5959.6	8.28	13-Jan-93
P207689	5967.9	5960.6	7.35	10-Feb-93
P207689	5967.9	5959.6	8.33	12-Apr-93
P207689	5967.9	5959.9	7.98	14-Jul-93
P207689	5967.9	5959.8	8.15	30-Jul-93
P207689	5967.9	5959.3	8.65	4-Oct-93
P207689	5967.9	5959.9	8.02	18-Oct-93
P207689	5967.9	5959.8	8.09	6-Jan-94
P207789	5967.8	5938.4	29.45	11-Sep-89
P207789	5967.8	5938.4	29.41	14-Sep-89
P207789	5967.8	5939.2	28.64	17-Jan-90
P207789	5967.8	5939.3	28.53	1-Feb-90
P207789	5967.8	5938.5	29.34	24-Apr-90
P207789	5967.8	5938.6	29.2	8-May-90
P207789	5967.8	5938.3	29.53	10-Jul-90
P207789	5967.8	5938.8	29.04	21-Aug-90
P207789	5967.8	5938.3	29.47	1-Oct-90
P207789	5967.8	5939.2	28.58	11-Dec-90
P207789	5967.8	5937.9	29.94	4-Jan-91
P207789	5967.8	5938.7	29.14	24-Apr-91
P207789	5967.8	5937.9	29.91	5-Jun-91
P207789	5967.8	5937.6	30.17	3-Jul-91
P207789	5967.8	5938.2	29.63	5-Aug-91
P207789	5967.8	5938.2	29.58	1-Oct-91
P207789	5967.8	5938.3	29.46	9-Oct-91
P207789	5967.8	5938.7	29.15	7-Jan-92
P207789	5967.8	5938.8	29	21-Jan-92
P207789	5967.8	5938.8	29	21-Jan-92
P207789	5967.8	5938.4	29.36	2-Apr-92
P207789	5967.8	5938.6	29.23	15-Apr-92
P207789	5967.8	5938.4	29.36	1-Jul-92
P207789	5967.8	5938.6	29.22	13-Jul-92
P207789	5967.8	5938.6	29.17	5-Oct-92
P207789	5967.8	5938.7	29.14	8-Oct-92
P207789	5967.8	5938.8	29	13-Jan-93
P207789	5967.8	5939.1	28.71	11-Feb-93
P207789	5967.8	5938.1	29.67	12-Apr-93
P207789	5967.8	5938.3	29.52	25-Jun-93
P207789	5967.8	5937.9	29.88	1-Jul-93
P207789	5967.8	5938.4	29.42	29-Jul-93
P207789	5967.8	5938.4	29.44	4-Oct-93
P207789	5967.8	5938.5	29.32	13-Oct-93
P207789	5967.8	5938.6	29.2	6-Jan-94
P207889	5964.9	5959.8	5.12	11-Sep-89
P207889	5964.9	5960.0	4.95	15-Sep-89
P207889	5964.9	5957.7	7.17	17-Jan-90
P207889	5964.9	5957.7	7.22	1-Feb-90
P207889	5964.9	5960.2	4.75	1-May-90
P207889	5964.9	5960.2	4.75	2-May-90
P207889	5964.9	5959.2	5.74	10-Jul-90
P207889	5964.9	5959.0	5.94	19-Jul-90
P207889	5964.9	5958.1	6.79	1-Oct-90
P207889	5964.9	5958.0	6.88	10-Oct-90
P207889	5964.9	5957.6	7.32	4-Jan-91
P207889	5964.9	5956.2	8.66	25-Mar-91
P207889	5964.9	5959.6	5.32	10-Jun-91
P207889	5964.9	5958.0	6.87	3-Jul-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P207889	5964.9	5958.8	6.09	24-Jul-91
P207889	5964.9	5957.5	7.43	1-Oct-91
P207889	5964.9	5957.3	7.57	8-Oct-91
P207889	5964.9	5958.7	6.19	7-Jan-92
P207889	5964.9	5958.7	6.25	21-Jan-92
P207889	5964.9	5958.7	6.25	21-Jan-92
P207889	5964.9	5960.7	4.25	2-Apr-92
P207889	5964.9	5960.2	4.74	7-Apr-92
P207889	5964.9	5958.6	6.29	2-Jul-92
P207889	5964.9	5958.0	6.95	13-Jul-92
P207889	5964.9	5954.8	10.08	5-Oct-92
P207889	5964.9	5954.8	10.09	12-Oct-92
P207889	5964.9	5957.2	7.68	14-Jan-93
P207889	5964.9	5957.1	7.79	8-Feb-93
P207889	5964.9	5960.9	3.97	7-Apr-93
P207889	5964.9	5958.7	6.17	1-Jul-93
P207889	5964.9	5957.3	7.56	19-Jul-93
P207889	5964.9	5954.8	10.11	4-Oct-93
P207889	5964.9	5954.8	10.11	13-Oct-93
P207889	5964.9	5956.9	8.03	6-Jan-94
P207989	5965.2	5948.1	17.12	11-Sep-89
P207989	5965.2	5948.2	16.94	14-Sep-89
P207989	5965.2	5948.1	17.08	17-Jan-90
P207989	5965.2	5948.7	16.46	1-Feb-90
P207989	5965.2	5946.7	18.45	1-May-90
P207989	5965.2	5946.7	18.45	2-May-90
P207989	5965.2	5947.0	18.19	10-Jul-90
P207989	5965.2	5949.6	15.59	28-Aug-90
P207989	5965.2	5944.7	20.49	1-Oct-90
P207989	5965.2	5948.8	16.35	12-Dec-90
P207989	5965.2	5943.4	21.78	4-Jan-91
P207989	5965.2	5947.5	17.65	25-Mar-91
P207989	5965.2	5946.3	18.88	5-Jun-91
P207989	5965.2	5943.8	21.35	3-Jul-91
P207989	5965.2	5945.3	19.86	24-Jul-91
P207989	5965.2	5946.7	18.5	1-Oct-91
P207989	5965.2	5947.0	18.14	8-Oct-91
P207989	5965.2	5947.7	17.51	7-Jan-92
P207989	5965.2	5950.0	15.18	5-Mar-92
P207989	5965.2	5944.1	21.03	2-Apr-92
P207989	5965.2	5944.5	20.71	6-Apr-92
P207989	5965.2	5943.9	21.31	2-Jul-92
P207989	5965.2	5944.8	20.33	16-Jul-92
P207989	5965.2	5946.7	18.45	5-Oct-92
P207989	5965.2	5946.8	18.35	7-Oct-92
P207989	5965.2	5947.0	18.2	14-Jan-93
P207989	5965.2	5947.9	17.29	8-Feb-93
P207989	5965.2	5945.0	20.2	7-Apr-93
P207989	5965.2	5947.7	17.44	21-Jun-93
P207989	5965.2	5946.9	18.29	1-Jul-93
P207989	5965.2	5947.8	17.41	19-Jul-93
P207989	5965.2	5942.3	22.91	26-Jul-93
P207989	5965.2	5945.8	19.42	4-Oct-93
P207989	5965.2	5946.2	19.02	13-Oct-93
P207989	5965.2	5946.0	19.14	6-Jan-94
P208889	5949.3	5858.6	90.67	12-Sep-89
P208889	5949.3	5859.9	89.41	19-Sep-89
P208889	5949.3	5864.1	85.23	17-Jan-90
P208889	5949.3	5867.7	81.57	5-Feb-90

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P208889	5949.3	5862.2	87.1	25-Apr-90
P208889	5949.3	5853.0	96.35	22-Jun-90
P208889	5949.3	5848.1	101.2	10-Jul-90
P208889	5949.3	5857.9	91.38	16-Aug-90
P208889	5949.3	5856.5	92.77	2-Oct-90
P208889	5949.3	5851.4	97.92	17-Dec-90
P208889	5949.3	5852.9	96.37	4-Jan-91
P208889	5949.3	5867.0	82.28	25-Mar-91
P208889	5949.3	5860.9	88.41	6-Jun-91
P208889	5949.3	5852.9	96.41	3-Jul-91
P208889	5949.3	5856.7	92.61	30-Jul-91
P208889	5949.3	5858.9	90.37	1-Oct-91
P208889	5949.3	5859.3	89.96	3-Oct-91
P208889	5949.3	5864.7	84.56	7-Jan-92
P208889	5949.3	5865.1	84.17	9-Jan-92
P208889	5949.3	5863.2	86.13	2-Apr-92
P208889	5949.3	5864.5	84.81	9-Apr-92
P208889	5949.3	5851.2	98.15	2-Jul-92
P208889	5949.3	5852.4	96.91	9-Jul-92
P208889	5949.3	5863.1	86.22	5-Oct-92
P208889	5949.3	5865.6	83.67	13-Jan-93
P208889	5949.3	5870.1	79.25	8-Feb-93
P208889	5949.3	5857.2	92.15	1-Apr-93
P208889	5949.3	5860.6	88.71	21-Apr-93
P208889	5949.3	5859.1	90.18	21-Jun-93
P208889	5949.3	5857.1	92.16	1-Jul-93
P208889	5949.3	5861.9	87.39	28-Jul-93
P208889	5949.3	5859.1	90.18	4-Oct-93
P208889	5949.3	5863.1	86.2	25-Oct-93
P208889	5949.3	5860.8	88.46	10-Jan-94
P208989	5964.6	5949.7	14.91	12-Sep-89
P208989	5964.6	5949.9	14.64	28-Sep-89
P208989	5964.6	5948.0	16.61	17-Jan-90
P208989	5964.6	5948.1	16.45	9-Mar-90
P208989	5964.6	5950.2	14.34	25-Apr-90
P208989	5964.6	5949.6	15.01	8-May-90
P208989	5964.6	5948.2	16.34	10-Jul-90
P208989	5964.6	5948.5	16.1	31-Jul-90
P208989	5964.6	5947.9	16.63	2-Oct-90
P208989	5964.6	5947.8	16.75	16-Oct-90
P208989	5964.6	5947.5	17.05	4-Jan-91
P208989	5964.6	5947.2	17.37	25-Mar-91
P208989	5964.6	5949.8	14.74	30-May-91
P208989	5964.6	5949.0	15.54	3-Jul-91
P208989	5964.6	5948.3	16.27	8-Aug-91
P208989	5964.6	5947.5	17.02	1-Oct-91
P208989	5964.6	5947.5	17.1	9-Oct-91
P208989	5964.6	5947.6	16.92	8-Jan-92
P208989	5964.6	5947.5	17.05	29-Jan-92
P208989	5964.6	5952.4	12.16	2-Apr-92
P208989	5964.6	5950.7	13.83	20-Apr-92
P208989	5964.6	5948.1	16.43	1-Jul-92
P208989	5964.6	5947.8	16.79	16-Jul-92
P208989	5964.6	5947.0	17.55	5-Oct-92
P208989	5964.6	5947.0	17.55	8-Oct-92
P208989	5964.6	5946.7	17.85	13-Jan-93
P208989	5964.6	5951.1	13.45	1-Feb-93
P208989	5964.6	5946.6	18	9-Feb-93
P208989	5964.6	5947.3	17.31	1-Apr-93
P208989	5964.6	5949.1	15.42	22-Apr-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P208989	5964.6	5949.0	15.53	21-Jun-93
P208989	5964.6	5947.9	16.71	1-Jul-93
P208989	5964.6	5947.3	17.23	28-Jul-93
P208989	5964.6	5946.9	17.7	4-Oct-93
P208989	5964.6	5946.7	17.82	21-Oct-93
P208989	5964.6	5946.4	18.16	10-Jan-94
P209489	5980.1	5951.6	28.53	12-Sep-89
P209489	5980.1	5951.6	28.55	20-Sep-89
P209489	5980.1	dry	-1	17-Jan-90
P209489	5980.1	5952.2	27.87	25-Apr-90
P209489	5980.1	5951.6	28.52	31-May-90
P209489	5980.1	5951.4	28.68	10-Jul-90
P209489	5980.1	5951.5	28.58	15-Aug-90
P209489	5980.1	5951.5	28.65	2-Oct-90
P209489	5980.1	5951.2	28.88	25-Oct-90
P209489	5980.1	5950.8	29.35	4-Jan-91
P209489	5980.1	5950.2	29.95	25-Mar-91
P209489	5980.1	5951.5	28.58	3-Jul-91
P209489	5980.1	5950.5	29.58	1-Aug-91
P209489	5980.1	5951.1	29.01	1-Oct-91
P209489	5980.1	5950.8	29.32	15-Oct-91
P209489	5980.1	5950.7	29.41	7-Jan-92
P209489	5980.1	5950.5	29.6	29-Jan-92
P209489	5980.1	5953.6	26.5	2-Apr-92
P209489	5980.1	5952.1	27.97	23-Apr-92
P209489	5980.1	5973.3	6.82	9-Jun-92
P209489	5980.1	5951.2	28.93	1-Jul-92
P209489	5980.1	5951.1	29.03	13-Jul-92
P209489	5980.1	5950.7	29.37	5-Oct-92
P209489	5980.1	5950.7	29.44	14-Oct-92
P209489	5980.1	5950.3	29.76	13-Jan-93
P209489	5980.1	5950.2	29.92	18-Feb-93
P209489	5980.1	5951.4	28.71	1-Apr-93
P209489	5980.1	5952.4	27.7	6-Apr-93
P209489	5980.1	5951.1	28.97	1-Jul-93
P209489	5980.1	5951.0	29.1	21-Jul-93
P209489	5980.1	5950.4	29.66	4-Oct-93
P209489	5980.1	5950.8	29.26	14-Oct-93
P209489	5980.1	5950.6	29.52	10-Jan-94
P209589	5950.0	5933.3	16.68	12-Sep-89
P209589	5950.0	5933.4	16.59	19-Sep-89
P209589	5950.0	5932.0	17.99	17-Jan-90
P209589	5950.0	5932.4	17.62	30-Jan-90
P209589	5950.0	5932.1	17.9	25-Apr-90
P209589	5950.0	5933.5	16.55	24-May-90
P209589	5950.0	5931.0	19.02	10-Jul-90
P209589	5950.0	5929.2	20.78	28-Aug-90
P209589	5950.0	5930.2	19.79	2-Oct-90
P209589	5950.0	5931.5	18.49	6-Nov-90
P209589	5950.0	5930.7	19.27	4-Jan-91
P209589	5950.0	5932.4	17.58	25-Mar-91
P209589	5950.0	5931.3	18.74	5-Jun-91
P209589	5950.0	5930.0	19.99	3-Jul-91
P209589	5950.0	5931.3	18.7	31-Jul-91
P209589	5950.0	5931.3	18.73	1-Oct-91
P209589	5950.0	5931.2	18.78	3-Oct-91
P209589	5950.0	5931.4	18.63	7-Jan-92
P209589	5950.0	5931.5	18.54	9-Jan-92
P209589	5950.0	5931.6	18.36	2-Apr-92

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P209589	5950.0	5931.9	18.06	9-Apr-92
P209589	5950.0	5930.5	19.53	2-Jul-92
P209589	5950.0	5930.7	19.32	8-Jul-92
P209589	5950.0	5931.3	18.75	5-Oct-92
P209589	5950.0	5930.9	19.09	13-Jan-93
P209589	5950.0	5931.6	18.42	8-Feb-93
P209589	5950.0	5930.2	19.85	1-Apr-93
P209589	5950.0	5930.9	19.1	21-Apr-93
P209589	5950.0	5931.2	18.82	1-Jul-93
P209589	5950.0	5931.9	18.13	22-Jul-93
P209589	5950.0	5930.6	19.42	4-Oct-93
P209589	5950.0	5930.9	19.14	19-Oct-93
P209589	5950.0	5930.3	19.69	10-Jan-94
P209689	5964.4	5937.9	26.47	13-Sep-89
P209689	5964.4	5936.2	28.19	17-Jan-90
P209689	5964.4	5936.8	27.6	15-Mar-90
P209689	5964.4	5935.3	29.11	25-Apr-90
P209689	5964.4	5935.4	28.99	30-Apr-90
P209689	5964.4	5935.8	28.63	10-Jul-90
P209689	5964.4	5935.9	28.49	19-Jul-90
P209689	5964.4	5936.0	28.41	1-Oct-90
P209689	5964.4	5936.0	28.4	2-Oct-90
P209689	5964.4	5936.1	28.3	10-Oct-90
P209689	5964.4	5936.4	28.02	4-Jan-91
P209689	5964.4	5936.4	28	7-Jan-91
P209689	5964.4	5936.0	28.44	25-Mar-91
P209689	5964.4	5935.4	28.98	4-Jun-91
P209689	5964.4	5937.3	27.15	12-Jun-91
P209689	5964.4	5935.1	29.28	3-Jul-91
P209689	5964.4	5935.6	28.81	31-Jul-91
P209689	5964.4	5935.8	28.58	1-Oct-91
P209689	5964.4	5936.2	28.19	7-Jan-92
P209689	5964.4	5936.4	28.02	21-Jan-92
P209689	5964.4	5936.4	28.02	21-Jan-92
P209689	5964.4	5936.0	28.45	2-Apr-92
P209689	5964.4	5936.3	28.14	27-Apr-92
P209689	5964.4	5935.8	28.58	1-Jul-92
P209689	5964.4	5936.1	28.34	20-Jul-92
P209689	5964.4	5936.0	28.37	5-Oct-92
P209689	5964.4	5936.1	28.29	12-Oct-92
P209689	5964.4	5936.2	28.17	14-Jan-93
P209689	5964.4	5936.5	27.93	8-Feb-93
P209689	5964.4	5935.5	28.86	1-Apr-93
P209689	5964.4	5935.6	28.82	5-Apr-93
P209689	5964.4	5935.9	28.54	1-Jul-93
P209689	5964.4	5936.1	28.28	19-Jul-93
P209689	5964.4	5935.9	28.49	4-Oct-93
P209689	5964.4	5936.0	28.4	12-Oct-93
P209689	5964.4	5936.0	28.38	6-Jan-94
P209789	5964.9	5959.7	5.18	13-Sep-89
P209789	5964.9	5956.1	8.82	17-Jan-90
P209789	5964.9	5961.6	3.34	15-Mar-90
P209789	5964.9	5959.8	5.07	25-Apr-90
P209789	5964.9	5959.4	5.53	4-May-90
P209789	5964.9	5957.8	7.11	10-Jul-90
P209789	5964.9	5958.3	6.65	24-Jul-90
P209789	5964.9	5956.5	8.42	1-Oct-90
P209789	5964.9	5956.1	8.85	19-Oct-90
P209789	5964.9	5955.0	9.92	4-Jan-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P209789	5964.9	5954.5	10.36	22-Mar-91
P209789	5964.9	5958.3	6.59	7-Jun-91
P209789	5964.9	5957.5	7.42	3-Jul-91
P209789	5964.9	5957.3	7.59	1-Aug-91
P209789	5964.9	5955.9	9	1-Oct-91
P209789	5964.9	5955.5	9.41	11-Oct-91
P209789	5964.9	5956.5	8.42	7-Jan-92
P209789	5964.9	5956.0	8.89	20-Jan-92
P209789	5964.9	5956.0	8.89	20-Jan-92
P209789	5964.9	5960.2	4.7	2-Apr-92
P209789	5964.9	5958.5	6.37	24-Apr-92
P209789	5964.9	5957.6	7.27	1-Jul-92
P209789	5964.9	5956.8	8.08	20-Jul-92
P209789	5964.9	5954.9	10.05	5-Oct-92
P209789	5964.9	5954.6	10.27	16-Oct-92
P209789	5964.9	5955.0	9.94	14-Jan-93
P209789	5964.9	5954.4	10.54	8-Feb-93
P209789	5964.9	5959.3	5.62	5-Apr-93
P209789	5964.9	5958.1	6.81	1-Jul-93
P209789	5964.9	5957.4	7.46	16-Jul-93
P209789	5964.9	5954.0	10.89	4-Oct-93
P209789	5964.9	5953.5	11.4	14-Oct-93
P209789	5964.9	5954.9	10.03	6-Jan-94
P209889	5942.4	5937.7	4.68	12-Sep-89
P209889	5942.4	5937.2	5.22	26-Sep-89
P209889	5942.4	5937.3	5.15	17-Jan-90
P209889	5942.4	5937.9	4.52	9-Mar-90
P209889	5942.4	5938.0	4.43	25-Apr-90
P209889	5942.4	5937.9	4.5	23-May-90
P209889	5942.4	5937.3	5.06	10-Jul-90
P209889	5942.4	5937.4	5	22-Aug-90
P209889	5942.4	5937.4	4.98	2-Oct-90
P209889	5942.4	5937.3	5.15	29-Oct-90
P209889	5942.4	5936.9	5.46	4-Jan-91
P209889	5942.4	5937.4	5.02	25-Mar-91
P209889	5942.4	5938.4	4	4-Jun-91
P209889	5942.4	5937.9	4.51	3-Jul-91
P209889	5942.4	5937.9	4.47	6-Aug-91
P209889	5942.4	5937.2	5.25	1-Oct-91
P209889	5942.4	5937.1	5.34	14-Oct-91
P209889	5942.4	5937.4	5.01	7-Jan-92
P209889	5942.4	5937.2	5.21	22-Jan-92
P209889	5942.4	5937.1	5.3	27-Feb-92
P209889	5942.4	5937.9	4.49	2-Apr-92
P209889	5942.4	5937.8	4.62	20-Apr-92
P209889	5942.4	5937.9	4.46	1-Jul-92
P209889	5942.4	5937.7	4.67	8-Jul-92
P209889	5942.4	5937.1	5.34	5-Oct-92
P209889	5942.4	5937.1	5.34	8-Oct-92
P209889	5942.4	5936.5	5.9	13-Jan-93
P209889	5942.4	5936.5	5.9	10-Feb-93
P209889	5942.4	5937.3	5.14	1-Apr-93
P209889	5942.4	5937.2	5.17	20-Apr-93
P209889	5942.4	5937.7	4.72	1-Jul-93
P209889	5942.4	5937.4	4.98	22-Jul-93
P209889	5942.4	5936.7	5.68	4-Oct-93
P209889	5942.4	5936.7	5.72	20-Oct-93
P209889	5942.4	5936.6	5.79	10-Jan-94
P209989	5900.4	dry	-1	31-Aug-89

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P209989	5900.4	dry	-1	11-Sep-89
P209989	5900.4	dry	-1	17-Jan-90
P209989	5900.4	5890.1	10.32	7-Jun-91
P209989	5900.4	5889.7	10.69	2-Jul-91
P209989	5900.4	5889.7	10.72	8-Jul-91
P209989	5900.4	5888.5	11.89	1-Oct-91
P209989	5900.4	5890.1	10.29	2-Apr-92
P209989	5900.4	5890.0	10.43	30-Apr-92
P209989	5900.4	5888.9	11.47	5-May-92
P209989	5900.4	5888.6	11.78	2-Jul-92
P209989	5900.4	dry	-1	27-Jul-92
P209989	5900.4	dry	-1	4-Aug-92
P209989	5900.4	dry	-1	3-Sep-92
P209989	5900.4	dry	-1	2-Oct-92
P209989	5900.4	dry	-1	1-Nov-92
P209989	5900.4	dry	-1	2-Dec-92
P209989	5900.4	dry	-1	13-Jan-93
P209989	5900.4	dry	-1	1-Feb-93
P209989	5900.4	dry	-1	26-Mar-93
P209989	5900.4	dry	-1	5-Apr-93
P209989	5900.4	dry	-1	12-May-93
P209989	5900.4	dry	-1	16-Jun-93
P209989	5900.4	dry	-1	13-Jul-93
P209989	5900.4	dry	-1	23-Aug-93
P209989	5900.4	dry	-1	7-Sep-93
P209989	5900.4	dry	-1	6-Oct-93
P209989	5900.4	dry	-1	1-Nov-93
P209989	5900.4	dry	-1	1-Dec-93
P209989	5900.4	dry	-1	3-Jan-94
P210089	5900.4	5882.0	18.38	5-Sep-89
P210089	5900.4	5876.6	23.79	12-Sep-89
P210089	5900.4	5881.7	18.69	17-Jan-90
P210089	5900.4	5881.6	18.83	27-Feb-90
P210089	5900.4	5881.6	18.83	27-Feb-90
P210089	5900.4	5879.6	20.8	11-Apr-90
P210089	5900.4	5881.7	18.72	5-Jun-90
P210089	5900.4	5879.7	20.71	10-Jul-90
P210089	5900.4	5881.7	18.74	15-Aug-90
P210089	5900.4	5880.9	19.54	3-Oct-90
P210089	5900.4	5881.8	18.6	25-Oct-90
P210089	5900.4	5881.0	19.42	2-Jan-91
P210089	5900.4	5881.3	19.06	21-Jan-91
P210089	5900.4	5880.5	19.89	1-Apr-91
P210089	5900.4	5881.0	19.39	18-Apr-91
P210089	5900.4	5881.3	19.1	2-Jul-91
P210089	5900.4	5881.6	18.8	8-Jul-91
P210089	5900.4	5882.1	18.34	1-Oct-91
P210089	5900.4	5882.2	18.23	8-Oct-91
P210089	5900.4	5894.5	5.92	3-Jan-92
P210089	5900.4	5881.6	18.8	9-Jan-92
P210089	5900.4	5881.2	19.21	2-Apr-92
P210089	5900.4	5881.3	19.09	7-Apr-92
P210089	5900.4	5882.0	18.42	2-Jul-92
P210089	5900.4	5882.6	17.77	27-Jul-92
P210089	5900.4	5881.7	18.72	2-Oct-92
P210089	5900.4	5881.8	18.6	5-Oct-92
P210089	5900.4	5881.8	18.59	13-Jan-93
P210089	5900.4	5881.8	18.57	4-Feb-93
P210089	5900.4	5880.3	20.11	5-Apr-93
P210089	5900.4	5880.9	19.48	22-Apr-93

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P210089	5900.4	5881.4	19.05	13-Jul-93
P210089	5900.4	5882.3	18.13	19-Aug-93
P210089	5900.4	5880.2	20.19	6-Oct-93
P210089	5900.4	5880.9	19.53	19-Oct-93
P210089	5900.4	5880.9	19.51	3-Jan-94
P213889	5955.9	dry	-1	15-Sep-89
P213889	5955.9	dry	-1	19-Jan-90
P213889	5955.9	dry	-1	6-Jul-92
P213889	5955.9	dry	-1	3-Aug-92
P213889	5955.9	dry	-1	3-Sep-92
P213889	5955.9	dry	-1	1-Oct-92
P213889	5955.9	dry	-1	2-Nov-92
P213889	5955.9	dry	-1	2-Dec-92
P213889	5955.9	dry	-1	15-Jan-93
P213889	5955.9	dry	-1	5-Feb-93
P213889	5955.9	dry	-1	29-Mar-93
P213889	5955.9	dry	-1	7-Apr-93
P213889	5955.9	dry	-1	14-May-93
P213889	5955.9	dry	-1	17-Jun-93
P213889	5955.9	dry	-1	7-Jul-93
P213889	5955.9	dry	-1	6-Aug-93
P213889	5955.9	dry	-1	3-Sep-93
P213889	5955.9	dry	-1	2-Nov-93
P213889	5955.9	dry	-1	2-Dec-93
P213889	5955.9	dry	-1	7-Jan-94
P213989	5956.4	dry	-1	15-Sep-89
P213989	5956.4	dry	-1	23-Jan-90
P213989	5956.4	5947.5	8.9	8-Jan-91
P213989	5956.4	dry	-1	6-Jul-92
P213989	5956.4	dry	-1	3-Aug-92
P213989	5956.4	dry	-1	3-Sep-92
P213989	5956.4	dry	-1	1-Oct-92
P213989	5956.4	dry	-1	2-Nov-92
P213989	5956.4	dry	-1	2-Dec-92
P213989	5956.4	dry	-1	15-Jan-93
P213989	5956.4	dry	-1	5-Feb-93
P213989	5956.4	dry	-1	29-Mar-93
P213989	5956.4	dry	-1	7-Apr-93
P213989	5956.4	dry	-1	14-May-93
P213989	5956.4	dry	-1	17-Jun-93
P213989	5956.4	dry	-1	7-Jul-93
P213989	5956.4	dry	-1	6-Aug-93
P213989	5956.4	dry	-1	3-Sep-93
P213989	5956.4	dry	-1	2-Nov-93
P213989	5956.4	dry	-1	2-Dec-93
P213989	5956.4	dry	-1	7-Jan-94
P218389	5958.5	5949.0	9.5	24-Apr-90
P218389	5958.5	5945.9	12.63	11-Jul-90
P218389	5958.5	5945.6	12.86	10-Aug-90
P218389	5958.5	5945.0	13.53	5-Sep-90
P218389	5958.5	5944.5	14.02	1-Oct-90
P218389	5958.5	5944.1	14.44	2-Nov-90
P218389	5958.5	5943.8	14.73	4-Jan-91
P218389	5958.5	5948.0	10.55	7-Jun-91
P218389	5958.5	5945.9	12.58	3-Jul-91
P218389	5958.5	5946.3	12.23	5-Aug-91
P218389	5958.5	5945.0	13.48	4-Sep-91
P218389	5958.5	5942.8	15.74	1-Oct-91

APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P218389	5958.5	5944.1	14.43	4-Nov-91
P218389	5958.5	5946.0	12.48	3-Dec-91
P218389	5958.5	5944.3	14.18	7-Jan-92
P218389	5958.5	5944.0	14.52	6-Feb-92
P218389	5958.5	5943.7	14.76	2-Mar-92
P218389	5958.5	5949.7	8.83	2-Apr-92
P218389	5958.5	5946.8	11.67	5-May-92
P218389	5958.5	5946.8	11.72	9-Jun-92
P218389	5958.5	5945.9	12.64	1-Jul-92
P218389	5958.5	5944.5	13.98	7-Aug-92
P218389	5958.5	5945.3	13.24	4-Sep-92
P218389	5958.5	5944.0	14.53	5-Oct-92
P218389	5958.5	5943.7	14.76	3-Nov-92
P218389	5958.5	5943.8	14.73	7-Dec-92
P218389	5958.5	5943.8	14.73	14-Jan-93
P218389	5958.5	5943.7	14.77	3-Feb-93
P218389	5958.5	5945.5	13.02	29-Mar-93
P218389	5958.5	5945.9	12.58	1-Apr-93
P218389	5958.5	5945.6	12.92	12-May-93
P218389	5958.5	5945.6	12.93	7-Jun-93
P218389	5958.5	5945.8	12.74	1-Jul-93
P218389	5958.5	5944.5	13.98	4-Aug-93
P218389	5958.5	5943.8	14.66	3-Sep-93
P218389	5958.5	5943.7	14.82	4-Oct-93
P218389	5958.5	5944.3	14.21	1-Nov-93
P218389	5958.5	5945.3	13.22	15-Nov-93
P218389	5958.5	5944.1	14.44	1-Dec-93
P218389	5958.5	5943.7	14.8	6-Jan-94
P219189	5943.2	dry	-1	17-Jan-90
P219189	5943.2	5929.0	14.2	25-Apr-90
P219189	5943.2	5930.3	12.86	11-Jul-90
P219189	5943.2	5931.2	12.05	3-Oct-90
P219189	5943.2	5930.3	12.9	4-Jan-91
P219189	5943.2	5932.7	10.55	3-Jul-91
P219189	5943.2	5933.2	10.05	8-Jan-92
P219189	5943.2	5933.4	9.77	2-Apr-92
P219189	5943.2	5933.6	9.58	1-Jul-92
P219189	5943.2	5933.4	9.8	5-Oct-92
P219189	5943.2	5933.3	9.88	13-Jan-93
P219189	5943.2	5933.4	9.78	1-Apr-93
P219189	5943.2	5933.7	9.52	12-May-93
P219189	5943.2	5929.8	13.44	7-Jun-93
P219189	5943.2	5929.9	13.33	14-Jun-93
P219189	5943.2	5929.2	13.96	1-Jul-93
P219189	5943.2	5930.1	13.14	4-Aug-93
P219189	5943.2	5930.4	12.78	3-Sep-93
P219189	5943.2	5930.8	12.42	4-Oct-93
P219189	5943.2	5931.1	12.07	1-Nov-93
P219189	5943.2	5931.3	11.88	17-Nov-93
P219189	5943.2	5929.4	13.8	1-Dec-93
P219189	5943.2	5930.2	12.98	10-Jan-94
P219489	5961.2	dry	-1	19-Jan-90
P219489	5961.2	5936.9	24.34	25-Apr-90
P219489	5961.2	5938.2	22.99	11-Jul-90
P219489	5961.2	5939.6	21.62	1-Oct-90
P219489	5961.2	5940.8	20.43	4-Jan-91
P219489	5961.2	5944.3	16.93	3-Jul-91
P219489	5961.2	5945.5	15.74	1-Oct-91
P219489	5961.2	5946.3	14.88	7-Jan-92

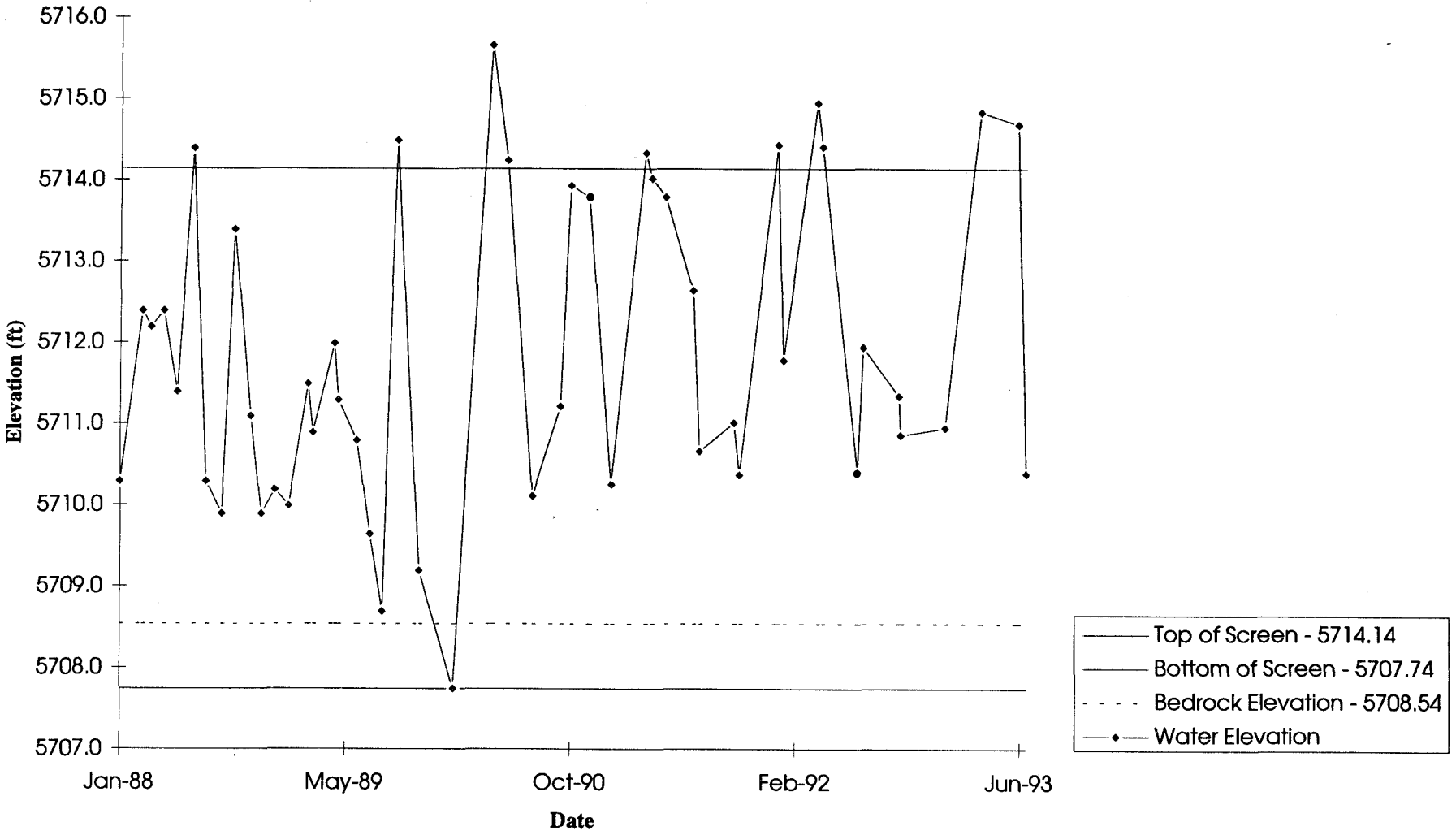
APPENDIX C5
OU6 AND OTHER INVESTIGATIONS GROUNDWATER ELEVATION DATA

Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P219489	5961.2	5946.7	14.48	2-Apr-92
P219489	5961.2	5942.6	18.62	1-Jul-92
P219489	5961.2	5947.7	13.46	5-Oct-92
P219489	5961.2	5947.4	13.85	14-Jan-93
P219489	5961.2	5946.9	14.28	1-Apr-93
P219489	5961.2	5947.2	14.01	12-May-93
P219489	5961.2	5947.4	13.82	7-Jun-93
P219489	5961.2	5947.4	13.78	1-Jul-93
P219489	5961.2	5947.5	13.72	4-Aug-93
P219489	5961.2	5947.4	13.78	3-Sep-93
P219489	5961.2	5947.4	13.84	4-Oct-93
P219489	5961.2	5947.4	13.84	1-Nov-93
P219489	5961.2	5947.4	13.78	15-Nov-93
P219489	5961.2	5937.1	24.1	1-Dec-93
P219489	5961.2	5937.7	23.51	6-Jan-94
P219589	5965.7	dry	-1	17-Jan-90
P219589	5965.7	5938.3	27.41	1-Oct-90
P219589	5965.7	5939.1	26.65	4-Jan-91
P219589	5965.7	5940.1	25.61	3-Jul-91
P219589	5965.7	5940.8	24.93	1-Oct-91
P219589	5965.7	5941.4	24.35	7-Jan-92
P219589	5965.7	5941.8	23.94	2-Apr-92
P219589	5965.7	5942.3	23.44	1-Jul-92
P219589	5965.7	5943.2	22.52	5-Oct-92
P219589	5965.7	5944.0	21.7	14-Jan-93
P219589	5965.7	5944.2	21.47	1-Apr-93
P219589	5965.7	5944.8	20.94	12-May-93
P219589	5965.7	5945.2	20.46	7-Jun-93
P219589	5965.7	5945.4	20.27	1-Jul-93
P219589	5965.7	5945.7	19.96	4-Aug-93
P219589	5965.7	5945.9	19.8	3-Sep-93
P219589	5965.7	5946.0	19.73	4-Oct-93
P219589	5965.7	5946.1	19.62	1-Nov-93
P219589	5965.7	5946.2	19.5	15-Nov-93
P219589	5965.7	5938.2	27.52	1-Dec-93
P219589	5965.7	5938.6	27.1	6-Jan-94

ft - feet
MSL - Mean Sea Level
BTOC - Below Top of Casing
-1 - well was dry
NA - Not Available

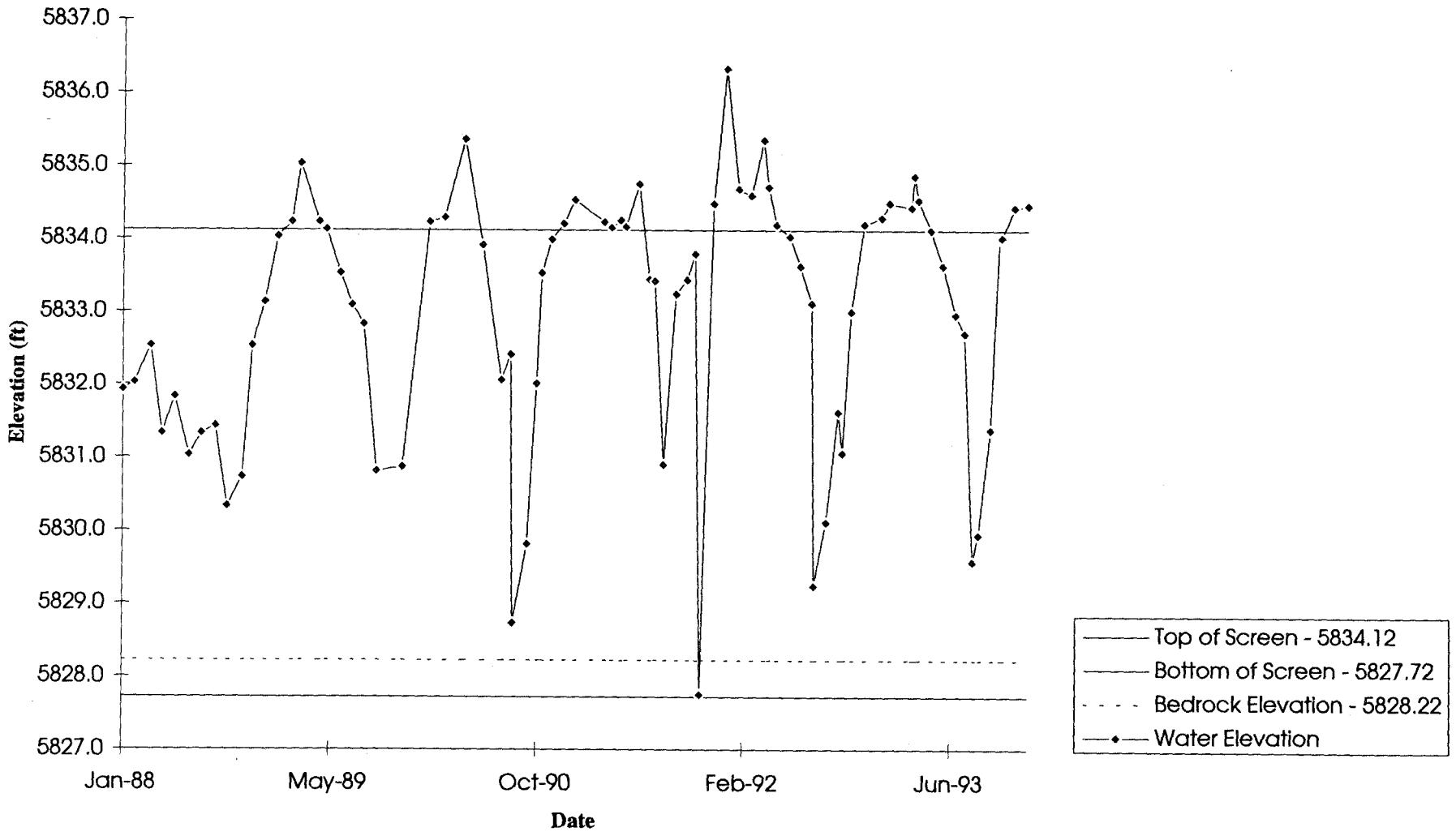
APPENDIX C6
OU6 AND OTHER INVESTIGATIONS GROUNDWATER HYDROGRAPHS

Well 1186 Hydrograph
Valley Fill Alluvium



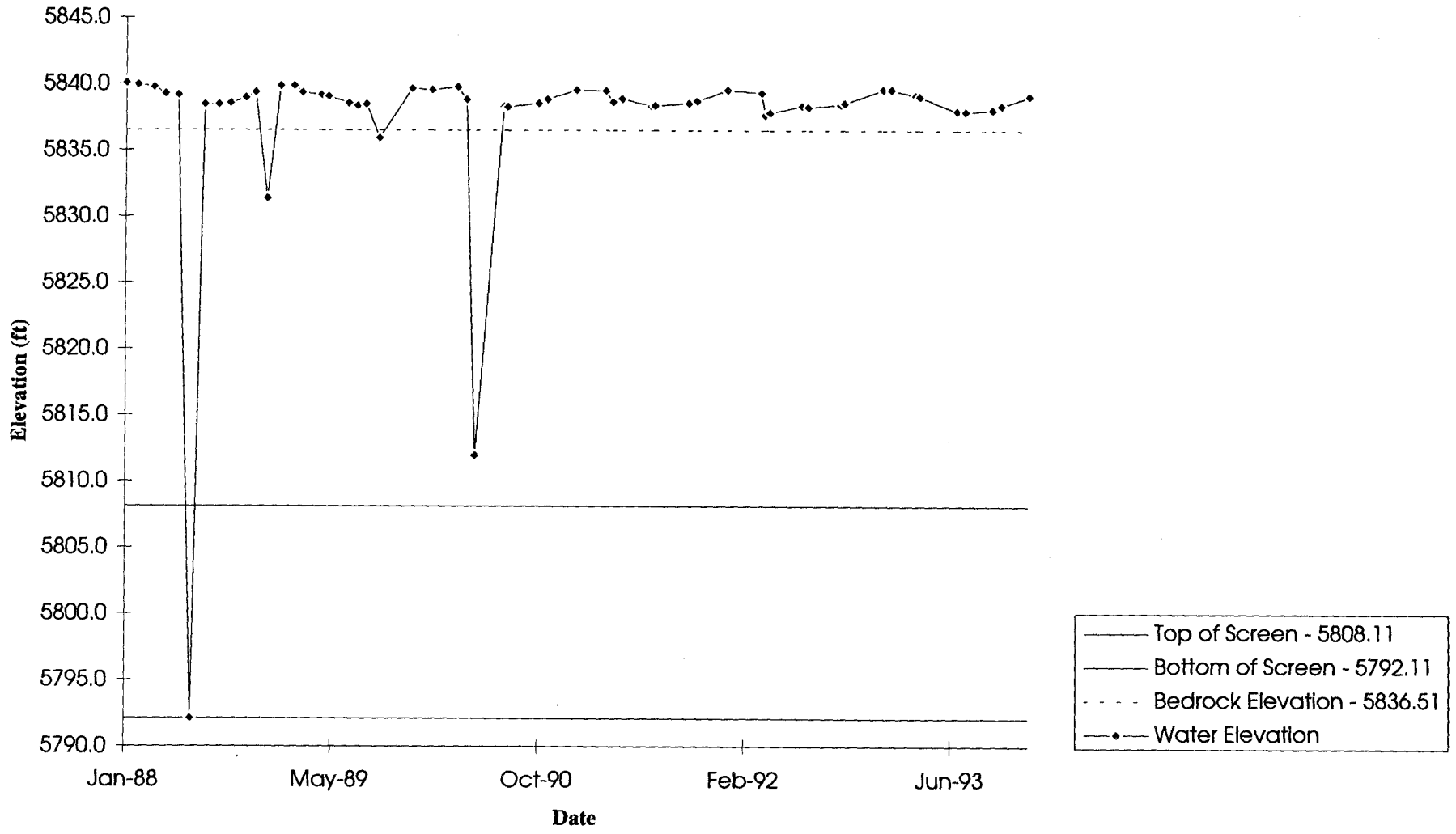
(4047-910-0025-521)(3/10/95 7:24 AM)(1186 Chart 1)

