DRAFT FINAL

PHASE I RFI/RI REPORT
WALNUT CREEK PRIORITY DRAINAGE
OPERABLE UNIT NO. 6

VOLUME 5

APPENDIX C (C3.4-C6)

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

September 1995

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OU6 LIST OF ACRONYMS AND ABBREVIATIONS

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1,1-DCE	1,1-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
1,2-DCA	1,2-dichlorothane
1,2-DCE	1,2-dichloroethene
ac-ft	acre-feet
AEC	Atomic Energy Commission
af	man-made deposits
AGS	above ground surface
Am-241	Americium-241
AMSL	above mean sea level
AOC	Area of Concern
ARARs	applicable or relevant and appropriate requirements
BGS	below ground surface
BSL	Background Screening Level
Ca^{+2}	calcium
$CaCO_3$	calcium carbonate
CCl_4	Carbon tetrachloride
CDPHE	Colorado Department of Public Health and Environment
CDH	Colorado Department of Health
CEARP	Comprehensive Environmental Assessment & Response Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cfs	cubic feet per second
CHC	chlorinated hydrocarbons
$CHCl_3$	chloroform
Cis-1,2-DCE	cis-1,2-dichloroethene
CLC	common laboratory contaminants

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cm/sec	centimeters per second
cm	centimeter
COCs	chemicals of concern
CRQL	contract required quantitation limit
C_s-137	Cesium-137
CSM	conceptual site model
DCN	document change notice
d/m/l	disintegrations per minute per liter
DLG	Digital Line Graph
DOE	Department of Energy
DQO	Data Quality Objective
DRCOG	Denver Regional Council of Governments
ECD	Electron Capture Detector
EM	Electromagnetic
EMD	Environmental Management Department
EMRGs	Environmental Management Radiological Guidelines
EPA	Environmental Protection Agency
ER	Environmental Restoration
ERDA	Energy Research and Development Administration
ERP	Environmental Restoration Program
FDM	Fugitive Dust Model
FIDLER	field instrument for the detection of low-energy radiation
FSP	field sampling plan
GAC	granular activated carbon
gal	gallon
GS	gauging station
HCO^{3-}	bicarbonate
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment

DRAFT

HPGe	high purity germanium
HRR	Historical Release Report
HSP	Health and Safety Plan
ID	inside diameter
IHSS	Individual Hazardous Substance Site
in/hr	inches per hour
IRIS	Integrated Risk Information System
K; (K^+)	hydraulic conductivity; (symbol for potassium)
Ka	Cretaceous Arapahoe Formation
Kl	Cretaceous Laramie Formation
LHSU	lower hydrostratigraphic unit
mCi	millicurie
meq/l	milliequivalents
Mgal	millions of gallons
ml	milliliter
mm	millimeters
MSL	mean sea level
Na+	sodium
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
OU	operable unit
OVM	organic vapor monitor
PA	protected area
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PCOC	potential chemical of concern
pCi/g	picocuries per gram
PID	photoionization detector

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Pu-239/240	plutonium-239/240
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
QAPjP	Quality Assurance Project Plan
Qc	Quaternary colluvium
QC	quality control
Q_{ls}	Quarternary landslides
Qrf	Quaternary Rocky Flats Alluvium
Qt	Quaternary Terrace Alluvium
Qvf	Quaternary Valley-Fill Alluvium
Ra-226	radium-226
RAD screen	radiological screen
RBC	risk-based concentration
RCRA	Resource Conservation and Recovery Act
RFA	Rocky Flats Alluvium
RfCs	reference air concentrations
RfDs	noncarcinogenic reference doses
RFEDS	Rocky Flats Environmental Database System
RFETS	Rocky Flats Environmental Technology Site
RFI/RI	RCRA Facility Investigation/Remedial Investigation
RFP	Rocky Flats Plant
RI	remedial investigation
SEAM	Superfund Exposure Assessment Manual
SFs	carcinogenic slope factors
SO_4^{2-}	sulfate
SOP	Standard Operating Procedure
sq ft	square feet
sq mi	square mile

DRAFT

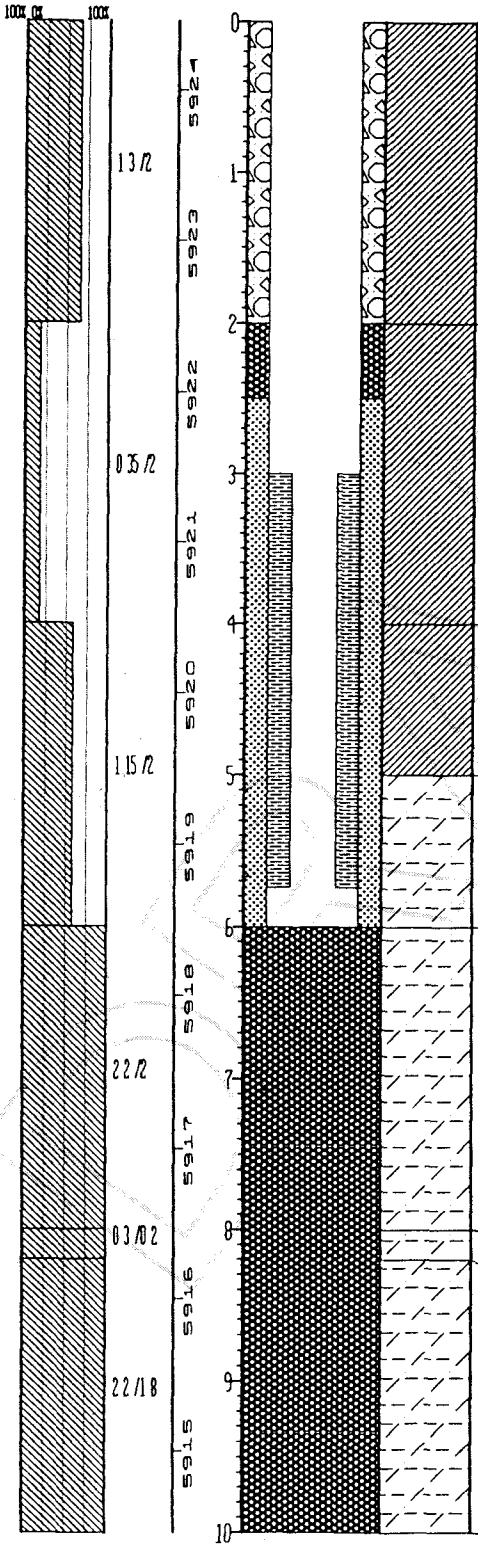
Sr-89,90	strontium-89,90
STP	Sewage Treatment Plant
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
TAL	target analyte list
TCE	trichloroethene
TCL	Target Compound List
TM	Technical Memorandum
TOC	total organic carbon
µg/kg	micrograms per kilogram
µg/l	microgram per liter
U-233/234	uranium-233/234
U-235	uranium-235
U-238	uranium-238
UHSU	upper hydrostratigraphic unit
USACE	U.S. Army Corps of Engineers
USCS	Unified Soil Classification System
UTL	upper tolerance limit
VOC	volatile organic compound
WARP	Well Abandonment and Replacement Program
W&I	Walnut and Indiana

DRAFT

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

REMARKS

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



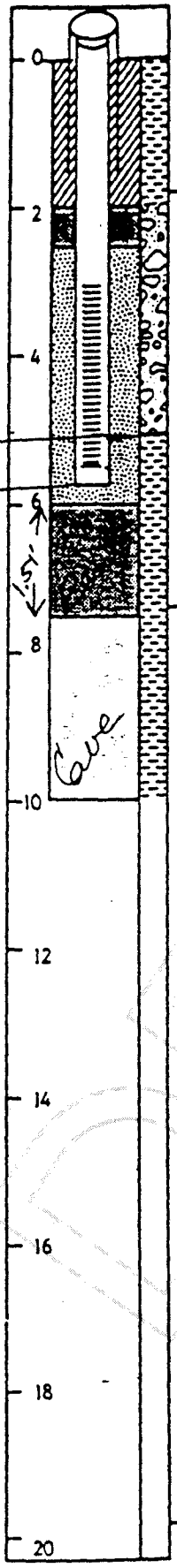
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CH	Silty Clay, Dk. yellowish brown (10 YR 4/2). Est. plast. mod. to high. Some grass and roots from surface. Some gravel (avg. size 2.5 cm). Trace sand, VFG to med. grained
CH	Same as above
CH	Silty Clay, Dk. yellowish orange (10 YR 6/6) to yellowish 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

LOCATION or COORDS:

ELEVATION: GROUND LEVEL 5927'
TOP OF CASING 5929.00'



LOCATION Golden, CO
PERSONNEL C. Walker
PROJECT 106F06222 Rocky Flats Plant

DRILLING SUMMARY:

TOTAL DEPTH Well: 5.74' Hole: 10.00'
BOREHOLE DIAMETER 7½"

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:				
7½" 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'

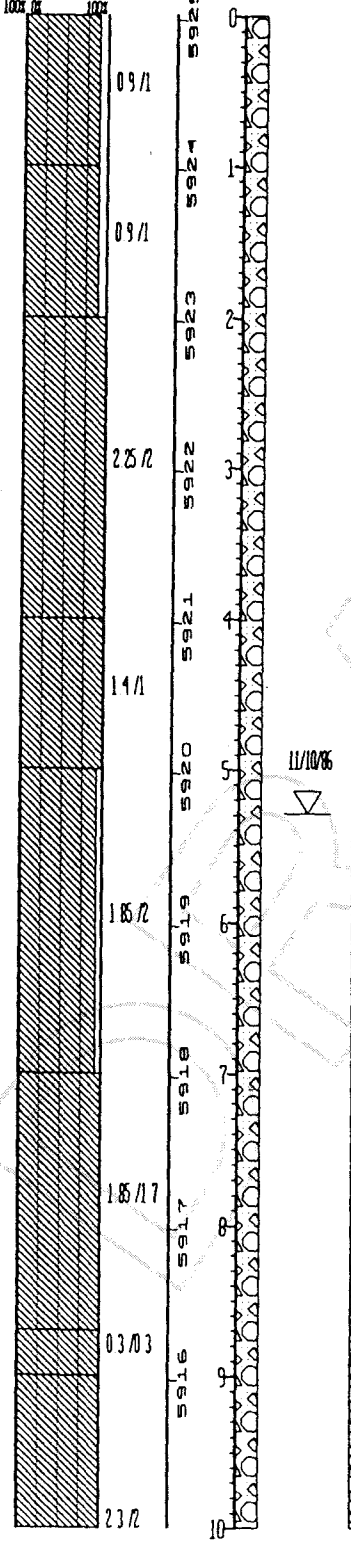
Cave from TD to 7.51'