Well 1386 Hydrograph
Valley Fill Alluvium



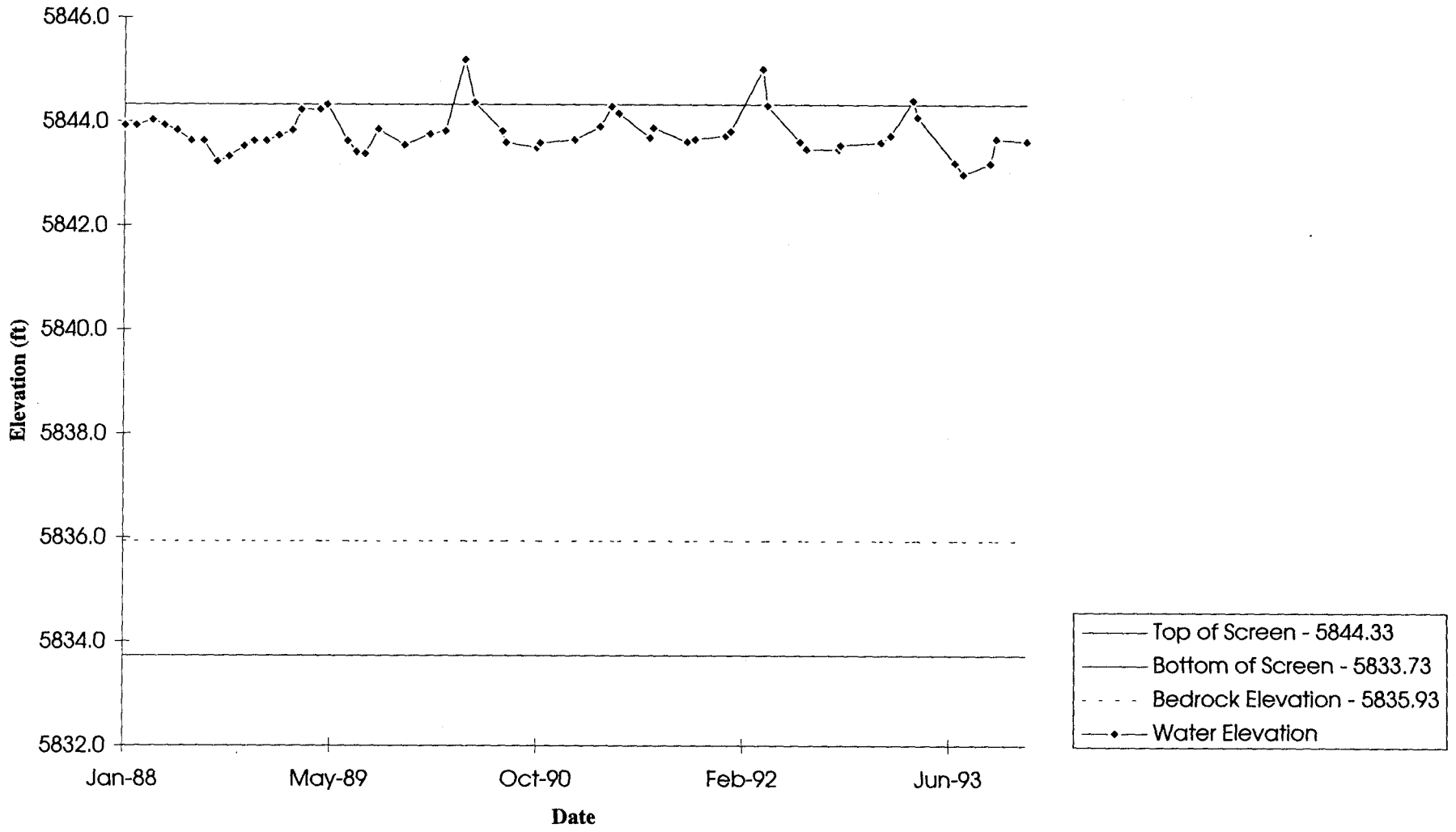
(4047-910-0025-521)(3/10/95 7:31 AM)(1386 Chart 1)

Well 1486 Hydrograph
Bedrock



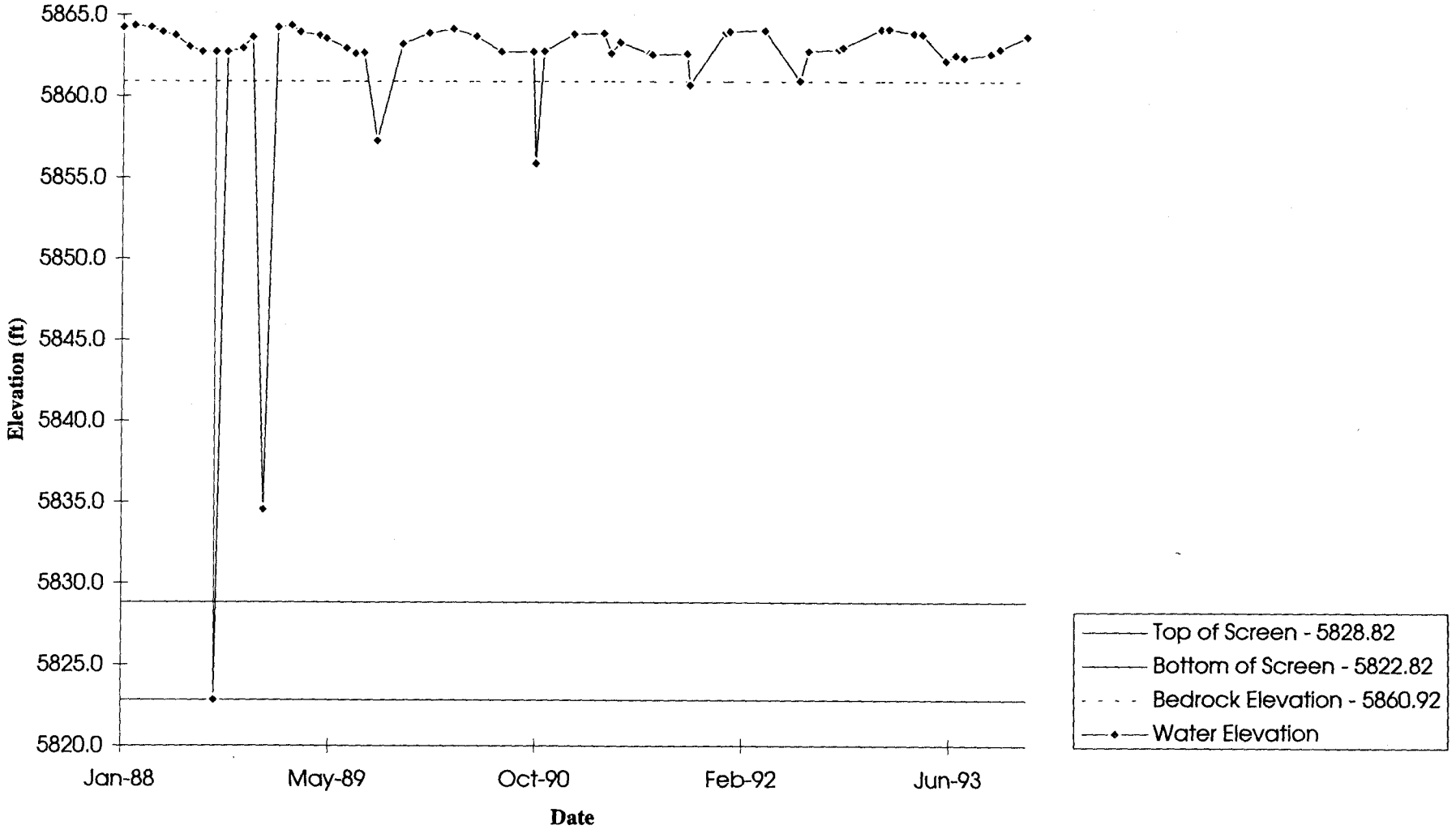
(4047-910-0025-521)(3/10/95 7:24 AM)(1486 Chart 1)

Well 1586 Hydrograph
Valley Fill Alluvium



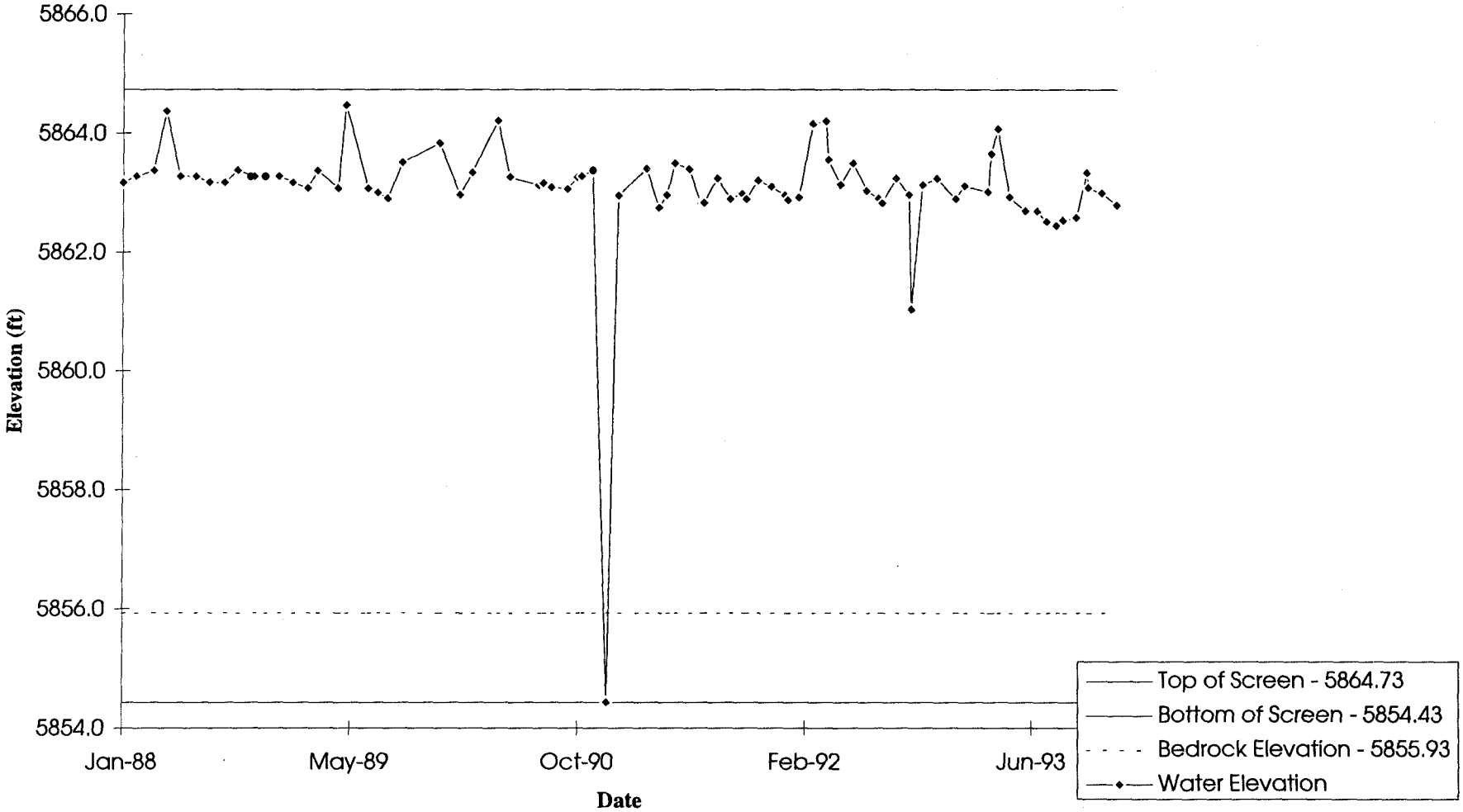
(4047-910-0025-521)(3/10/95 7:24 AM)(1586 Chart 1)

Well 1686 Hydrograph
Bedrock



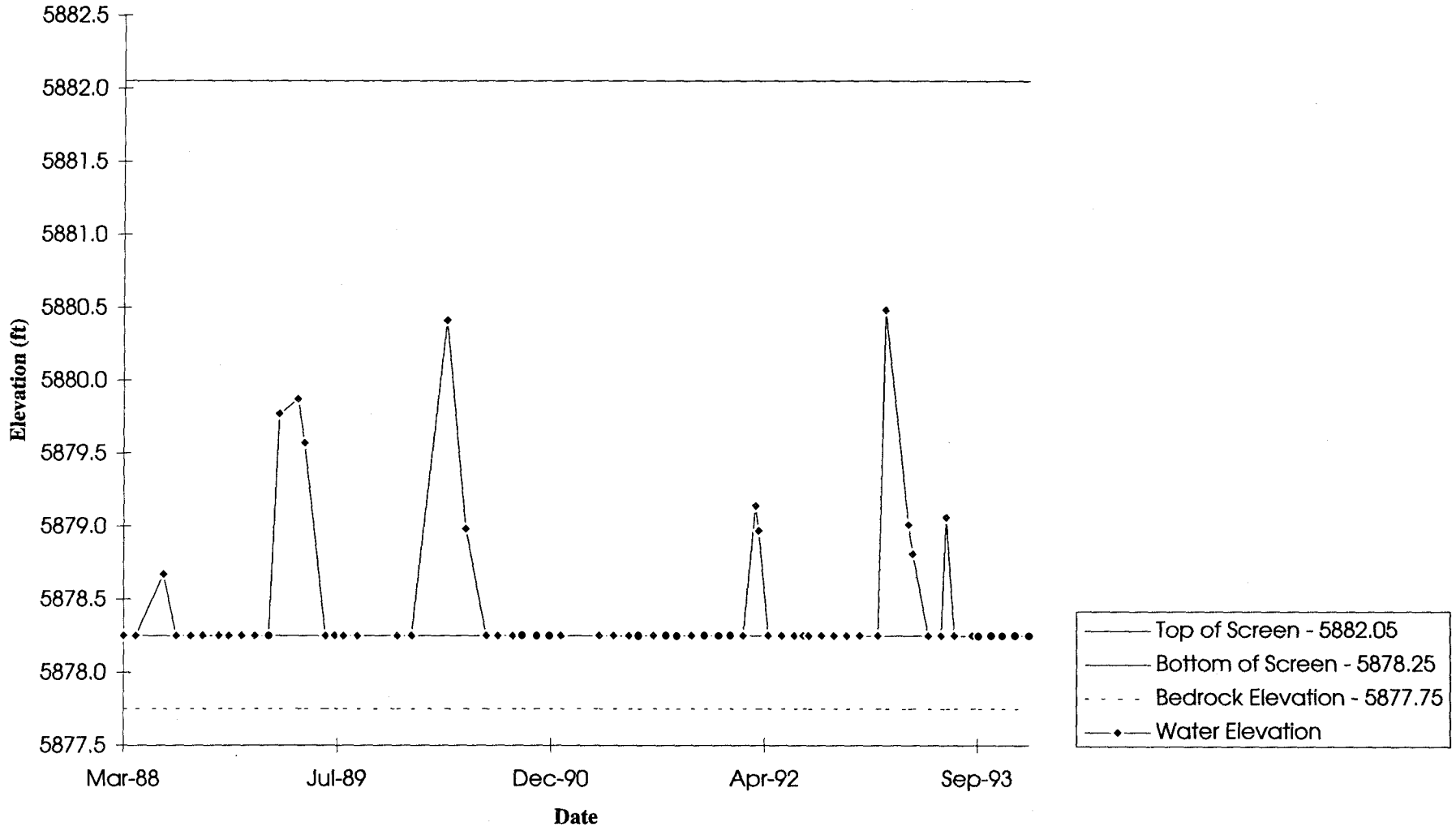
(4047-910-0025-521)(3/10/95 7:24 AM)(1686 Chart 1)

Well 1786 Hydrograph
Valley Fill Alluvium



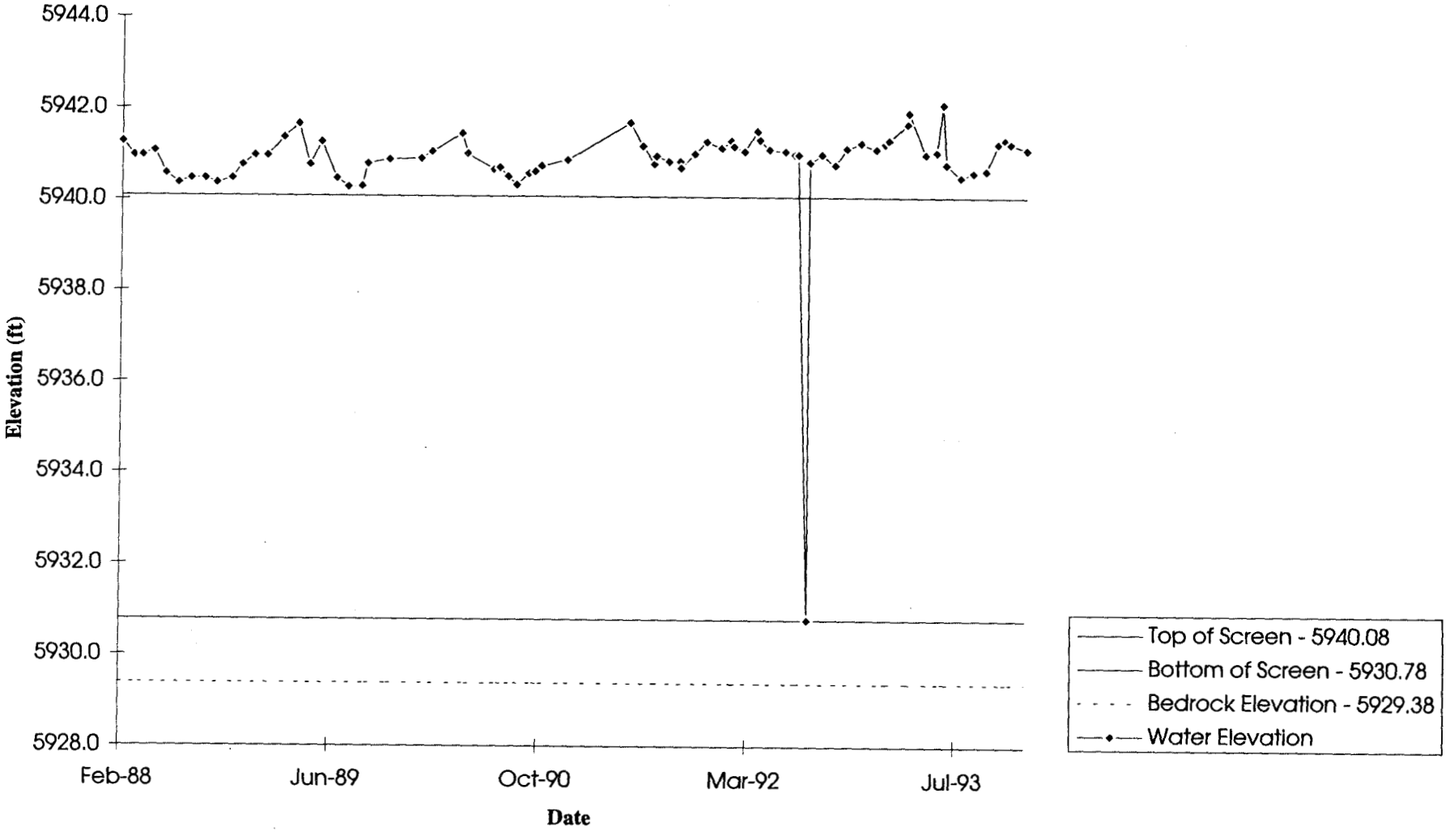
(4047-910-0025-521)(3/10/95 7:24 AM)(1786 Chart 1)

Well 1886 Hydrograph
Valley Fill Alluvium



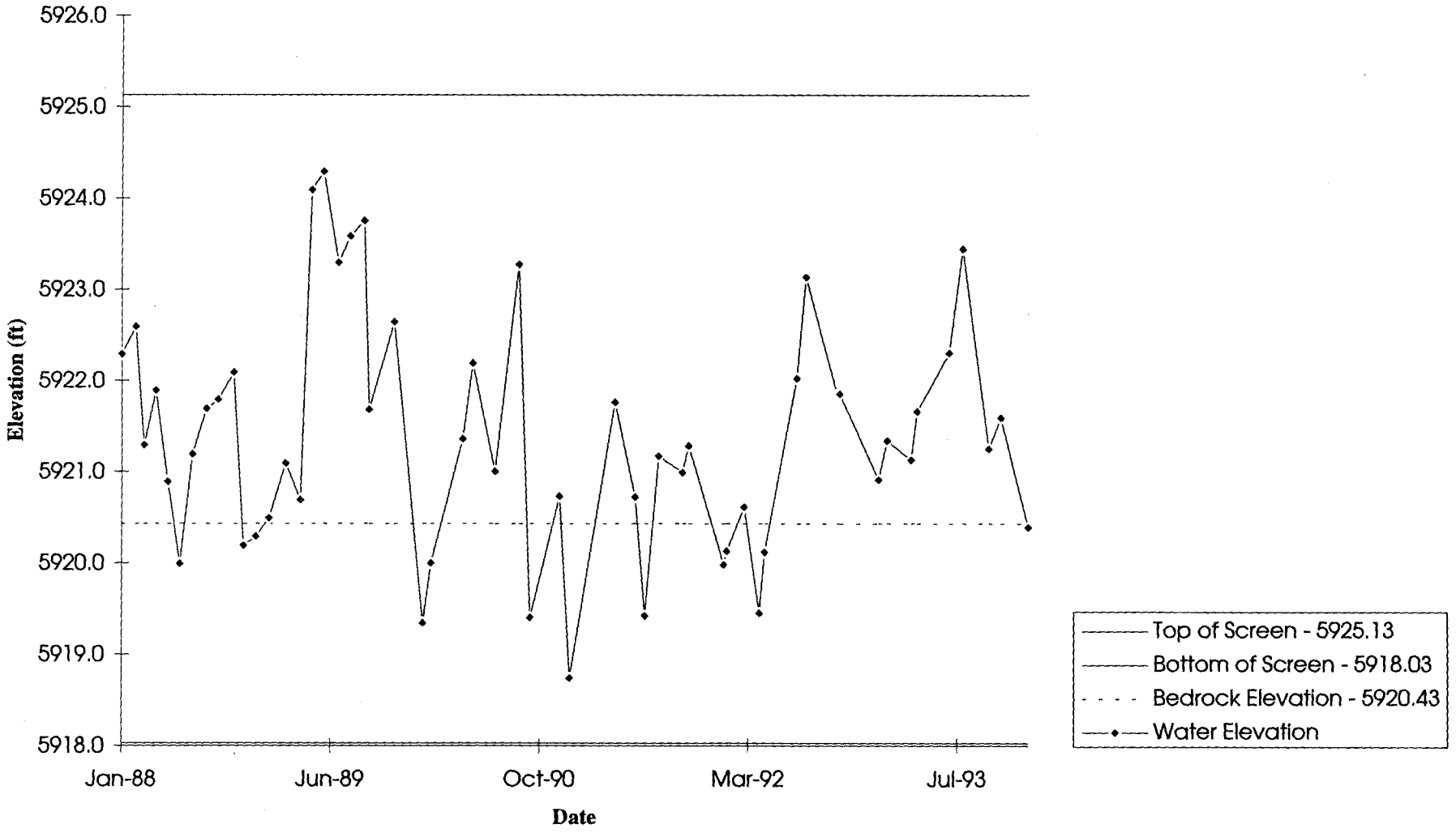
(4047-910-0025-521)(3/10/95 7:24 AM)(1886 Chart 1)

Well 1986 Hydrograph
Valley Fill Alluvium



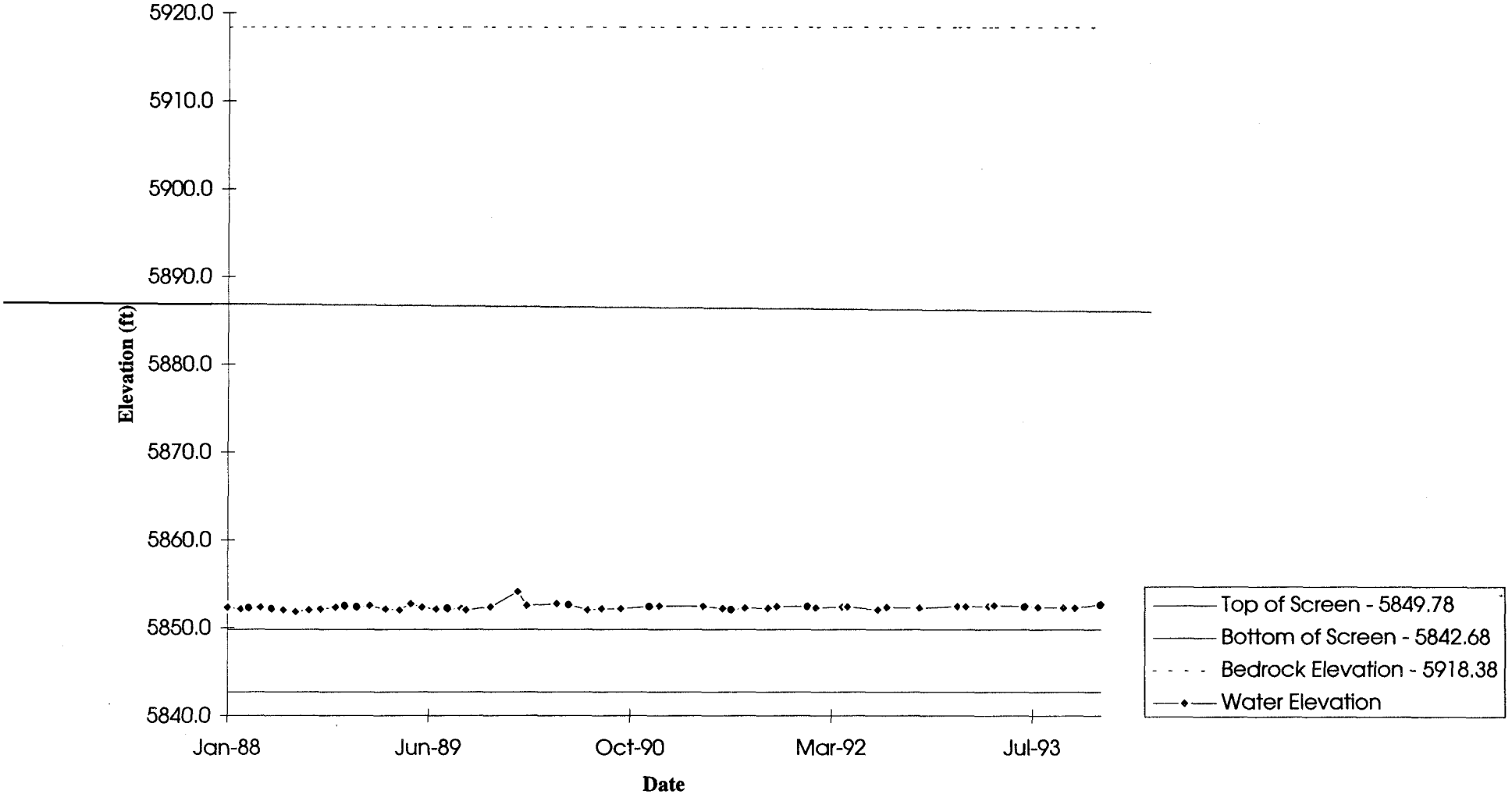
(4047-910-0025-521)(3/10/95 7:27 AM)(1986 Chart 1)

Well 2187 Hydrograph
Valley Fill Alluvium/Bedrock



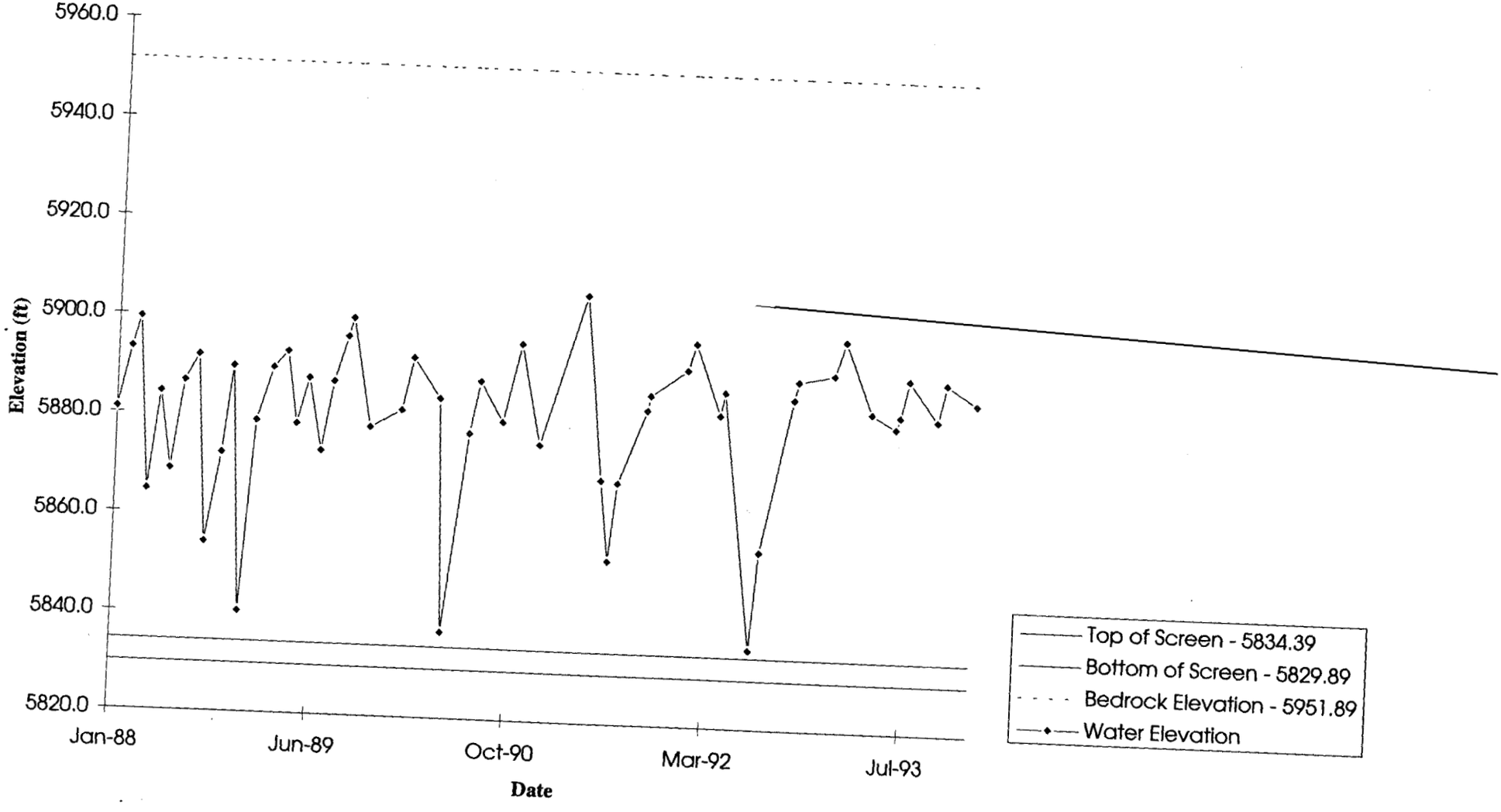
(4047-910-0025-521)(3/10/95 7:27 AM)(2187 Chart 1)

Well 2287 Hydrograph
Bedrock



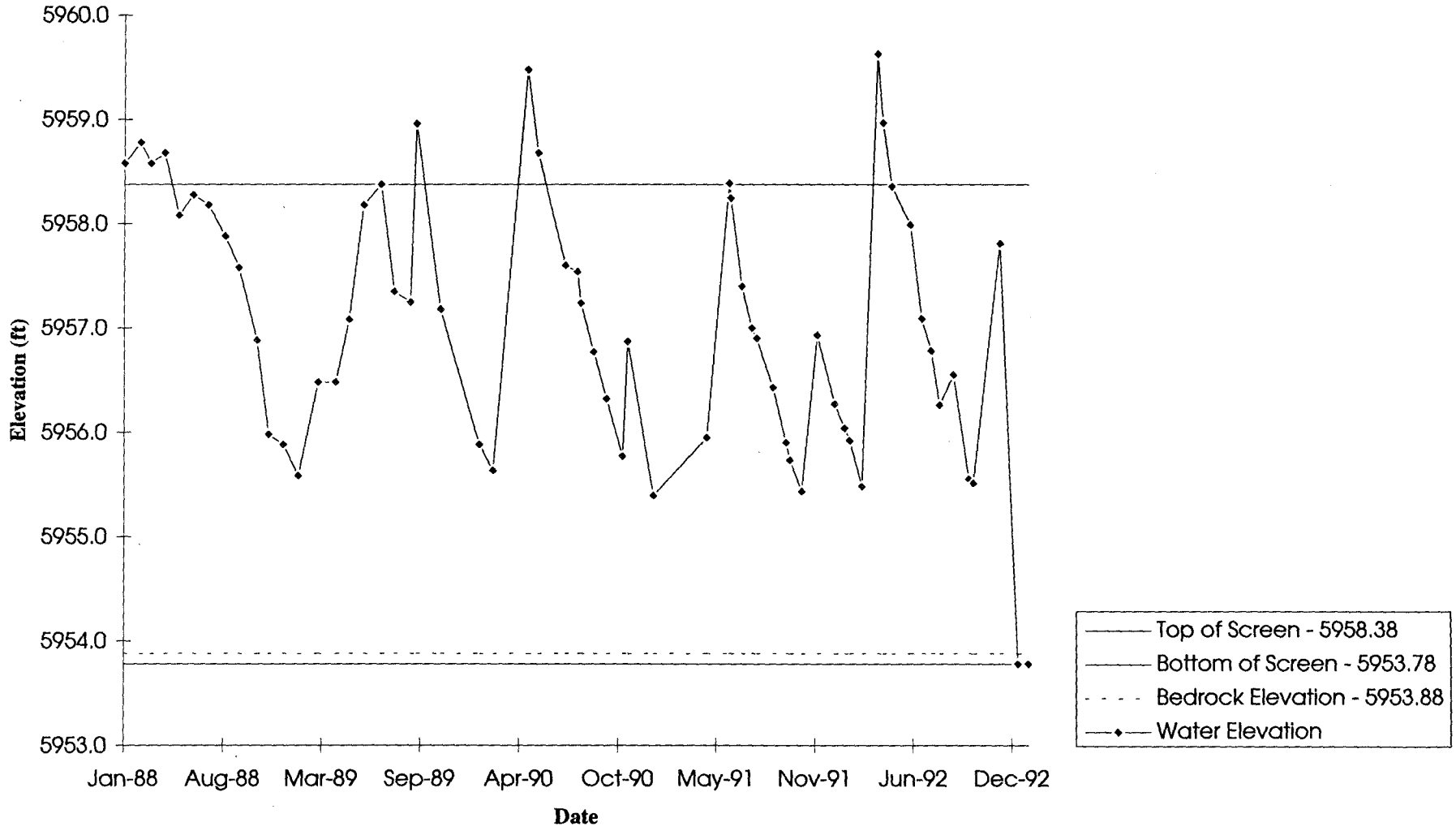
(4047-910-0025-521)(3/10/95 7:27 AM)(2287 Chart 1)

Well 2786 Hydrograph
Bedrock



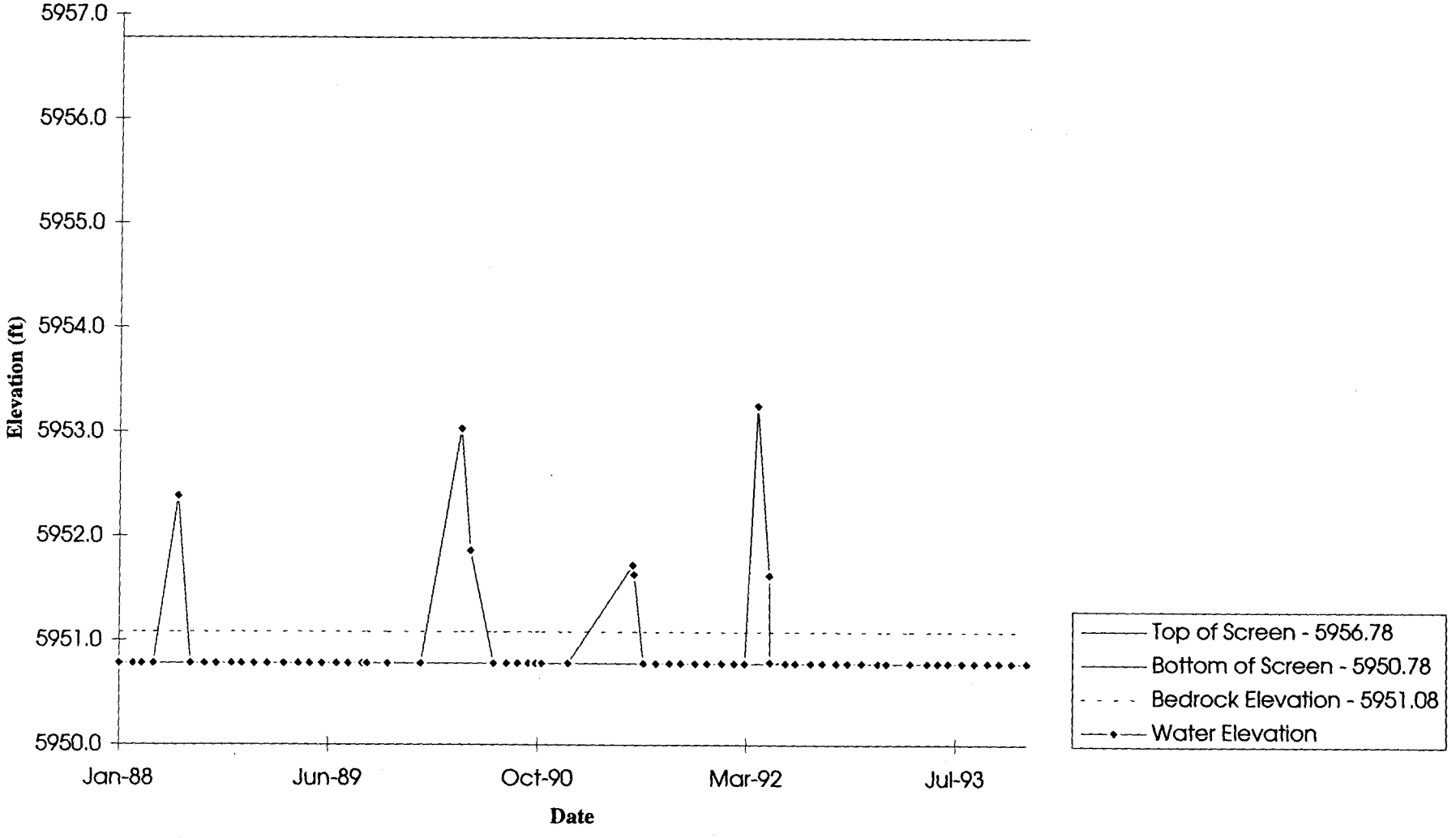
(4047-910-0025-521)(3/10/95 7:27 AM)(2786 Chart 1)

Well 2886 Hydrograph
Rocky Flats Alluvium



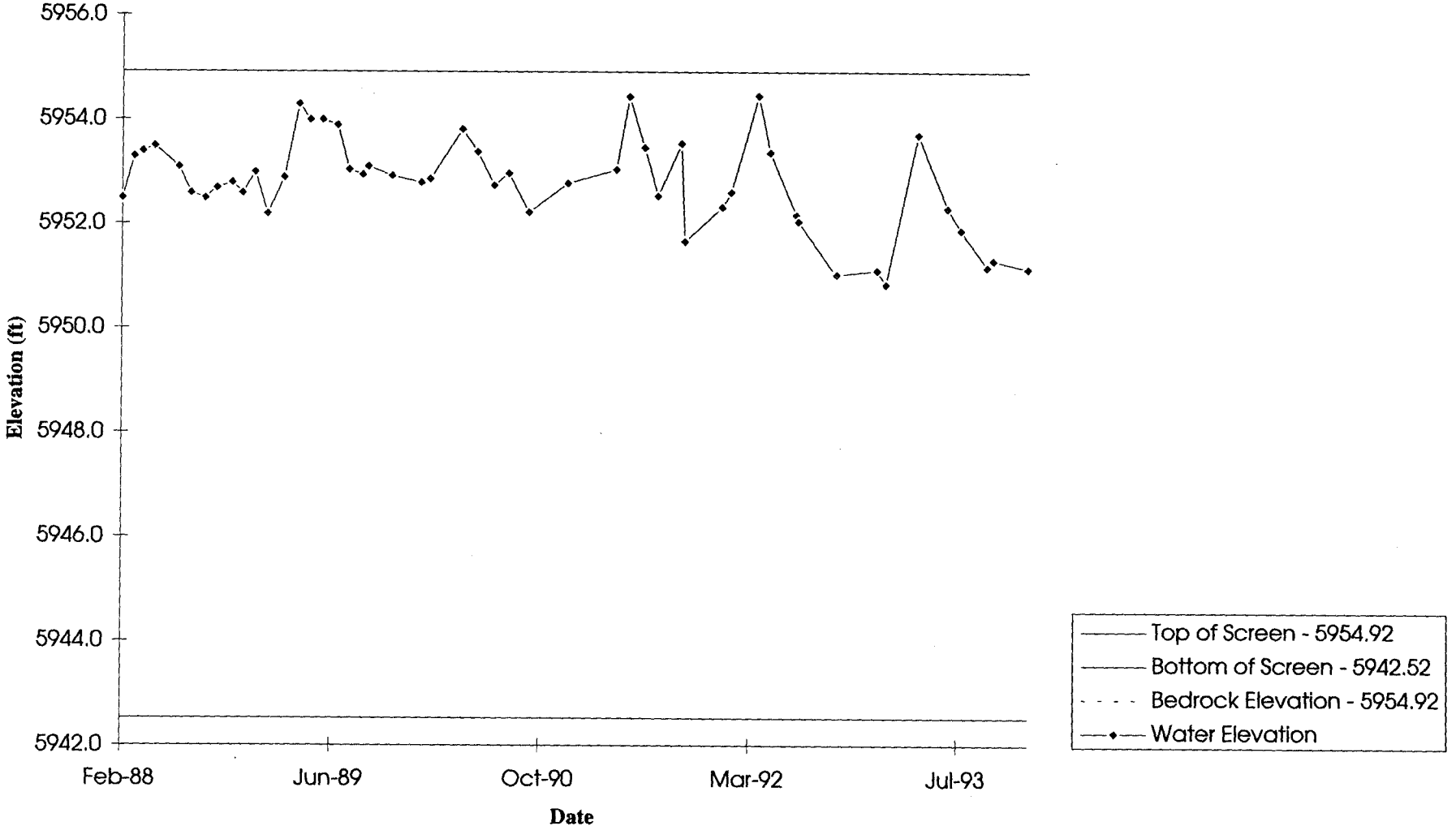
(4047-910-0025-521)(3/10/95 7:27 AM)(2886 Chart 1)

Well 2986 Hydrograph
Colluvium



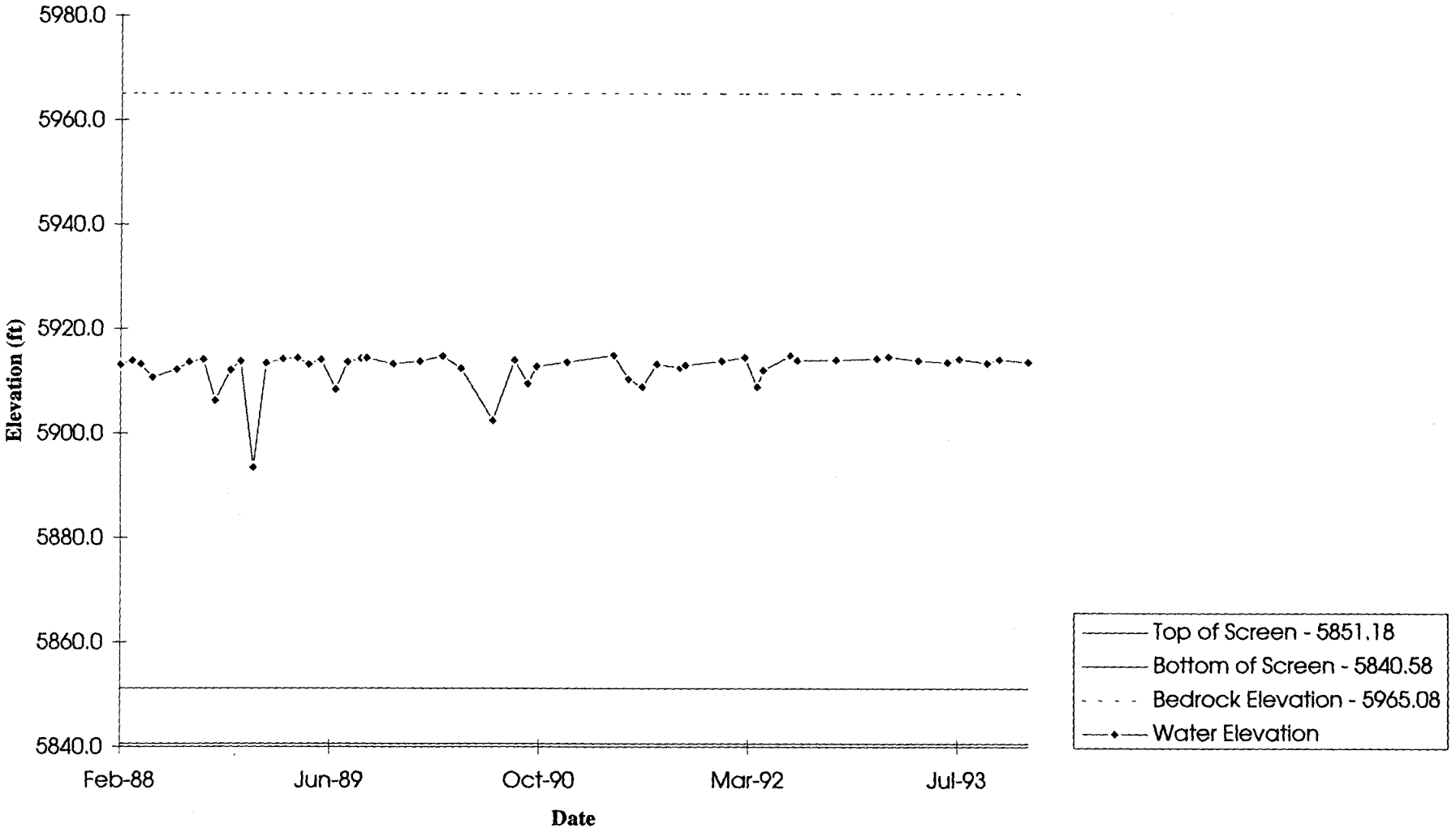
(4047-910-0025-521)(3/10/95 7:27 AM)(2986 Chart 1)