HYDRO-SEARCH RENO-DENVER CONSULTING HYDROLOGISTS-GEOLOGIS

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:	2094001	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
CL	SANDY CLAY, moderate yellowish brown (10 YR 5/4), mod. plast., some gravel (max size = 3 cm), some roots in top of interval
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
CLAYSTONE	Same as above: some calc. material
CLAYSTONE	Same as above: trace of calc. material
CLAYSTONE	Same as above
CLAYSTONE	Same as above
CLAYSTONE	Same as above: floury texture, no calc. material, some silt
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	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 3/2	5915	10				
				1/0.8	5914	11			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
				1.55/1.2	5913	12			CLAYSTONE	Same as above: apparent horizontal bedding, trace of carb material, increased iron staining
				1/1	5912	13			CLAYSTONE	Same as above, increased silt fraction
				1.1/1	5911	14			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)
				1.83/1.83	5910	15			CLAYSTONE	Same as above
				0.17/0.17	5909	16			SILTY CLAYSTONE	Yellowish gray (5 Y 8/1), non-apparent bedding, well weathered, mod-high friability, trace of iron staining, trace of Mg staining
				2/2	5908	17			SILTY CLAYSTONE	Same as above, highly fractured at base of interval. Very base of interval is carbonaceous and olive black (5 Y 2/1).
				0/1	5907	18	11/12/86 ▽		NO SAMPLE	
					5906	19				
						20				

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	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%	03/15	5905 5904	20 21				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
				23/5	5903 5902 5901 5900 5899	22 23 24 25 26				SILTY CLAYSTONE: Same as above: some 90 degree and 75 degree fracturing showing slickensides, no iron staining
				35/5	5898 5897 5896	27 28 29 30				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
NORTH:	752817	AREA: LANDFILL		CASING DIAMETER (IN):	2.10	GEOLOGIST:	DAT
EAST:	2084001	LOCATOR NUMBER:	L12	BOREHOLE DIAMETER (IN):	7 1/4	DATE DRILLED:	10/23/86

LOG OF BORING NUMBER: 8-86

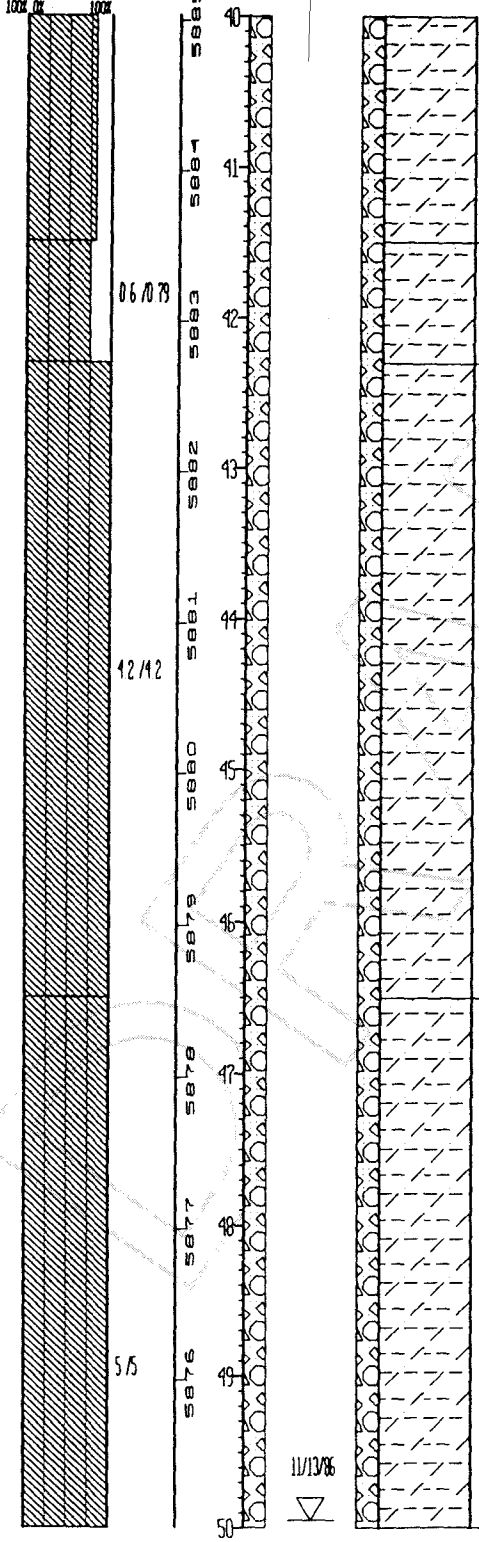
REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

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
					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	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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SILTY CLAYSTONE: Olive gray (5 Y 4/1), non-apparent bedding, well weathered, mod-poorly friable, trace of carb material
	SILTY CLAYSTONE: Same as above
	SILTY CLAYSTONE: Same as above, top of interval is fractured 60 degrees-70 degrees, increased silt fraction

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) 2.10	GEOLOGIST DAT	8-86
EAST	2084001	LOCATOR NUMBER L12	BOREHOLE DIAMETER (IN) 7 1/4	DATE DRILLED 10/23/86	

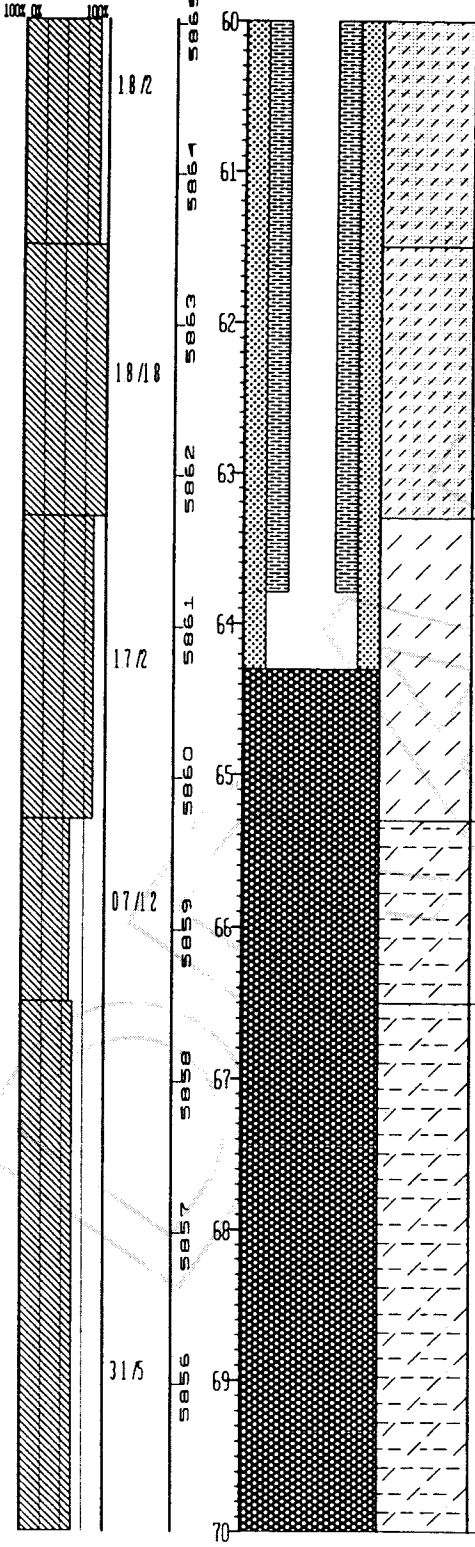
REMARKS: Hollow Stem Auger/NC Core. When drilling (with air and water) abundant bubbles surface in the adjacent pond near the rig. When drilling stops, the bubbling stops. Probable cause: fractured bed rock from 20-30'.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	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%		5875	50				
					5874	51				
				22/22	5873	52			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
					5872	53				
				11/11	5871	54			SILTY CLAYSTONE	Same as above, light olive gray (5 Y 6/1)
				08/0.79	5870	55			SILTY CLAYSTONE	Same as above
				06/0.9	5869	56			CLAYEY SILTSTONE	Olive gray (5 Y 4/1), non-apparent bedding, highly weathered, mod-poorly friable.
				2/3	5868	57			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
					5867	58				
					5866	59				
						60			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):	2.10	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



trace of iron staining, some clay.

SANDY SILTSTONE: VF6, 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.

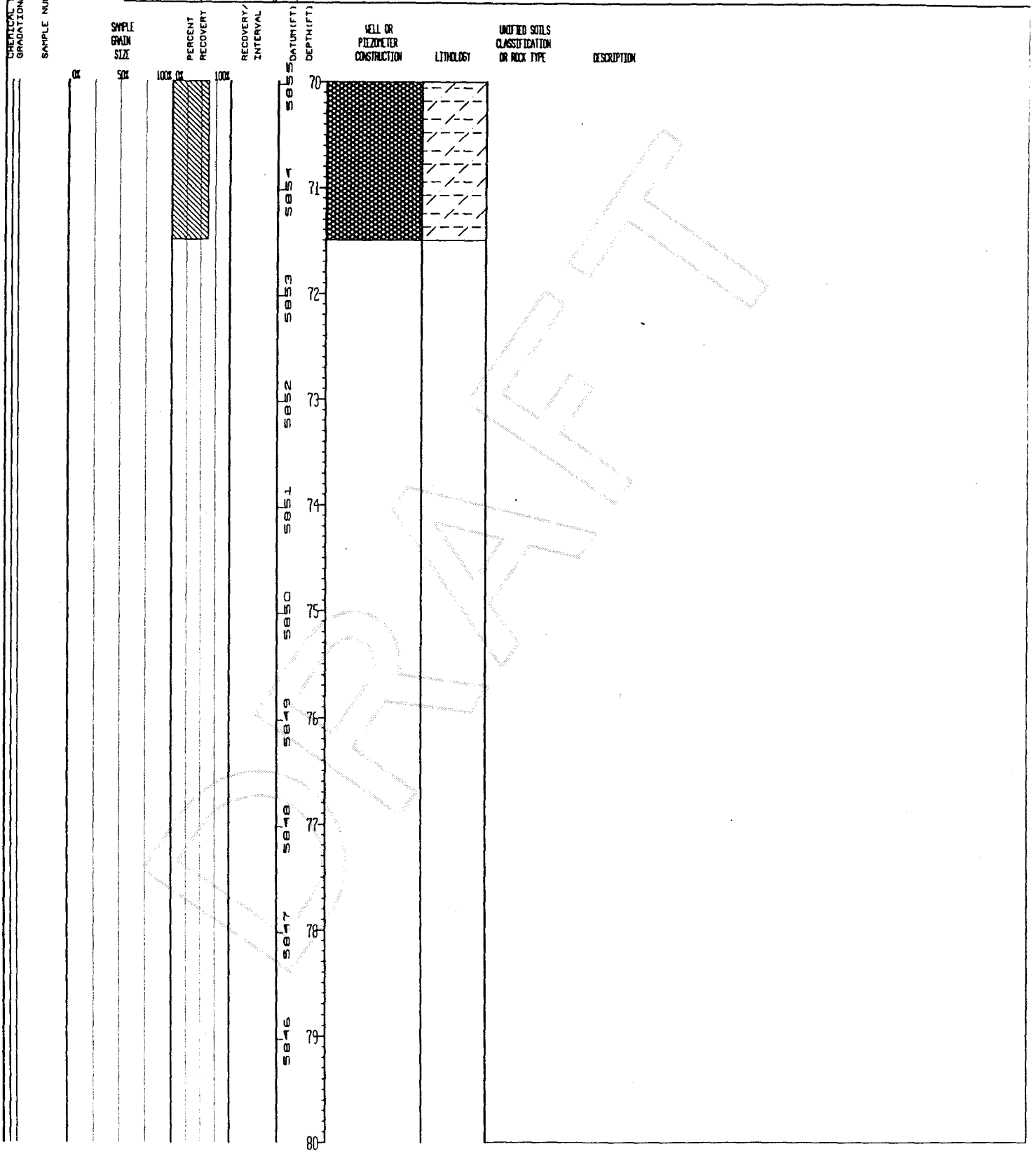
SILTSTONE: Light olive gray (5 Y 6/1), non-apparent bedding, highly weathered, poorly friable, some clay at bottom of interval.