Well 3086 Hydrograph
Bedrock



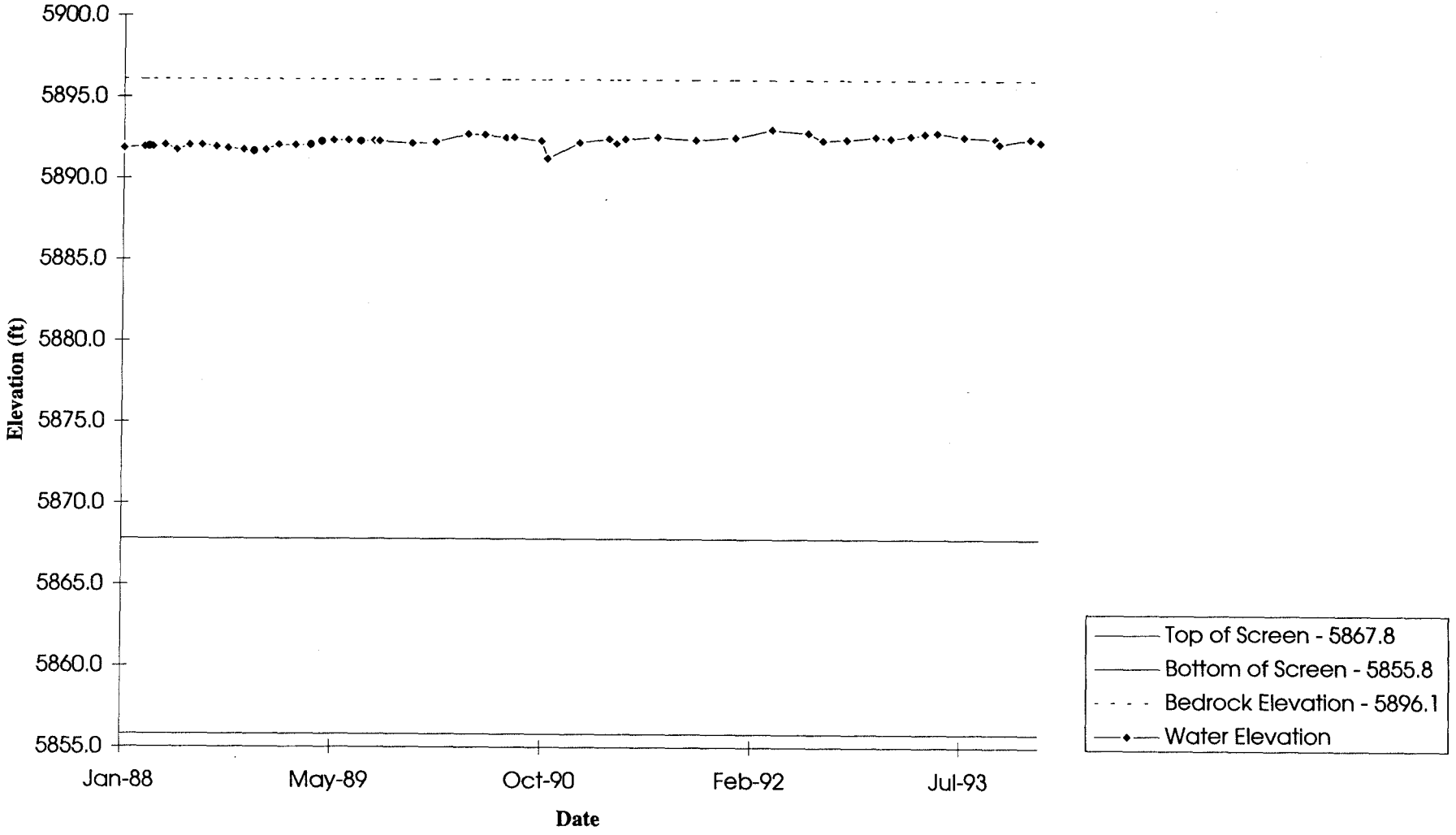
(4047-910-0025-521)(3/10/95 7:27 AM)(3086 Chart 1)

Well 3286 Hydrograph
Bedrock



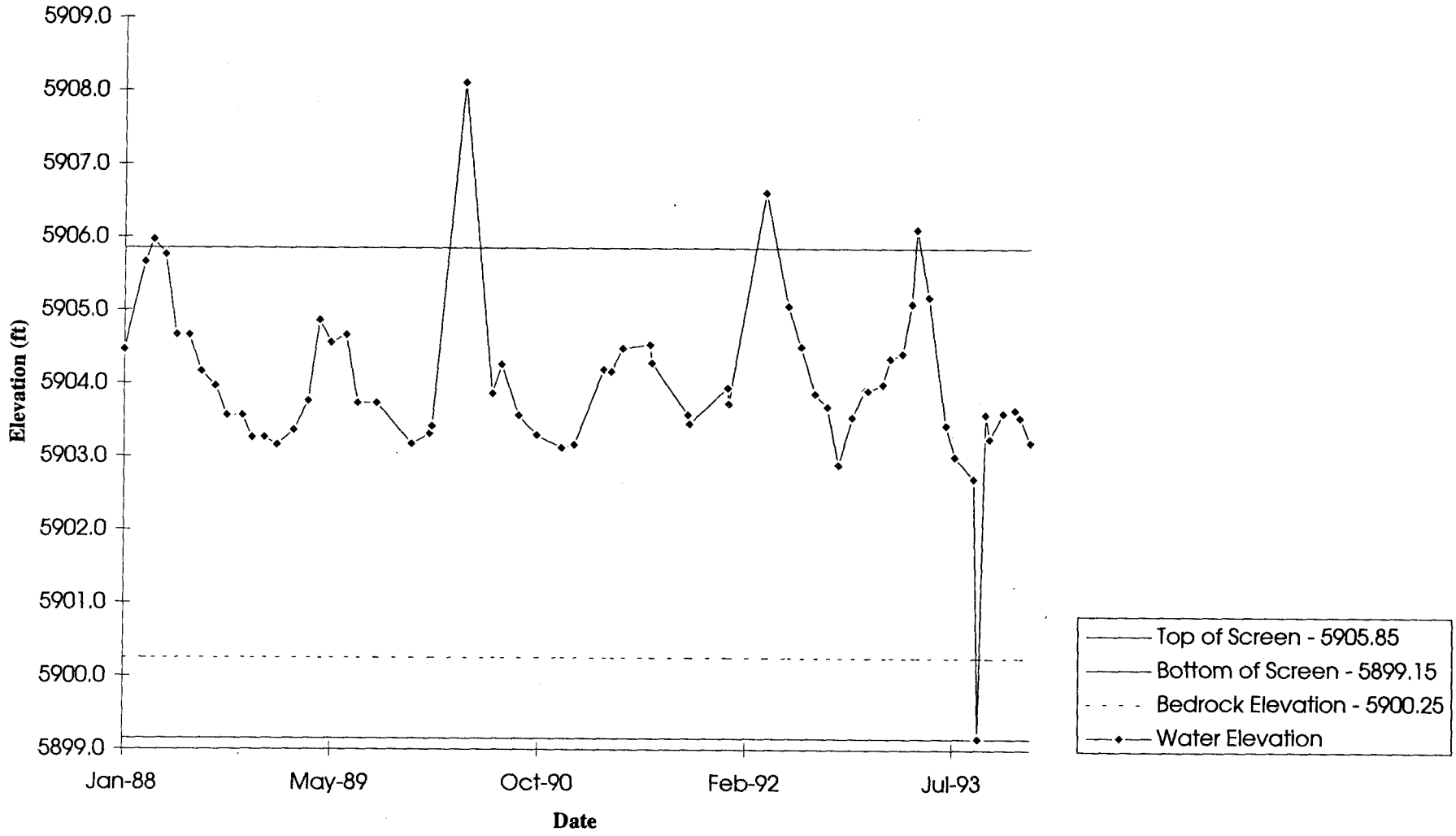
(4047-910-0025-521)(3/10/95 7:27 AM)(3286 Chart 1)

Well 3486 Hydrograph
Bedrock



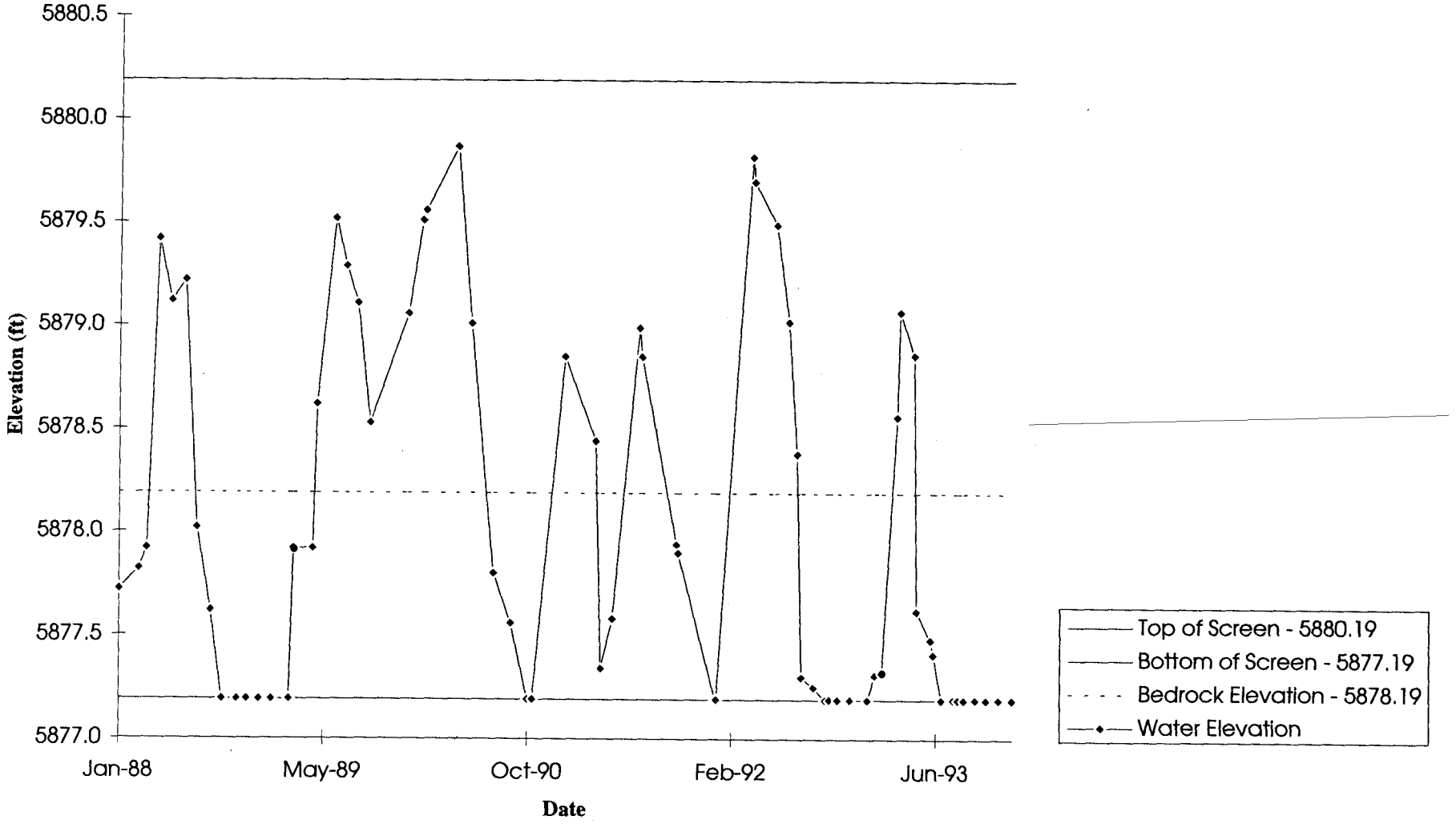
(4047-910-0025-521)(3/10/95 7:27 AM)(3486 Chart 1)

Well 3586 Hydrograph
Valley Fill Alluvium



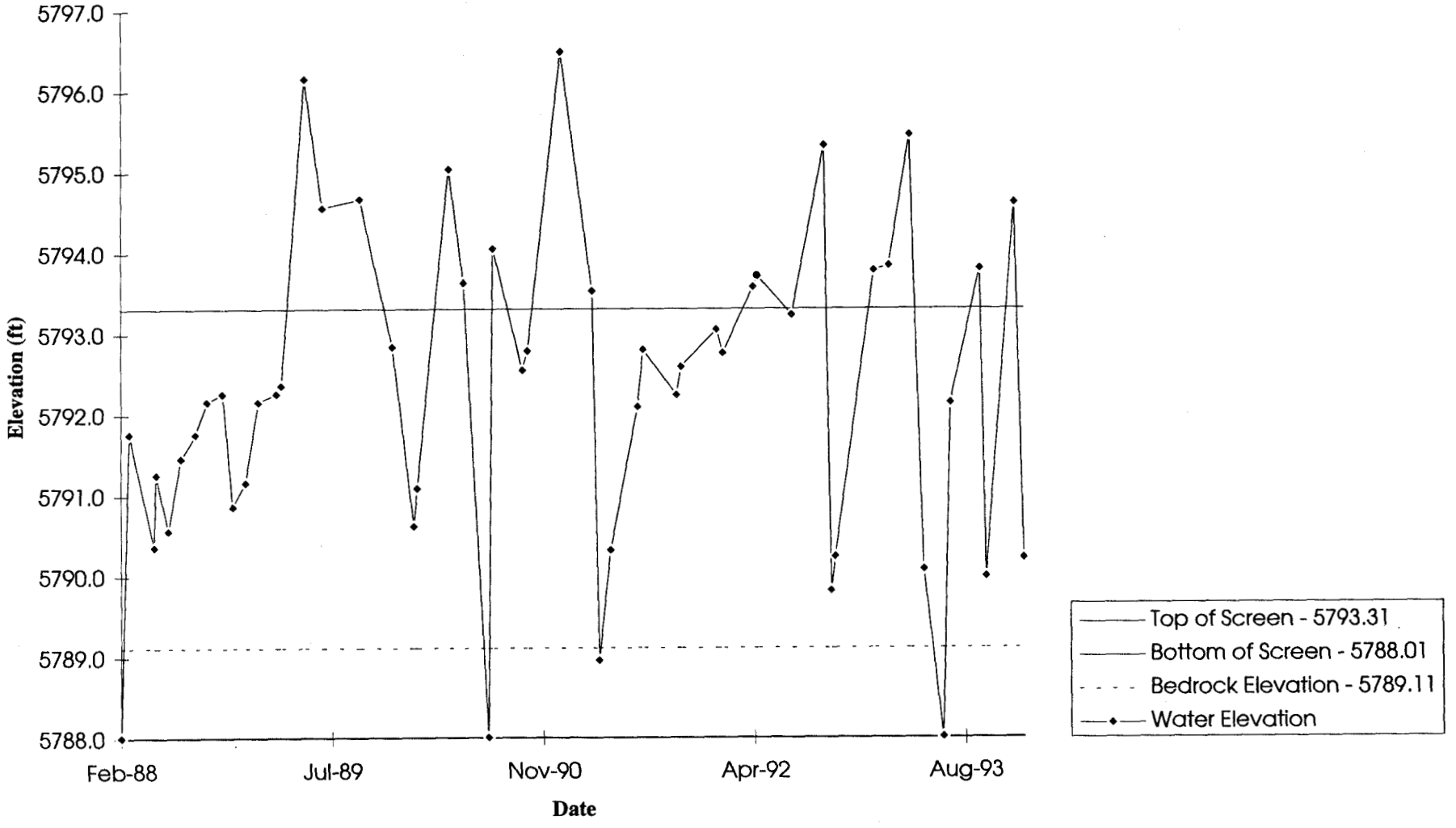
(4047-910-0025-521)(3/10/95 7:27 AM)(3586 Chart 1)

Well 3686 Hydrograph
Valley Fill Alluvium



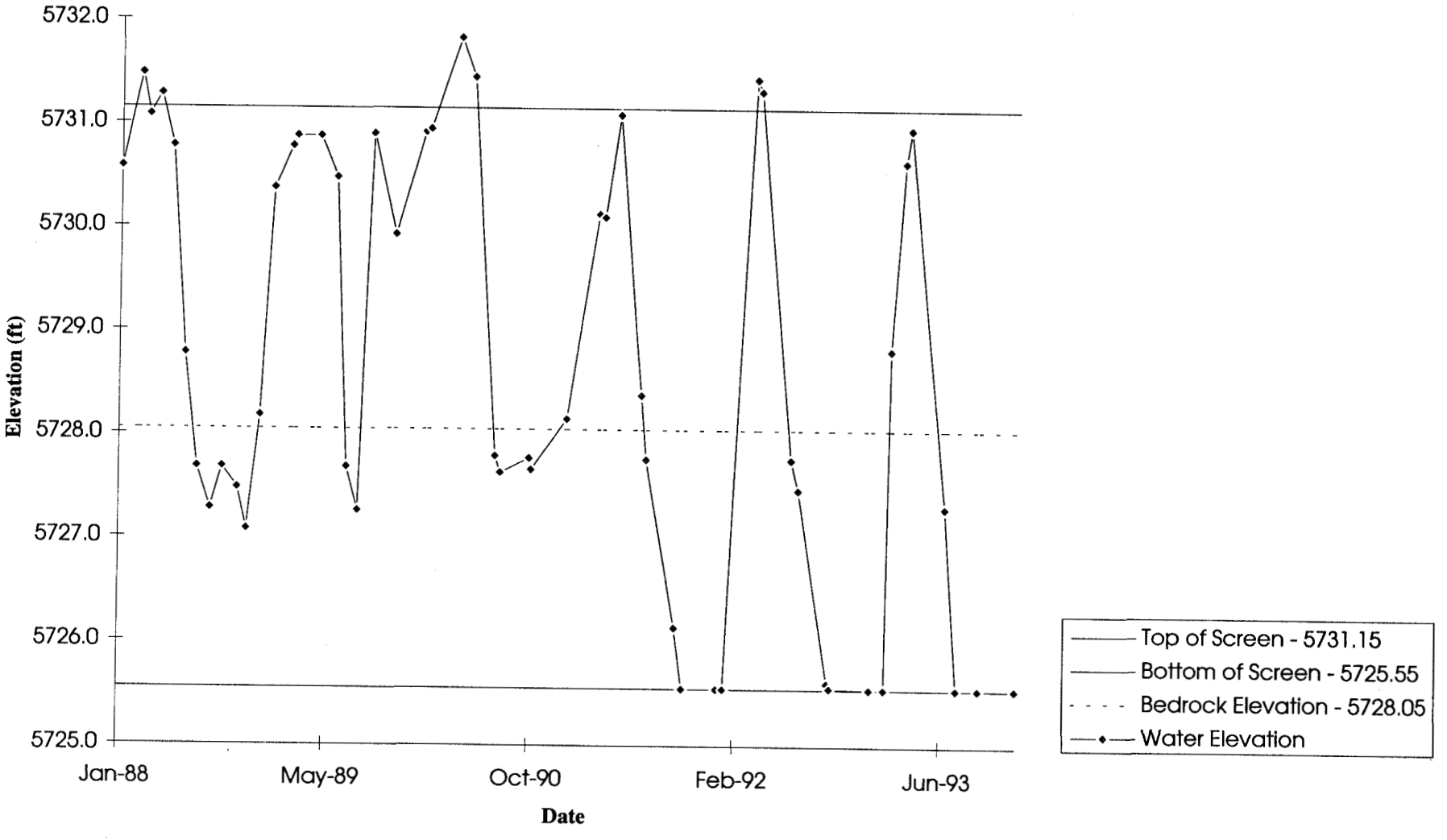
(4047-910-0025-521)(3/10/95 7:27 AM)(3686 Chart 1)

Well 3786 Hydrograph
Valley Fill Alluvium



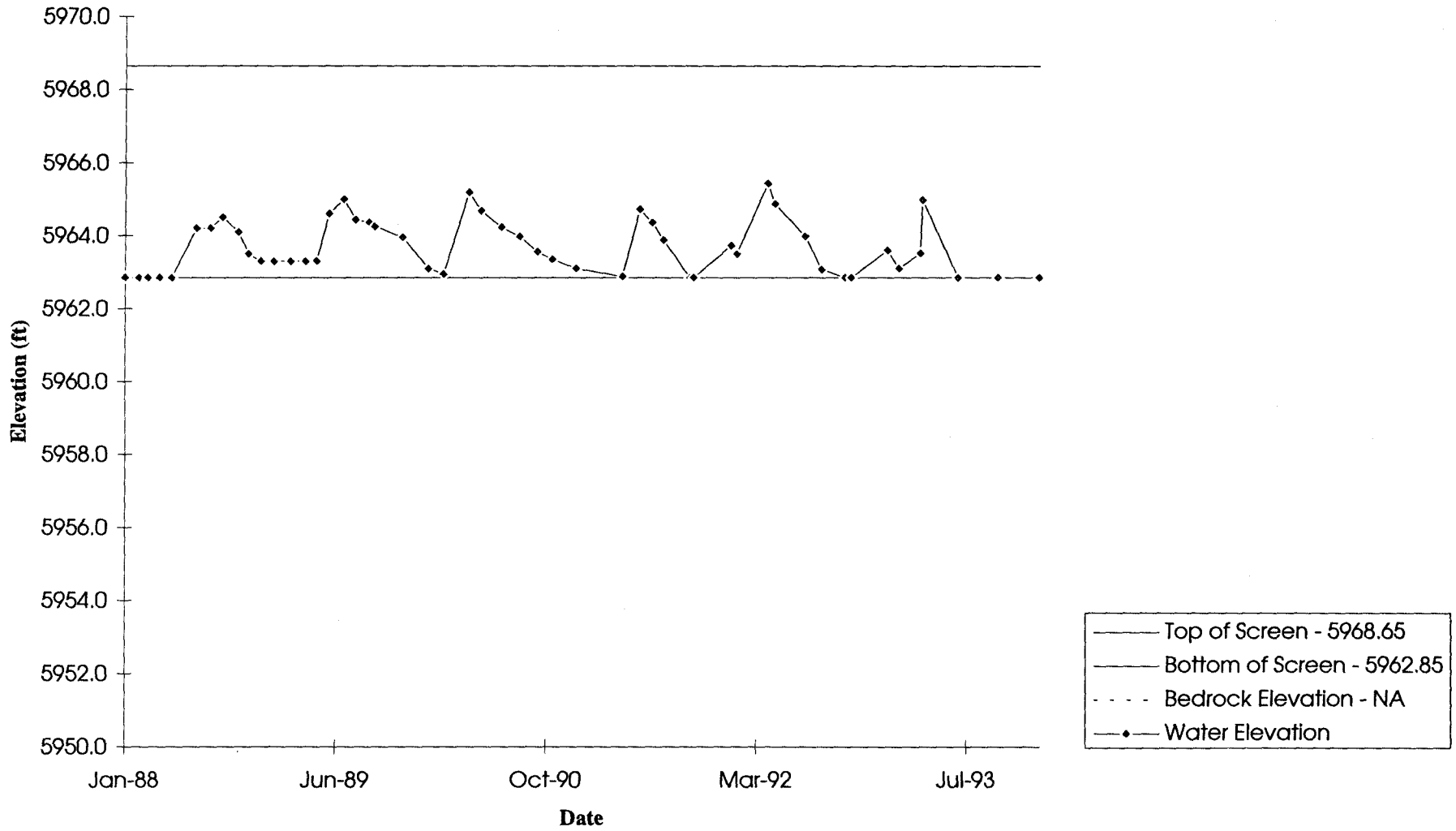
(4047-910-0025-521)(3/10/95 7:27 AM)(3786 Chart 1)

Well 3886 Hydrograph
Valley Fill Alluvium



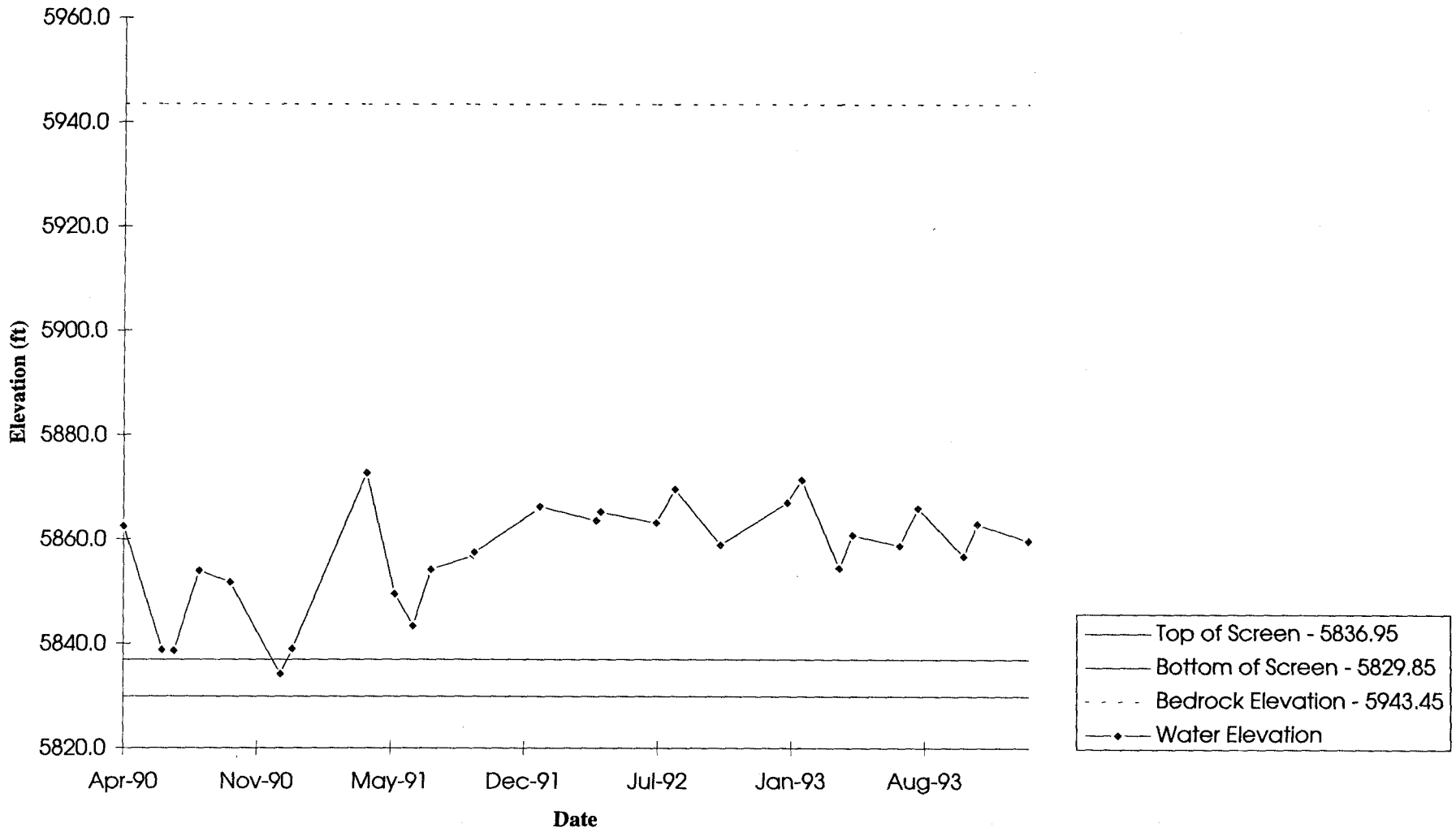
(4047-910-0025-521)(3/10/95 7:27 AM)(3886 Chart 1)

Well 3887 Hydrograph
Rocky Flats Alluvium



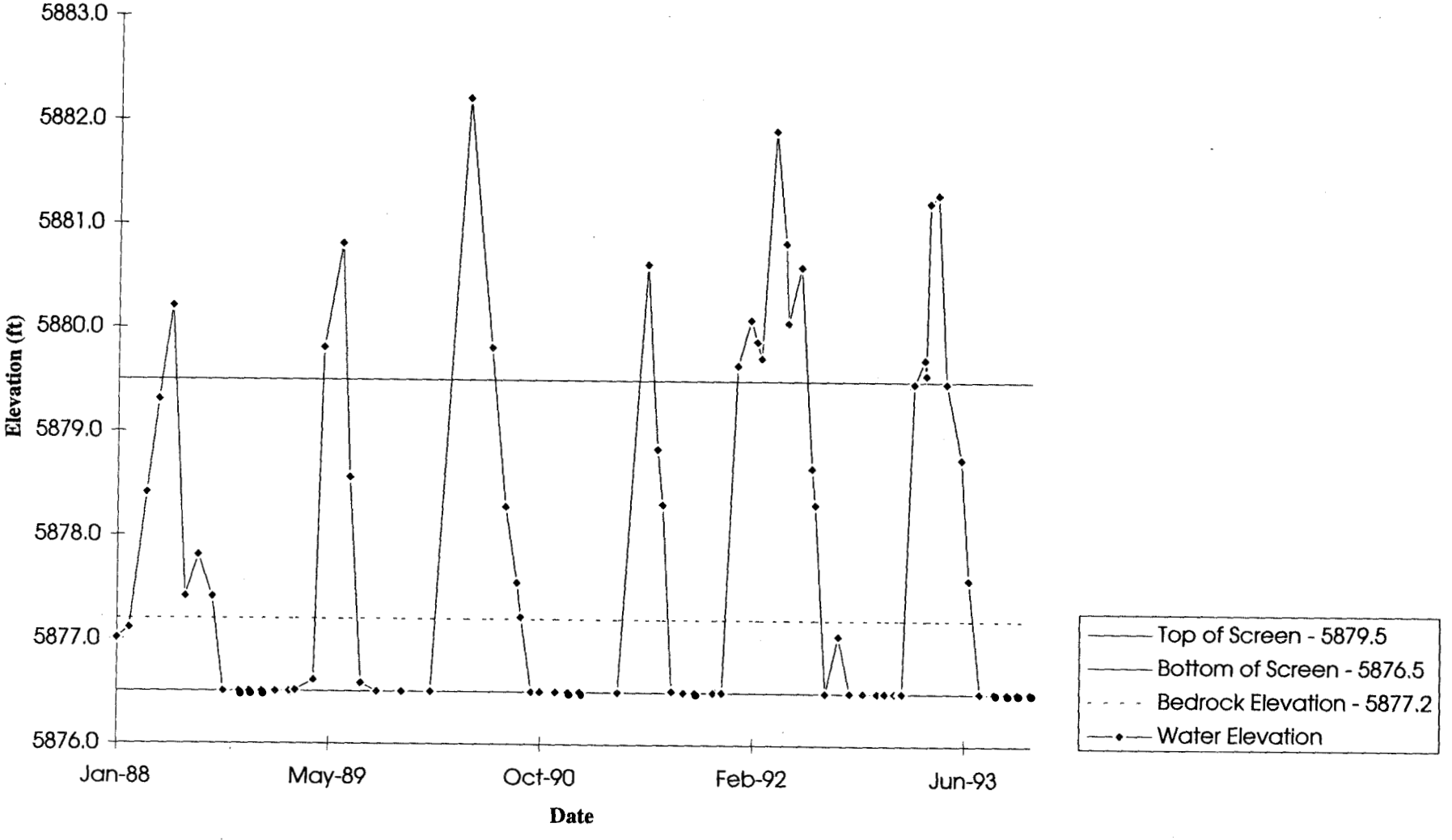
(4047-910-0025-521)(3/10/95 7:28 AM)(3887 Chart 1)

Well 3987 Hydrograph
Bedrock



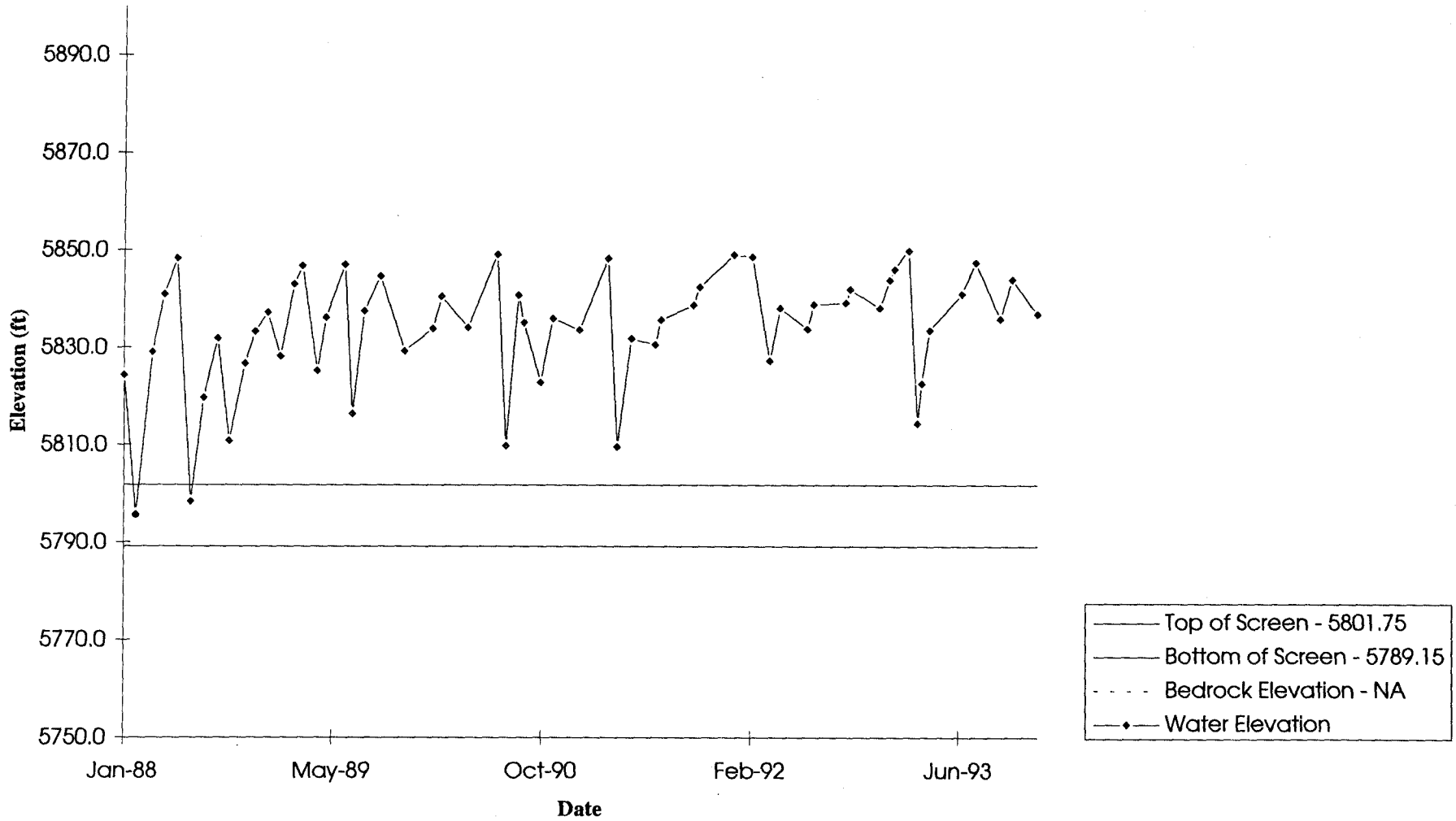
(4047-910-0025-521)(3/10/95 7:28 AM)(3987 Chart 1)

Well 4087 Hydrograph
Alluvium



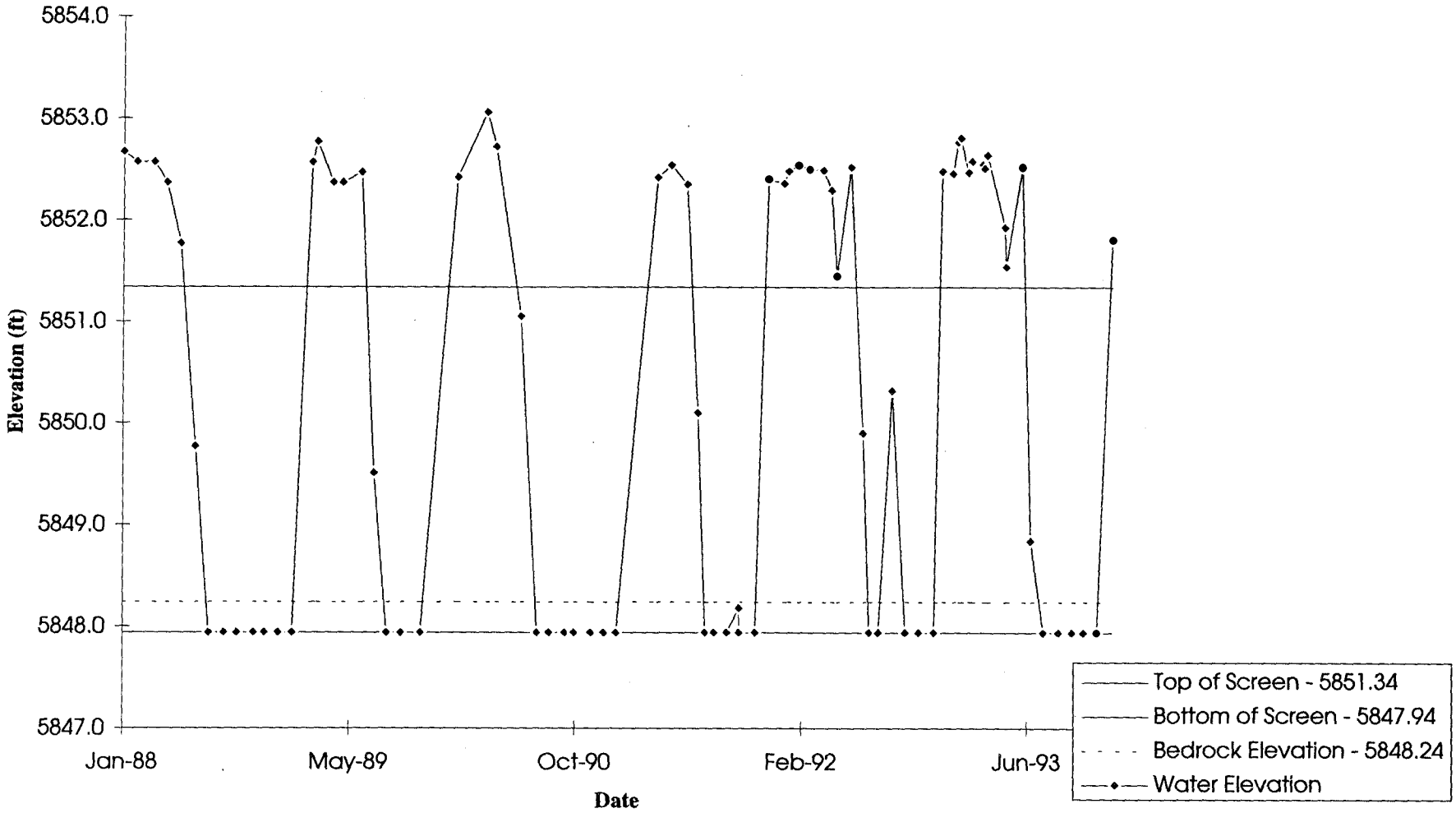
(4047-910-0025-521)(3/10/95 7:28 AM)(4087 Chart 1)

Well 4187 Hydrograph
Bedrock



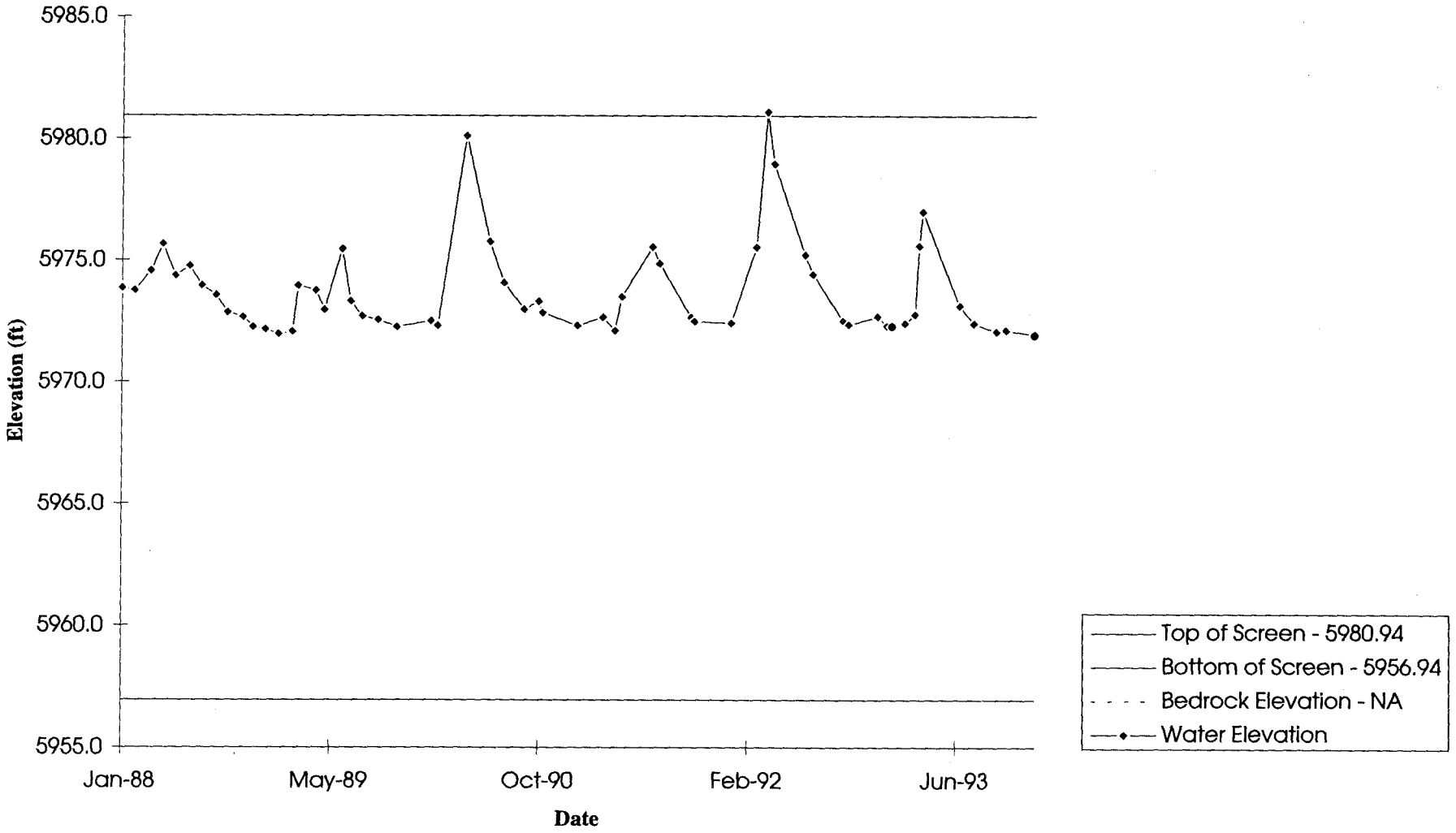
(4047-910-0025-521)(3/10/95 7:28 AM)(4187 Chart 1)

Well 4287 Hydrograph
Valley Fill Alluvium



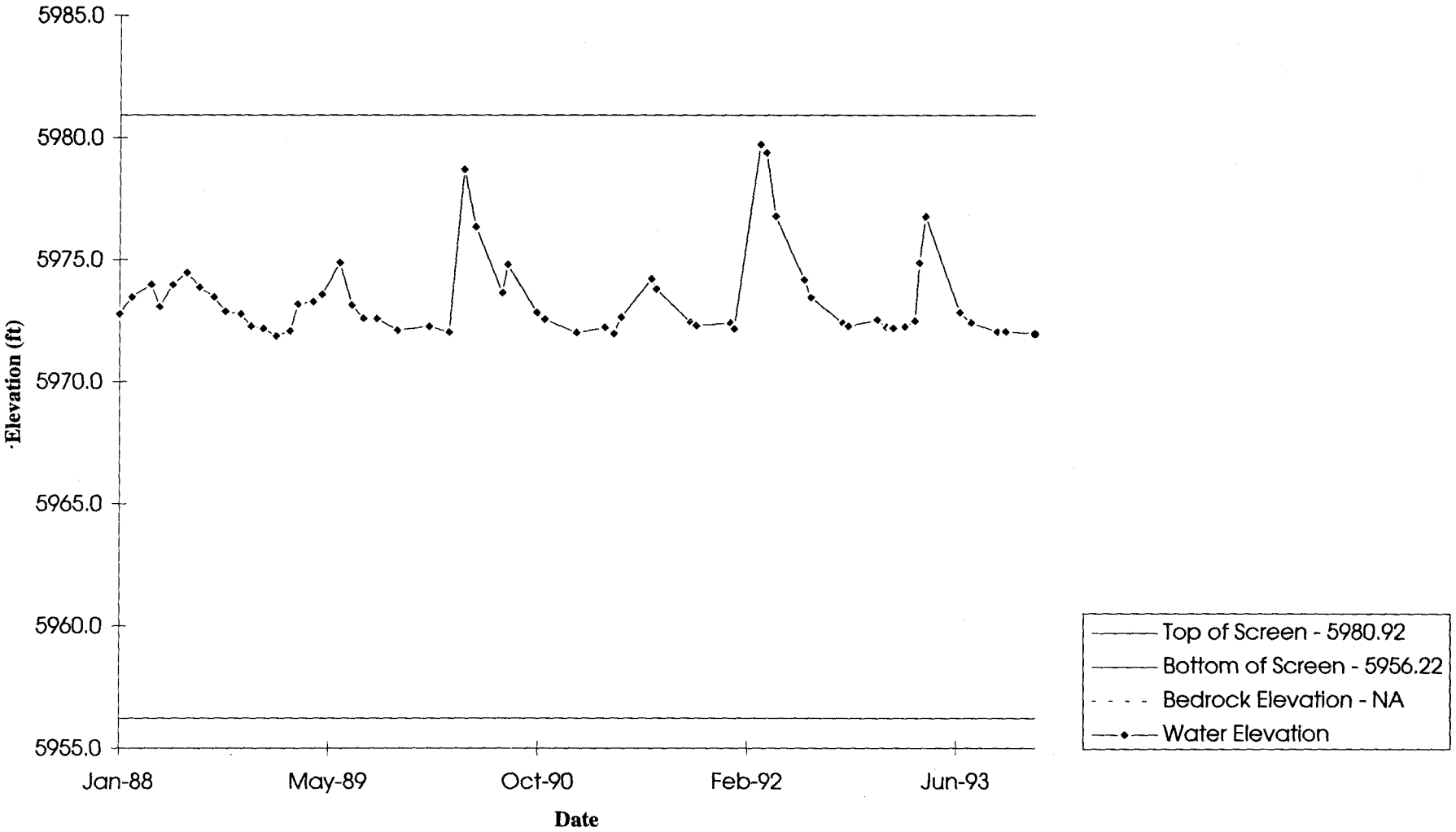
(4047-910-0025-521)(3/10/95 7:28 AM)(4287 Chart 1)

Well 6087 Hydrograph
Rocky Flats Alluvium



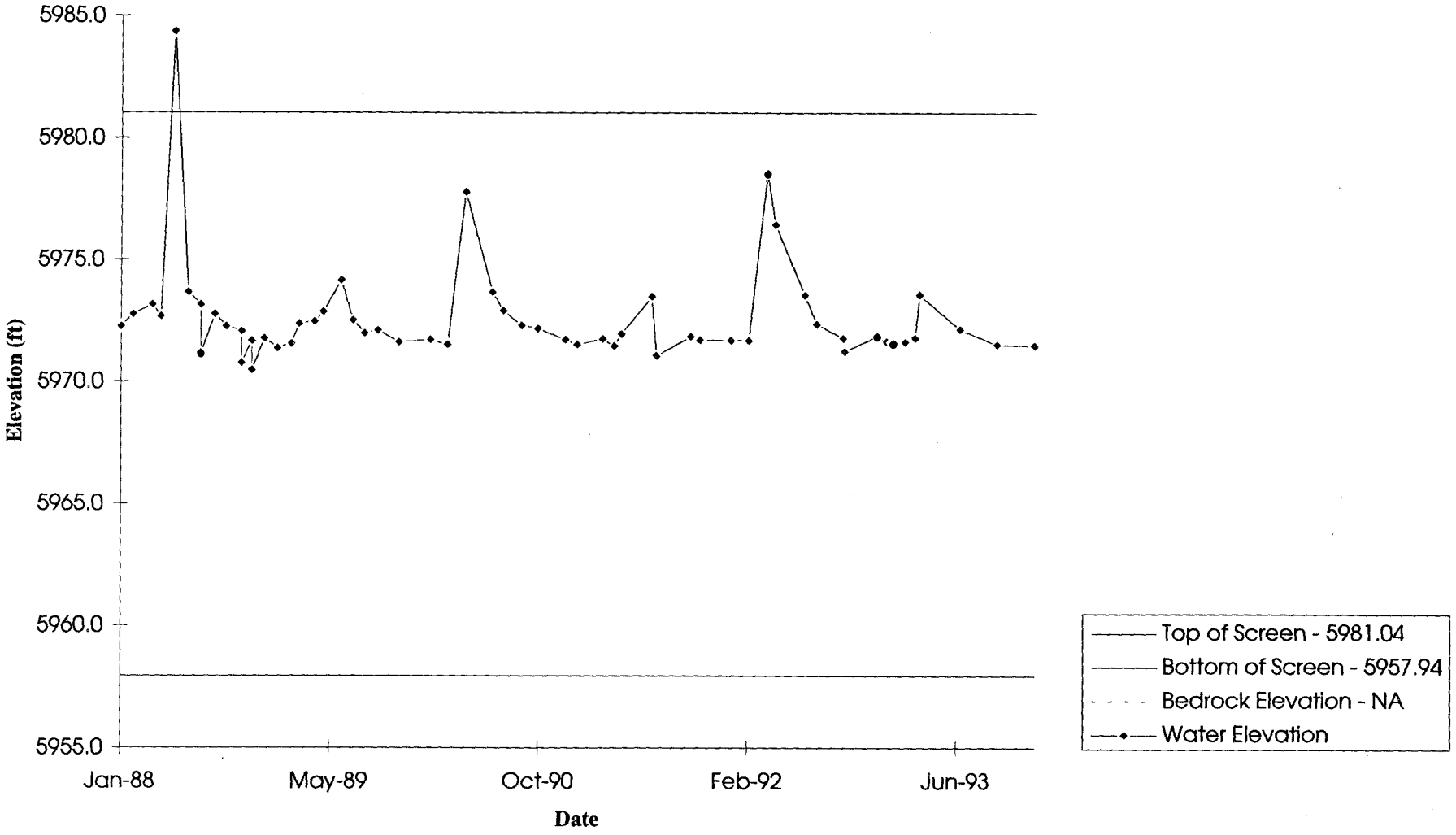
(4047-910-0025-521)(3/10/95 7:28 AM)(6087 Chart 1)

Well 6187 Hydrograph
Rocky Flats Alluvium



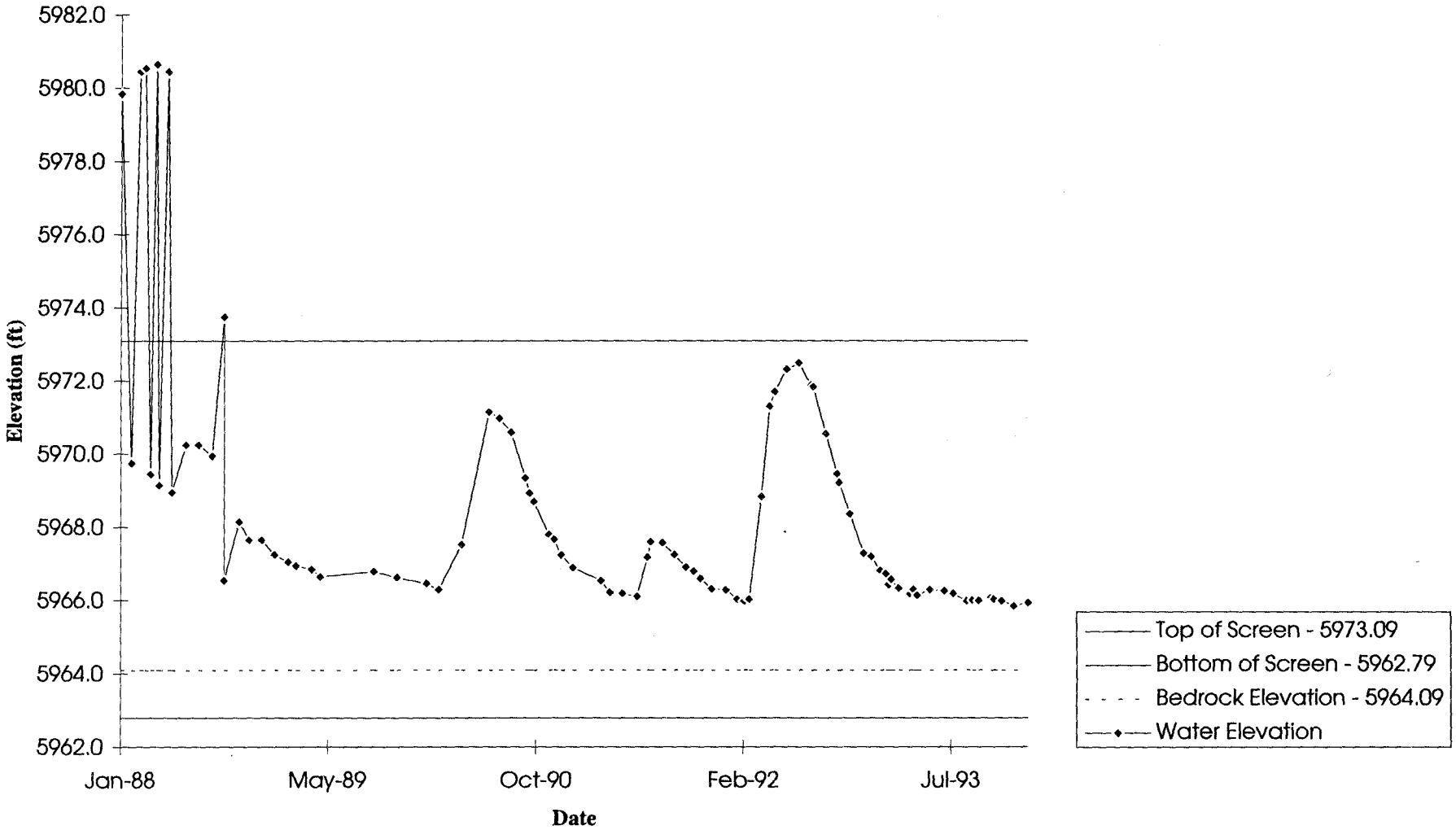
(4047-910-0025-521)(3/10/95 7:28 AM)(6187 Chart 1)

Well 6287 Hydrograph
Rocky Flats Alluvium



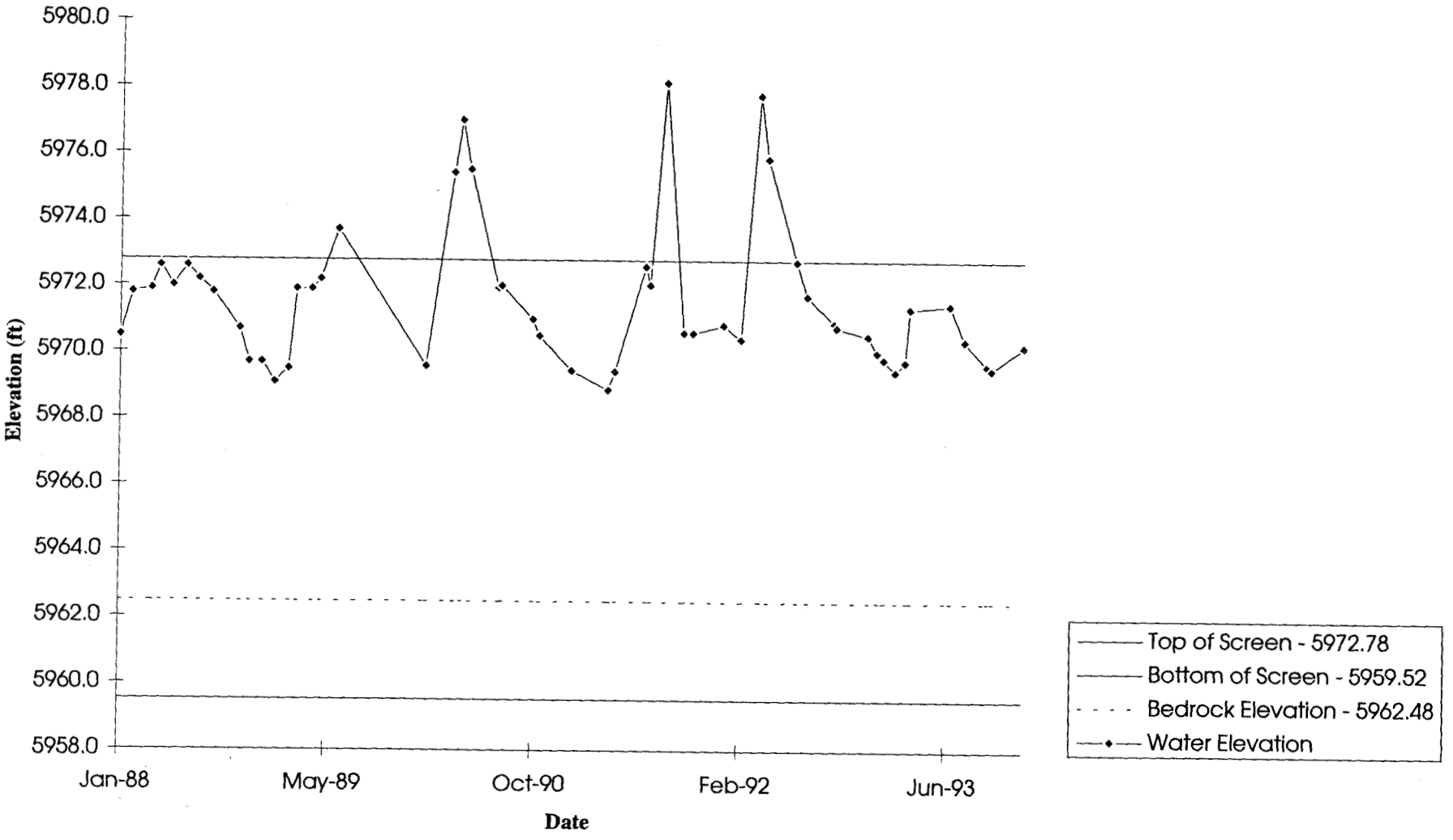
(4047-910-0025-521)(3/10/95 7:28 AM)(6287 Chart 1)

Well 6487 Hydrograph
Rocky Flats Alluvium



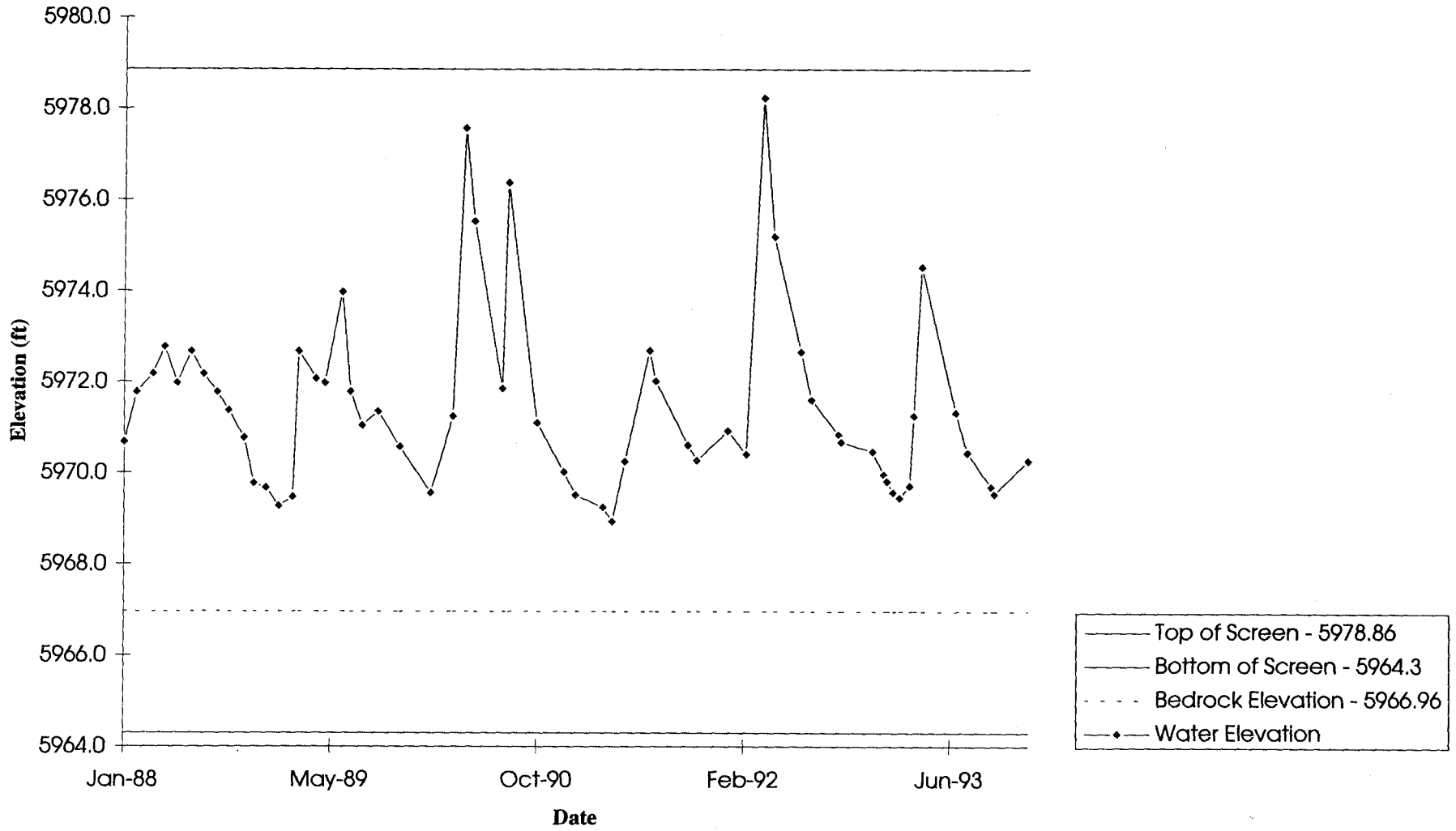
(4047-910-0025-521)(3/10/95 7:28 AM)(6487 Chart 1)

Well 6587 Hydrograph
Rocky Flats Alluvium



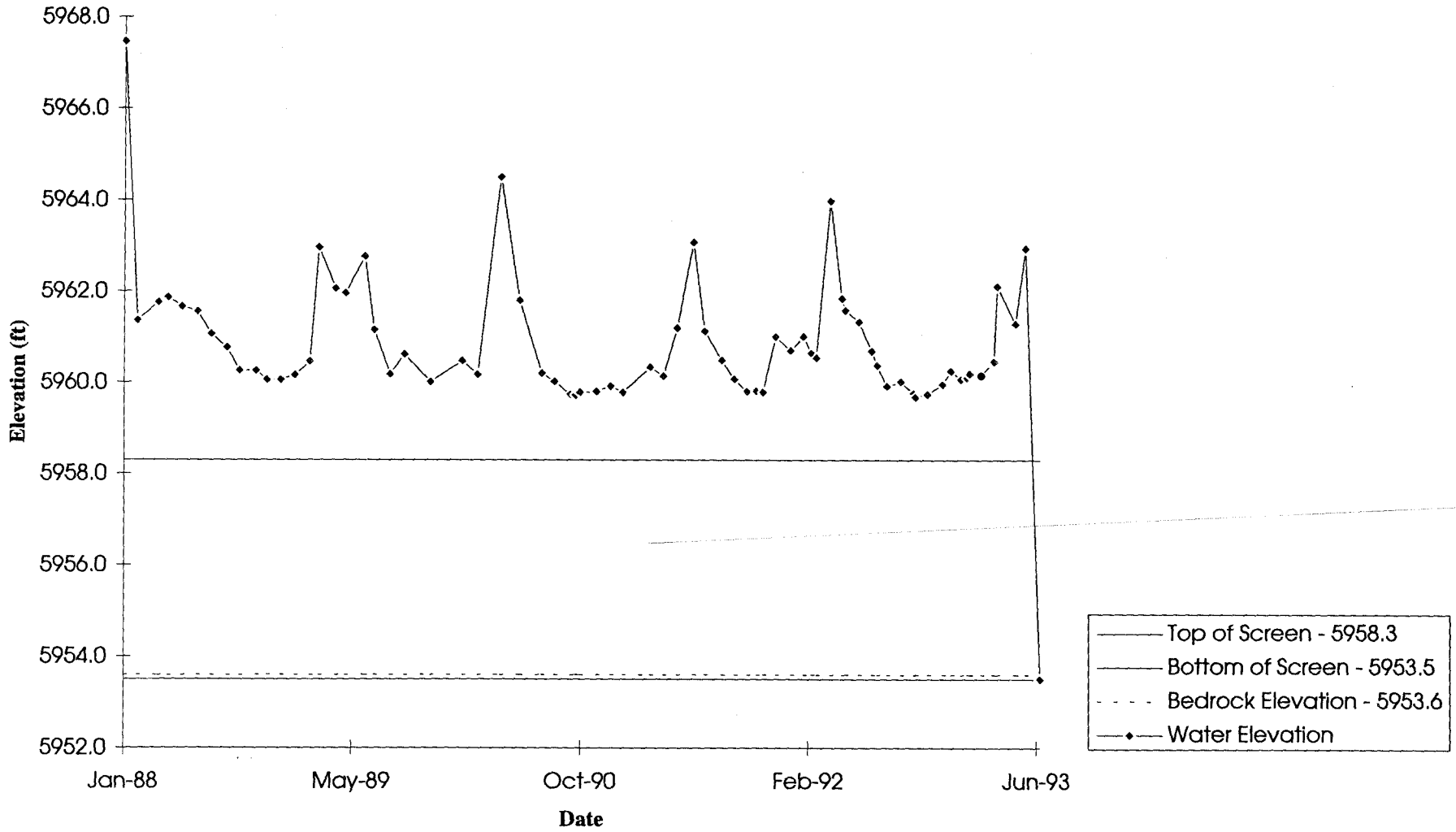
(4047-910-0025-521)(3/10/95 7:28 AM)(6587 Chart 1)

Well 6687 Hydrograph
Rocky Flats Alluvium



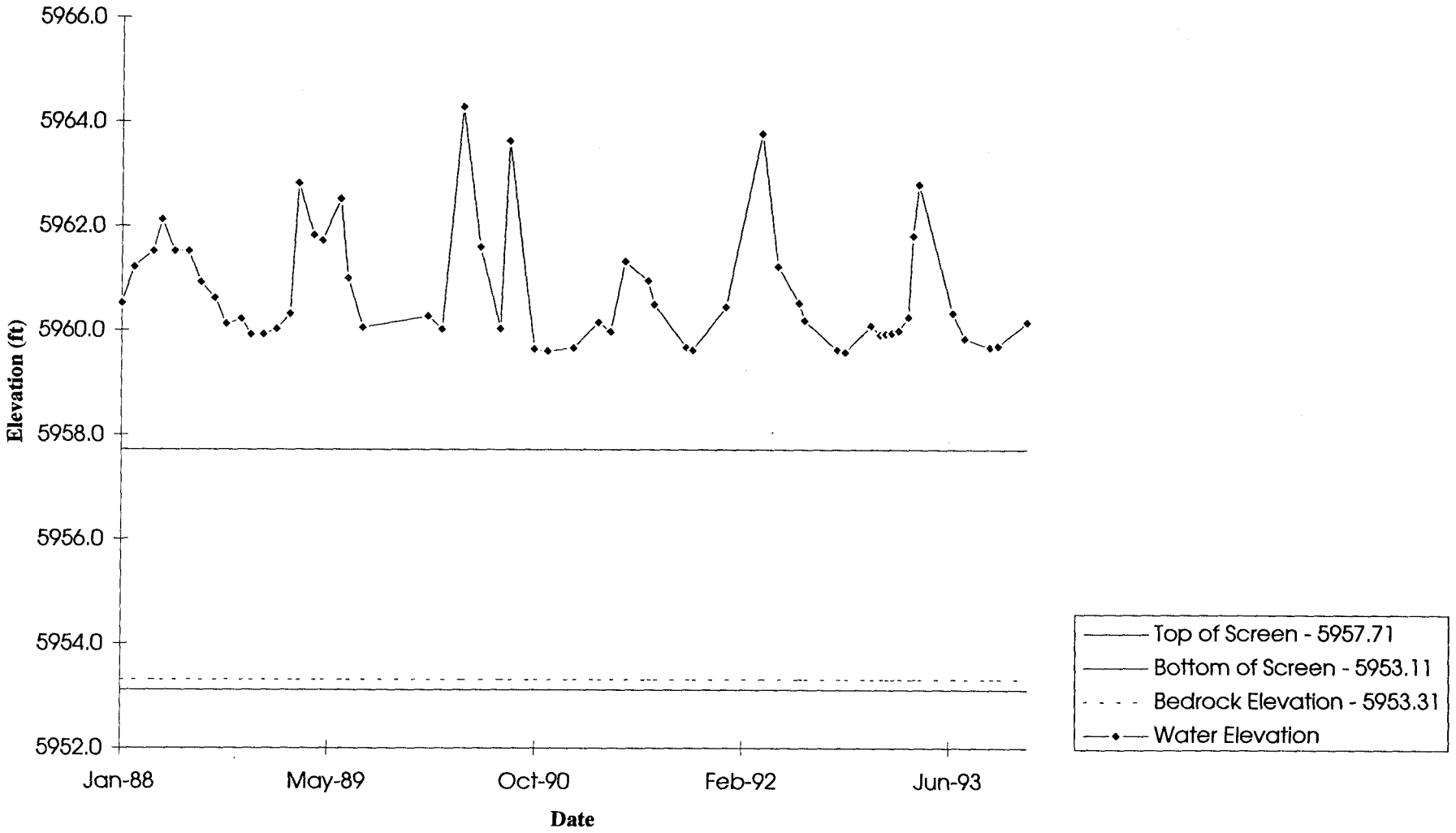
(4047-910-0025-521)(3/10/95 7:29 AM)(6687 Chart 1)

Well 6787 Hydrograph
Rocky Flats Alluvium



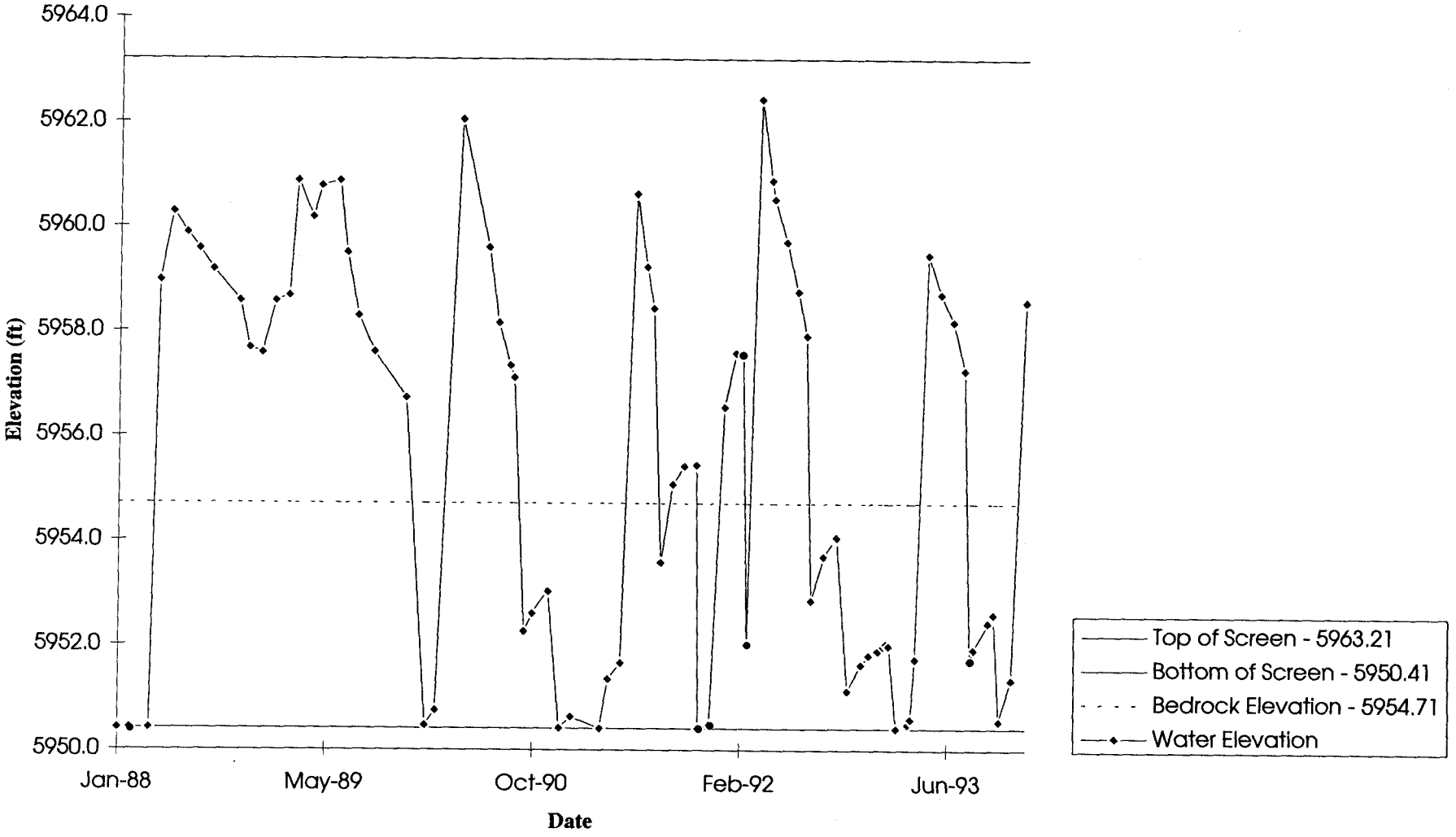
(4047-910-0025-521)(3/10/95 7:29 AM)(6787 Chart 1)

Well 6887 Hydrograph
Rocky Flats Alluvium



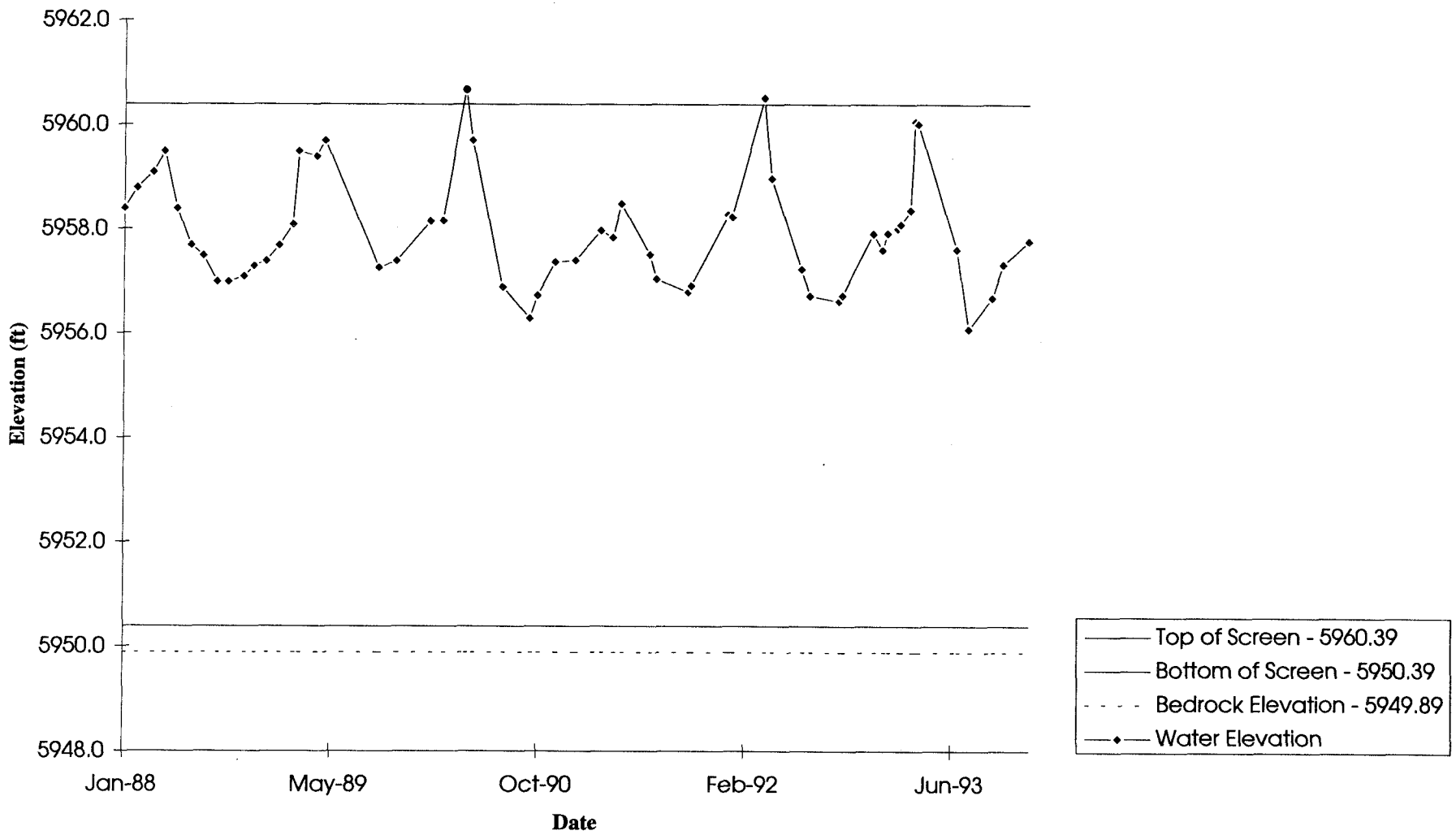
(4047-910-0025-521)(3/10/95 7:29 AM)(6887 Chart 1)

Well 7087 Hydrograph
Rocky Flats Alluvium



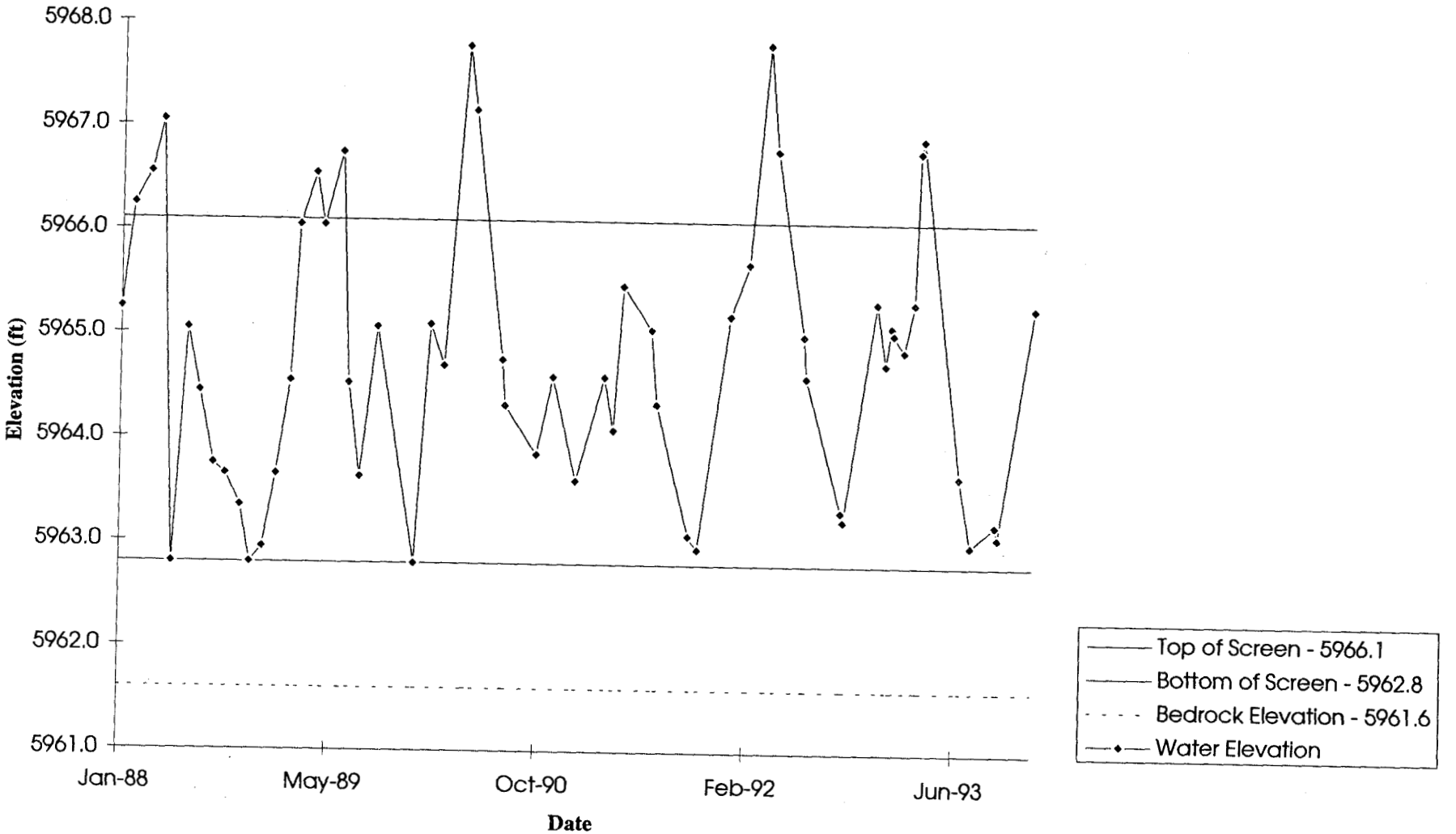
(4047-910-0025-521)(3/10/95 7:29 AM)(7087 Chart 1)

Well 7187 Hydrograph
Rocky Flats Alluvium



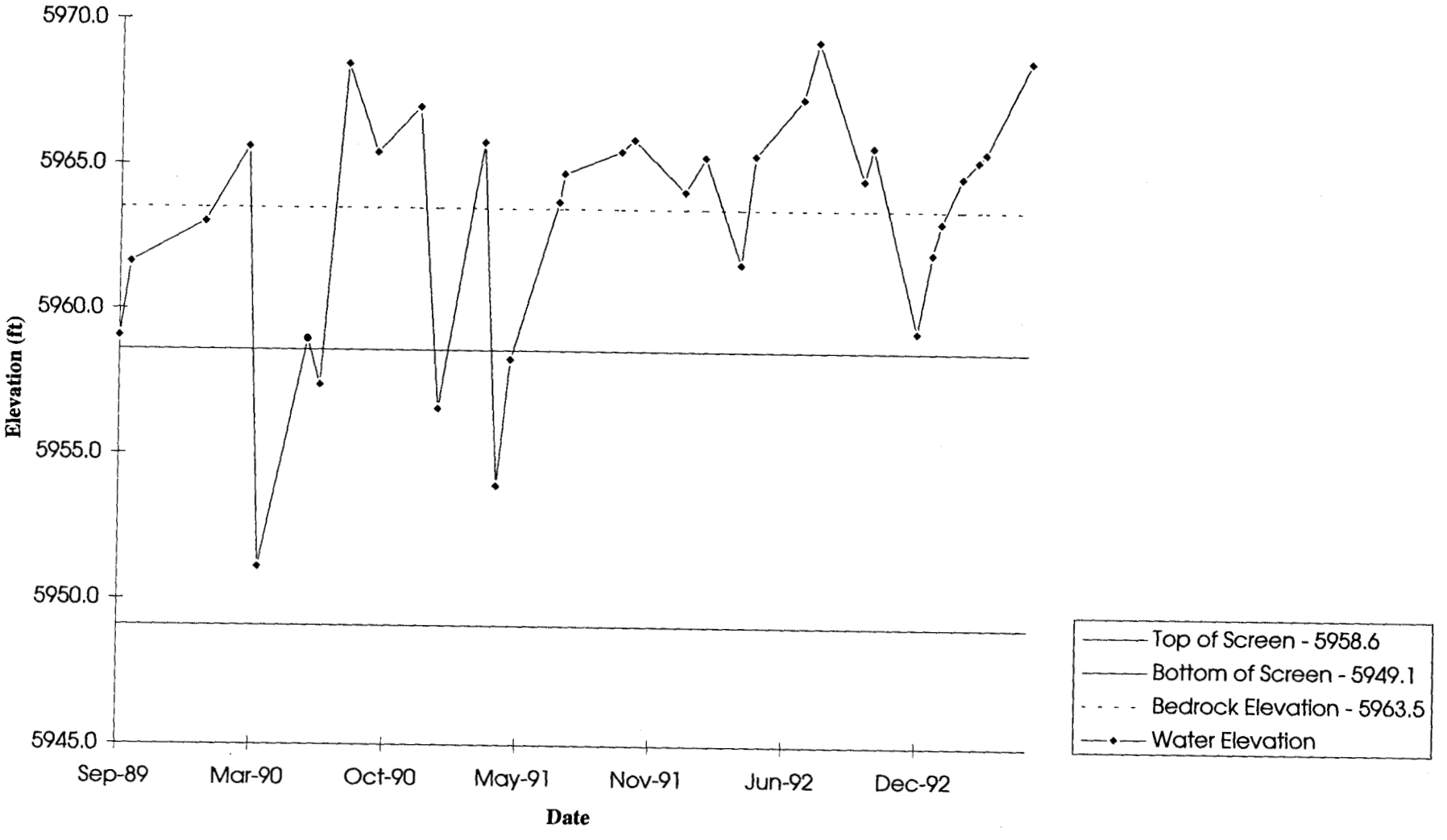
(4047-910-0025-521)(3/10/95 7:29 AM)(7187 Chart 1)

Well 7287 Hydrograph
Rocky Flats Alluvium



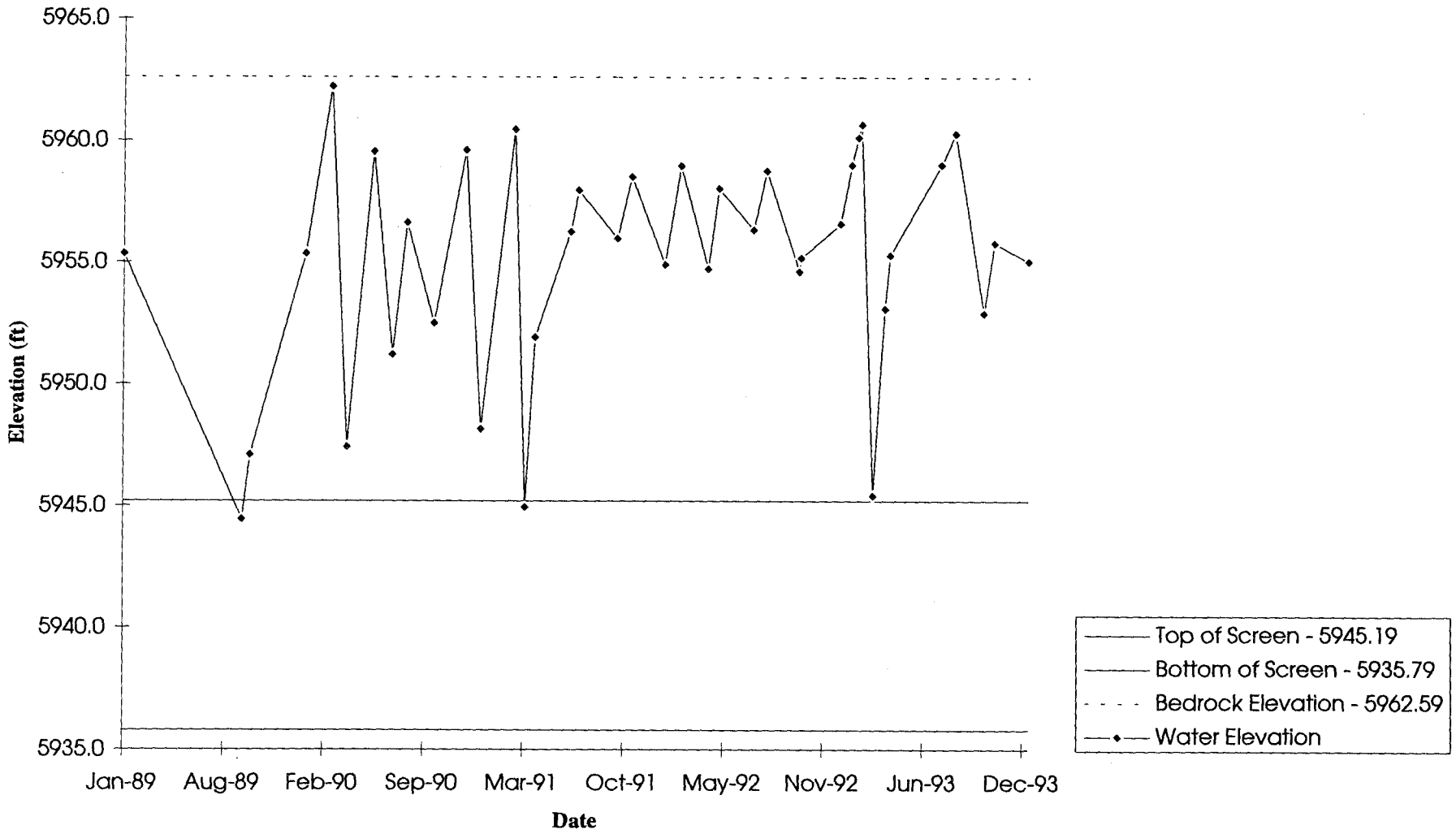
(4047-910-0025-521)(3/10/95 7:29 AM)(7287 Chart 1)

Well B206189 Hydrograph
Bedrock



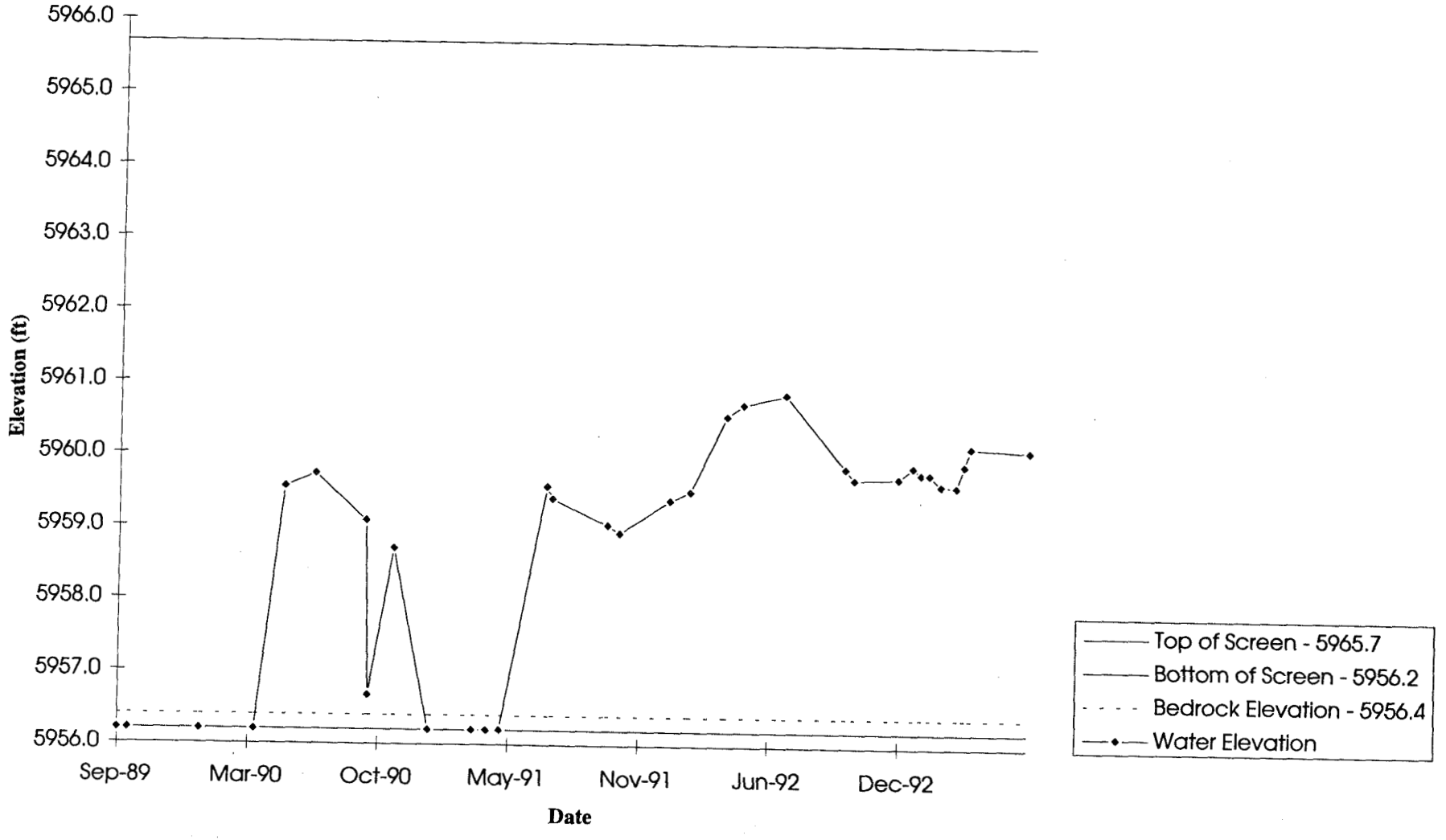
(4047-910-0025-521)(3/10/95 7:30 AM)(B206189 Chart 1)

Well B206289 Hydrograph
Bedrock



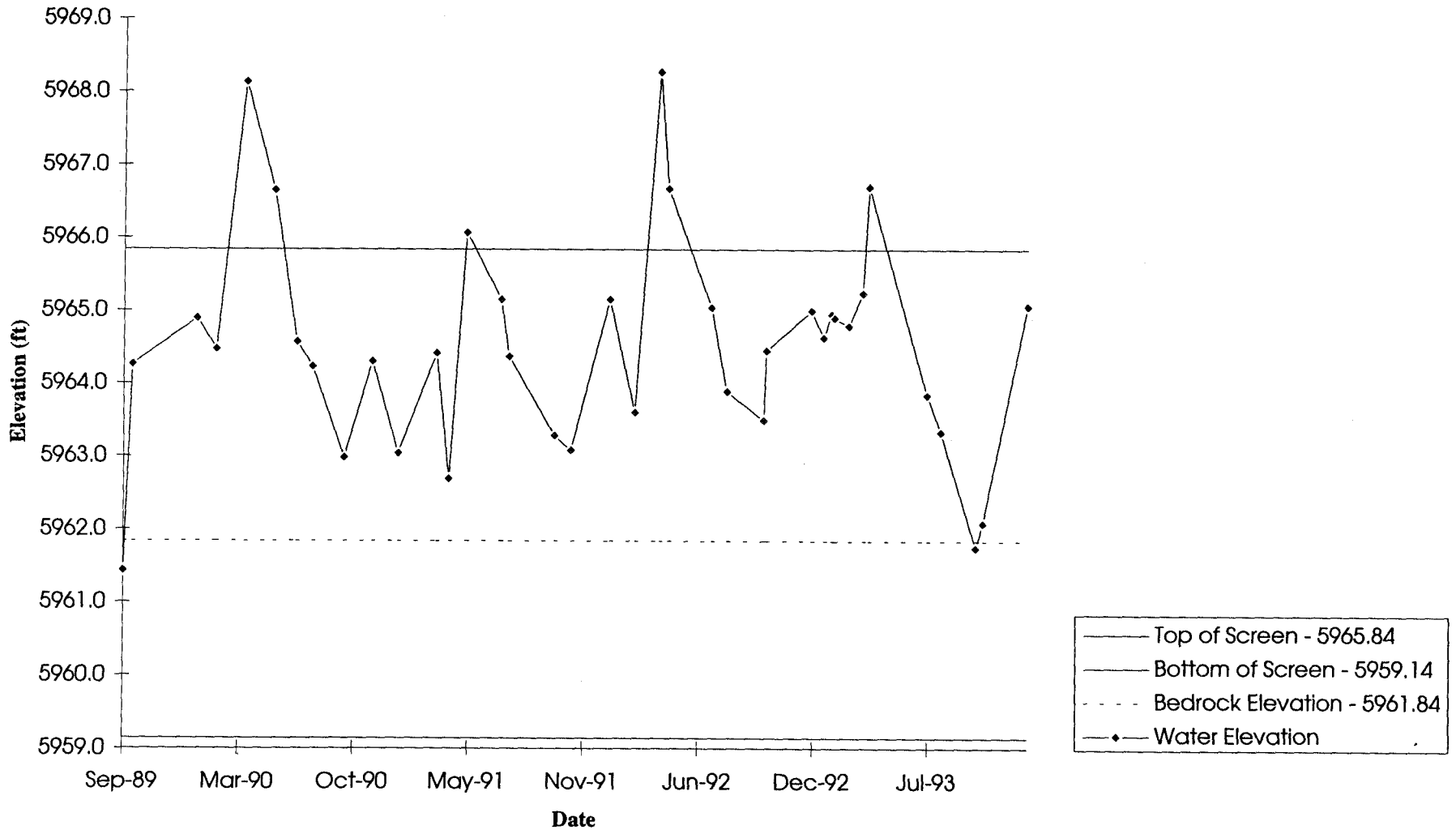
(4047-910-0025-521)(3/10/95 7:30 AM)(B206289 Chart 1)