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	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'.



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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 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 _____

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 Dual casing
~~C3~~
~~C4~~

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

CENTRALIZERS

FILTER MATERIAL 32-42 Silica Sand 58.00'-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'

LOCATION

PERSONNEL

PROJECT

HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

SS = sandstone
CS = [illegible]

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

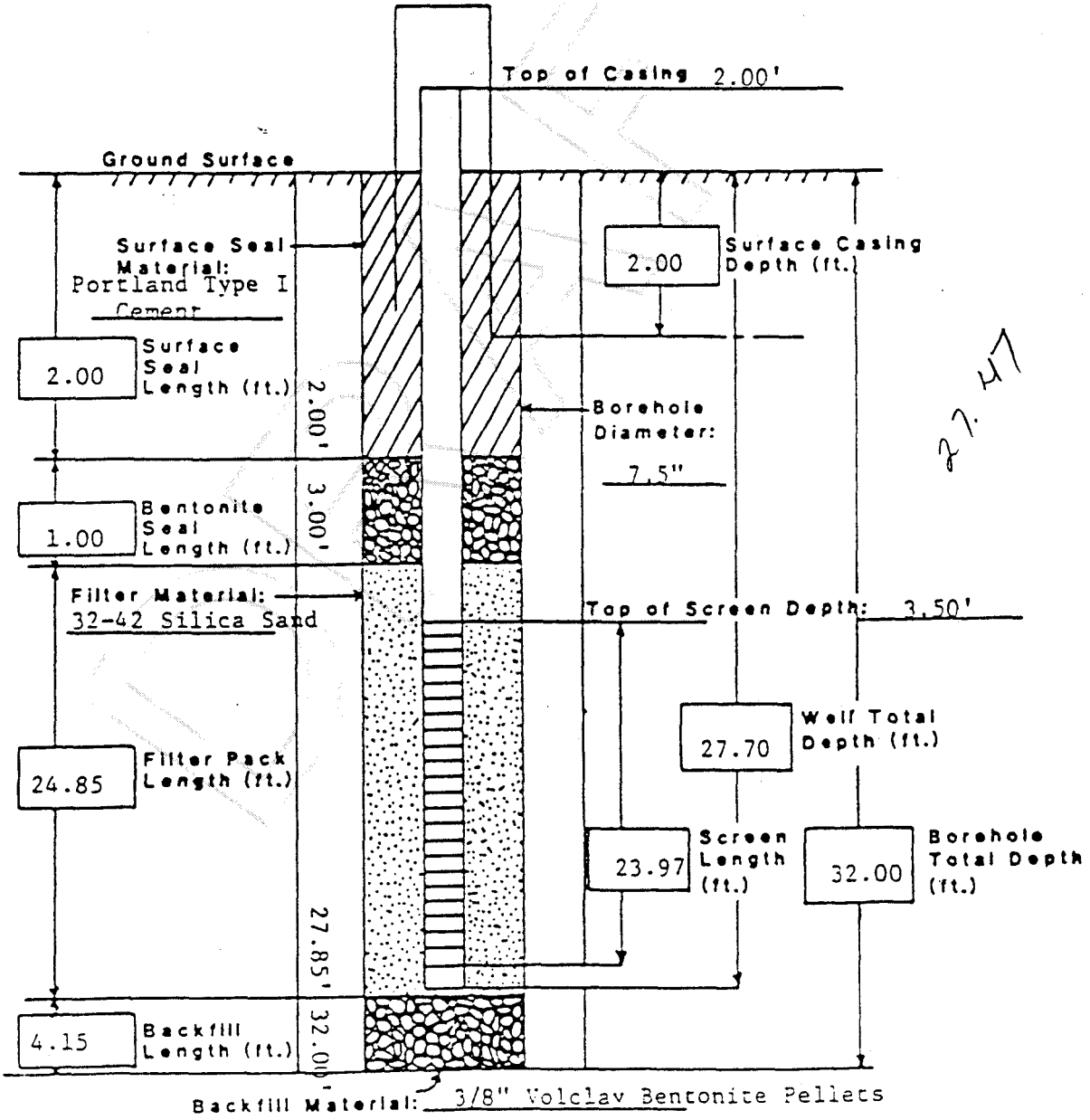
Approved By

Installed By R. Treat
Geologist

Site Manager

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

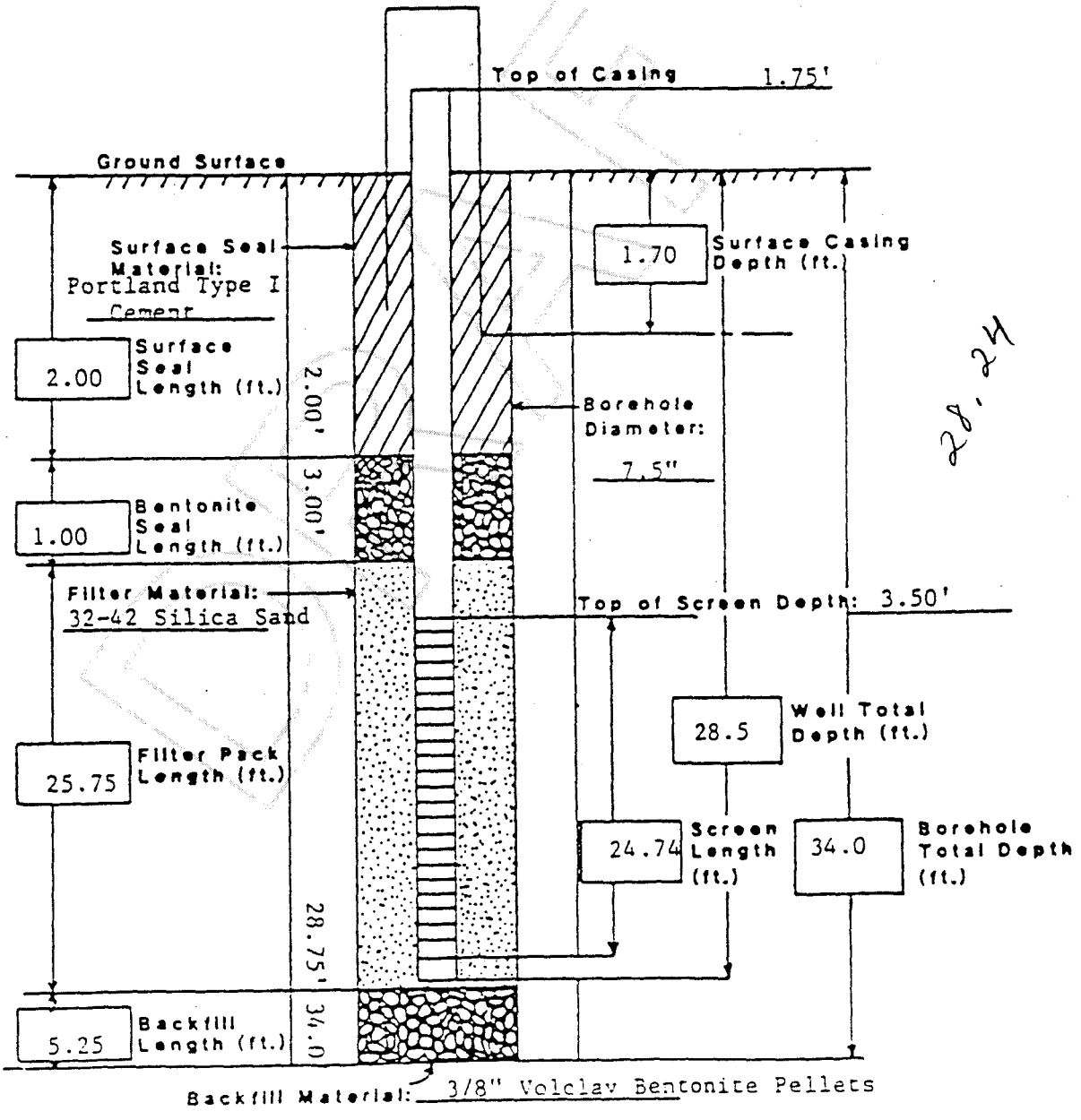
Site Manager

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

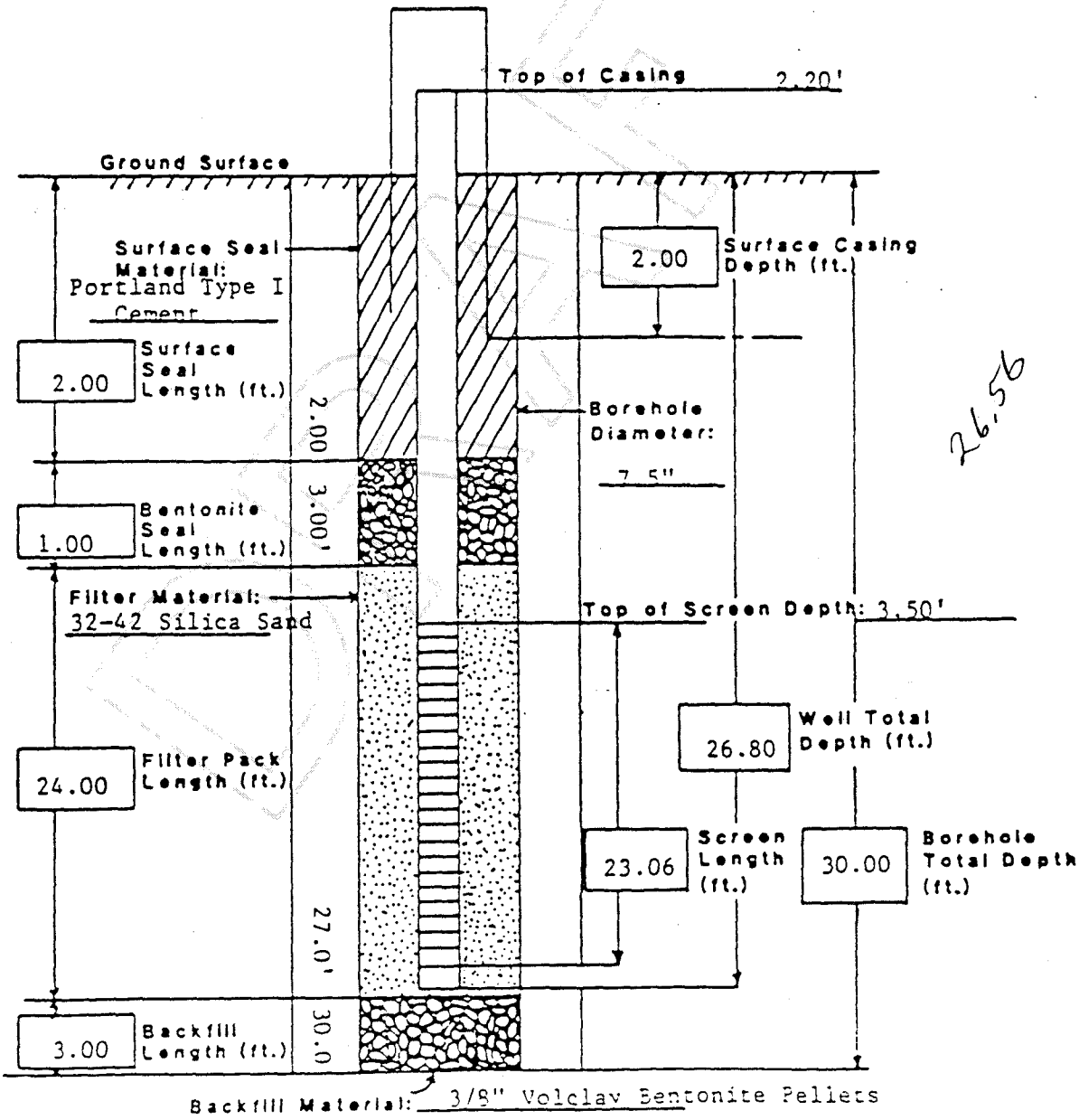
Date Installed November 25, 1987

Approved By _____ Site Manager

Installed By R. Treat, Geologist

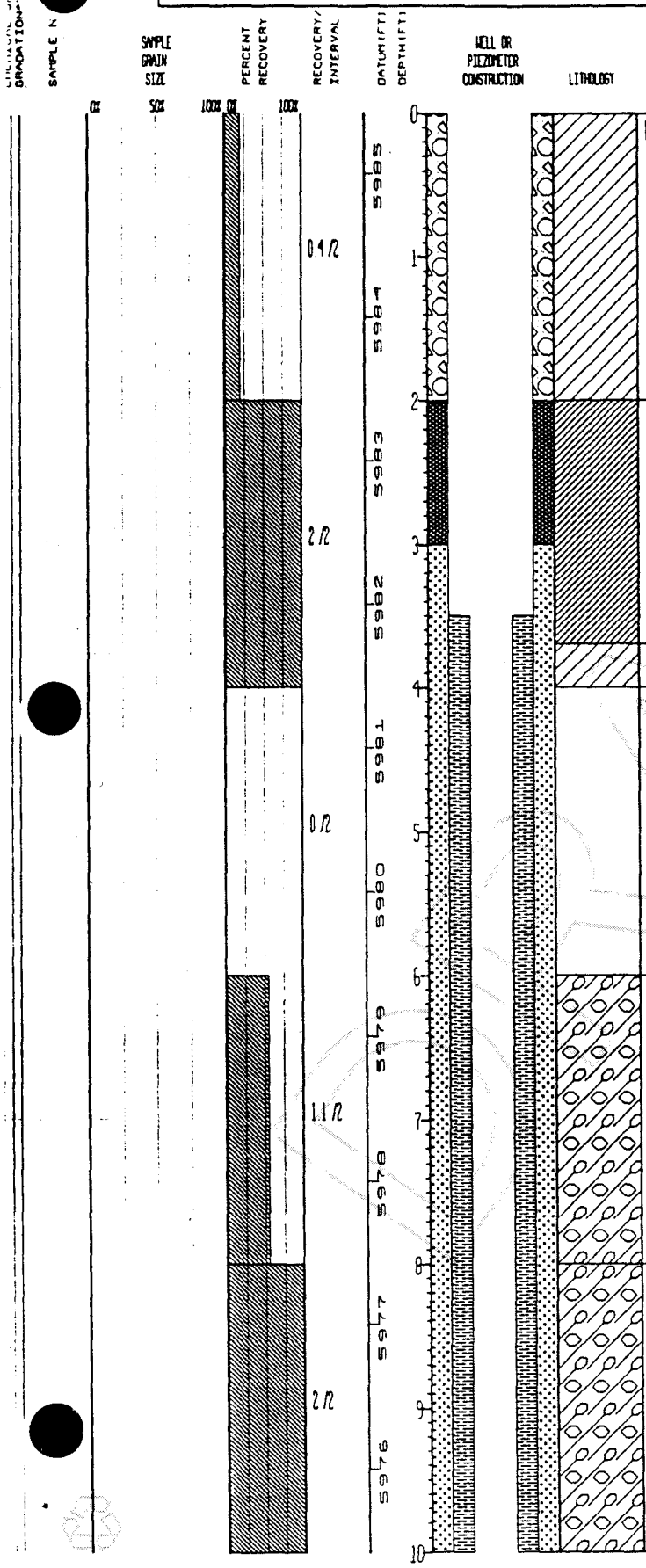
_____ CEARP Manager

Comments _____



26.56

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 30	GROUND ELEVATION (FT)	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						



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) 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

GRADATION	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)
	GE31				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				

DRAFT

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.
			2/2	5963	22				
			2/2	5962	23			CL	As above, with trace of gravel and sand, moderate plasticity.
			2/2	5961	24				
			0.5/0.5	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)
			1.5/1.5	5959	26				
			0/1	5958	27			CLAYSTONE	Same as above.
				5957	28			CLAYSTONE	Same as above
				5956	29			NO SAMPLE	
					30				