Well B206389 Hydrograph
Rocky Flats Alluvium



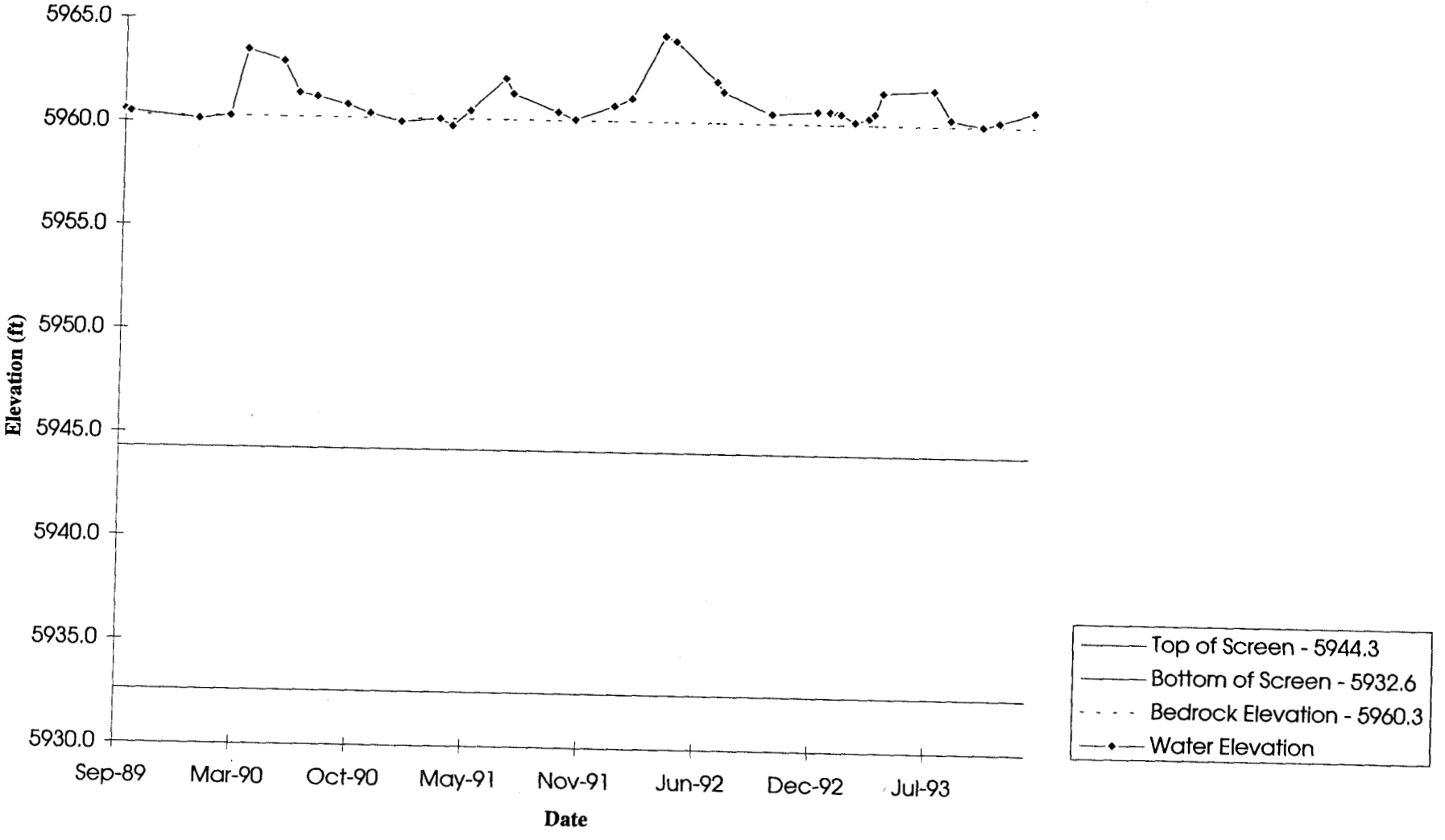
(4047-910-0025-521)(3/10/95 7:30 AM)(B206389 Chart 1)

Well B206489 Hydrograph
Rocky Flats Alluvium/Bedrock



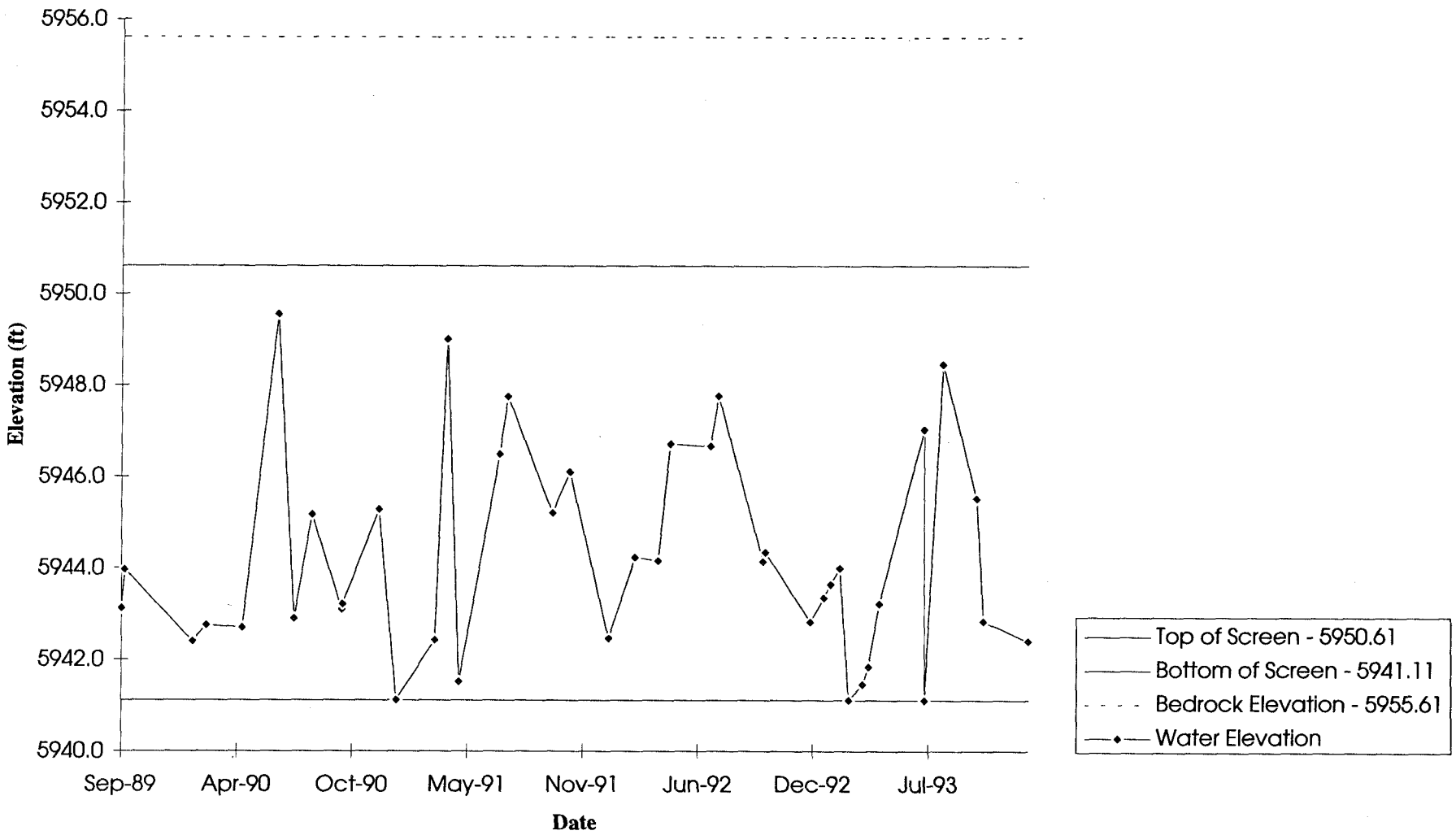
(4047-910-0025-521)(3/10/95 7:30 AM)(B206489 Chart 1)

Well B206589 Hydrograph
Bedrock



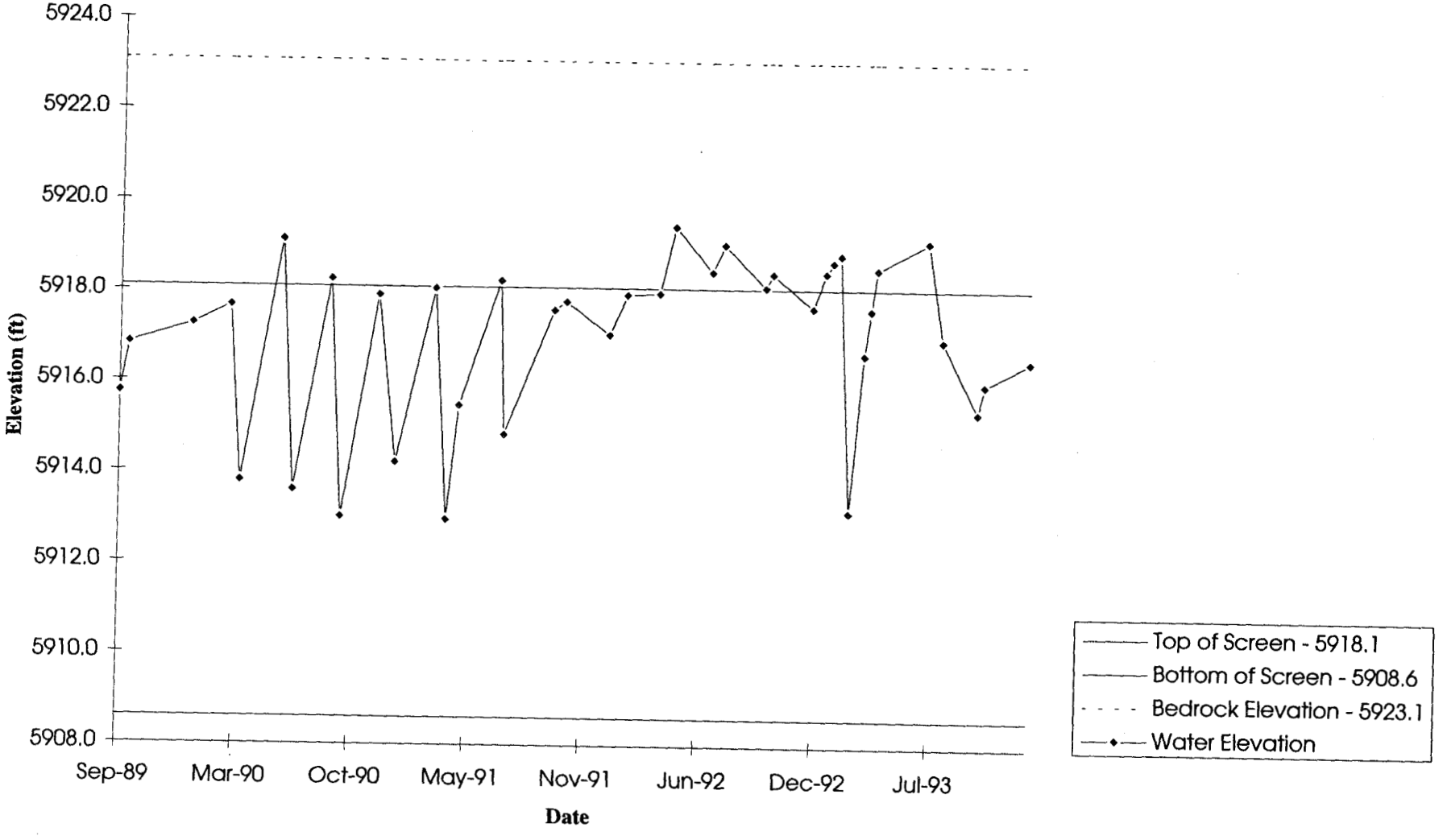
(4047-910-0025-521)(3/10/95 7:30 AM)(B206589 Chart 1)

Well B206689 Hydrograph
Bedrock



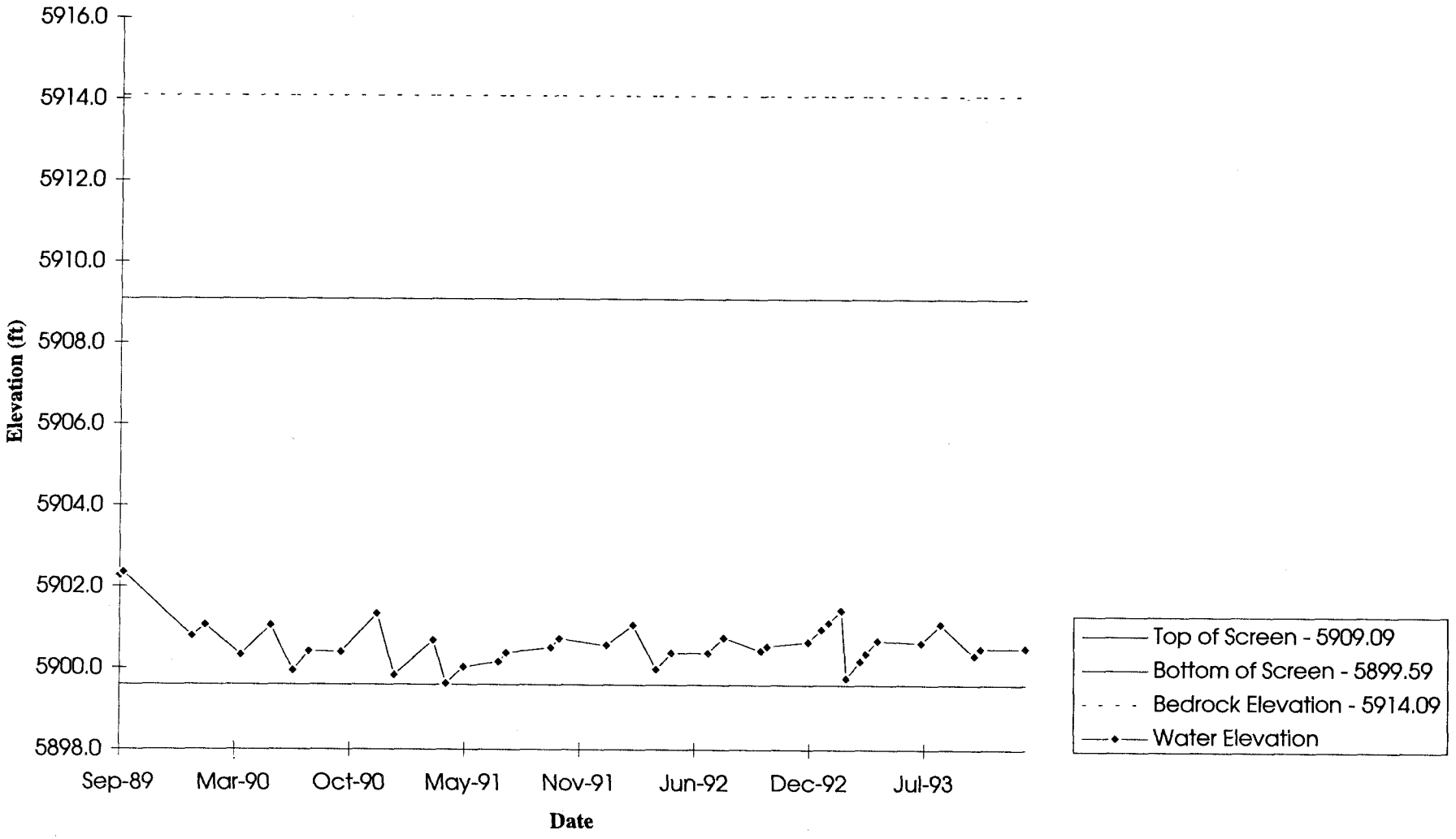
(4047-910-0025-521)(3/10/95 7:30 AM)(B206689 Chart 1)

Well B206789 Hydrograph
Bedrock



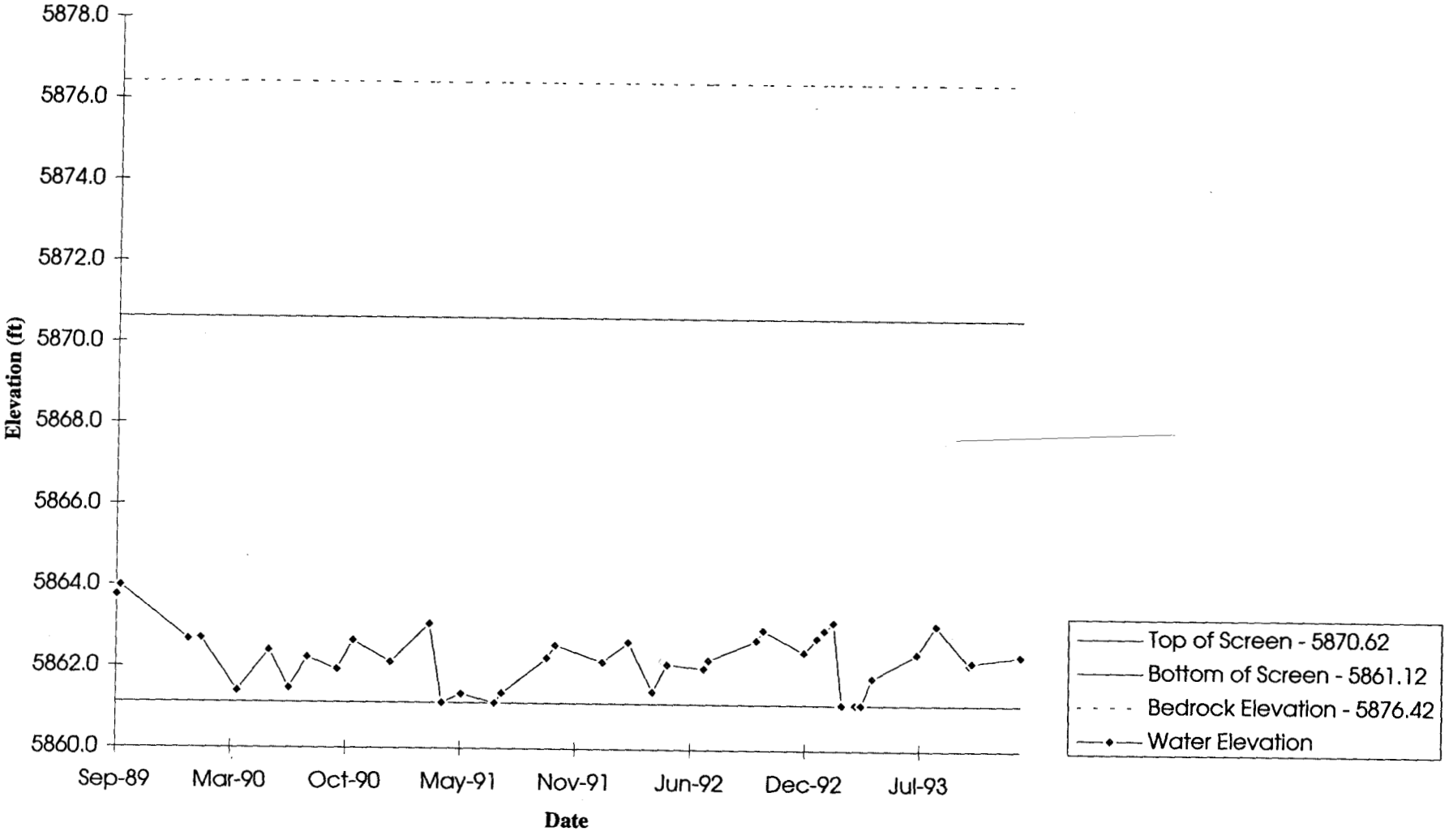
(4047-910-0025-521)(3/10/95 7:30 AM)(B206789 Chart 1)

Well B206889 Hydrograph
Bedrock



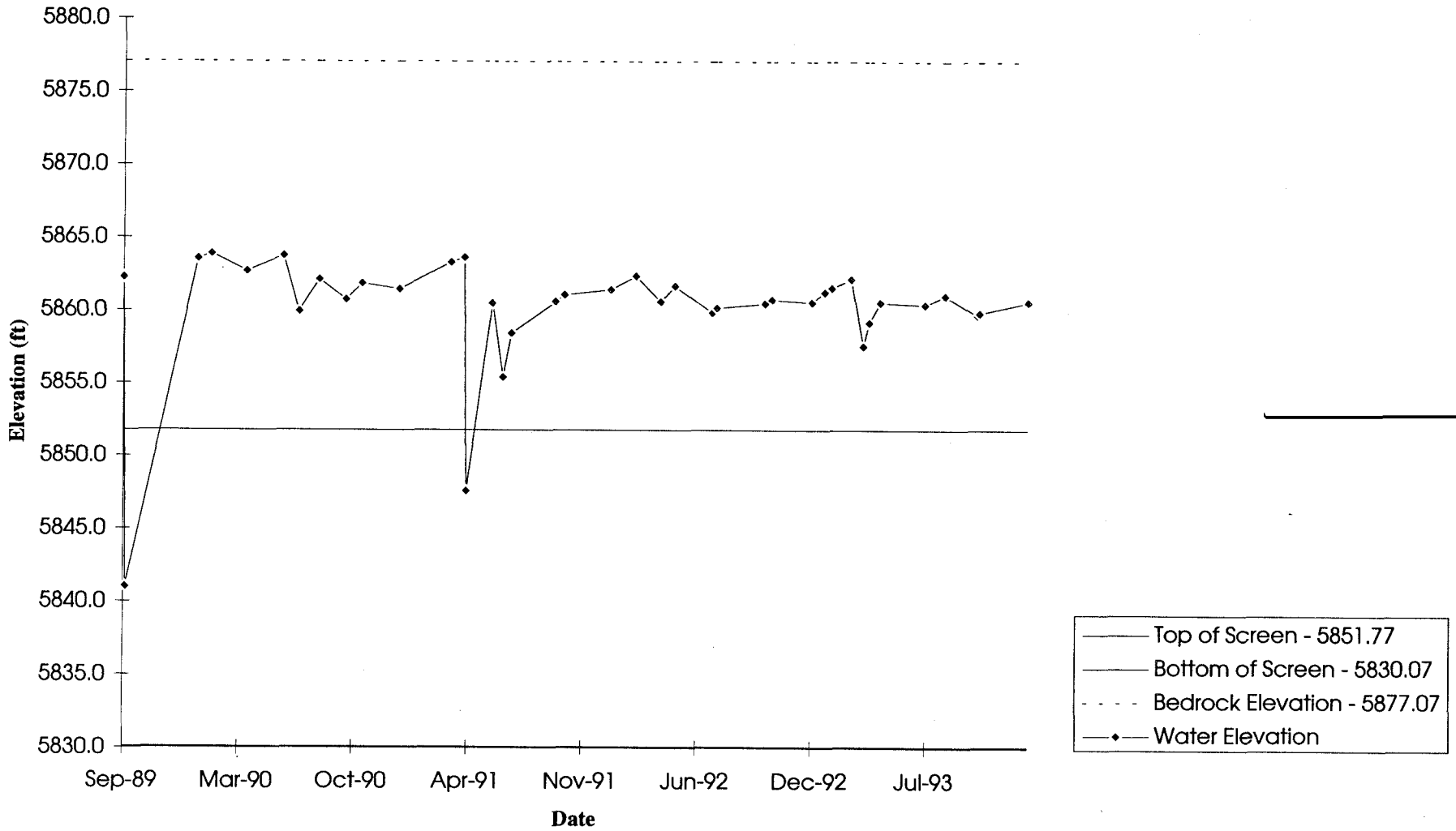
(4047-910-0025-521)(3/10/95 7:30 AM)(B206889 Chart 1)

Well B206989 Hydrograph
Bedrock



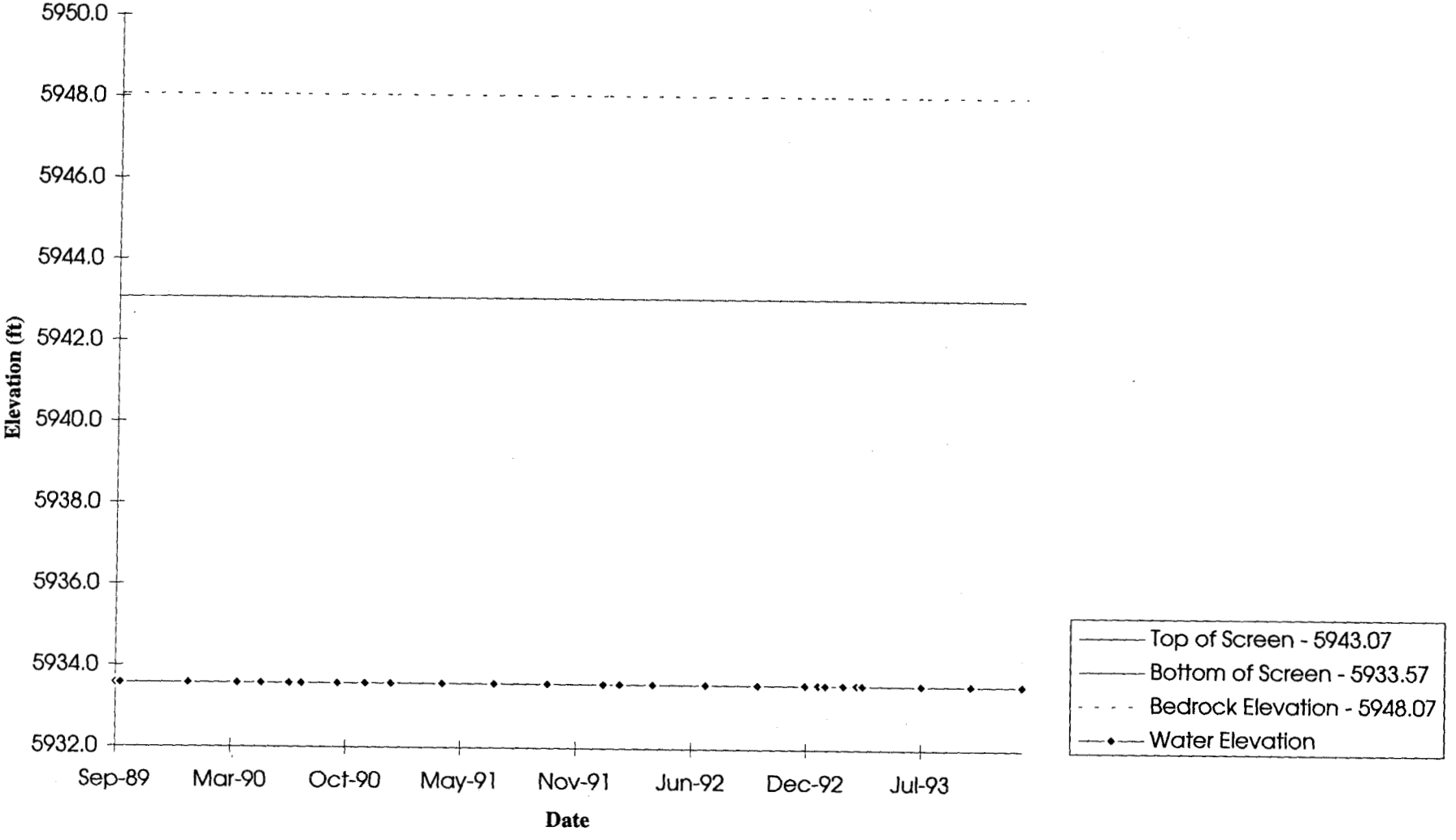
(4047-910-0025-521)(3/10/95 7:30 AM)(B206989 Chart 1)

Well B207089 Hydrograph
Bedrock



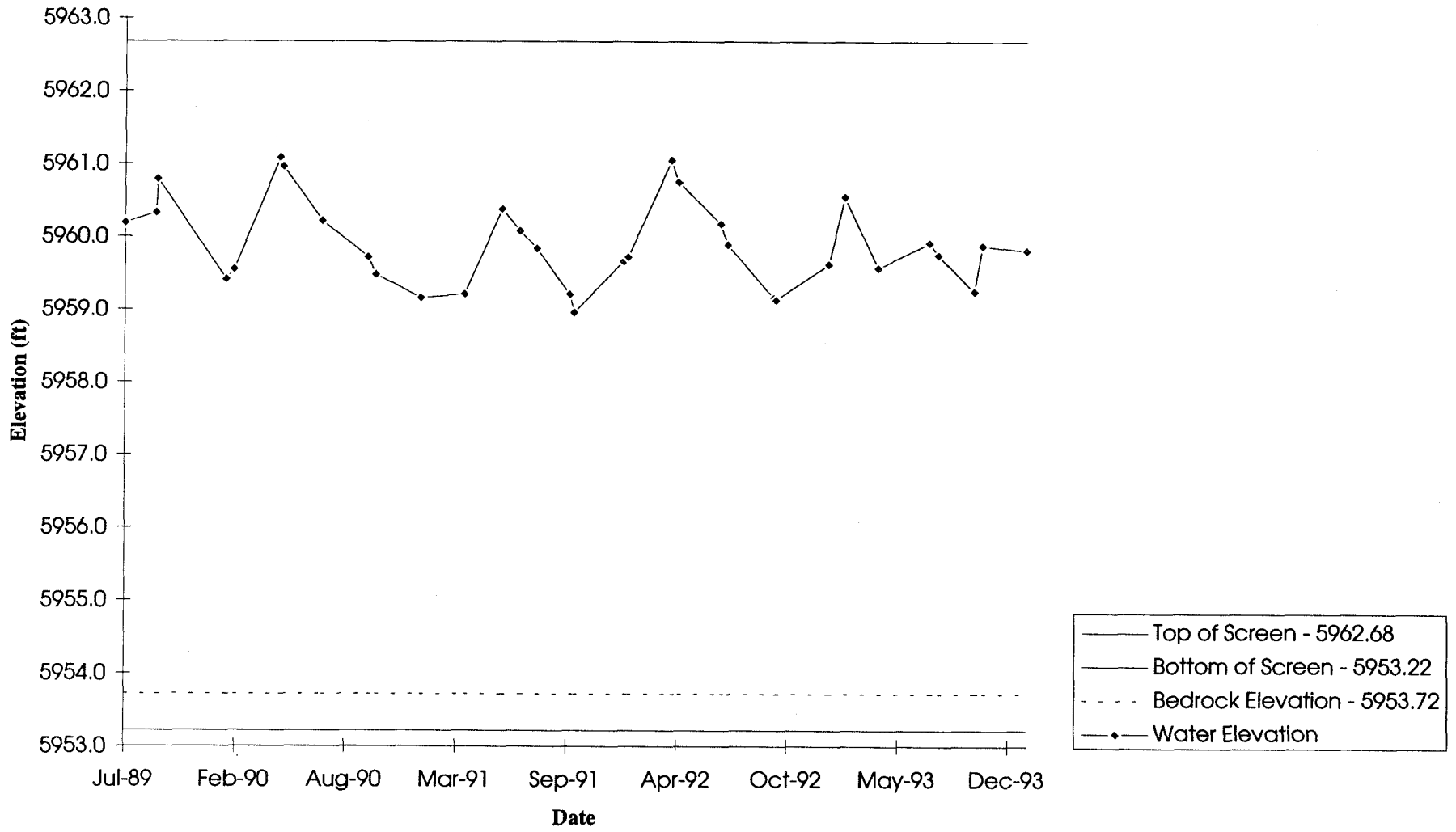
(4047-910-0025-521)(3/10/95 7:30 AM)(B207089 Chart 1)

Well B207289 Hydrograph
Bedrock



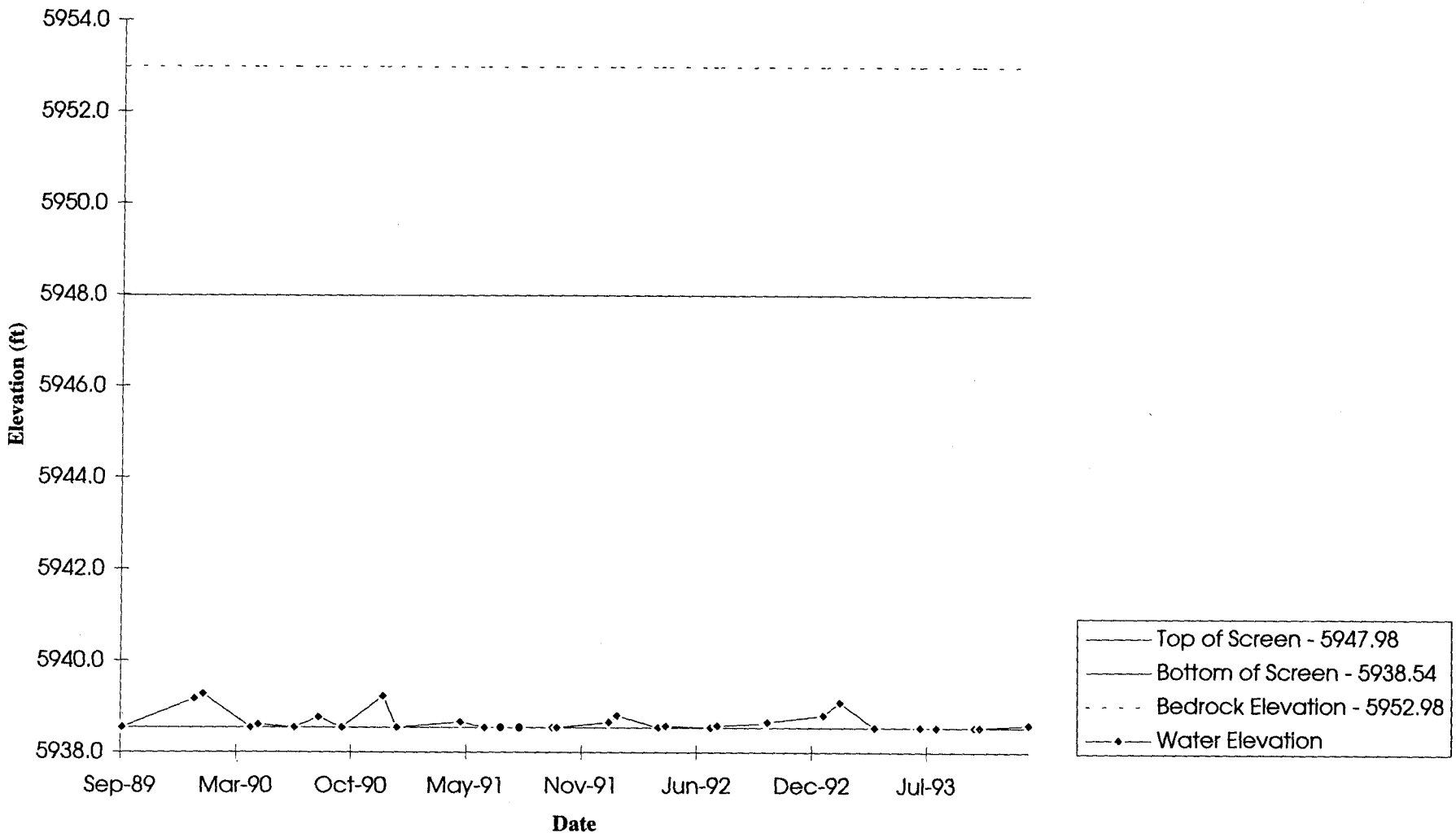
(4047-910-0025-521)(3/10/95 7:30 AM)(B207289 Chart 1)

Well P207689 Hydrograph
Rocky Flats Alluvium



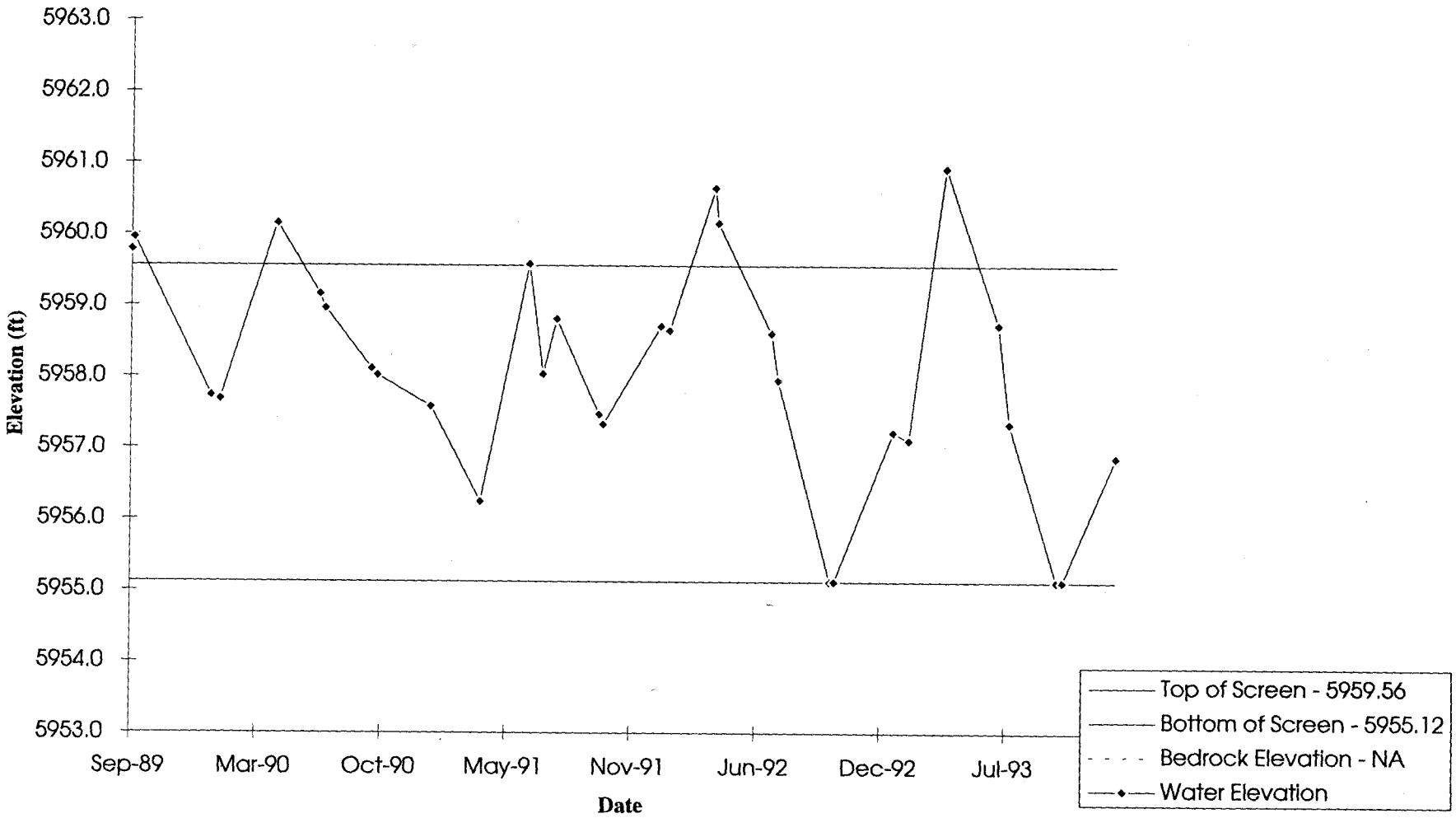
(4047-910-0025-521)(3/10/95 7:31 AM)(P207689 Chart 1)

Well P207789 Hydrograph
Bedrock



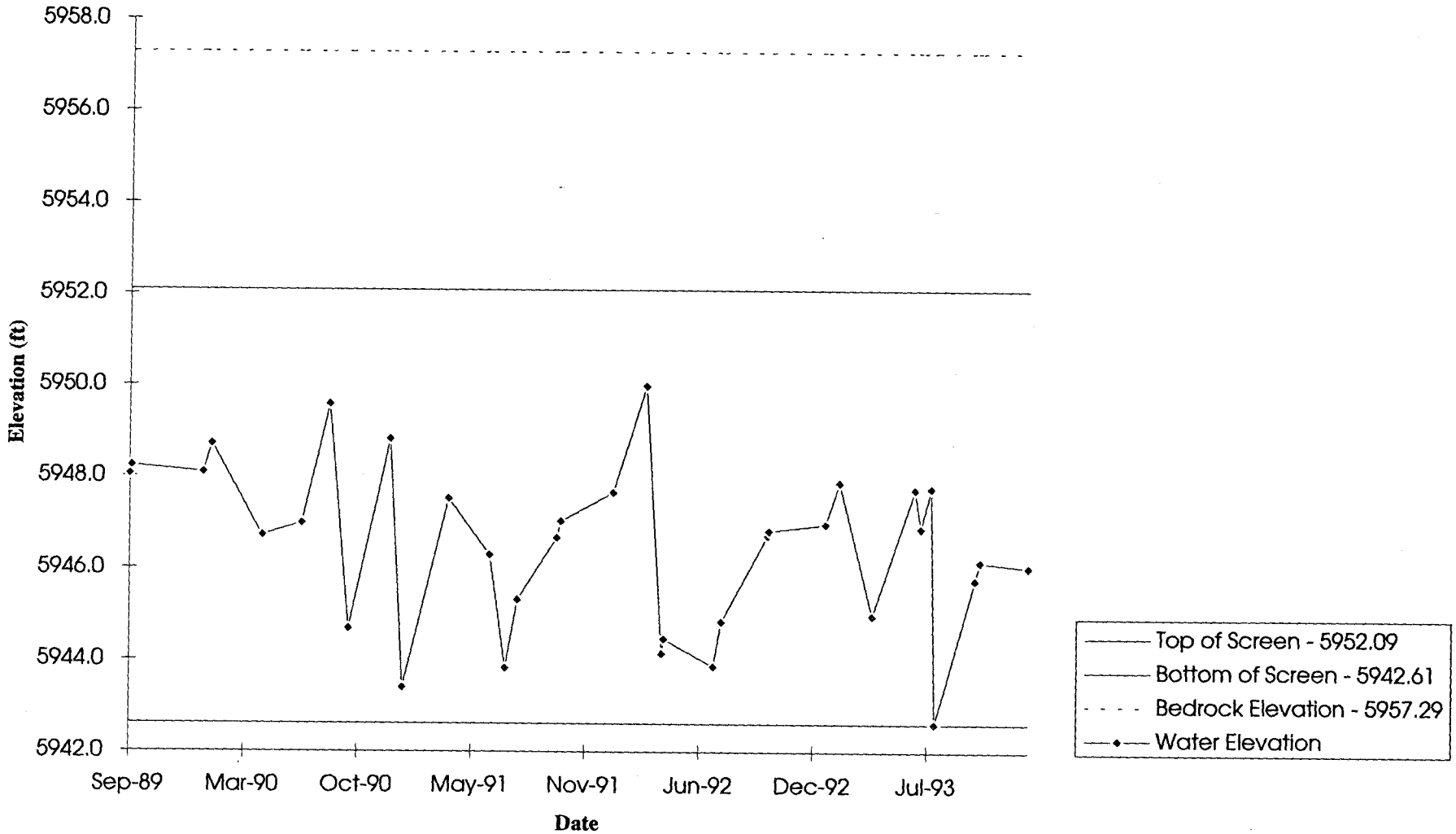
(4047-910-0025-521)(3/10/95 7:31 AM)(P207789 Chart 1)

Well P207889 Hydrograph
Artificial Fill / Rocky Flats Alluvium



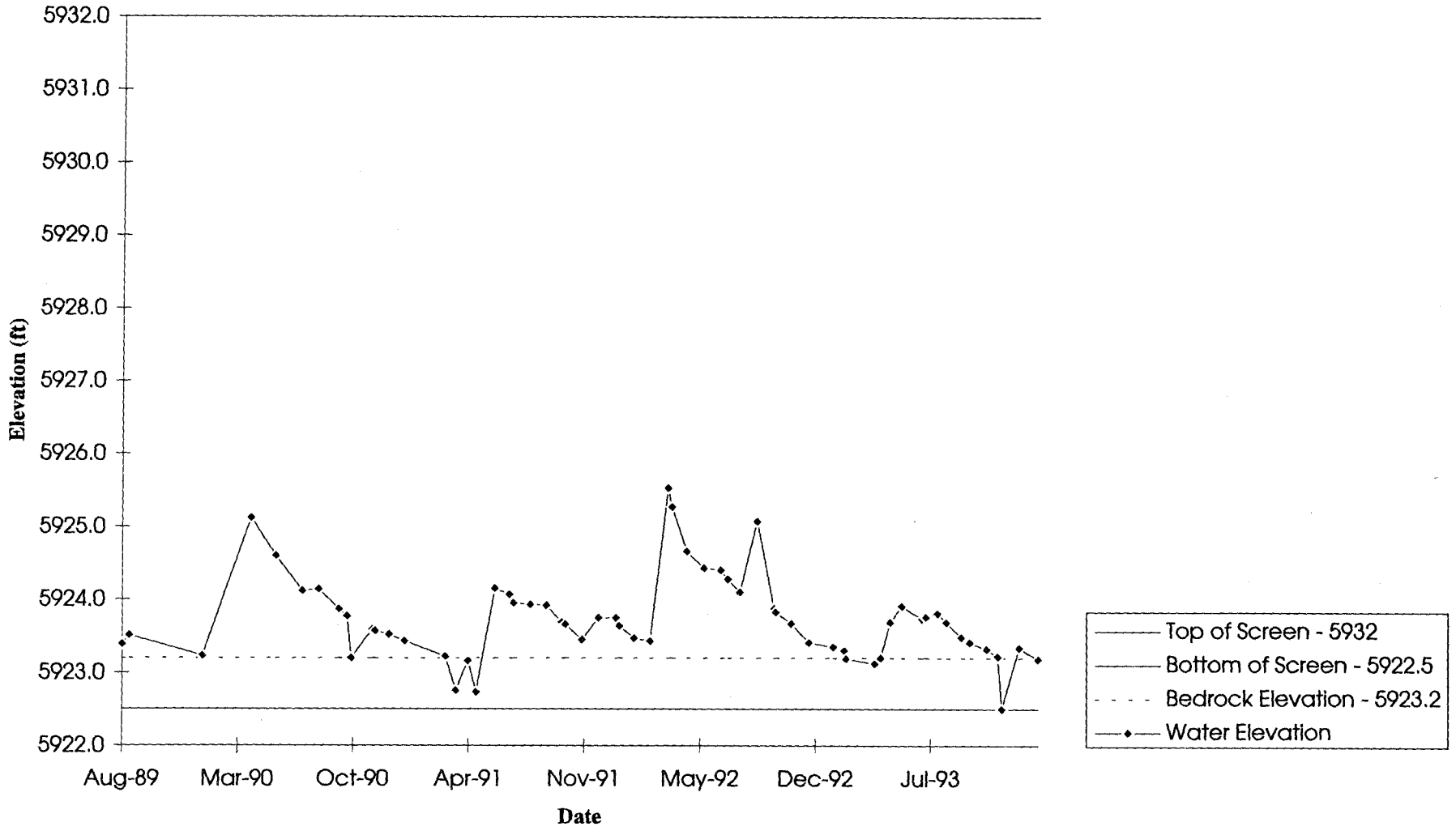
(4047-910-0025-521)(3/10/95 7:31 AM)(P207889 Chart 1)