DRAFT

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

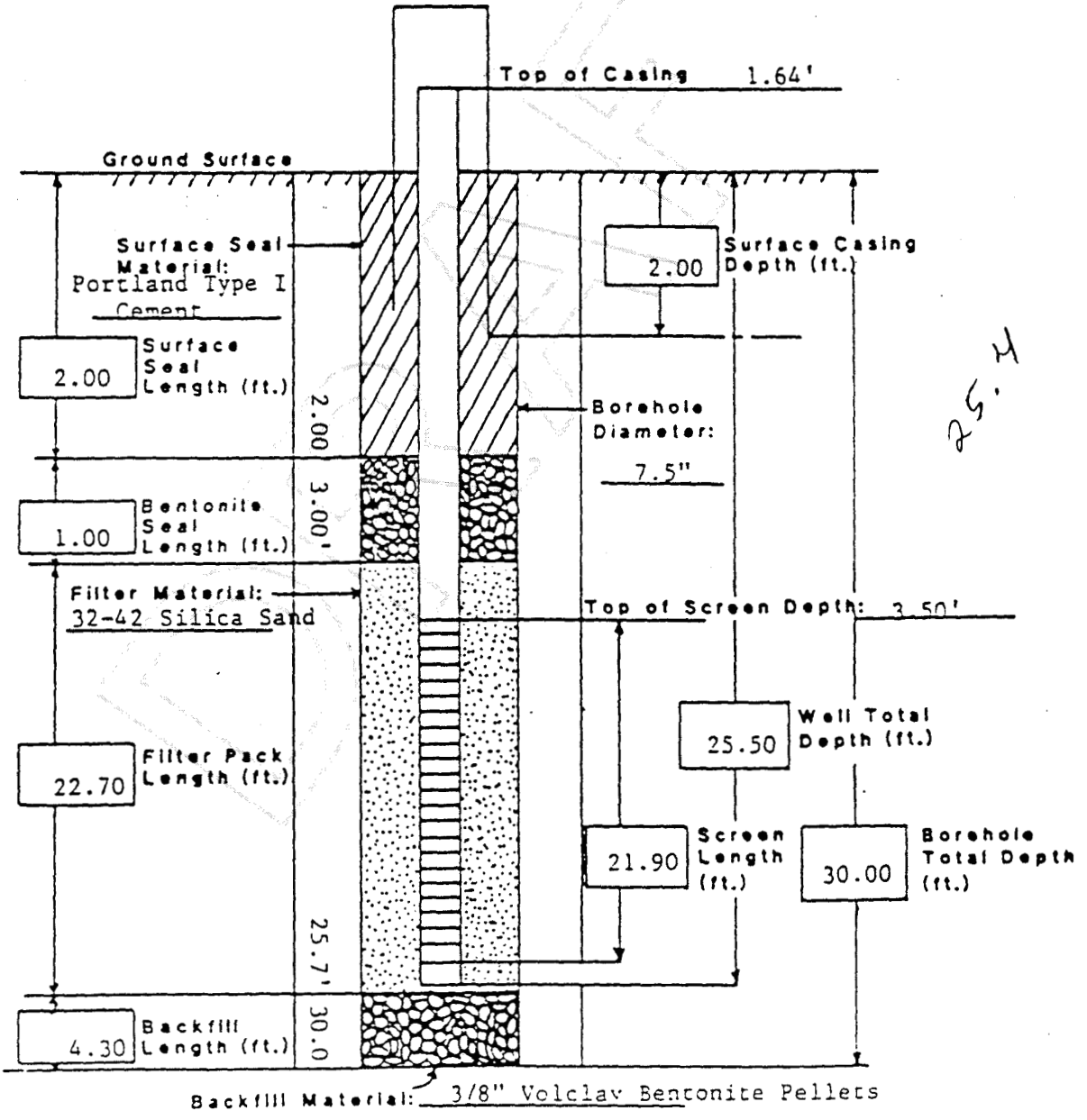
Approved By

Installed By R. Treat
Geologist

Site Manager

CEARP Manager

Comments

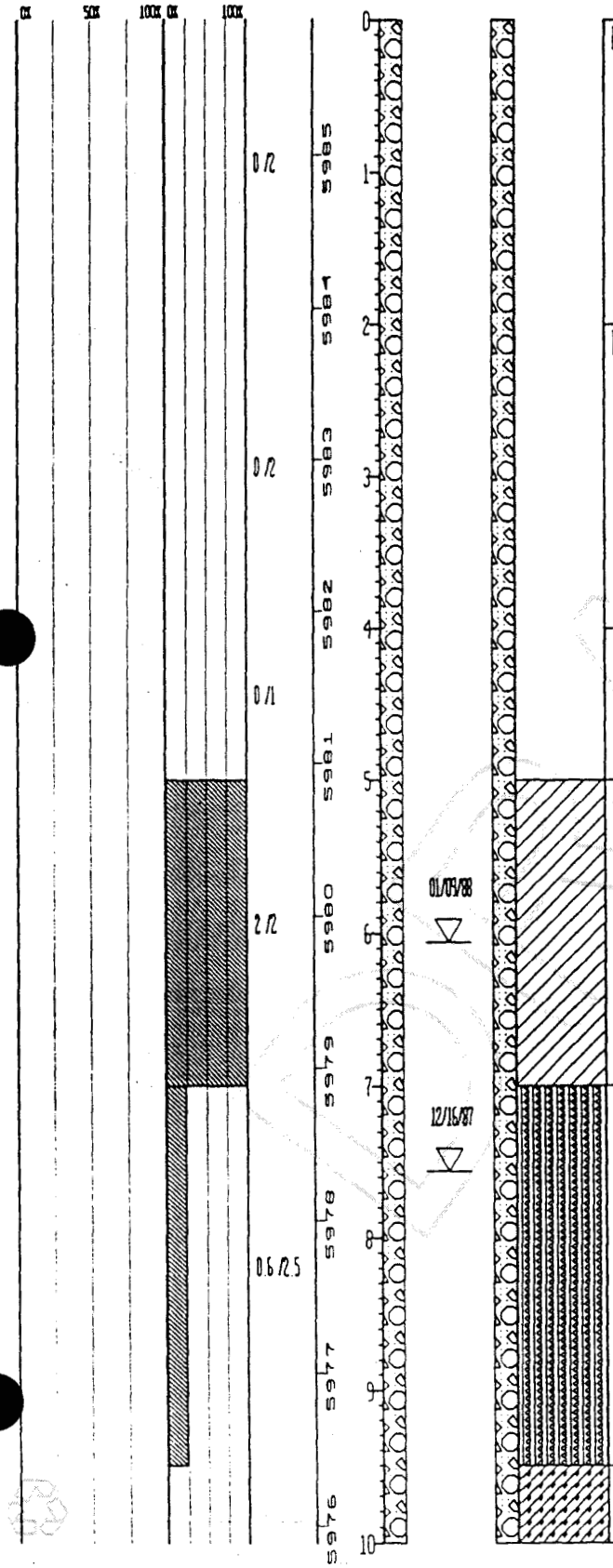


25.4

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	Cuttings appeared as clay with gravel; sandy; some asphalt fragments.
NO SAMPLE:	
NO SAMPLE:	Center bit used.
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.
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.
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
NORTH: 752328	AREA: LANDFILL	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	R.T. TREAT
EAST: 2083260	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.5	DATE DRILLED:	12/04/87

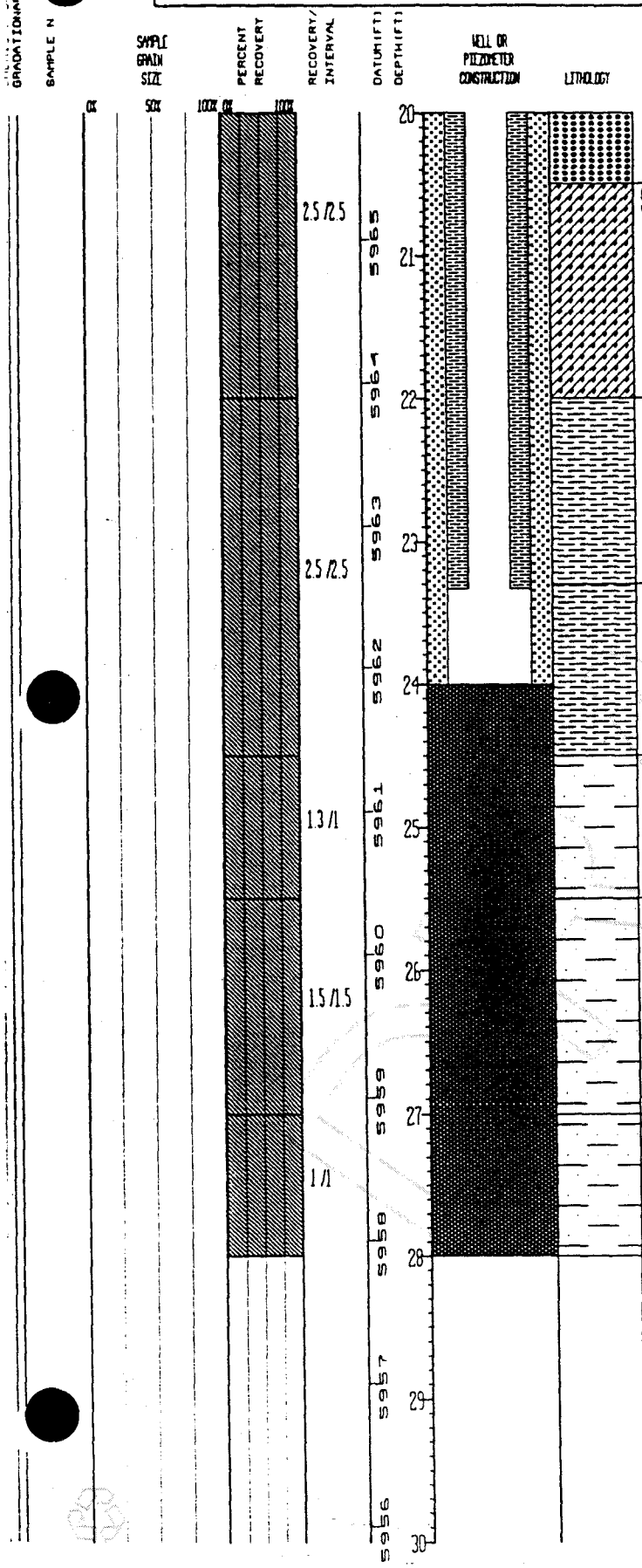
LOG OF BORING NUMBER: 64-87

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

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
						10				grained sand (3.0-2.5 0); scattered amounts of continued trash debris.
				0/2.5	5975	11				
					5974	12			NO SAMPLE:	Center bit used.
				0/1	5973	13			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.
				1.5/1.5	5972	14	12/04/87		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.
				2.5/2.5	5970	15				
					5969	16				
				2.5/2.5	5968	17			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.
					5967	18				
					5966	19			SW:	Sand and Gravel: as noted in previous run.
						20				

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

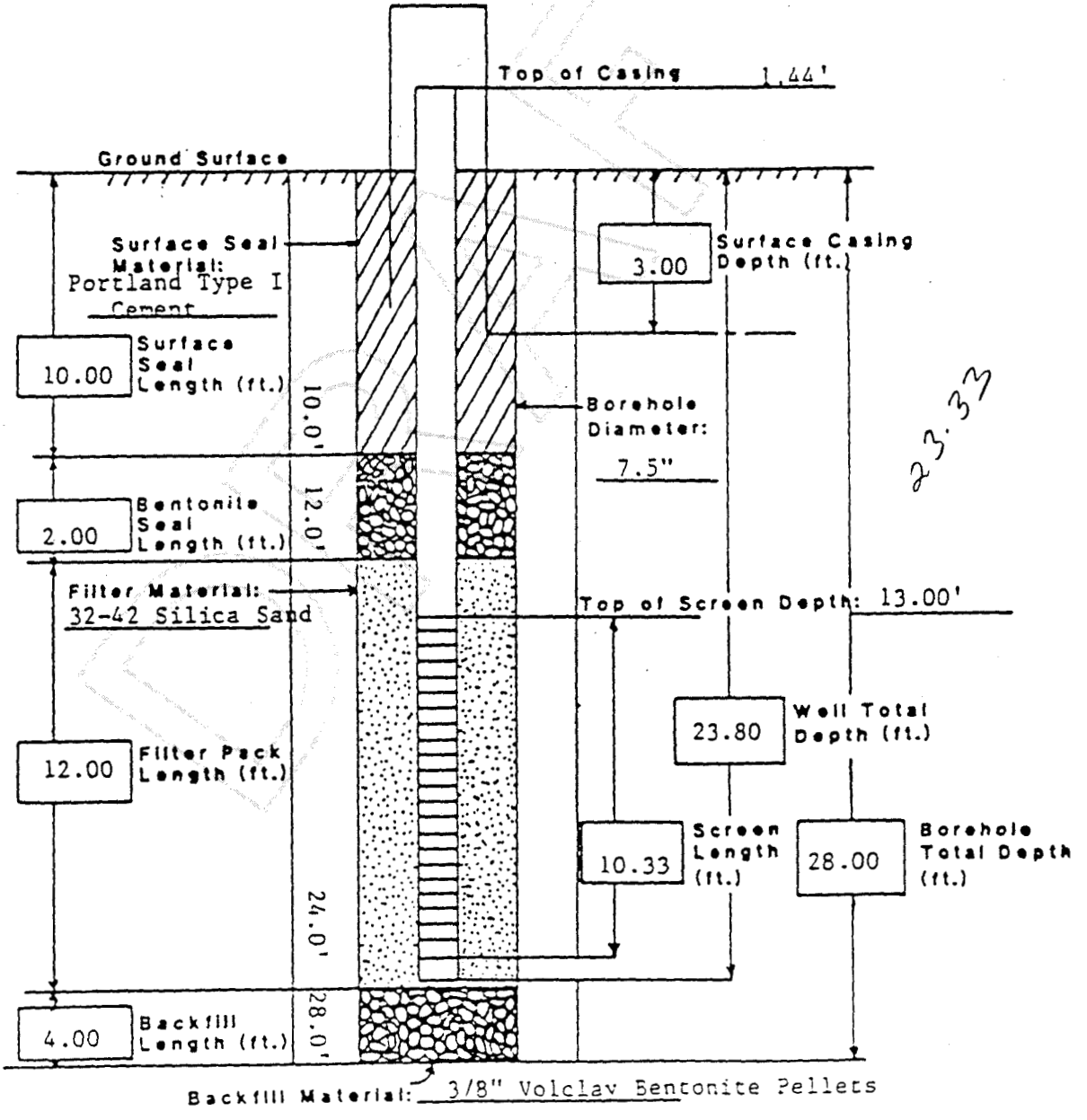
Approved By

Site Manager

Installed By R. Treat
Geologist

CEARP Manager

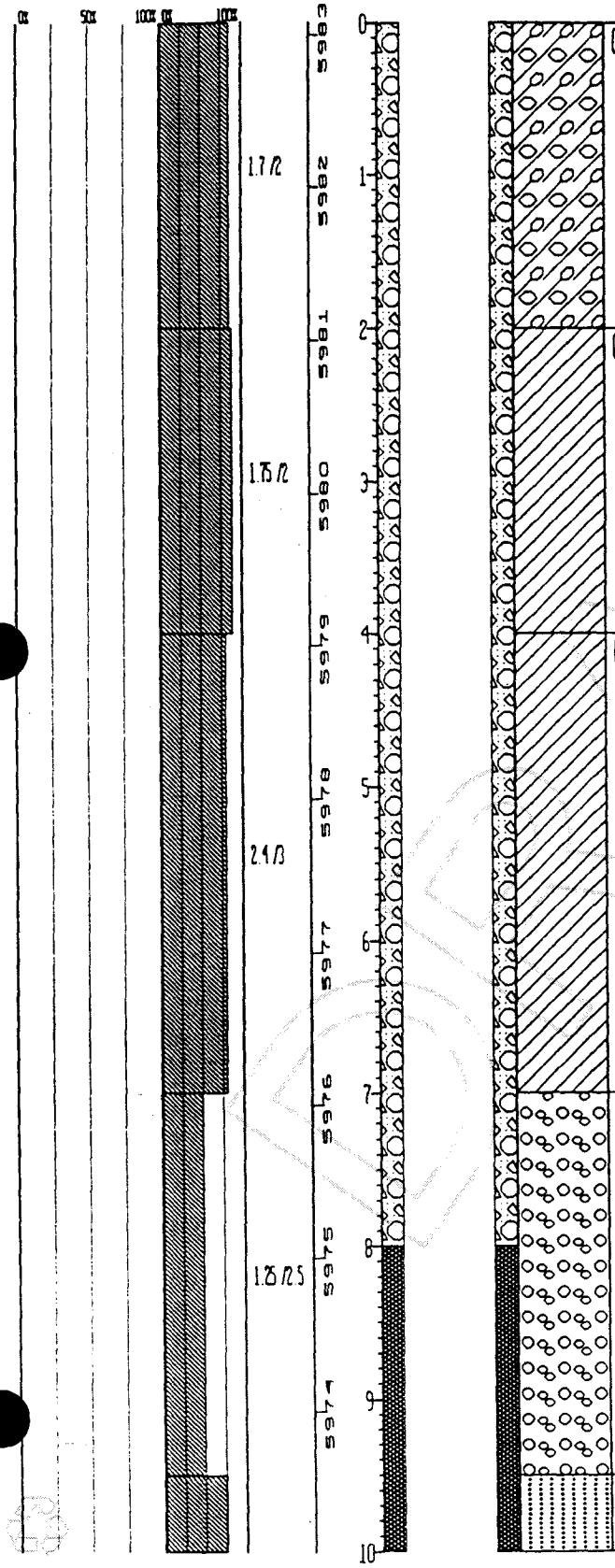
Comments



23.33

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.							

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



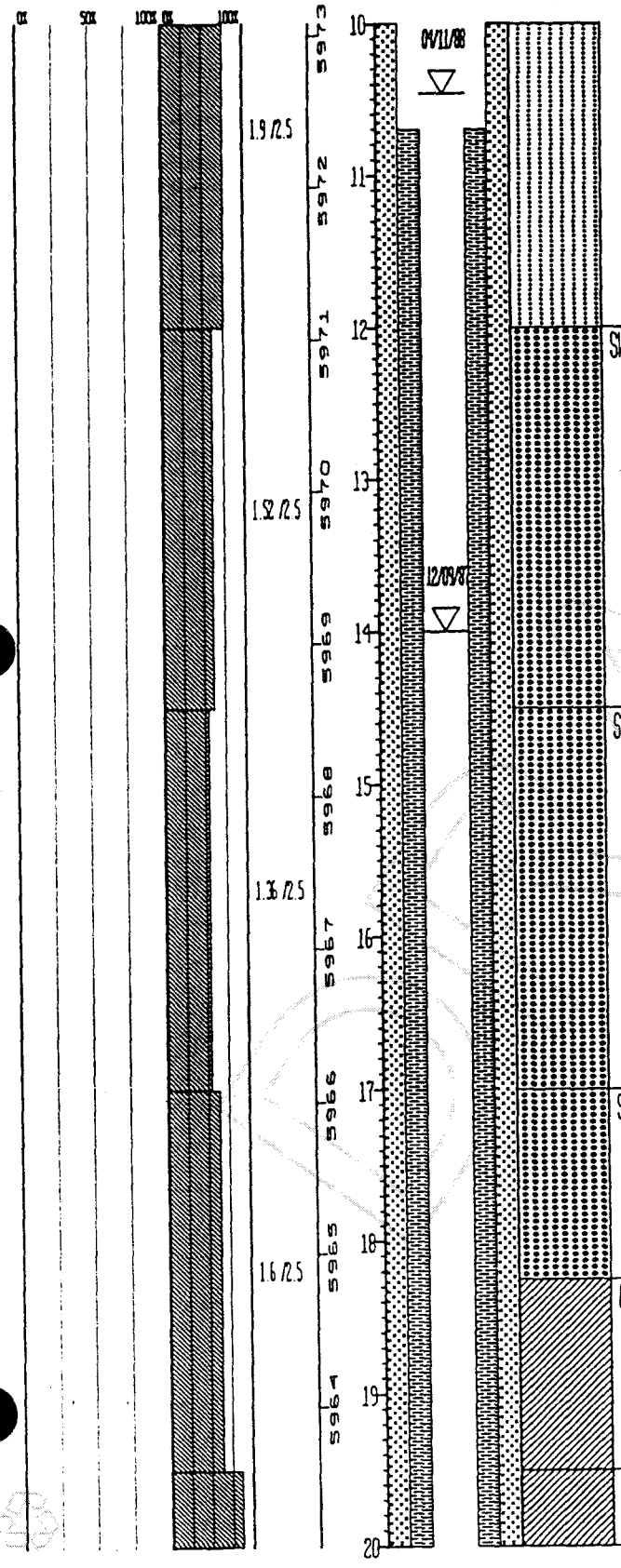
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	Sandy Clayey Gravel - medium gray (N5) sub-angular to sub-rounded moderately graded, clay color is dark yellowish brown (10YR 4/2).
CL:	GRAVELLY CLAY - yellowish gray (5Y 8/1) medium plasticity, some silt and sand.
CL:	Same as above.
GW:	GRAVEL - light gray (N7) angular to well rounded, well graded some sand, trace of clay and silt.
SP:	GRAVELLY SAND - moderate yellowish brown (10YR 5/4, angular to sub-rounded, poor to moderately graded, some clay and silt. Gradational

DRAFT

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	

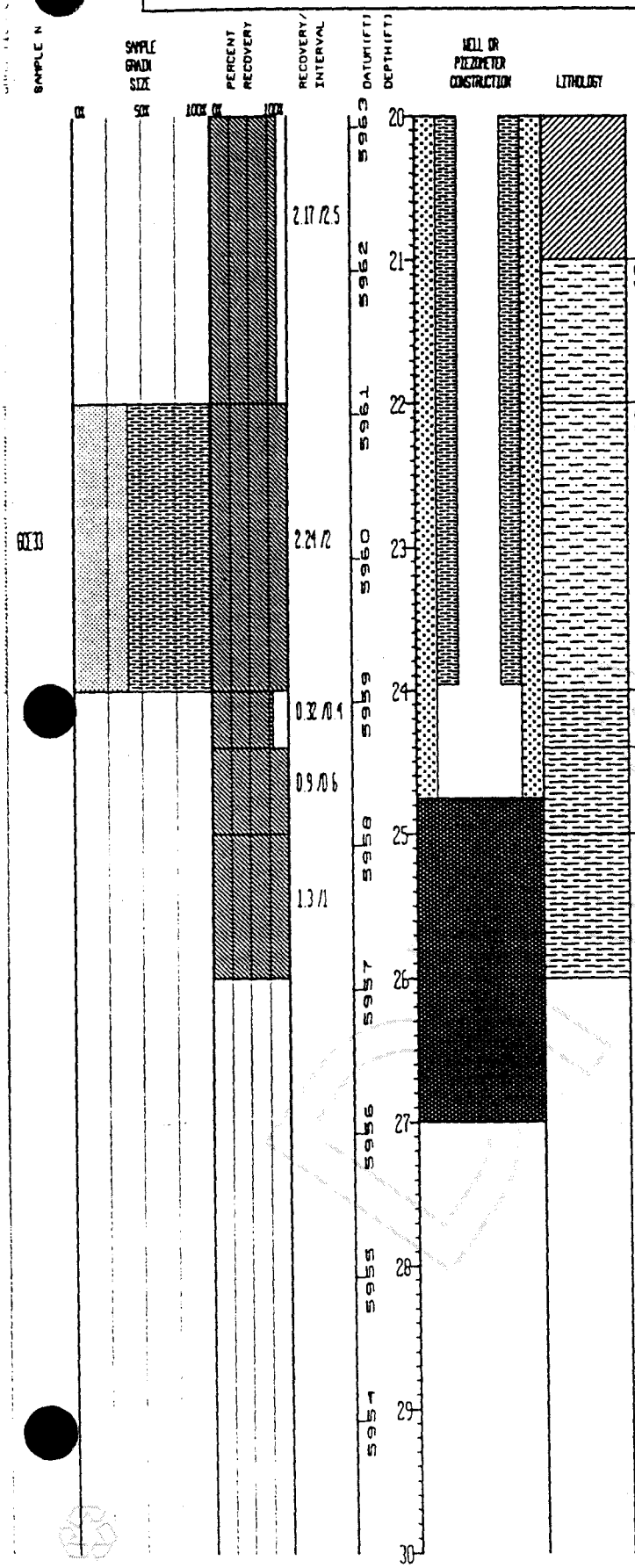
REMARKS: Hollow Stem Auger

GRADATIONAL SAMPLE DEPTH | SAMPLE # | SAMPLE GRAIN SIZE (0% 50% 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
	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				