Well P207989 Hydrograph
Bedrock



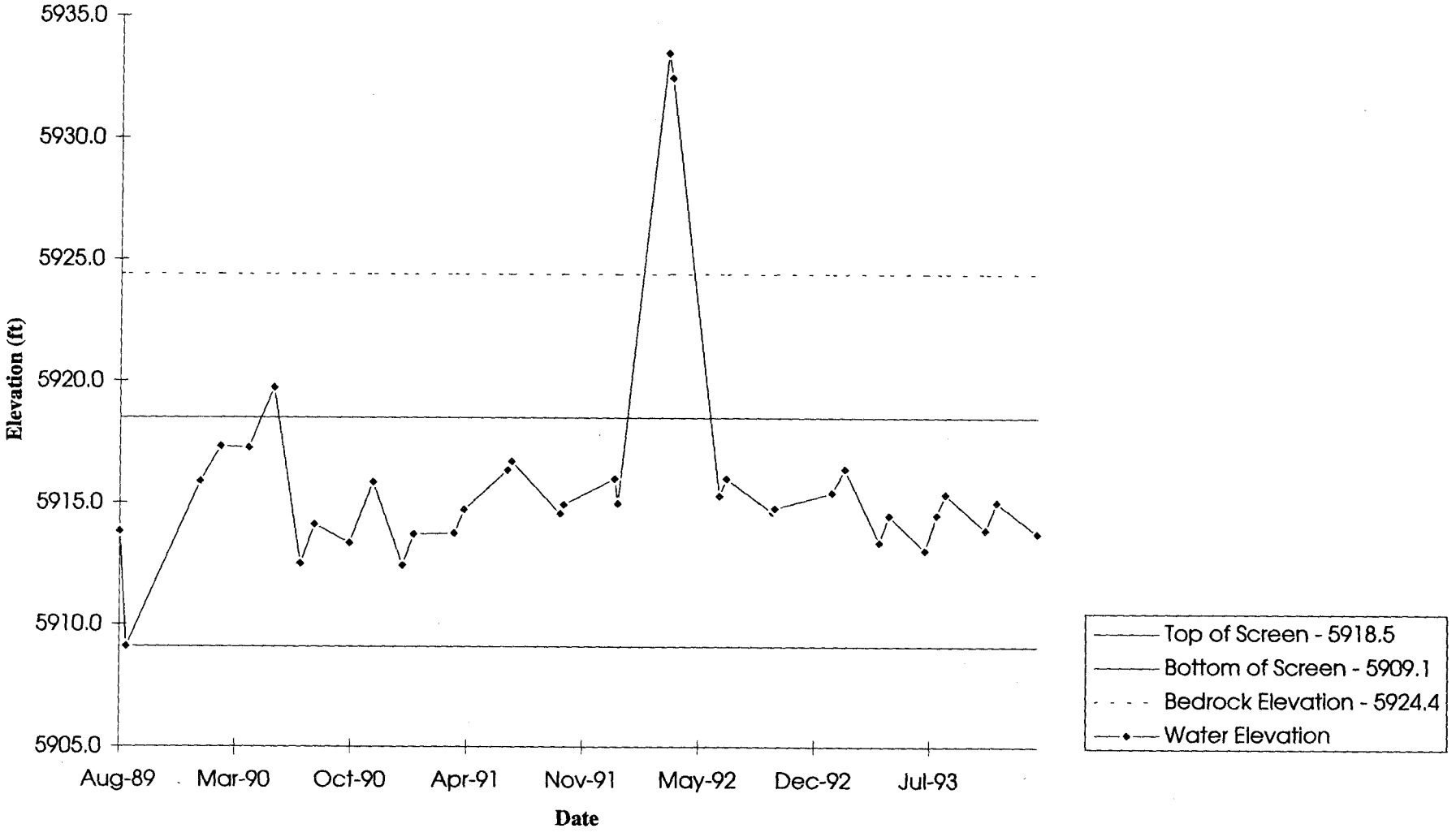
(4047-910-0025-521)(3/10/95 7:31 AM)(P207989 Chart 1)

Well B208089 Hydrograph
Valley Fill Alluvium



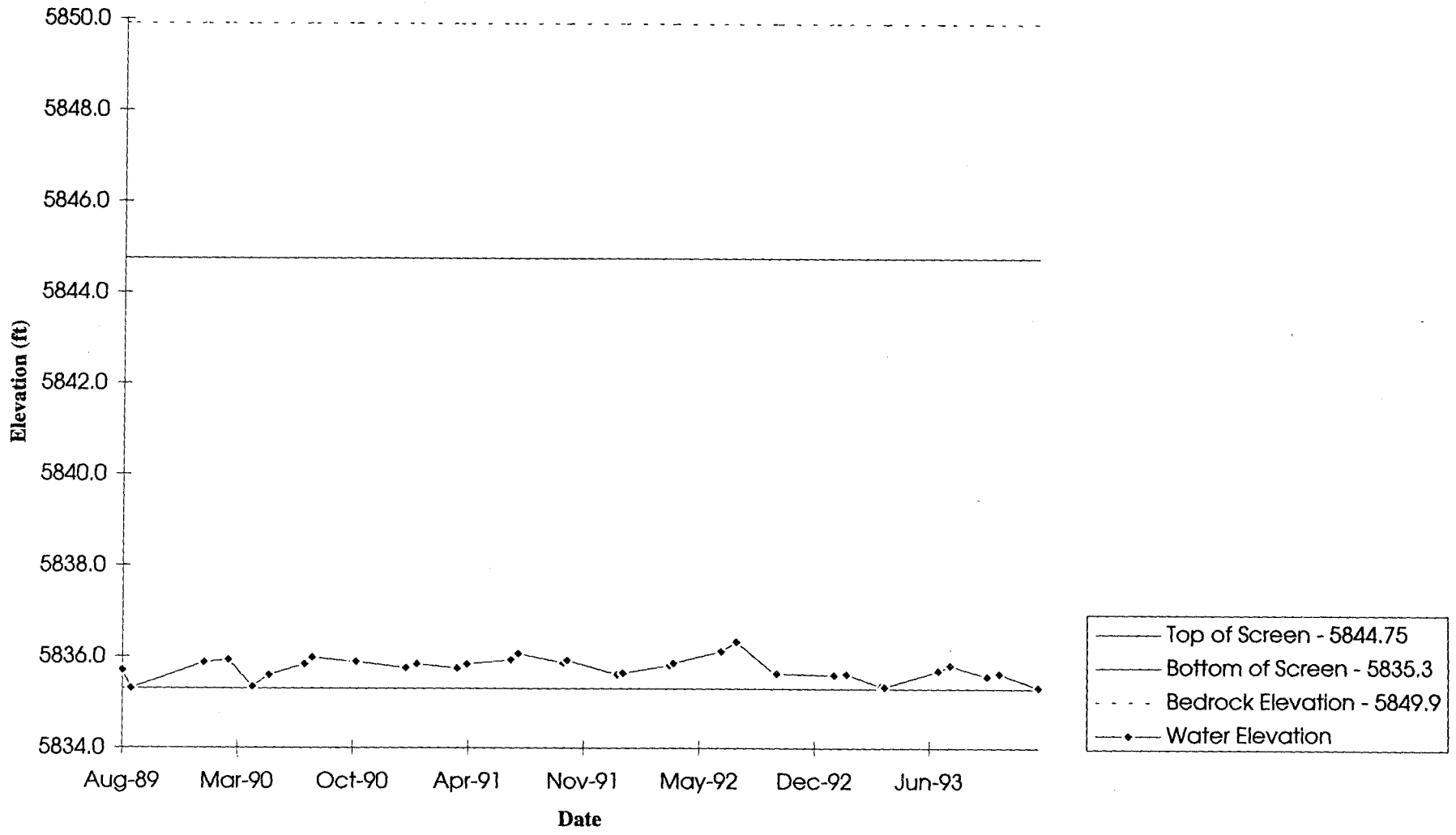
(4047-910-0025-521)(3/10/95 7:30 AM)(B208089 Chart 1)

Well B208189 Hydrograph
Bedrock



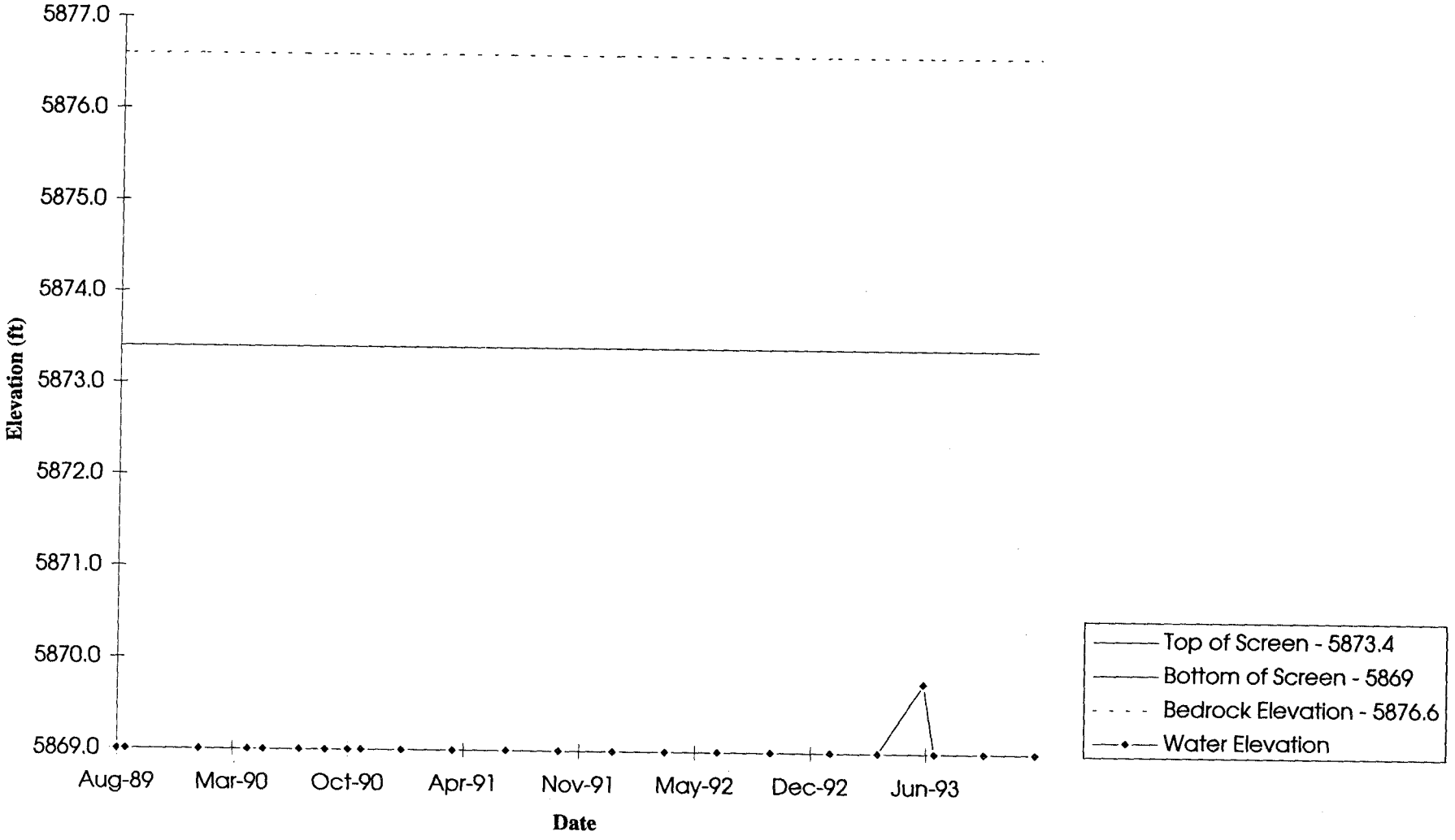
(4047-910-0025-521)(3/10/95 7:31 AM)(B208189 Chart 1)

Well B208289 Hydrograph
Bedrock



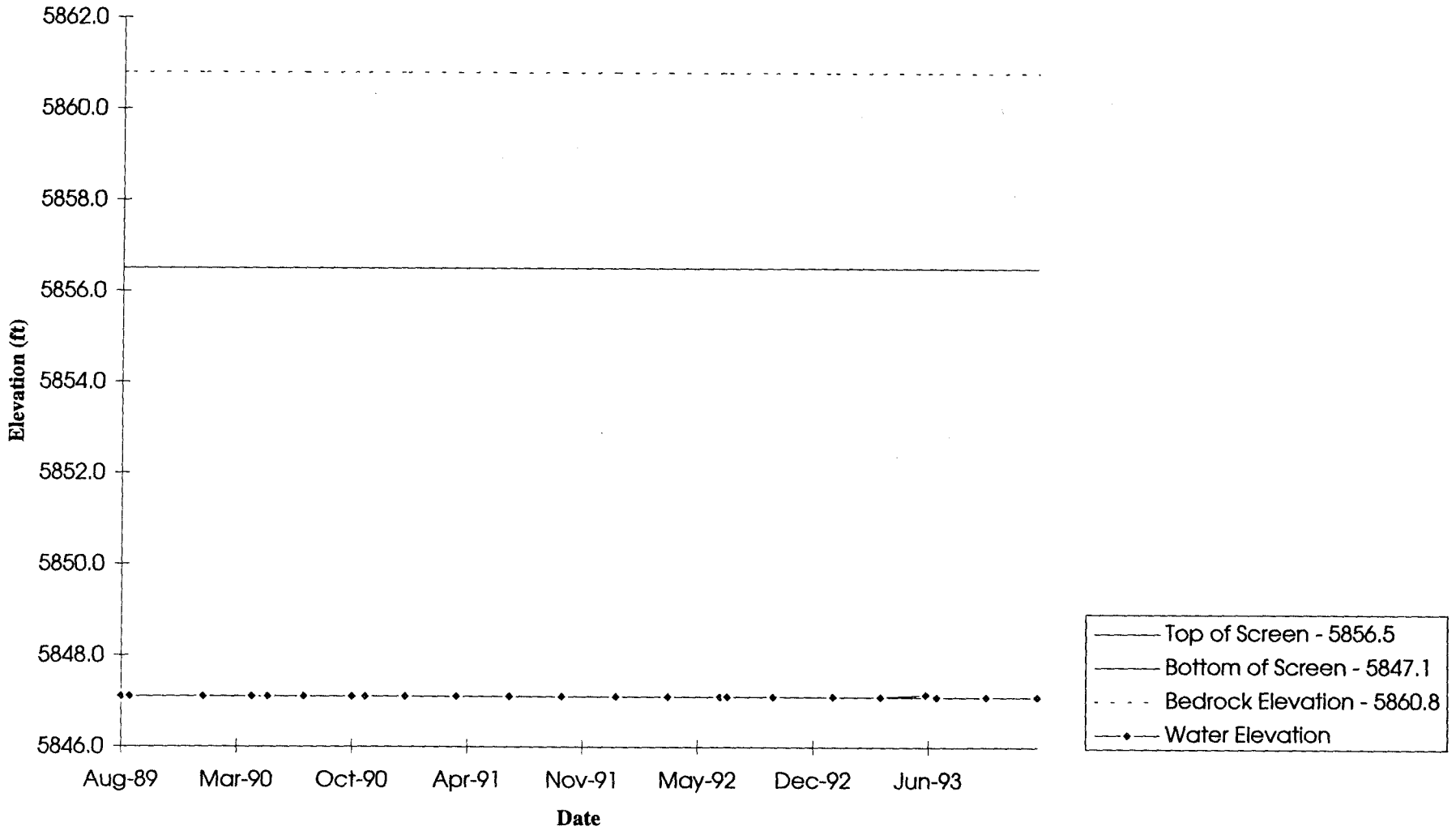
(4047-910-0025-521)(3/10/95 7:31 AM)(B208289 Chart 1)

Well B208389 Hydrograph
Bedrock



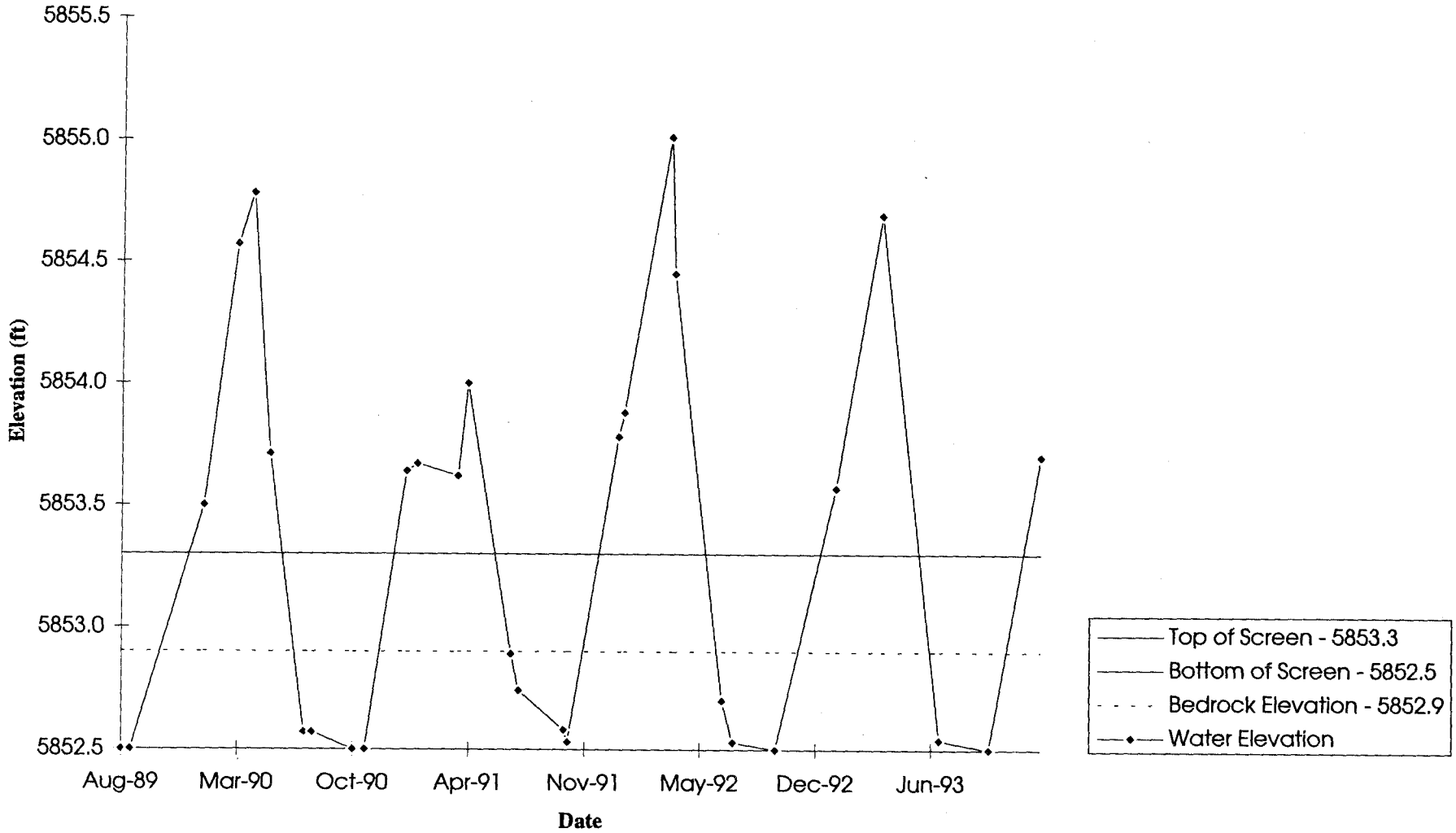
(4047-910-0025-521)(3/10/95 7:31 AM)(B208389 Chart 1)

Well B208489 Hydrograph
Bedrock



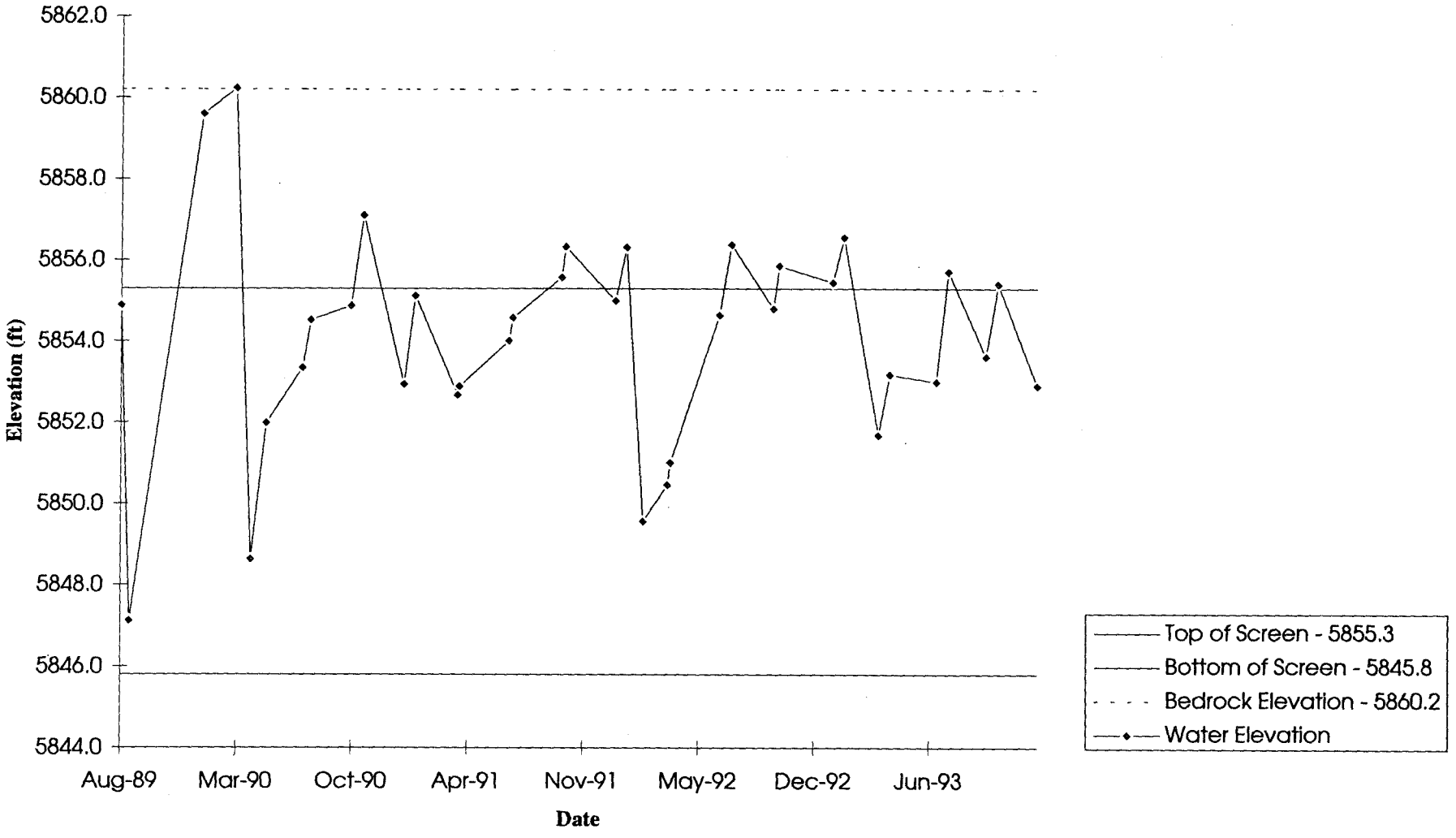
(4047-910-0025-521)(3/10/95 7:31 AM)(B208489 Chart 1)

Well B208589 Hydrograph
Colluvium/Bedrock



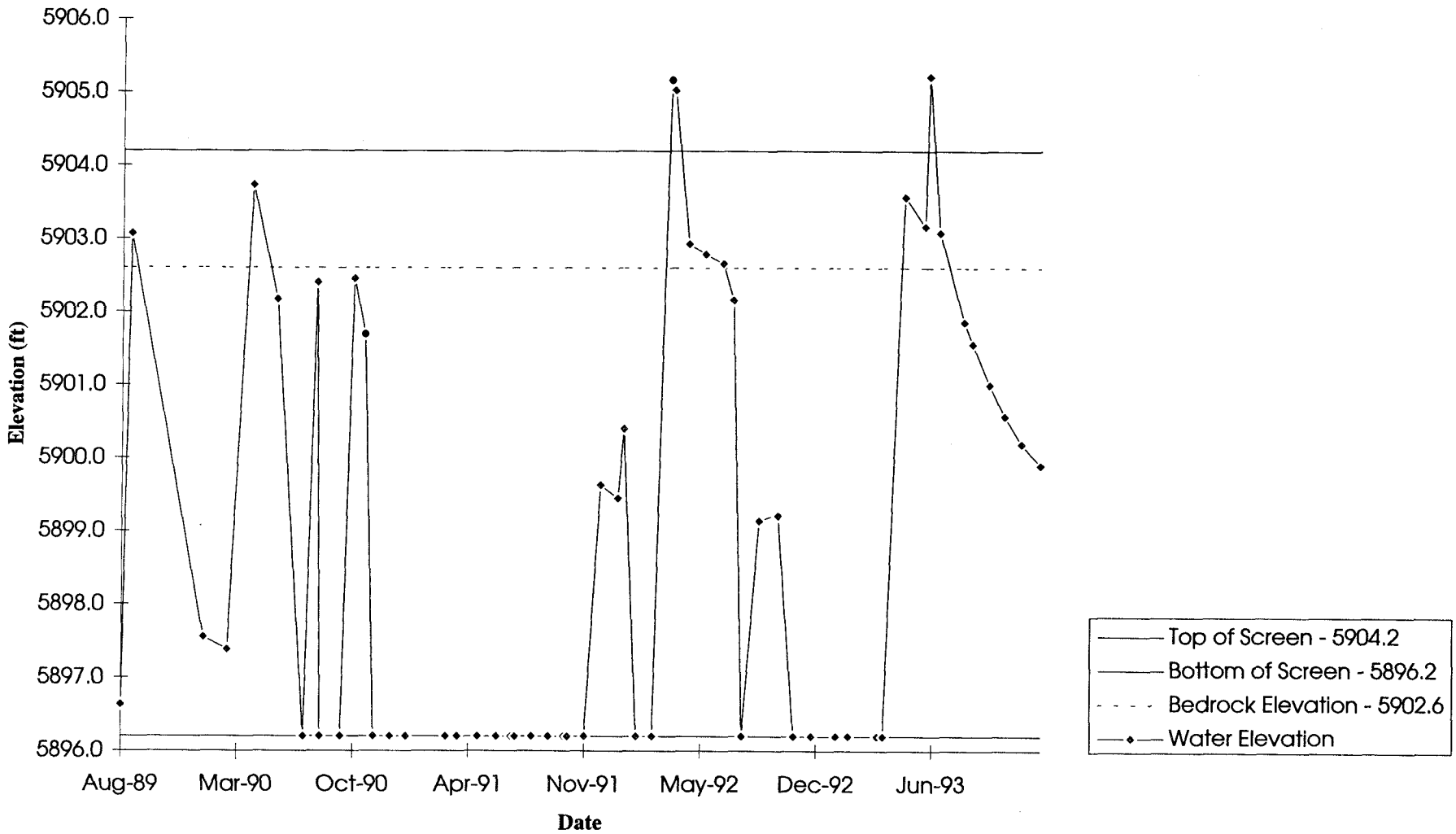
(4047-910-0025-521)(3/10/95 7:31 AM)(B208589 Chart 1)

Well B208689 Hydrograph
Bedrock



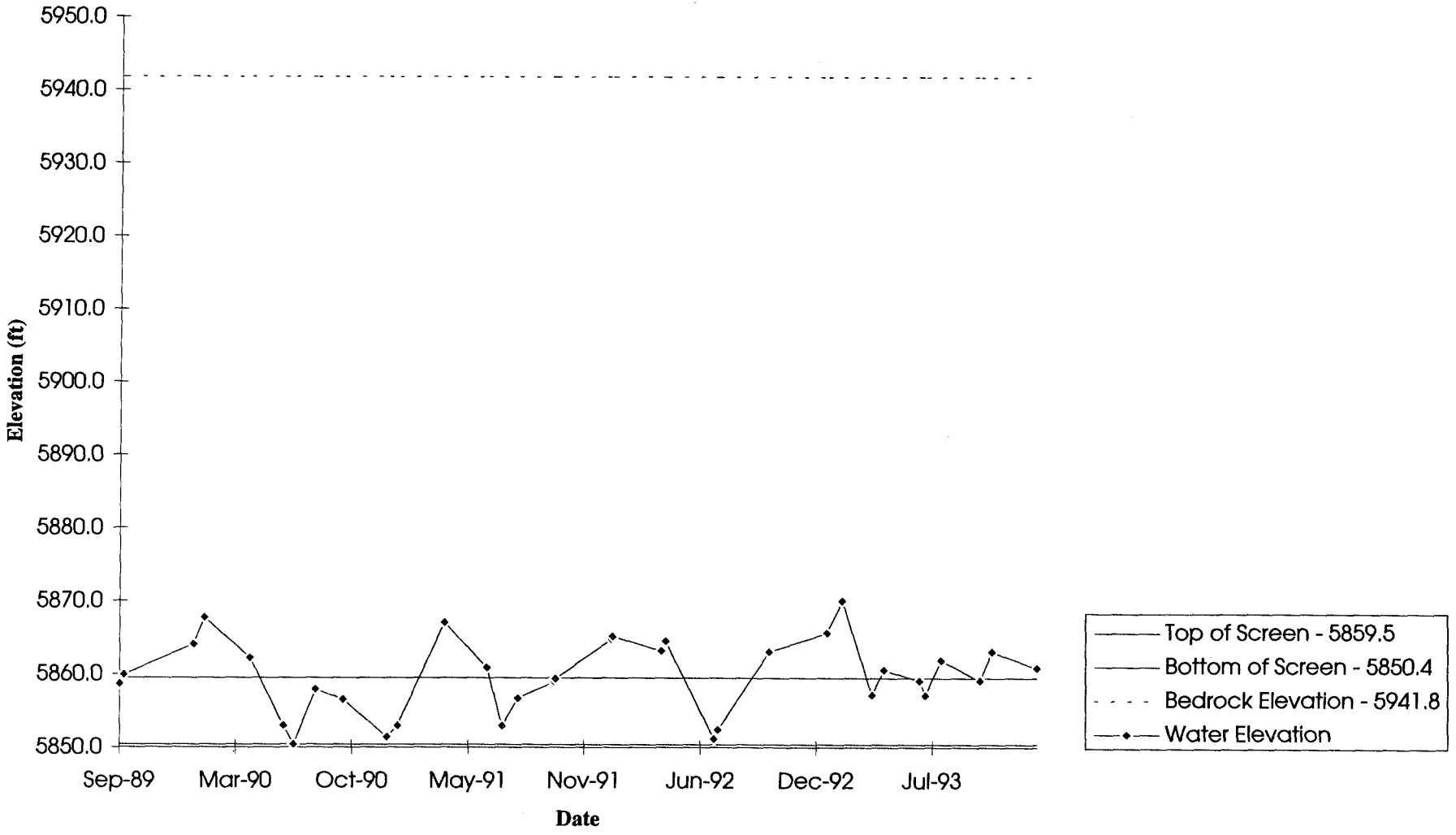
(4047-910-0025-521)(3/10/95 7:31 AM)(B208689 Chart 1)

Well B208789 Hydrograph
Bedrock



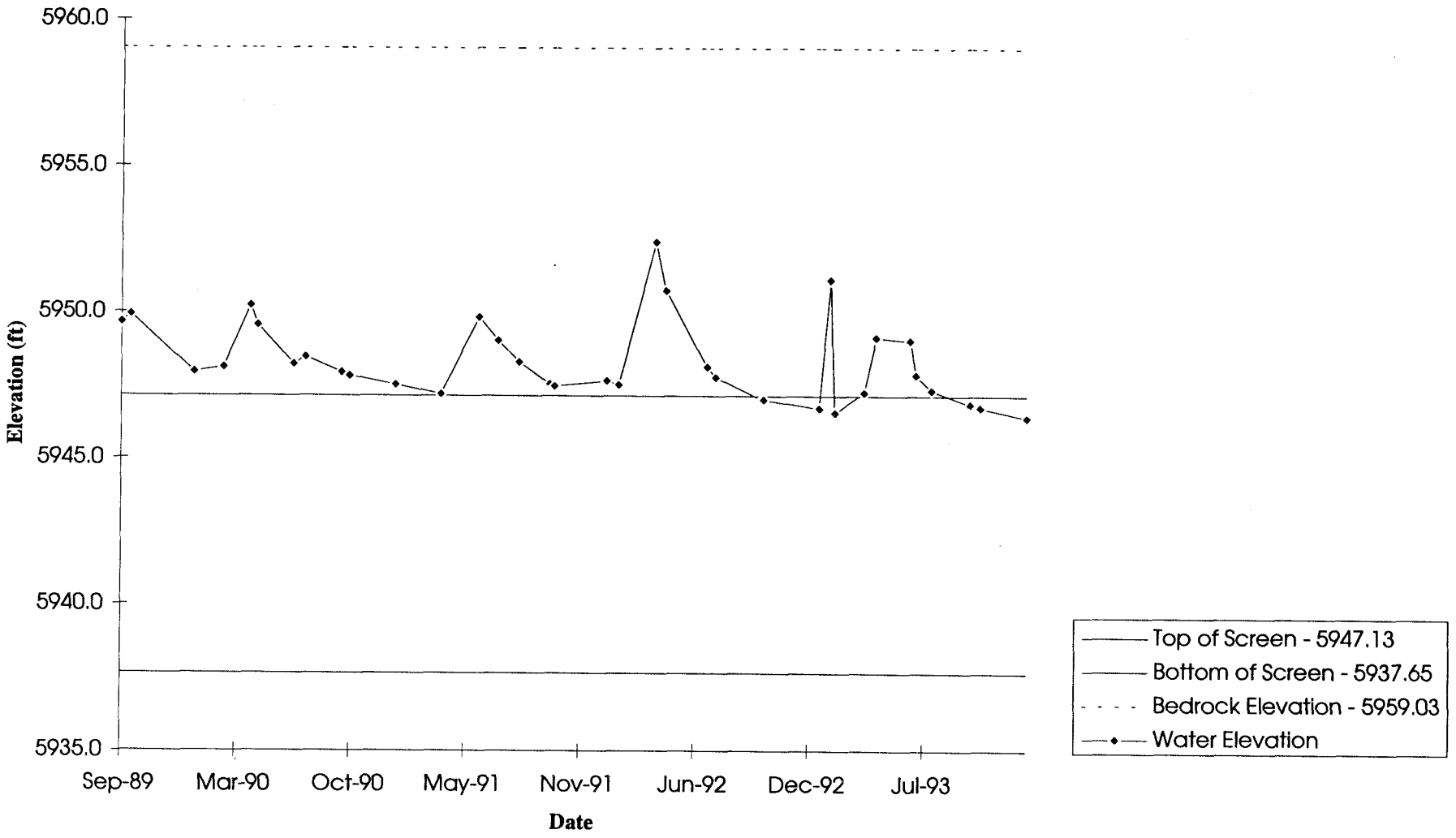
(4047-910-0025-521)(3/10/95 7:31 AM)(B208789 Chart 1)

Well P208889 Hydrograph
Bedrock



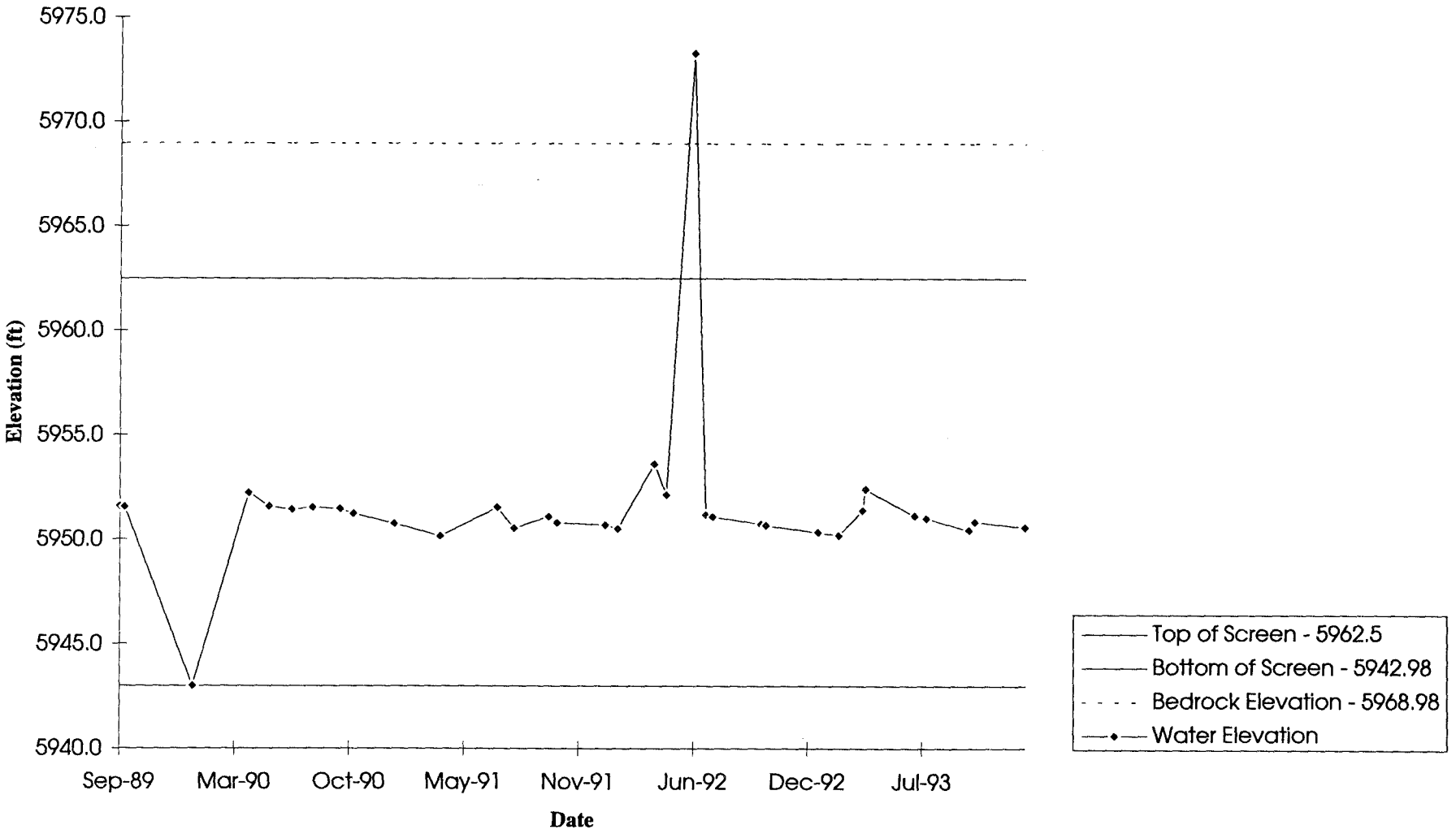
(4047-910-0025-521)(3/10/95 7:32 AM)(P208889 Chart 1)

Well P208989 Hydrograph
Bedrock



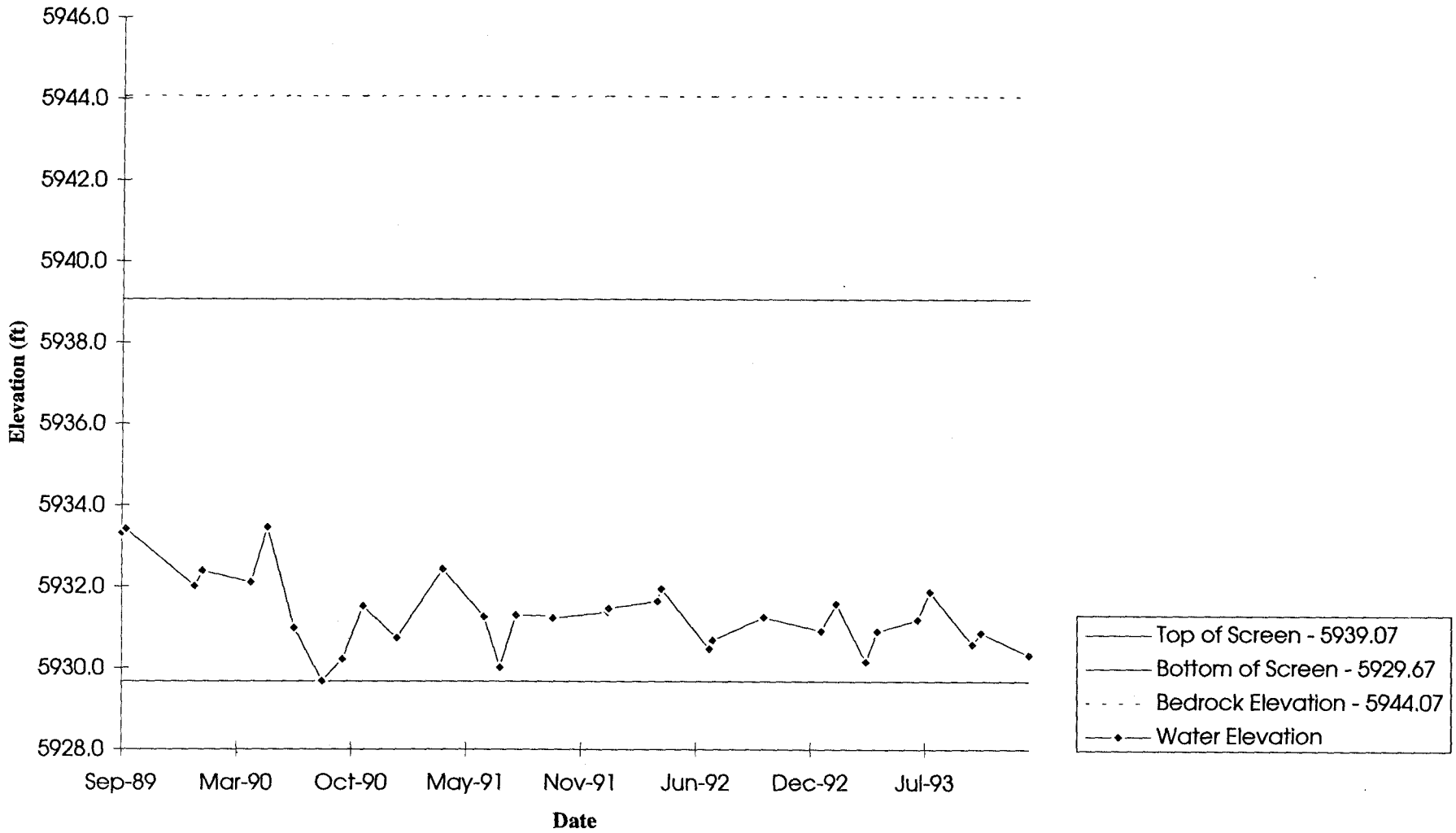
(4047-910-0025-521)(3/10/95 7:32 AM)(P208989 Chart 1)

Well P209489 Hydrograph
Bedrock



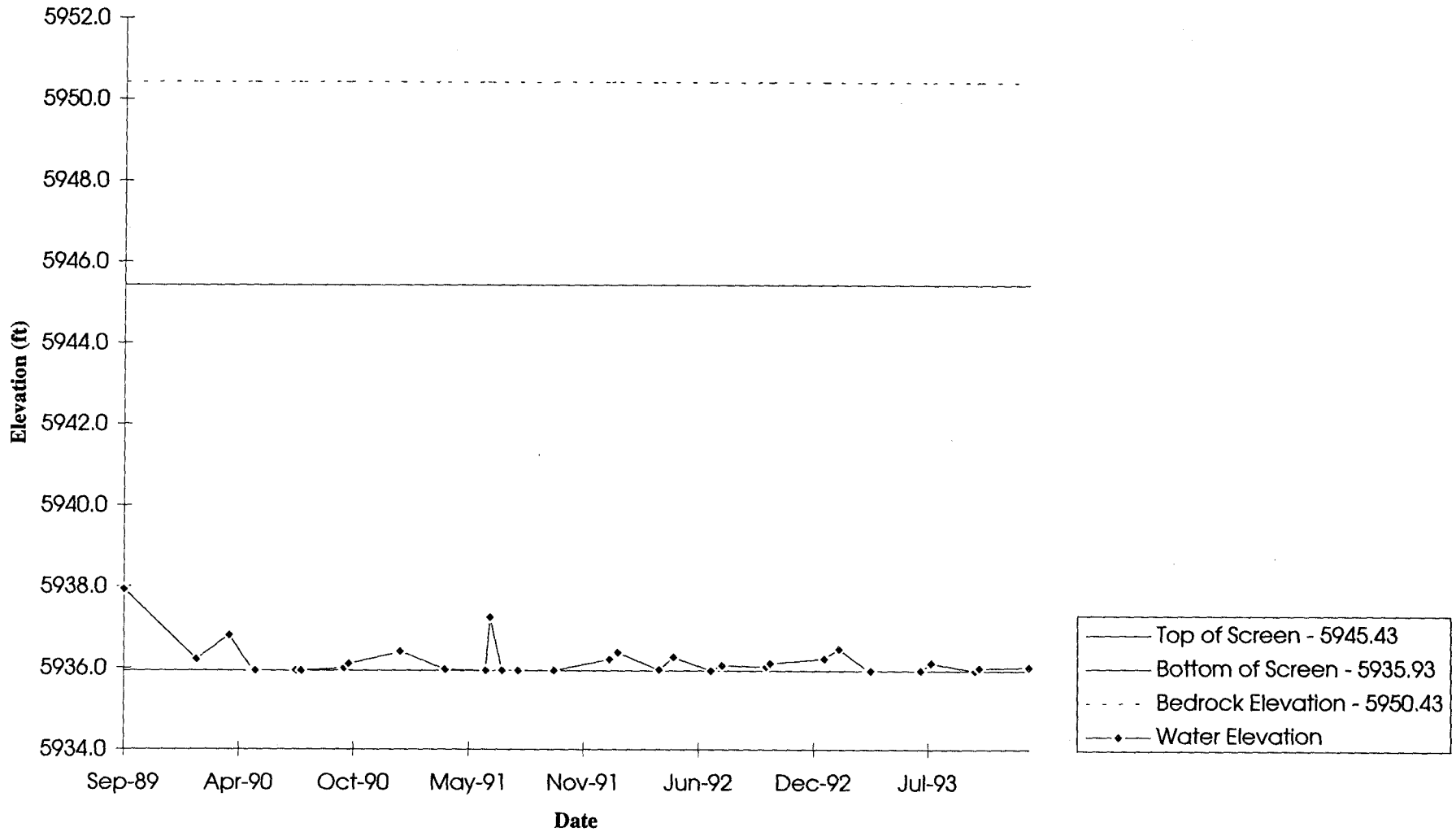
(4047-910-0025-521)(3/10/95 7:32 AM)(P209489 Chart 1)