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

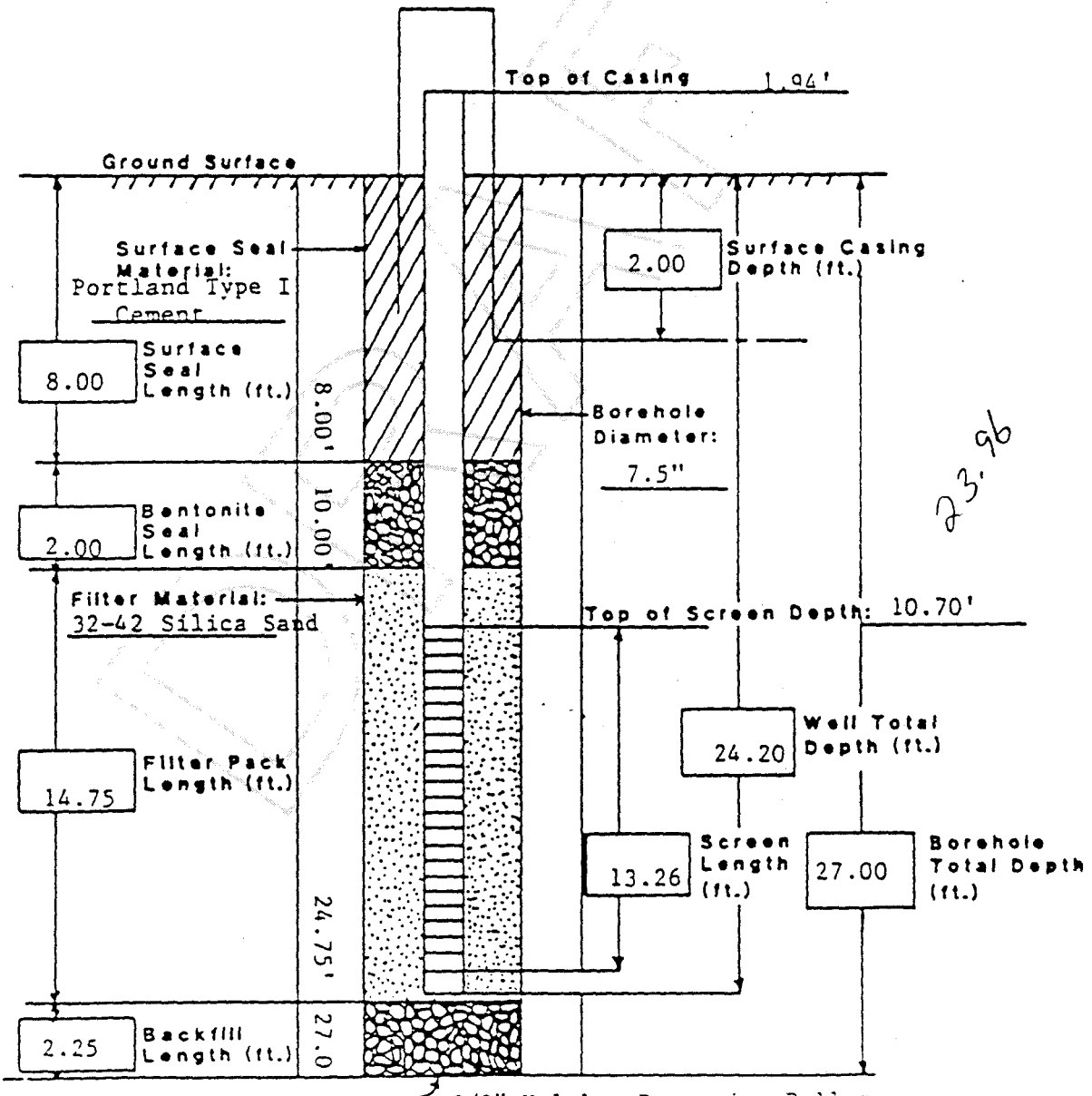
Approved By

Site Manager

Installed By R. Trear
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						

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			CL	GRAVELLY CLAY - dark yellowish brown (10YR 4/2), moderate plasticity, some roots and part debris, some silt
		0.6/2	5981	1				
			5980	2			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
		2/2	5979	3				
			5978	4			ML	GRAVELLY, SANDY SILT - grayish orange (10YR 7/4), trace of clay.
			5977	5				
		0.9/3	5976	6				
			5975	7			NO SAMPLE	
			5974	8				
		0/3	5973	9	04/11/88			
			5972	10				

DRAFT

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: 2/2; 2.5/2.5; 2.5/2.5; 1.6/1; 1.5/1; 1/1

DATUM (FT): 5971, 5970, 5969, 5968, 5967, 5966, 5965, 5964, 5963, 5962

DEPTH (FT): 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

WELL OR PIEZOMETER CONSTRUCTION: 01/05/88; 11/23/87

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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
SP	SAND - grayish orange (10YR 7/4), moderately graded, angular to sub-angular, med. to very fine grained, trace of silt and clay.
SP	GRAVELLY SAND - angular to sub-rounded, moderately graded, very coarse grained, to very fine grained.
CL	Grades to a GRAVELLY SANDY CLAY - grayish orange (10YR 7/4) low plasticity.
CH	Clay - light gray (N7), high plasticity, trace of sand and silt.
CLAYSTONE	Top of Bedrock.
SANDSTONE	Grayish orange (10YR 7/4), sub-rounded to rounded, poorly graded, medium grained, very clean.
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.
CLAYSTONE	Same as above.

GCI26

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	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%	0/0.7		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				