Well P209589 Hydrograph
Bedrock



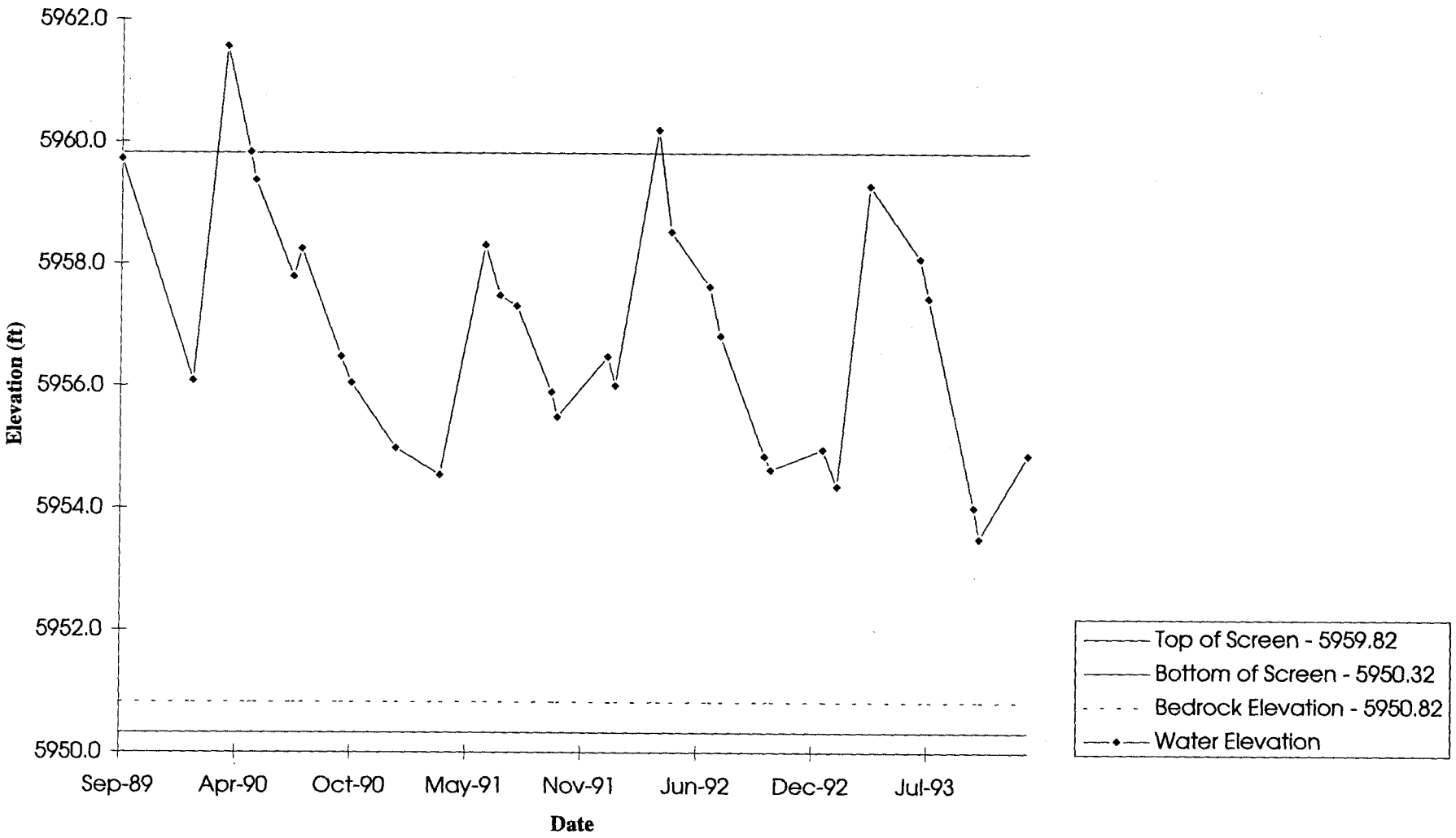
(4047-910-0025-521)(3/10/95 7:32 AM)(P209589 Chart 1)

Well P209689 Hydrograph
Bedrock



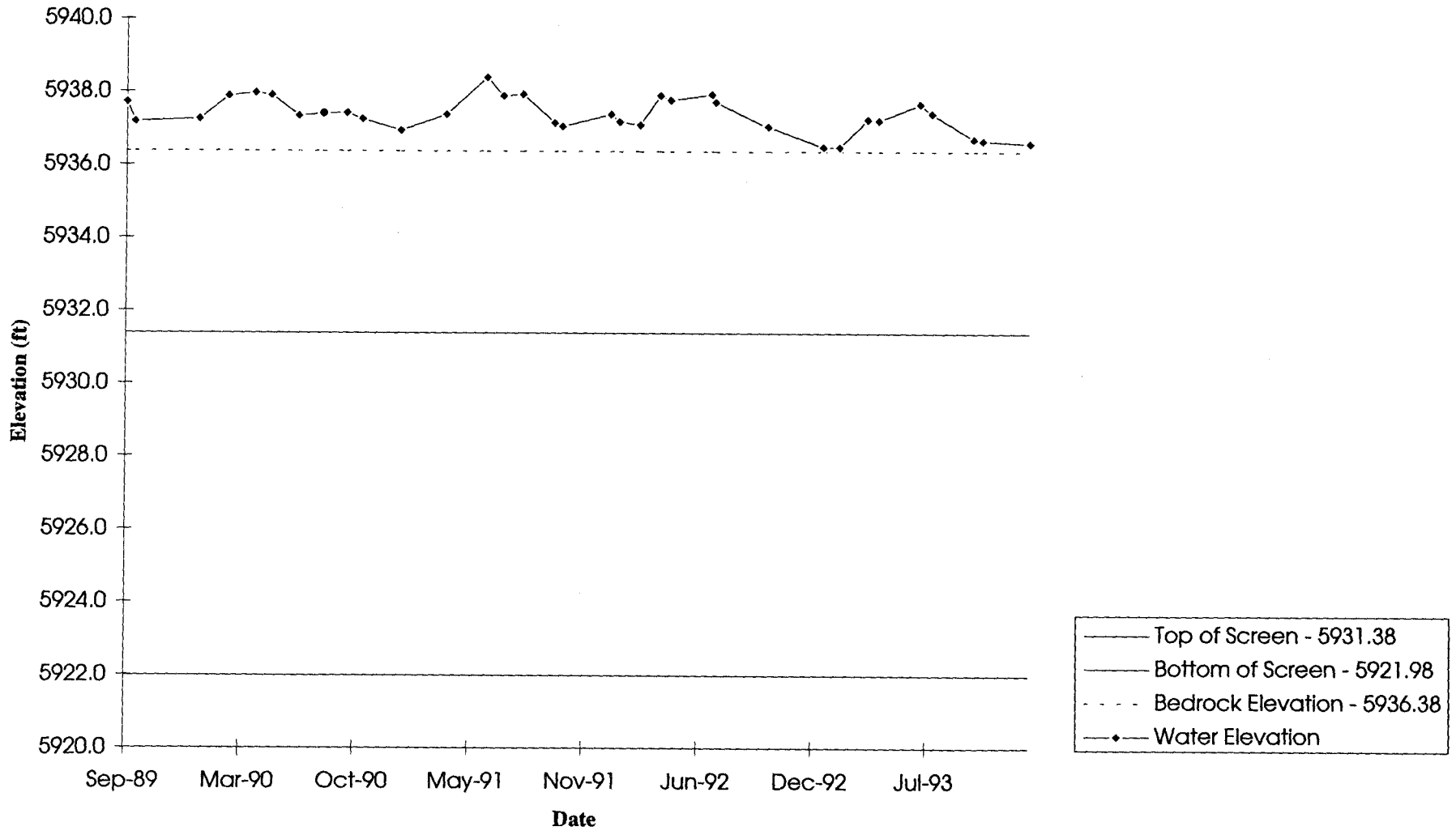
(4047-910-0025-521)(3/10/95 7:32 AM)(P209689 Chart 1)

Well P209789 Hydrograph
Rocky Flats Alluvium



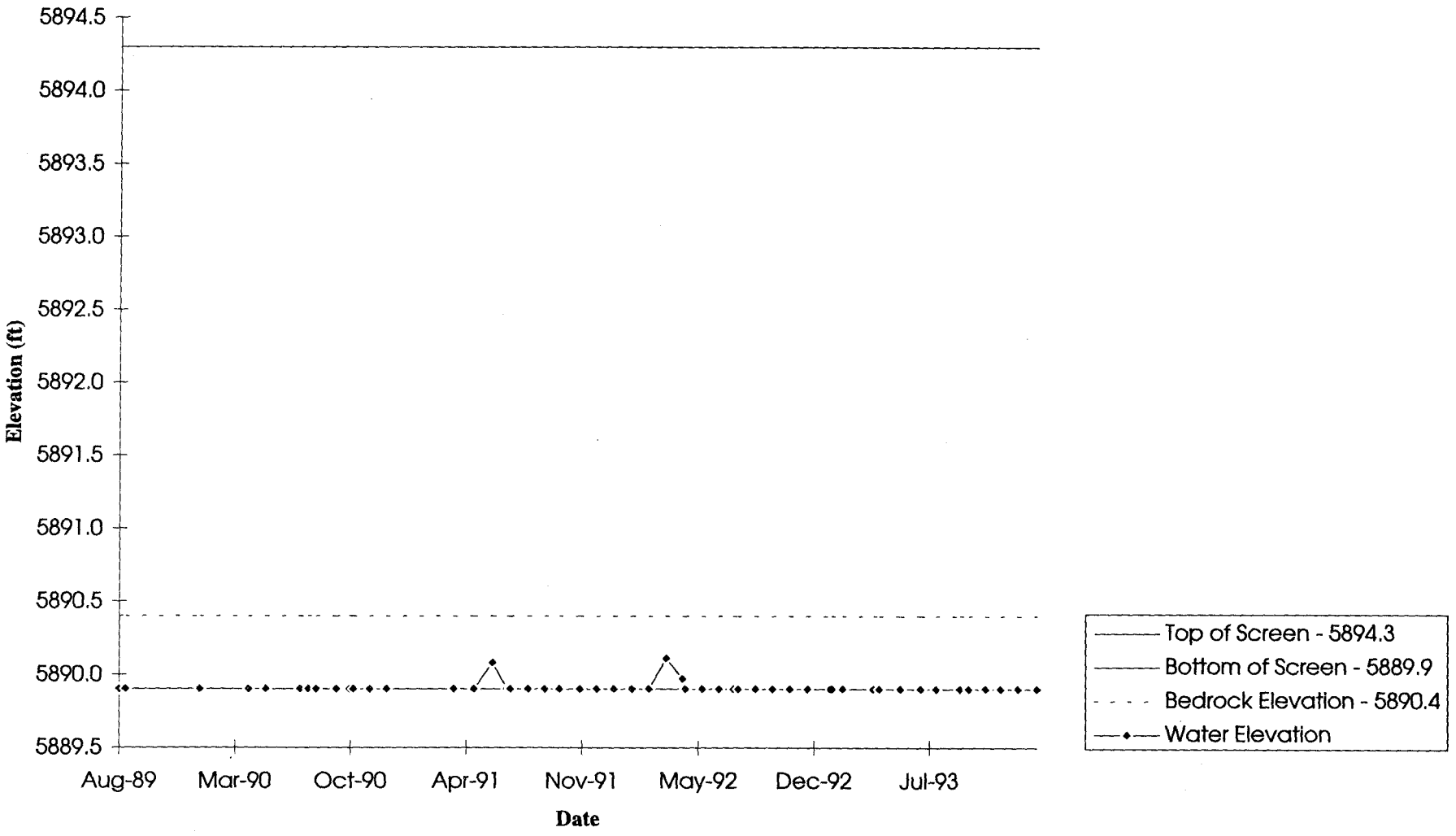
(4047-910-0025-521)(3/10/95 7:32 AM)(P209789 Chart 1)

Well P209889 Hydrograph
Bedrock



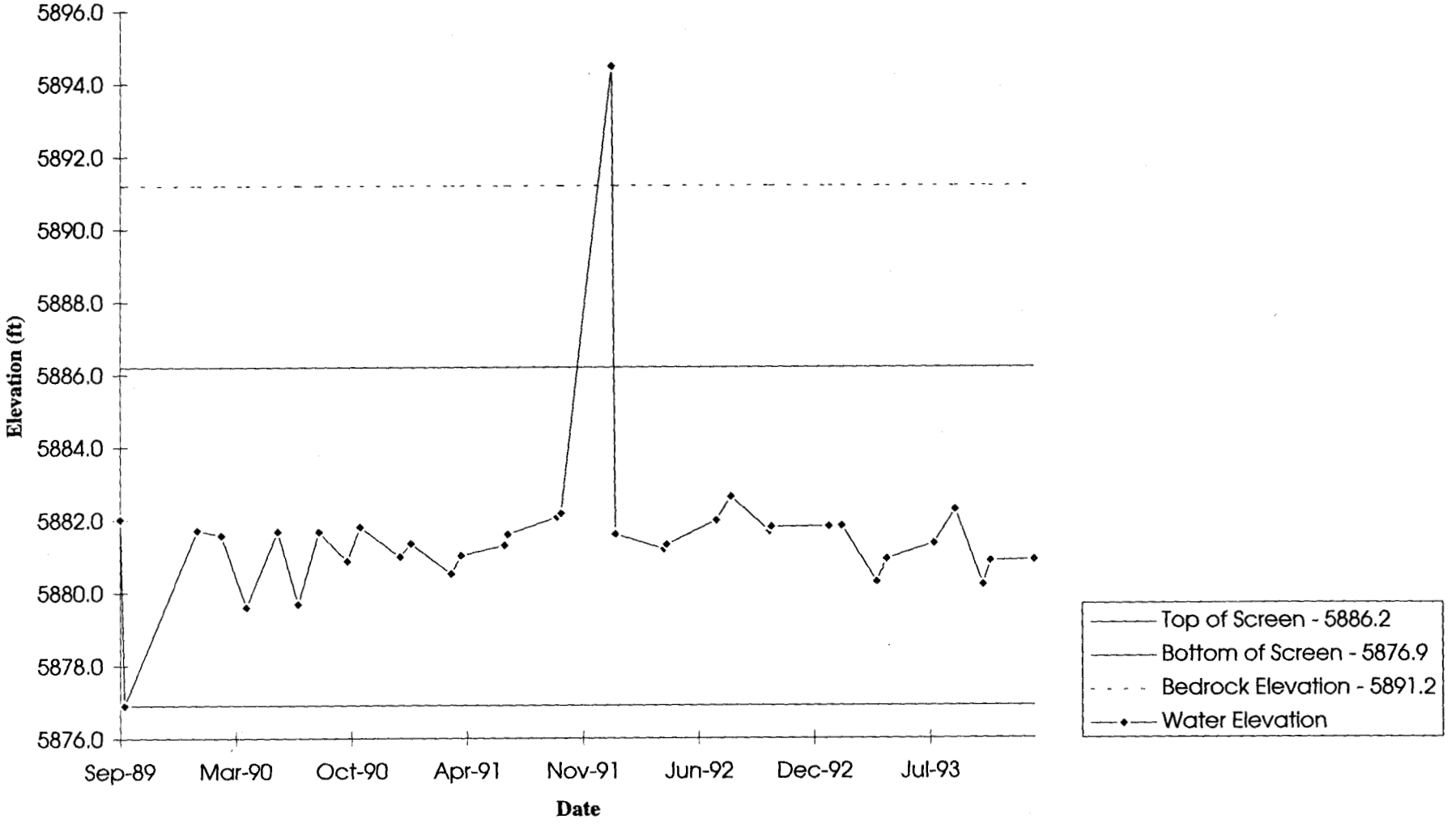
(4047-910-0025-521)(3/10/95 7:32 AM)(P209889 Chart 1)

Well P209989 Hydrograph
Colluvium



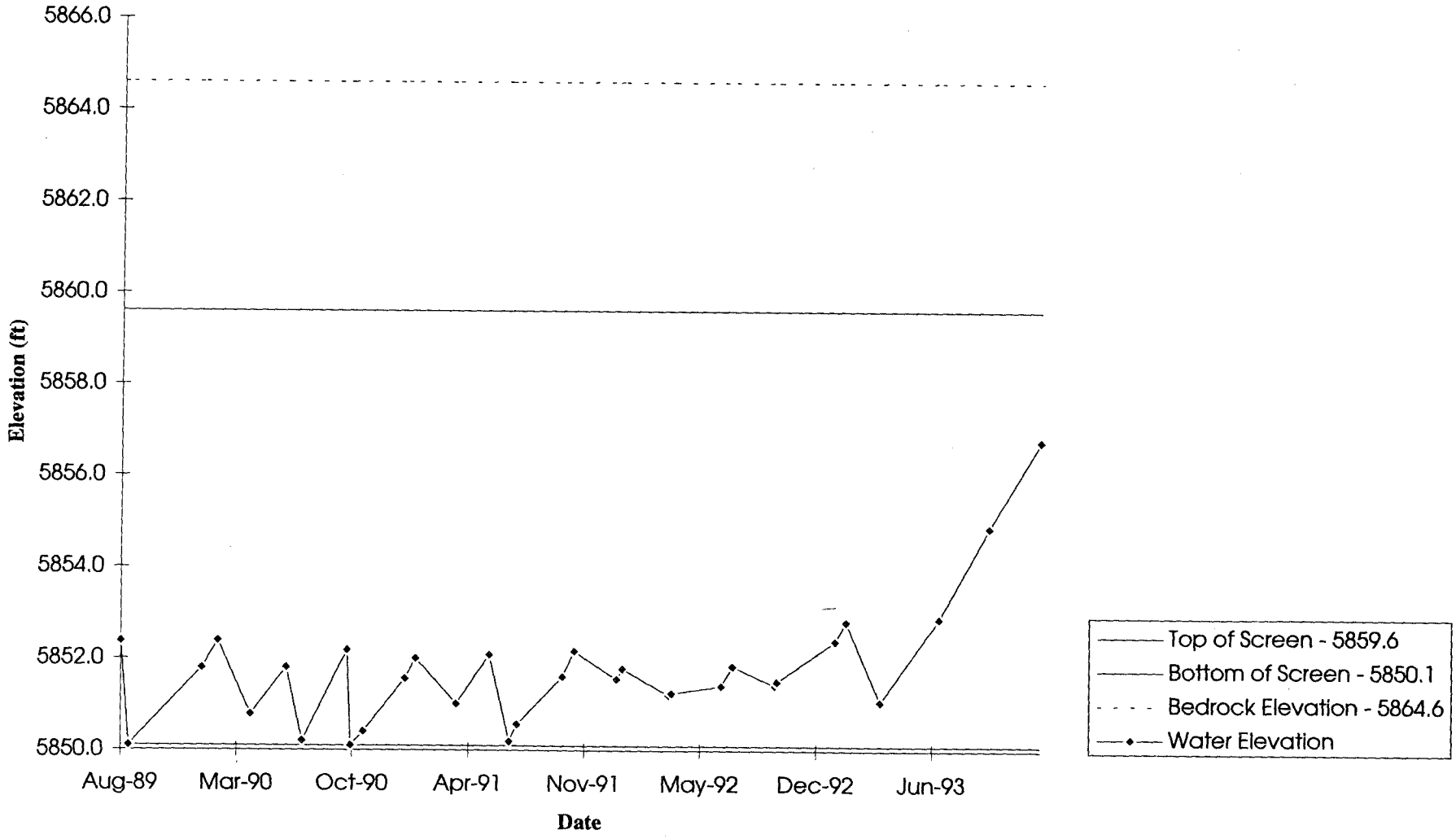
(4047-910-0025-521)(3/10/95 7:32 AM)(P209989 Chart 1)

Well P210089 Hydrograph
Bedrock



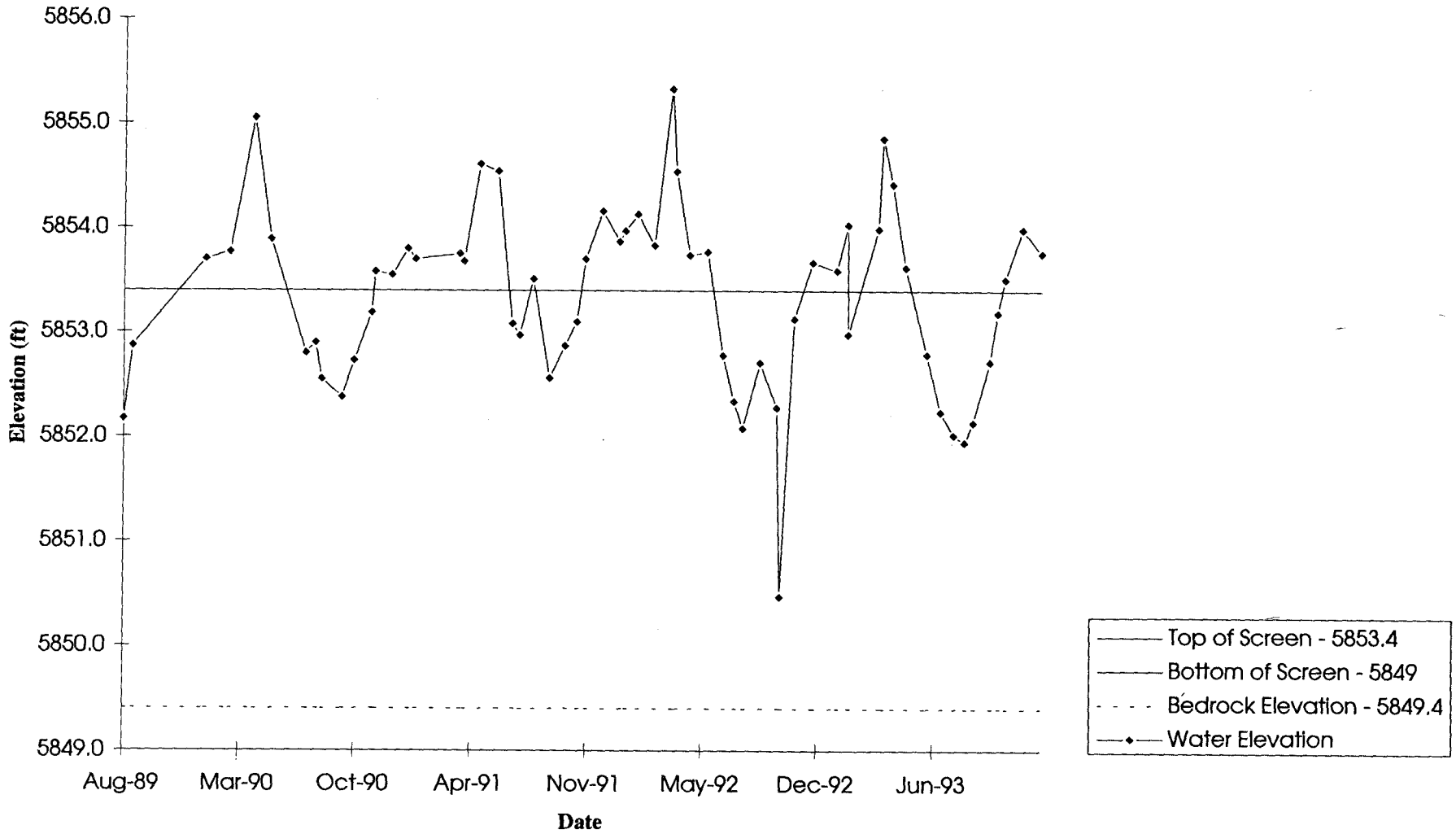
(4047-910-0025-521)(3/10/95 7:32 AM)(P210089 Chart 1)

Well B210389 Hydrograph
Bedrock



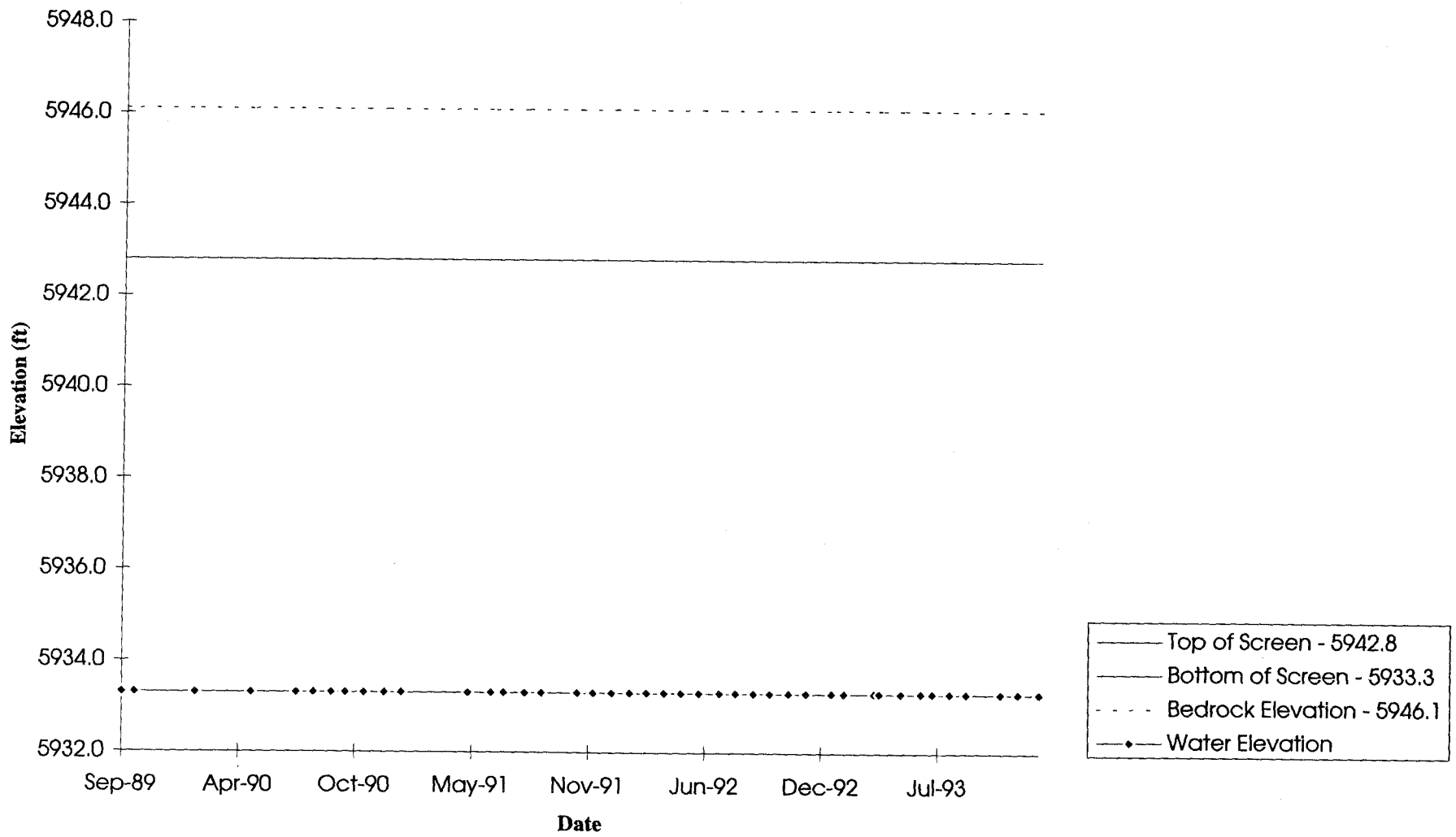
(4047-910-0025-521)(3/10/95 7:31 AM)(B210389 Chart 1)

Well B210489 Hydrograph
Valley Fill Alluvium



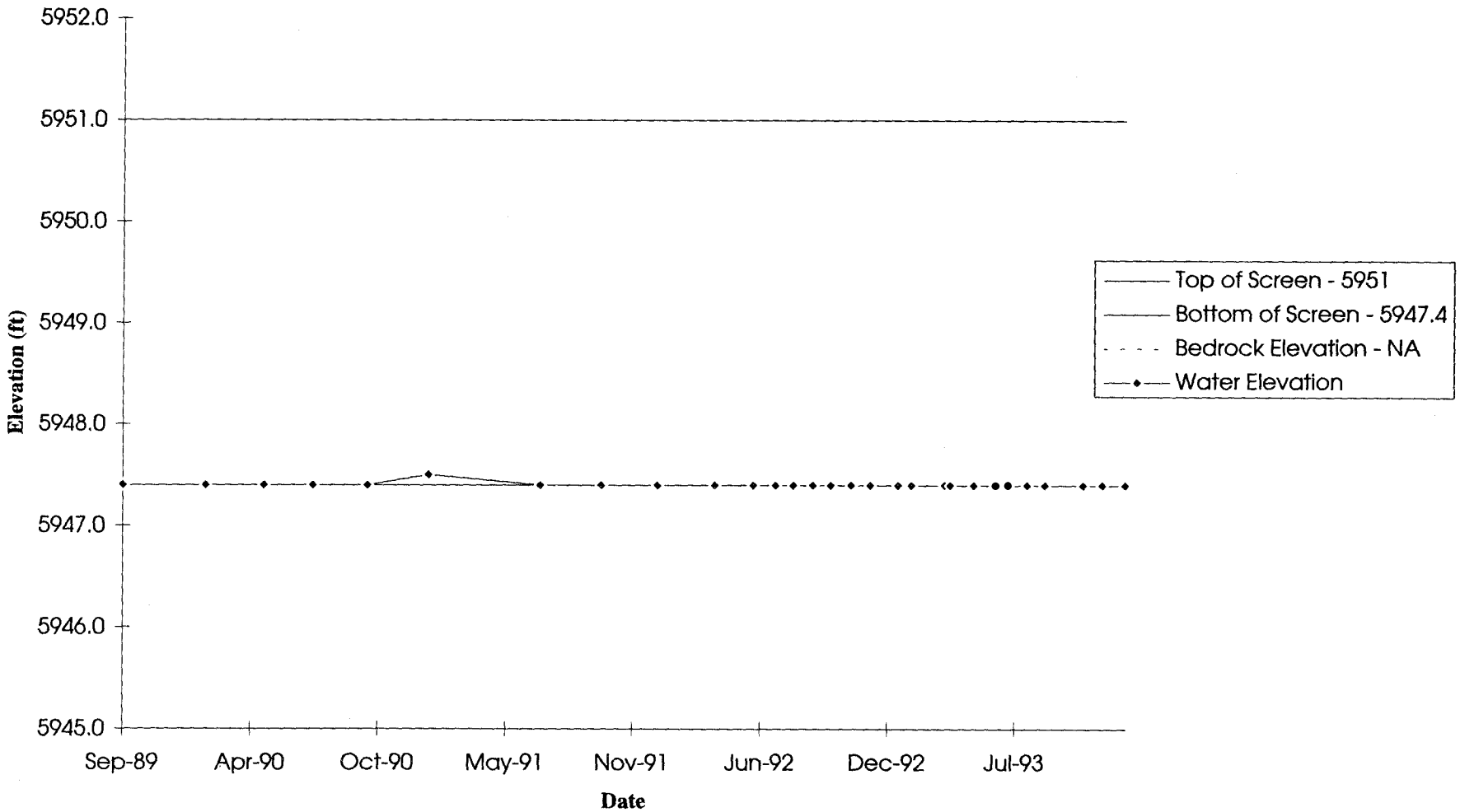
(4047-910-0025-521)(3/10/95 7:31 AM)(B210489 Chart 1)

Well P213889 Hydrograph
Bedrock



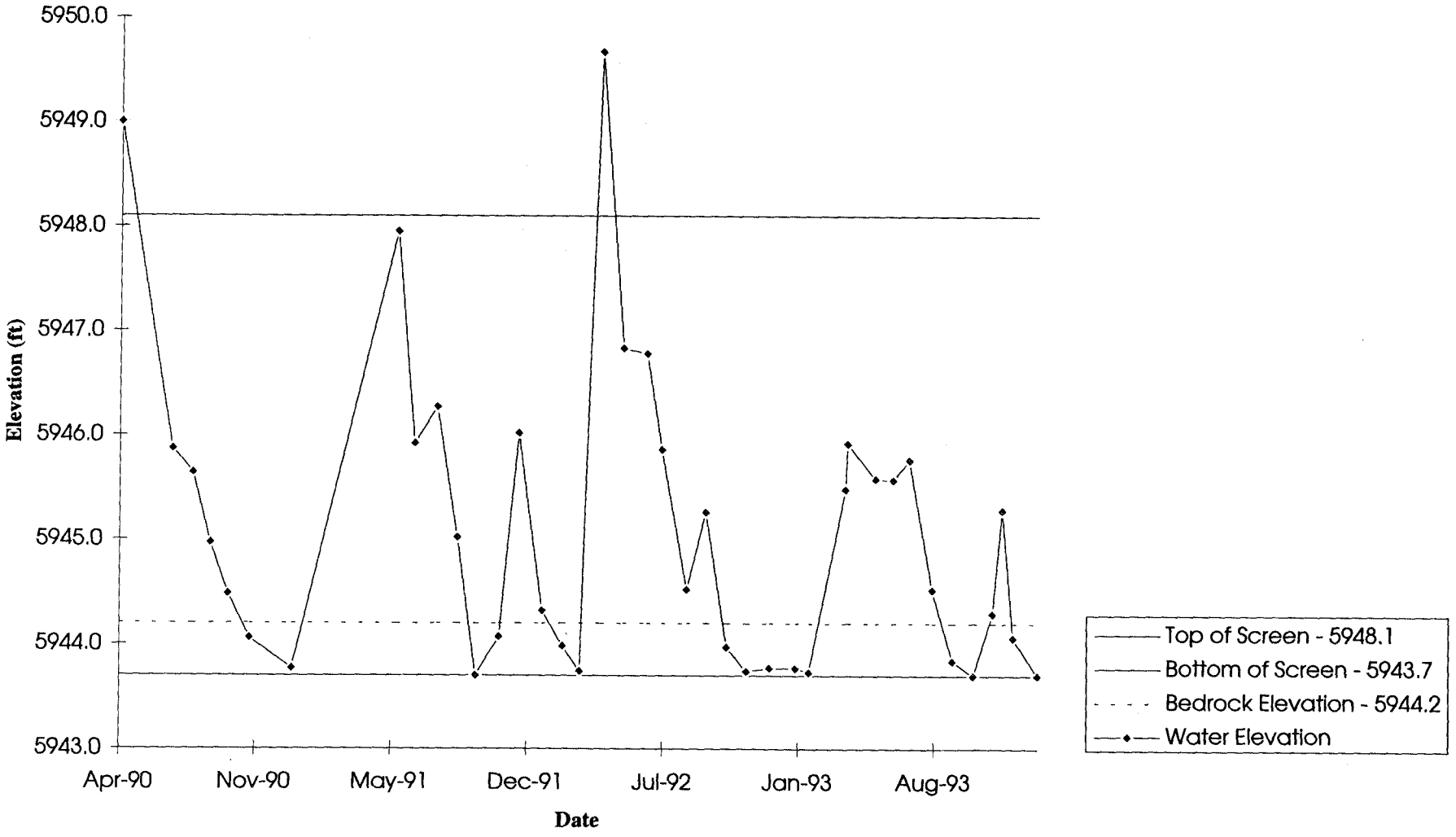
(4047-910-0025-521)(3/10/95 7:32 AM)(P213889 Chart 1)

Well P213989 Hydrograph
Artificial Fill / Rocky Flats Alluvium



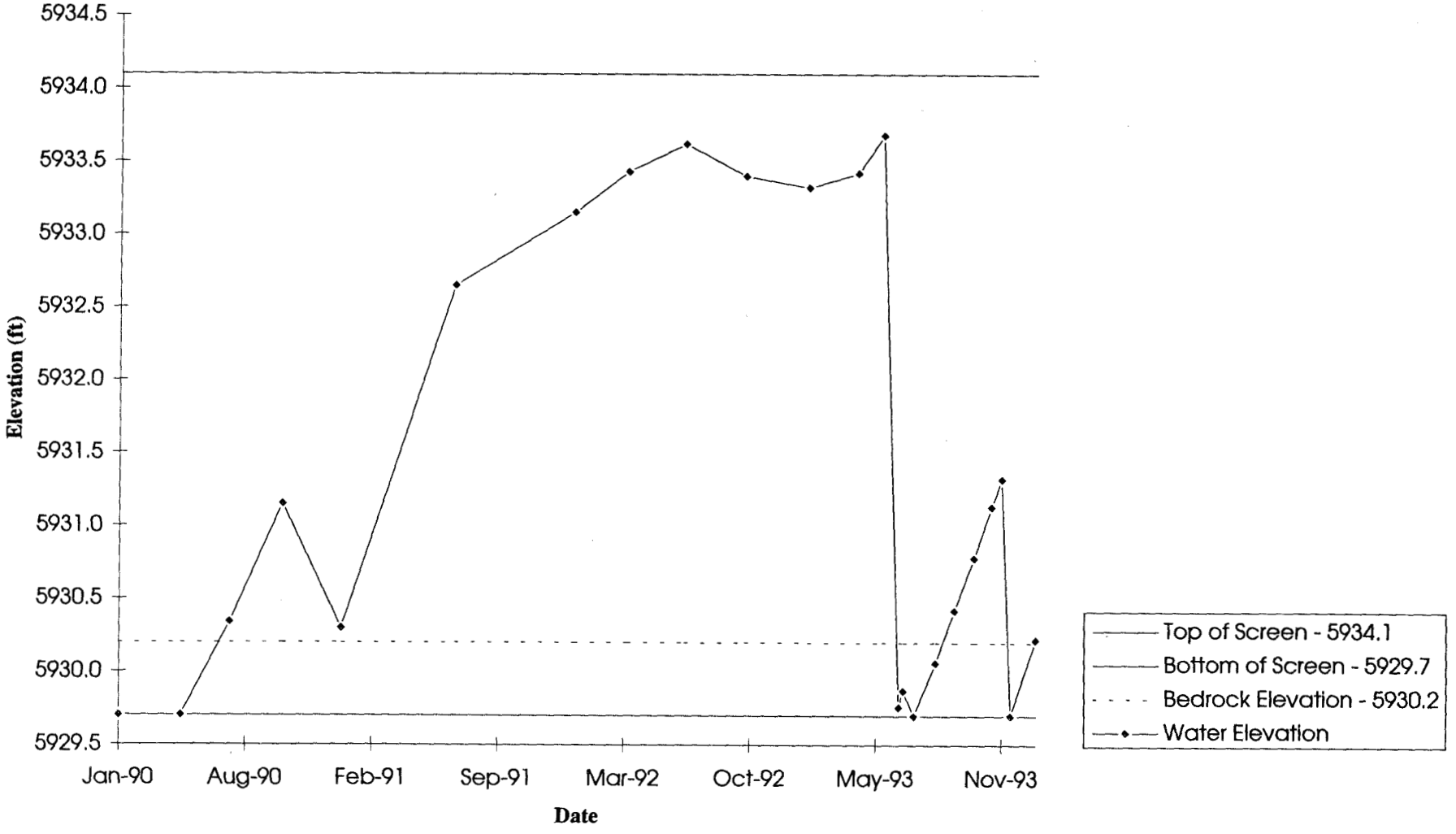
(4047-910-0025-521)(3/10/95 7:32 AM)(P213989 Chart 1)

Well P218389 Hydrograph
Rocky Flats Alluvium



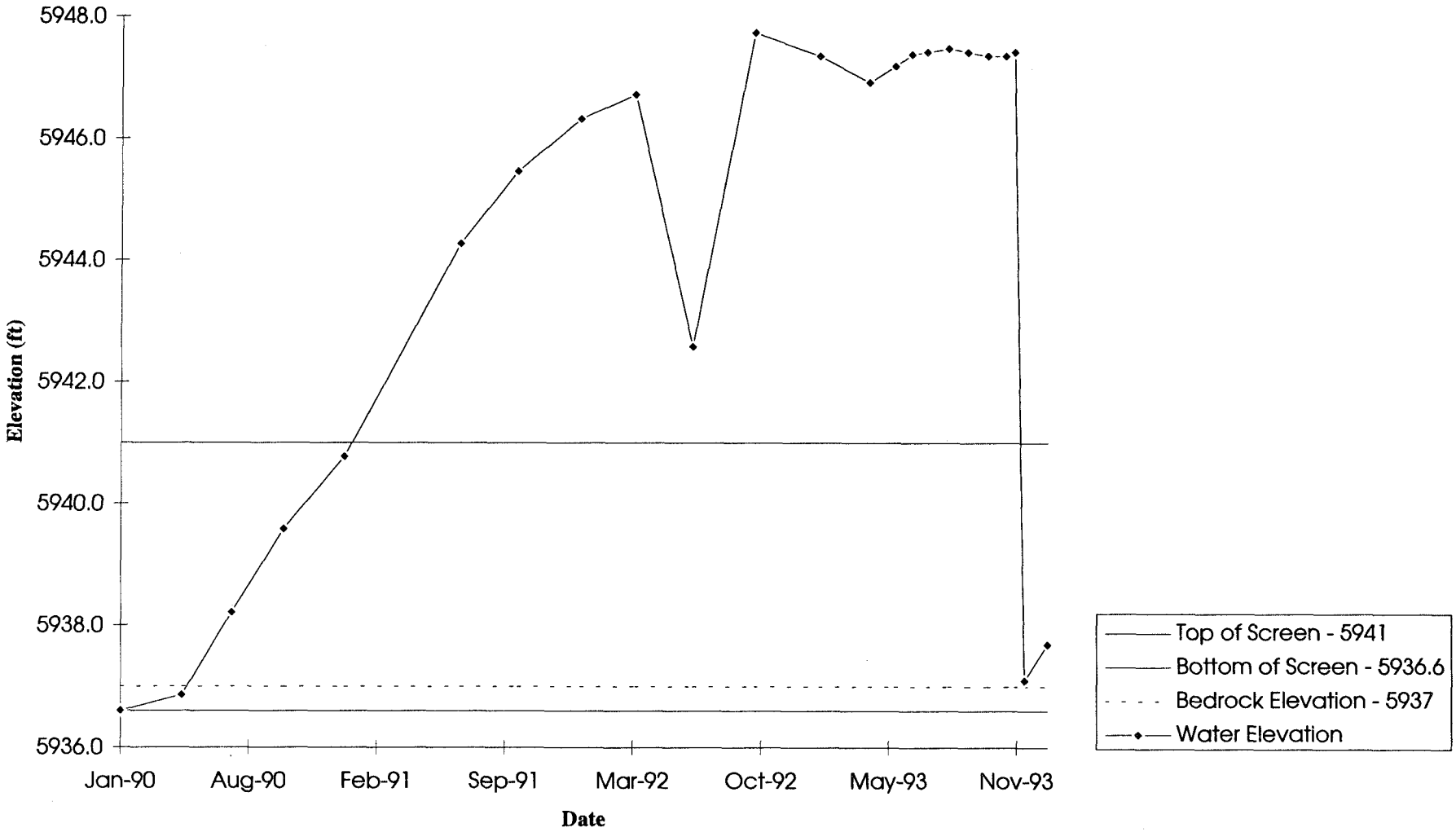
(4047-910-0025-521)(3/10/95 7:32 AM)(P218389 Chart 1)

Well P219189 Hydrograph
Colluvium



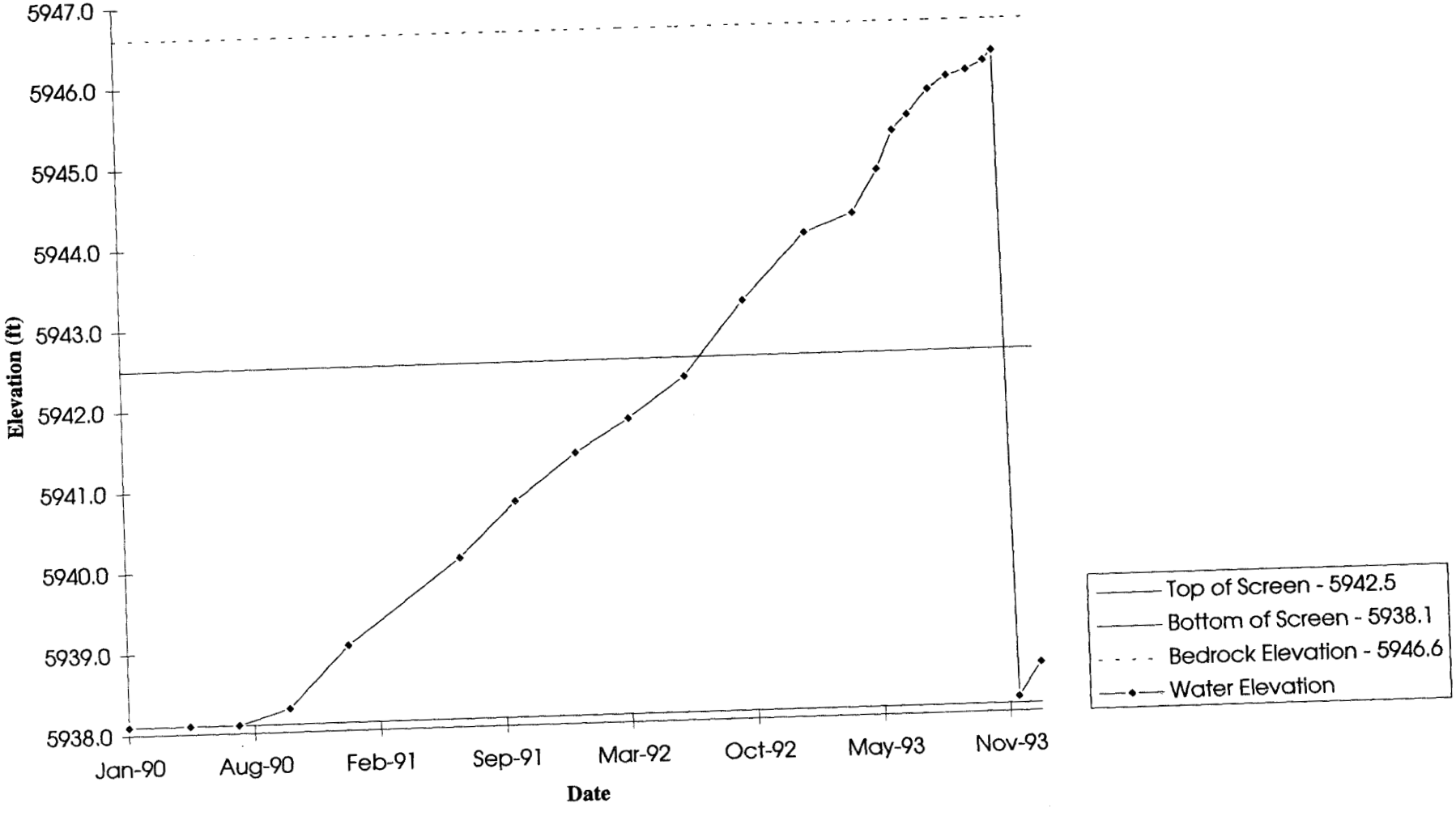
(4047-910-0025-521)(3/10/95 7:32 AM)(P219189 Chart 1)

Well P219489 Hydrograph
Rocky Flats Alluvium



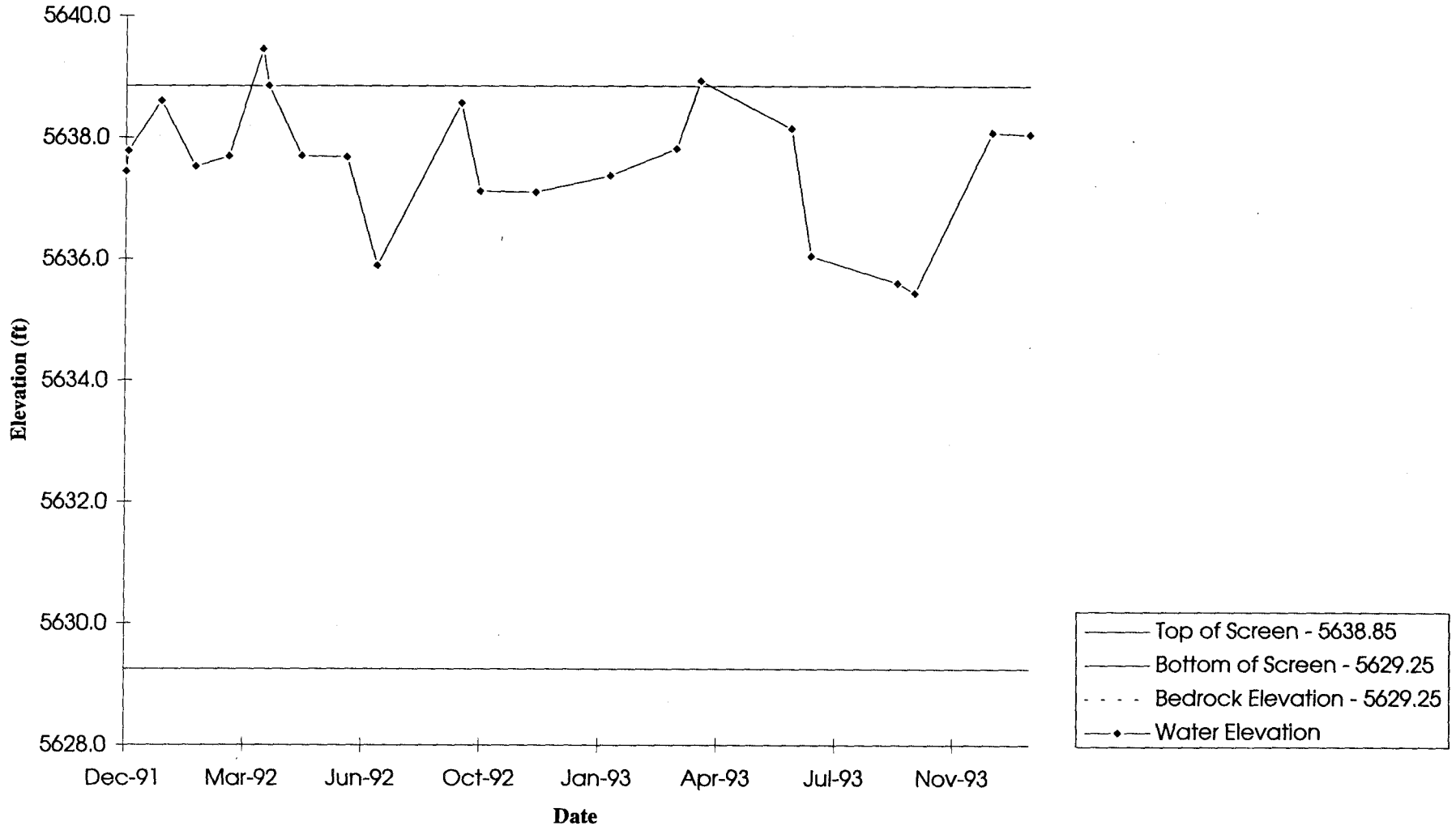
(4047-910-0025-521)(3/10/95 7:32 AM)(P219489 Chart 1)

Well P219589 Hydrograph
Bedrock



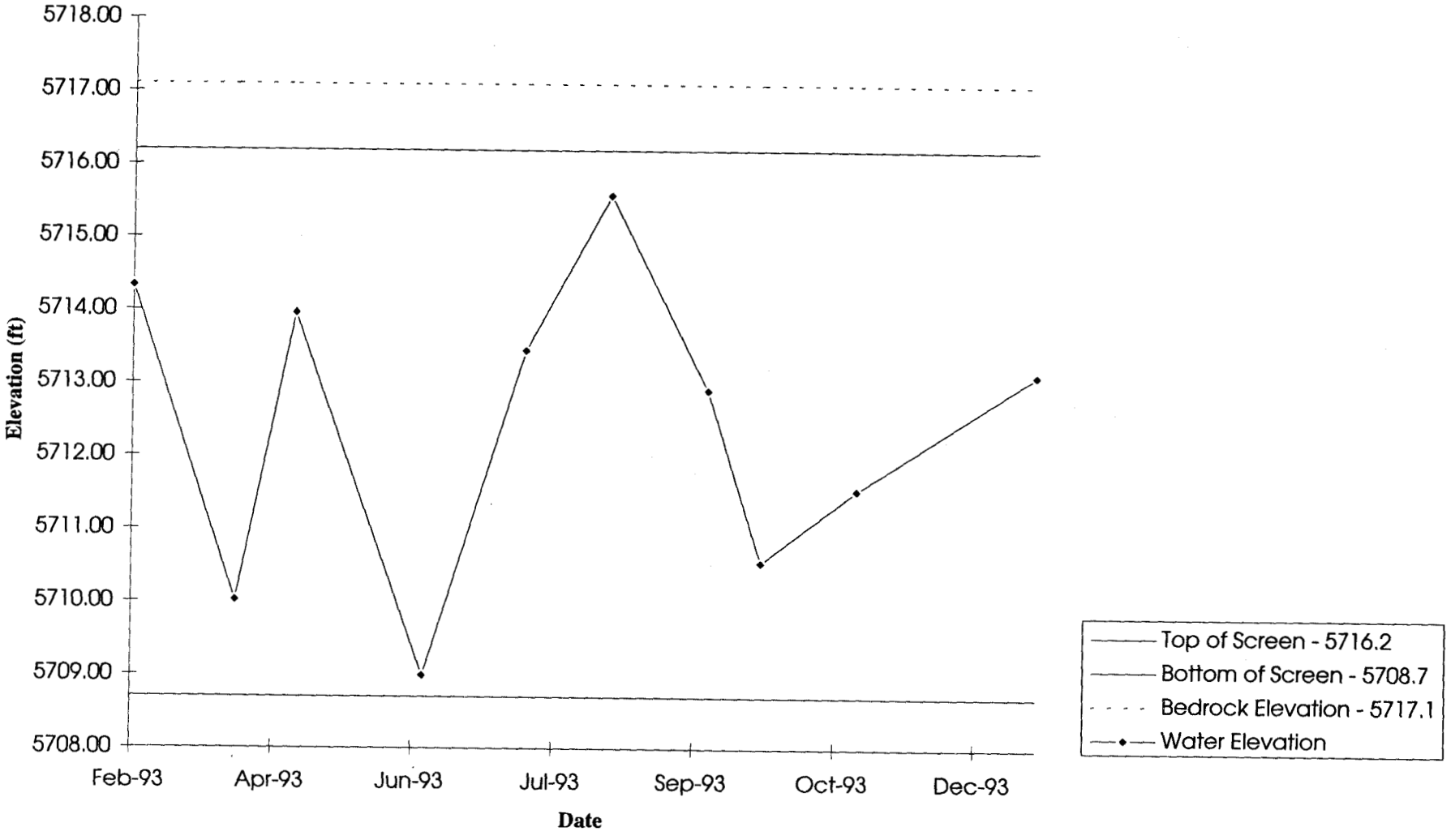
(4047-910-0025-521)(3/10/95 7:32 AM)(P219589 Chart 1)

Well 41691 Hydrograph
Valley Fill Alluvium



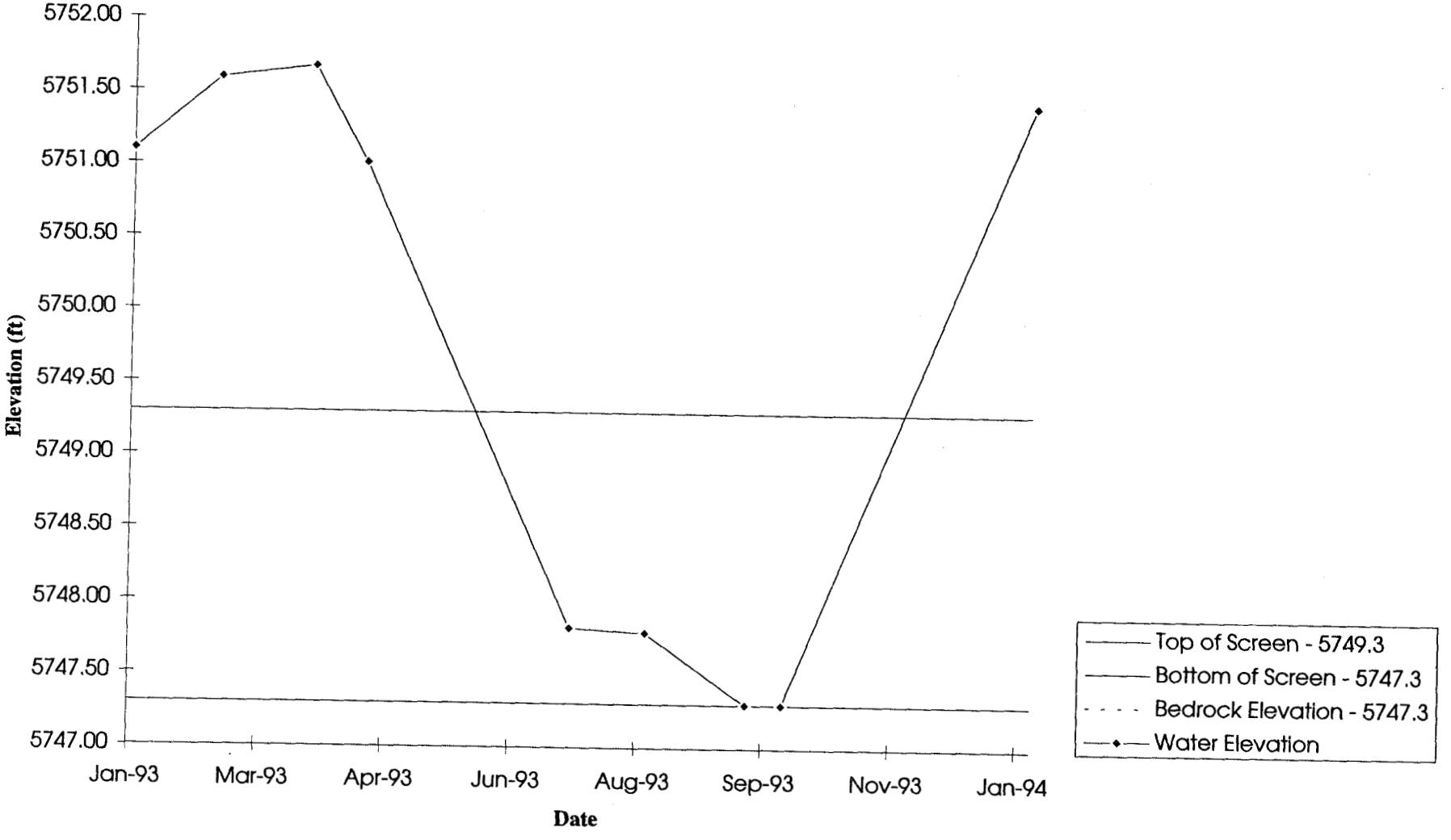
(4047-910-0025-521)(3/10/95 7:28 AM)(41691 Chart 1)

Well 75092 Hydrograph
Bedrock



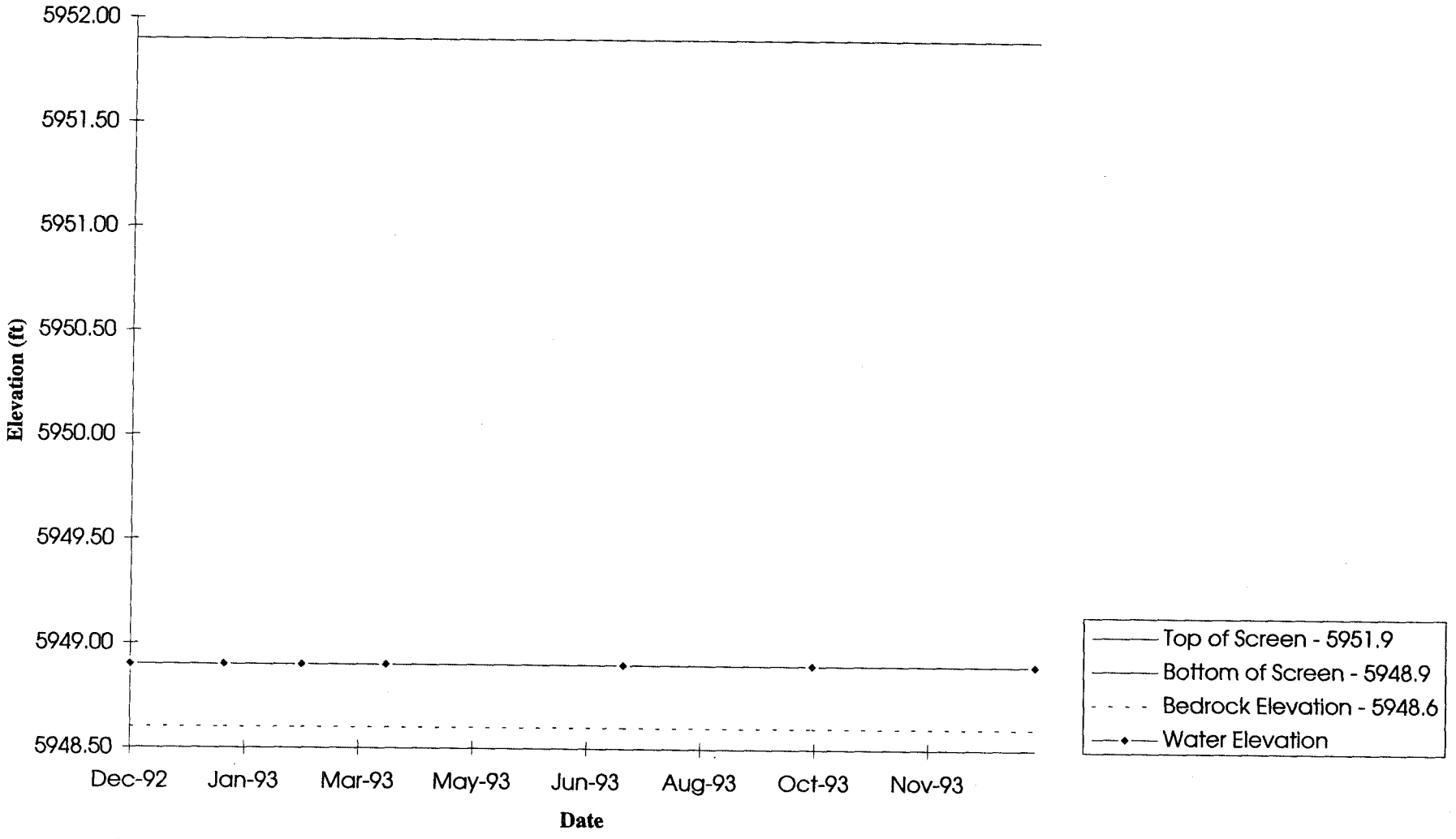
(4047-910-0025-521)(3/10/95 7:29 AM)(75092 Chart 1)

Well 75292 Hydrograph
Valley Fill Alluvium



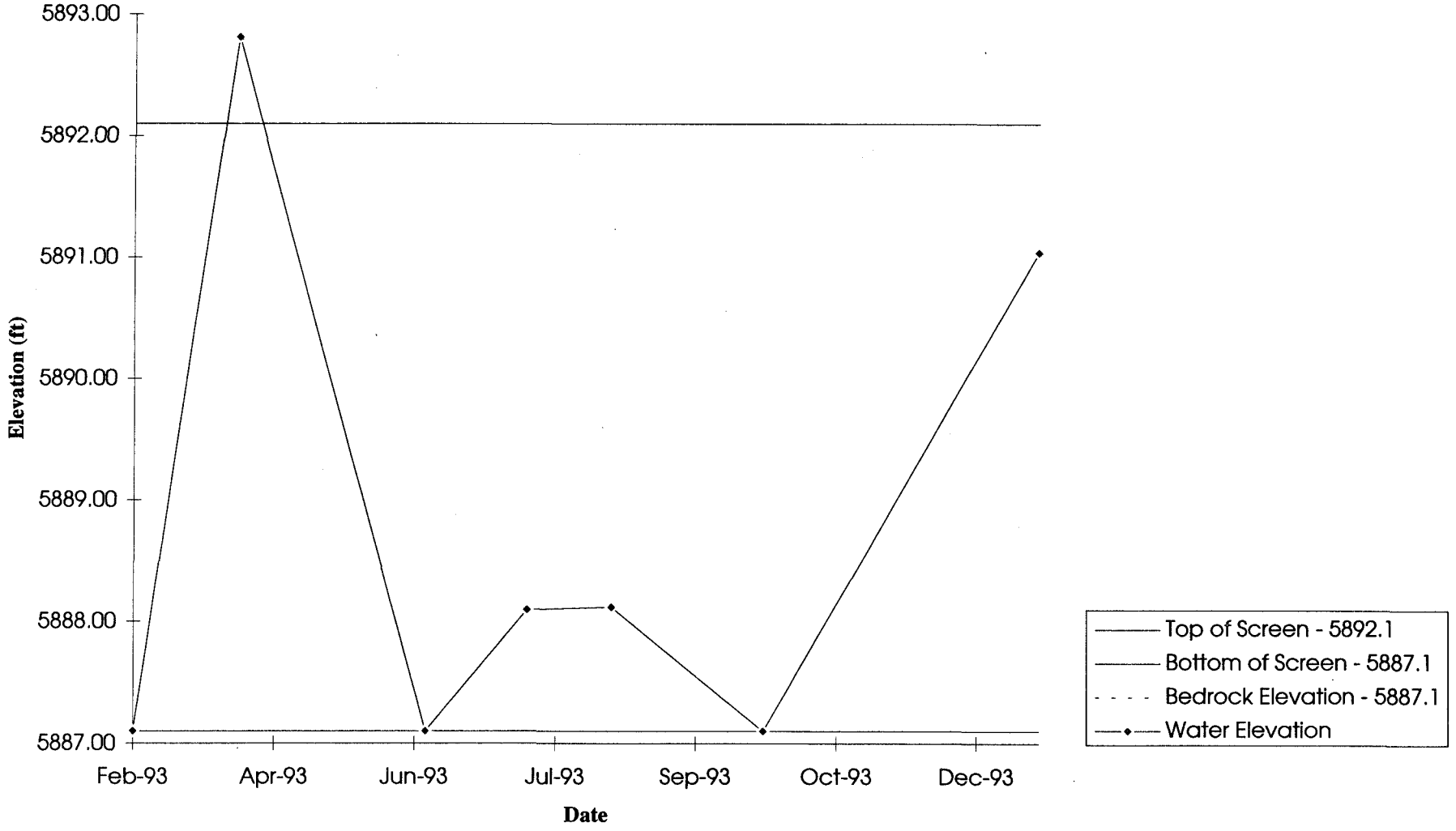
(4047-910-0025-521)(3/10/95 7:29 AM)(75292 Chart 1)

Well 75892 Hydrograph
Rocky Flats Alluvium



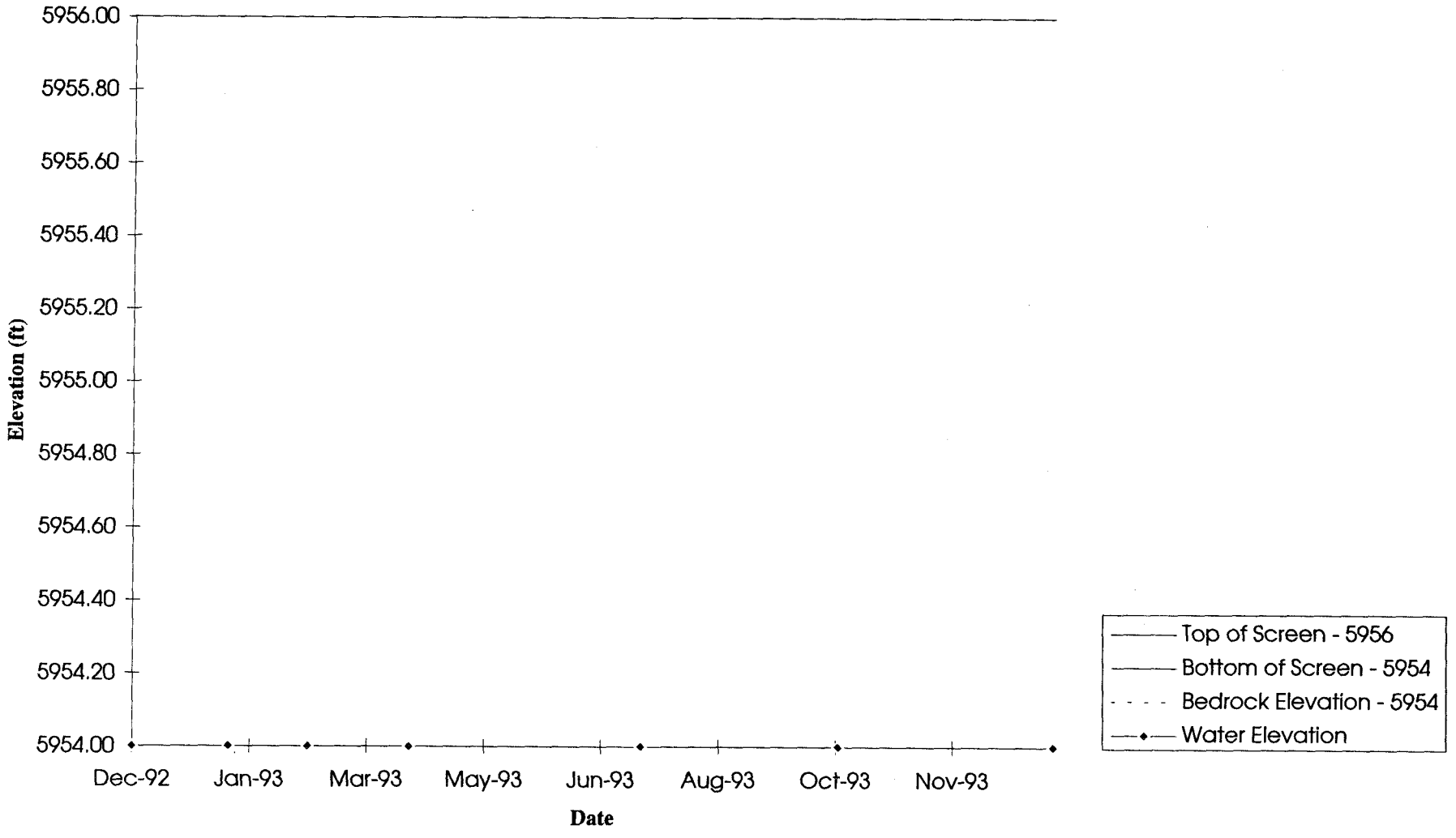
(4047-910-0025-521)(3/10/95 7:29 AM)(75892 Chart 1)

Well 75992 Hydrograph
Valley Fill Alluvium



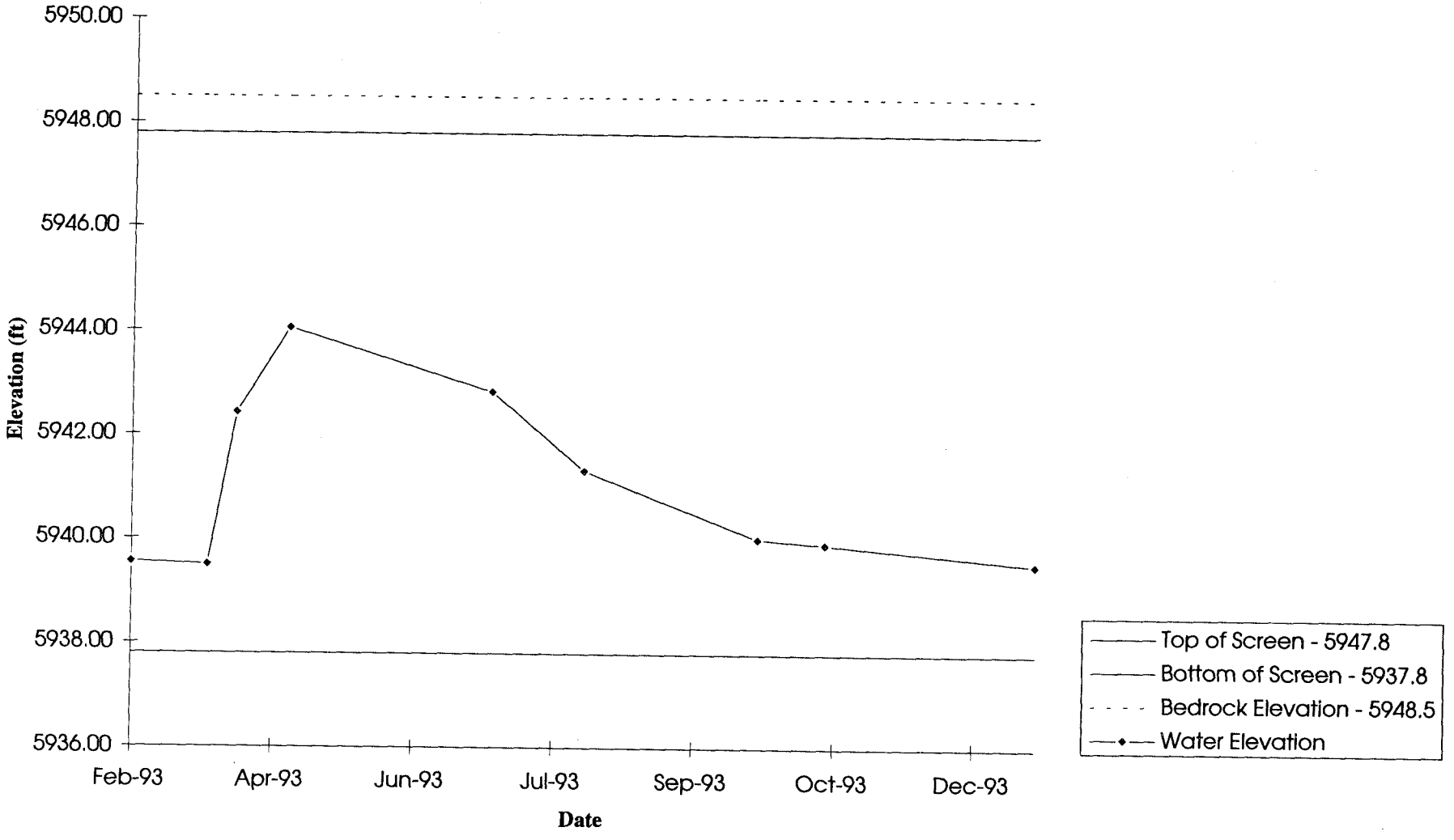
(4047-910-0025-521)(3/10/95 7:29 AM)(75992 Chart 1)

Well 76192 Hydrograph
Rocky Flats Alluvium



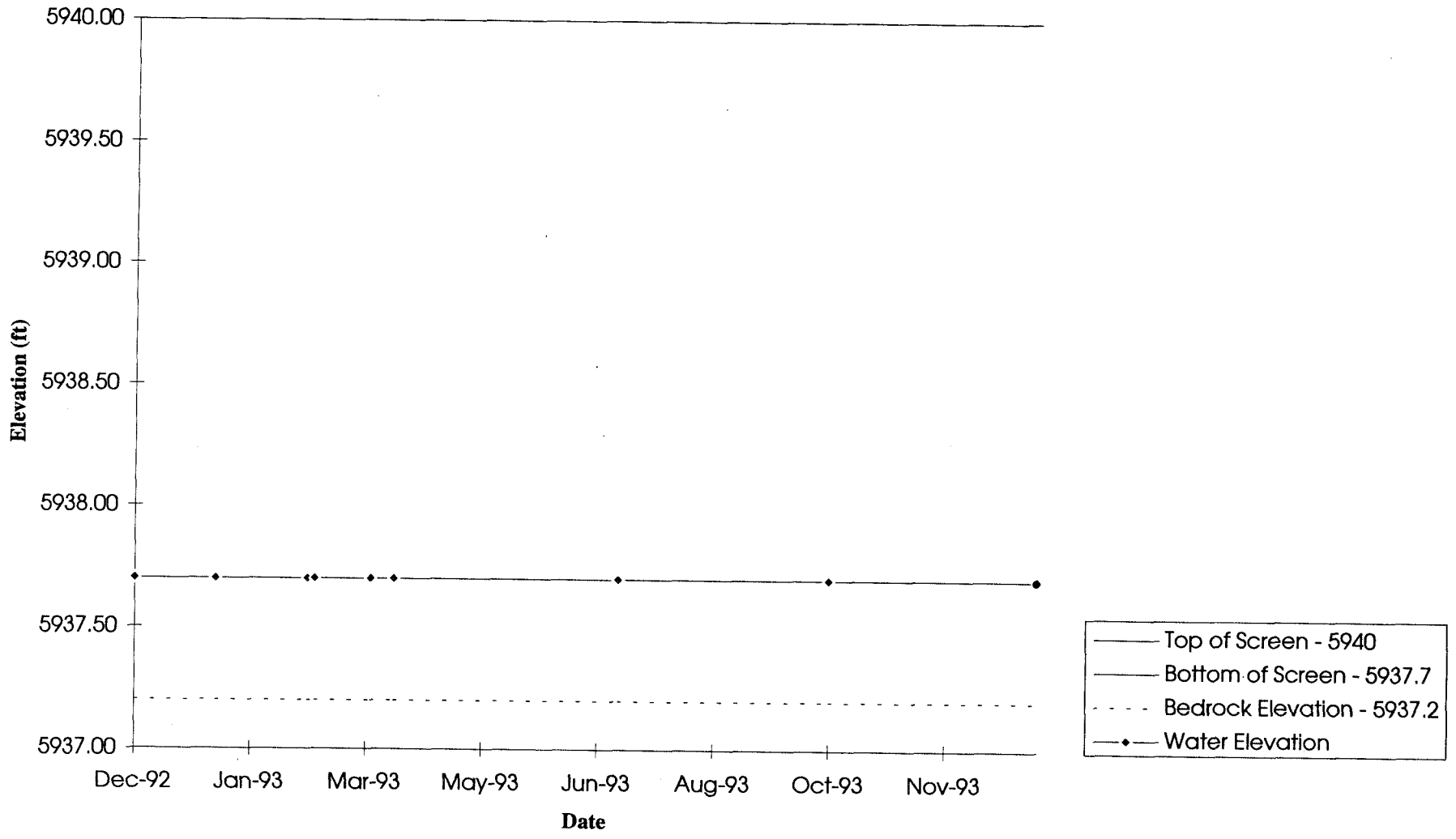
(4047-910-0025-521)(3/10/95 7:29 AM)(76192 Chart 1)

Well 76292 Hydrograph
Bedrock



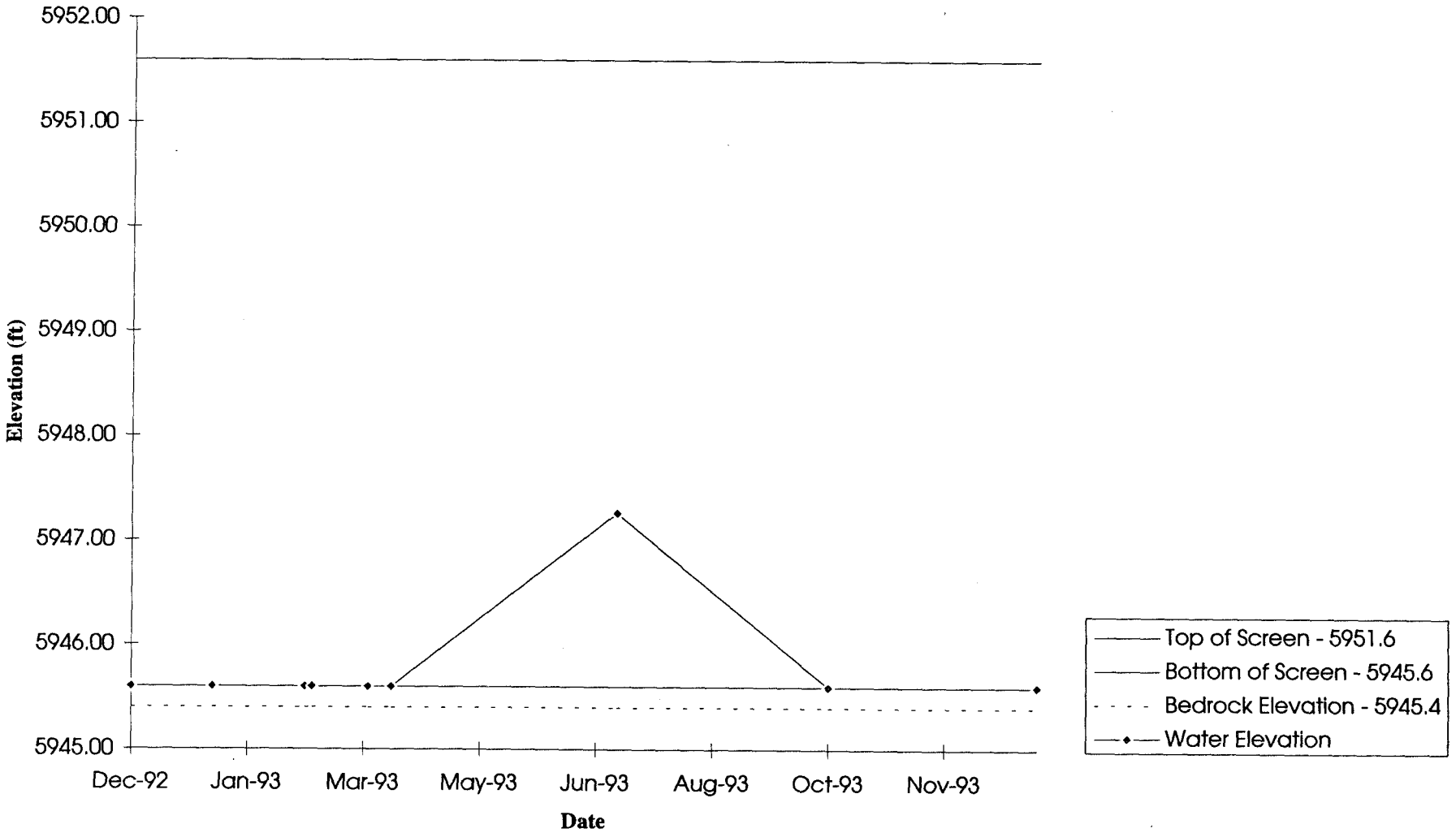
(4047-910-0025-521)(3/10/95 7:29 AM)(76292 Chart 1)

Well 76792 Hydrograph
Rocky Flats Alluvium



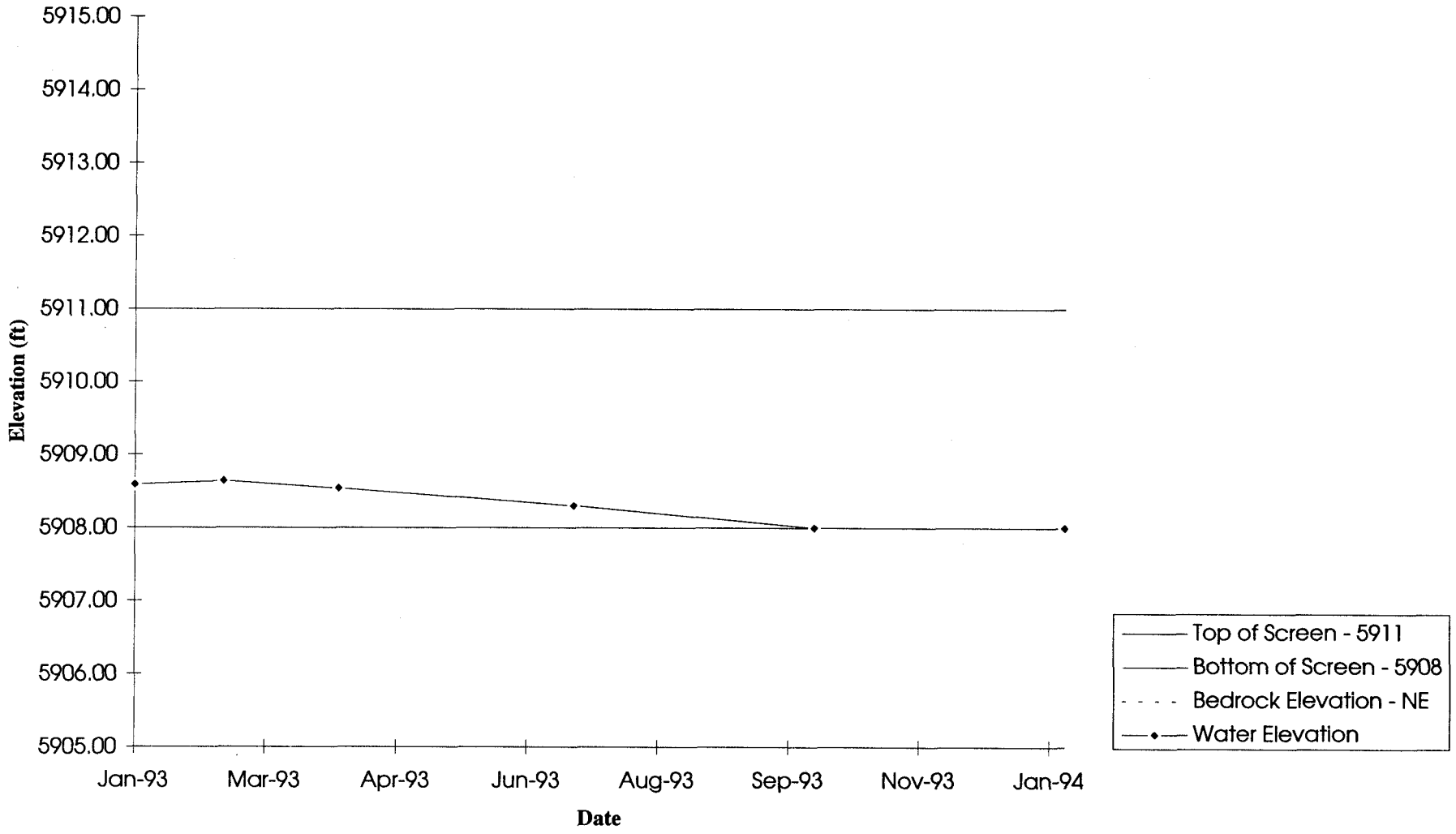
(4047-910-0025-521)(3/10/95 7:29 AM)(76792 Chart 1)

Well 76992 Hydrograph
Rocky Flats Alluvium



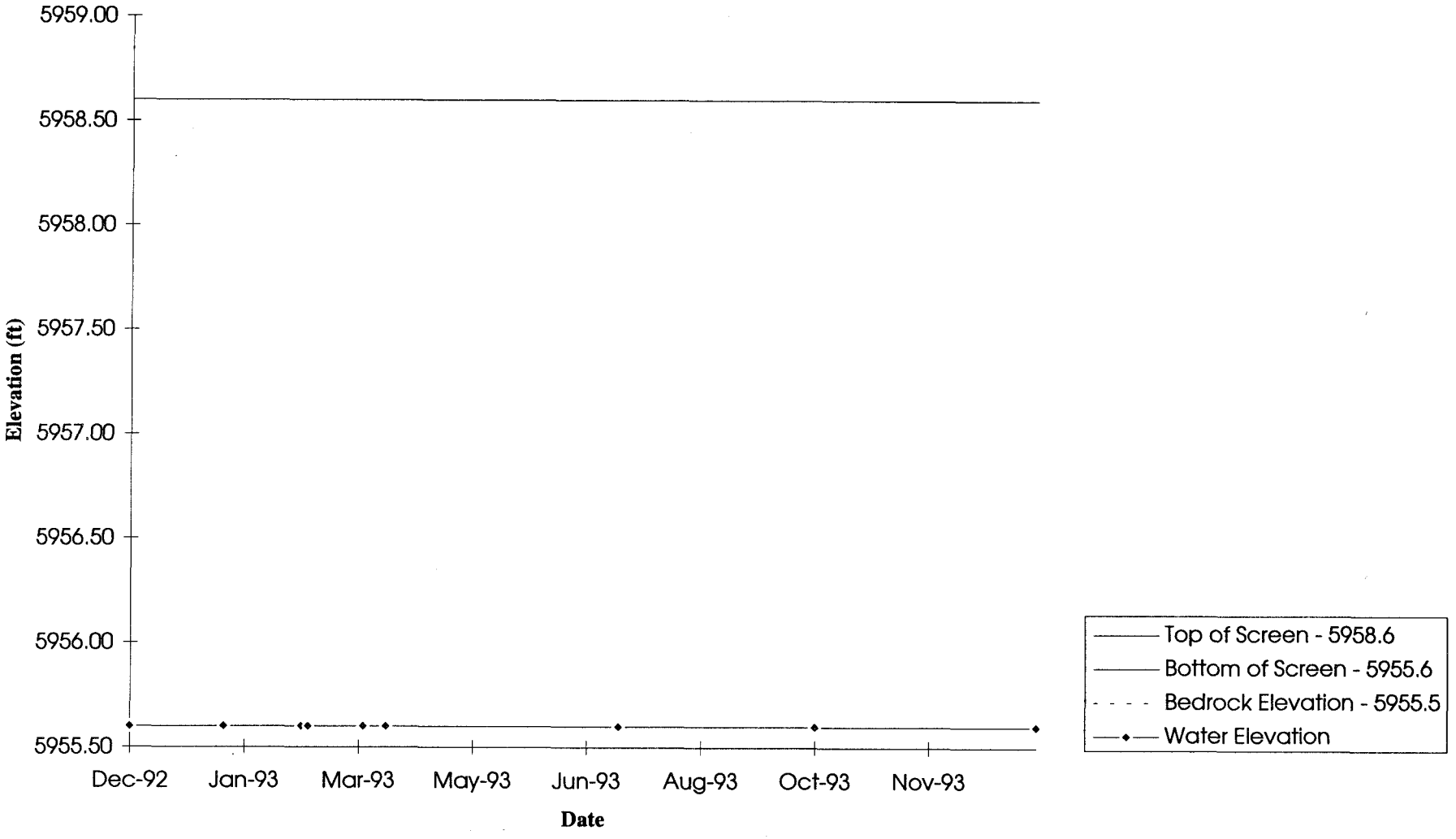
(4047-910-0025-521)(3/10/95 7:29 AM)(76992 Chart 1)

Well 77192 Hydrograph
Colluvium



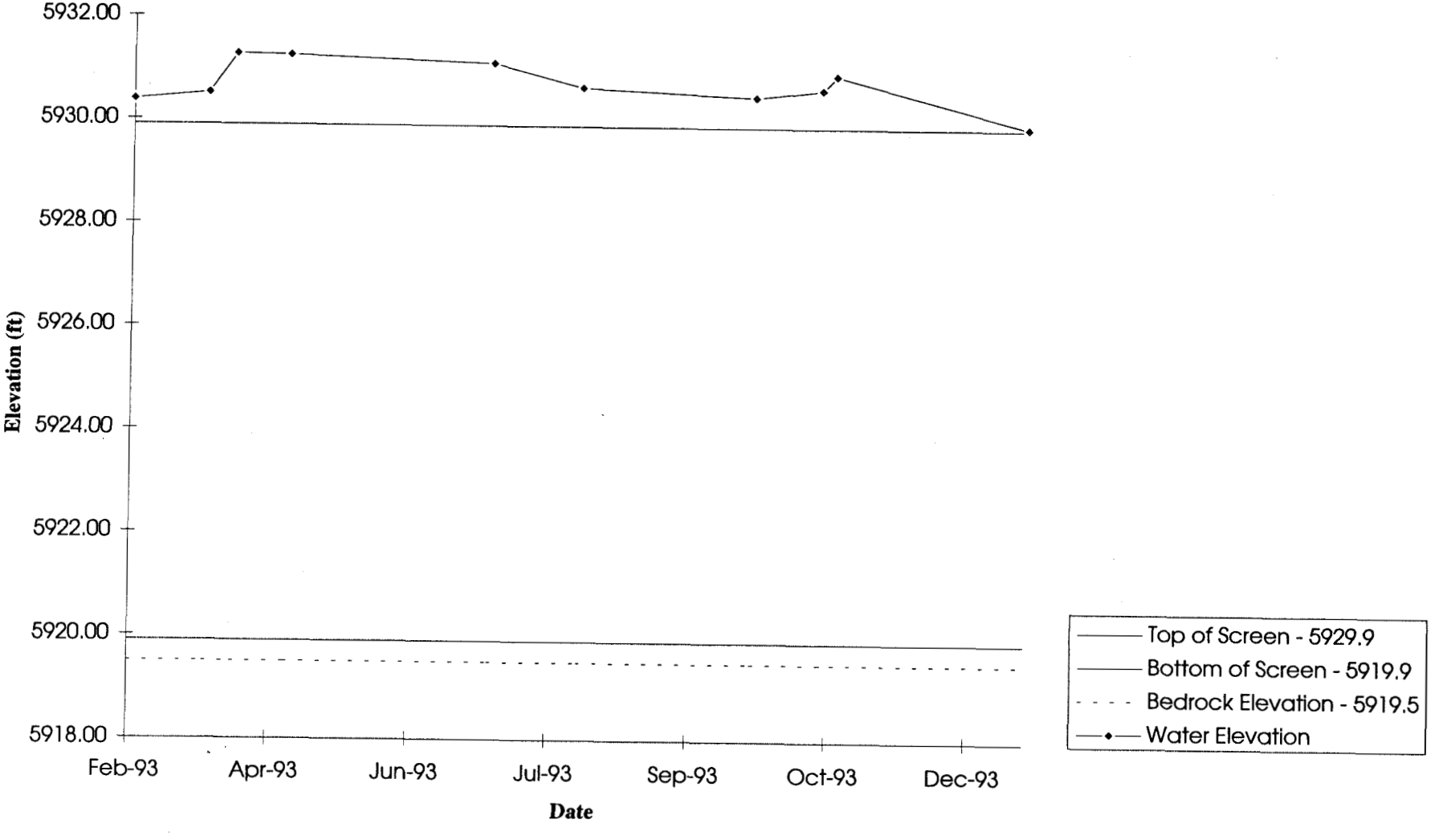
(4047-910-0025-521)(3/10/95 7:30 AM)(77192 Chart 1)

Well 77392 Hydrograph
Rocky Flats Alluvium



(4047-910-0025-521)(3/10/95 7:30 AM)(77392 Chart 1)

Well 77492 Hydrograph
Rocky Flats Alluvium



(4047-910-0025-521)(3/10/95 7:30 AM)(77492 Chart 1)