DRAFT

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

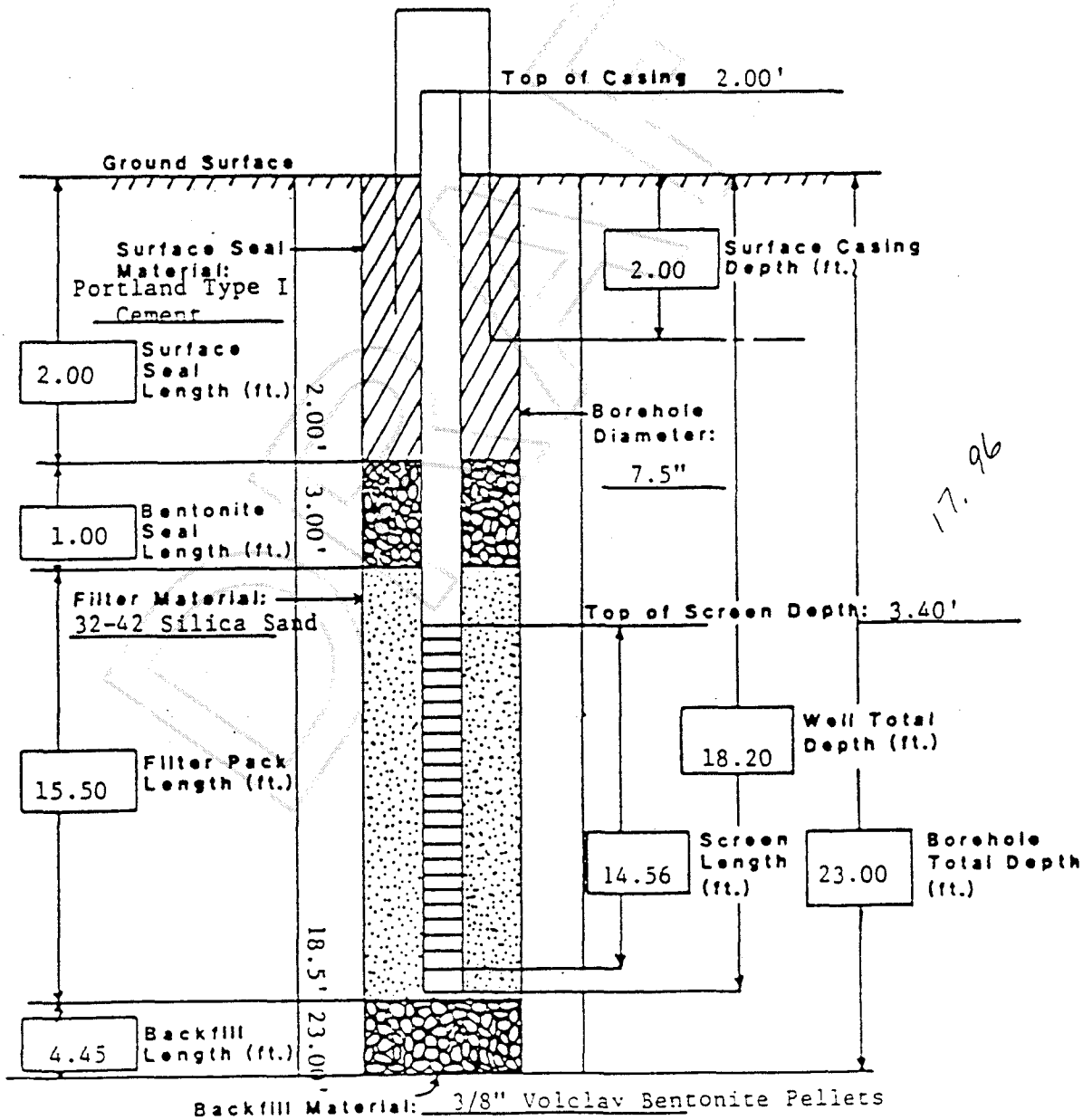
Site Manager

Installed By R. Treat

Geologist

CEARP Manager

Comments



17.96

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	

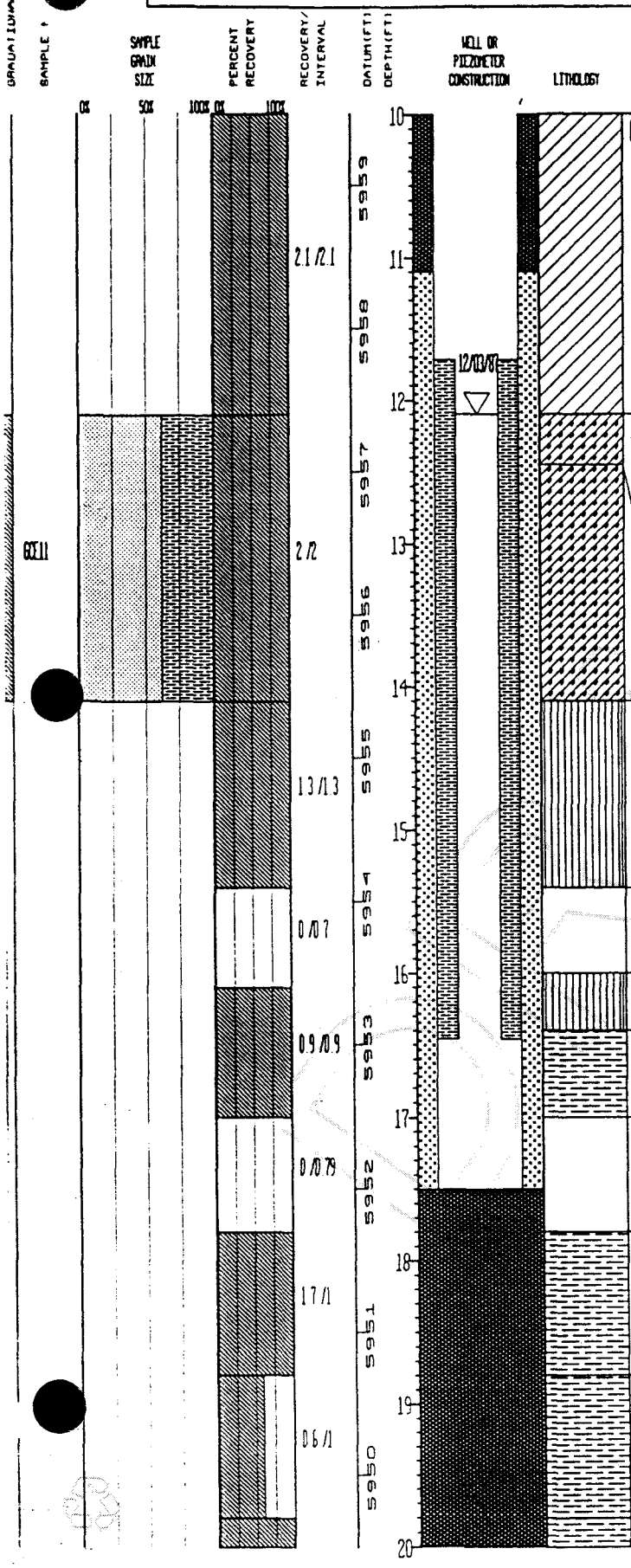
REMARKS Hollow Stem Auger

GRADATIONAL 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
		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	

DRAFT

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 21.4	GROUND ELEVATION (FT) 5959.5	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH	752164	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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL	As above (reference interval 9.0 to 9.6 ft.)
SC	Sc per sieve analysis 12.1'- 14.1'. Per field log: SW - Sand dark, yellowish orange (10YR 6/6), angular to sub-rounded, well graded, medium grained to very fine grained, trace of coarse grained sand and silt, 12.14 to 12.45 ft.
SC	Sc per sieve analysis 12.1'- 14.1'. Per field log: CI - Grades to Sandy Clay, mottled yellowish gray (5Y 8/1) to grayish orange (10YR 7/4), moderate plasticity, gradual increase in sand fraction to 14.1 ft
MH	SILT - mottled yellowish gray (5Y 8/1) to grayish orange (10 YR 7/4), trace of fine sand.
NO SAMPLE	
MH	As above (reference interval 14.1 to 15.4 ft.) with some gravel.
CLAYSTONE	Top of Bedrock. Very light gray (N7), high plasticity
NO SAMPLE	
CLAYSTONE	As above (reference interval from 16.4 to 17.8 ft.) with local iron staining
CLAYSTONE	As above
CLAYSTONE	As above

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	5969	20			CLAYSTONE	As above
				5968	21				
				5967	22				
				5966	23				
				5965	24				
				5964	25				
				5963	26				
				5962	27				
				5961	28				
				5960	29				
					30				

DRAFT

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

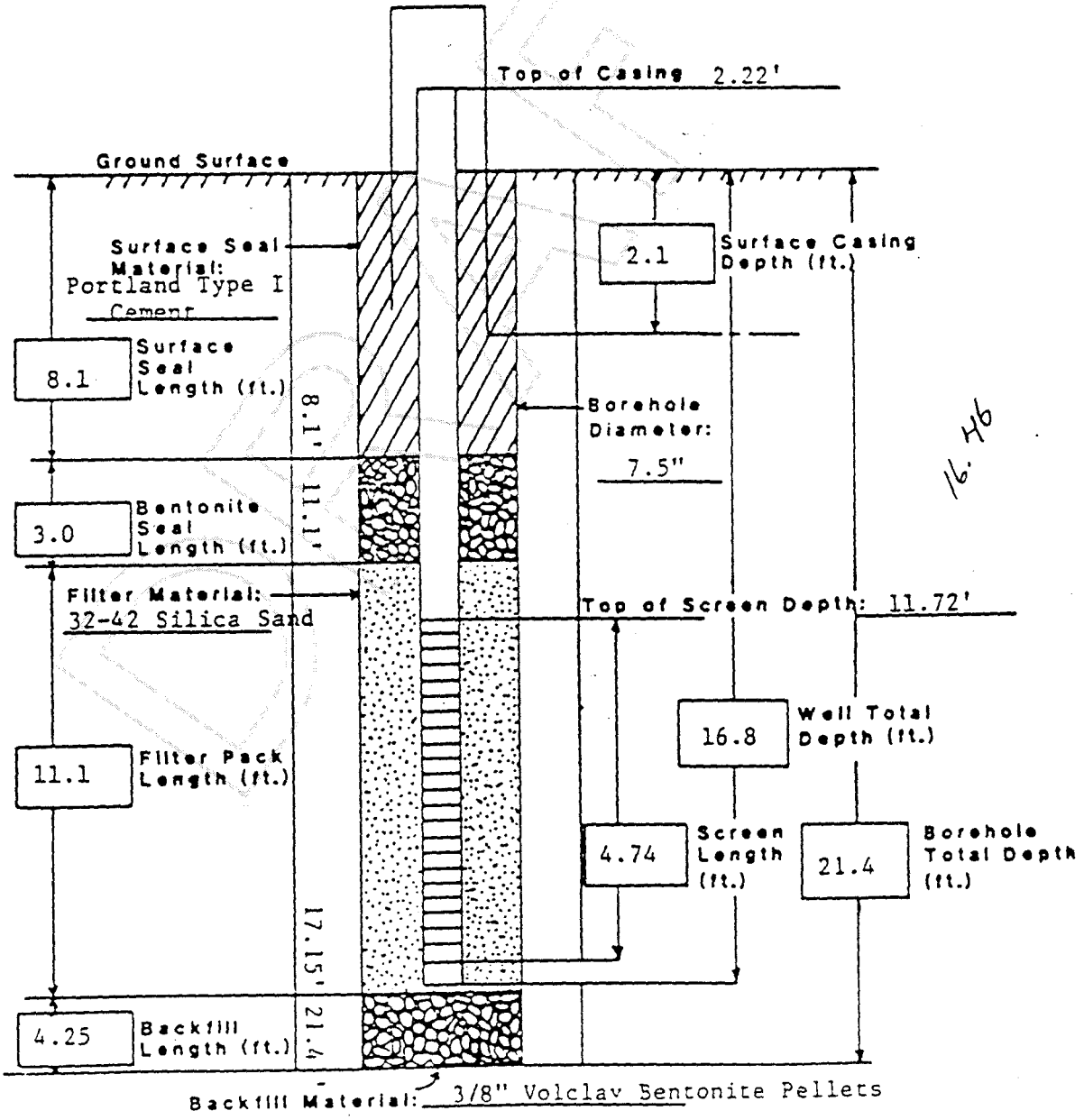
Approved By

Site Manager

Installed By J. Bacchus
Geologist

CEARP Manager

Comments



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	

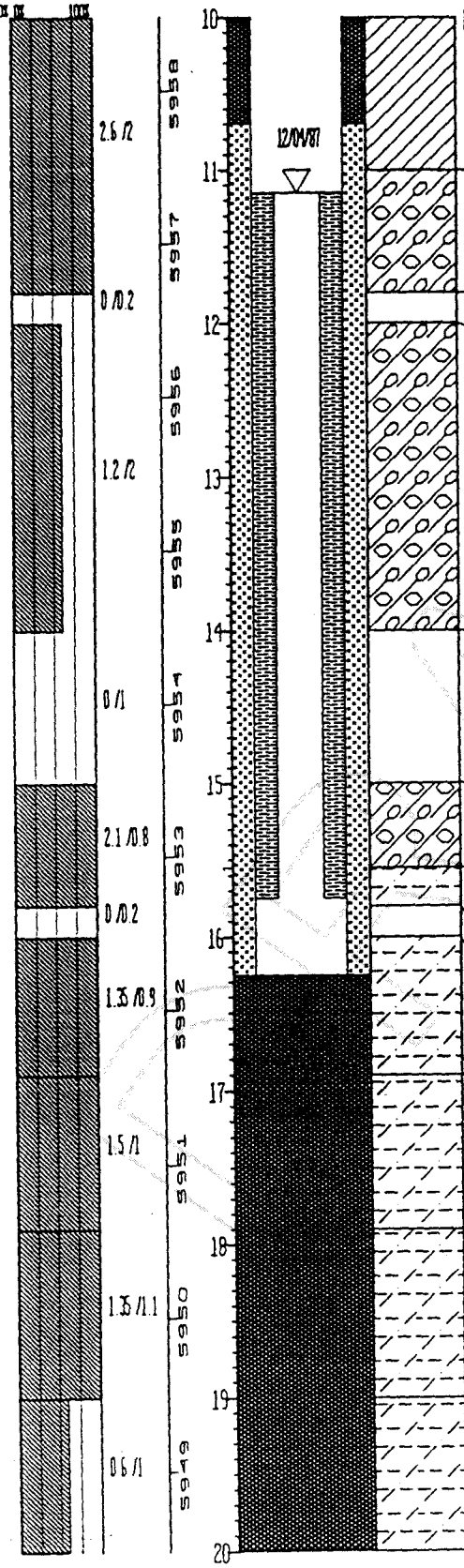
REMARKS: Hollow Stem Auger

SAMPLE 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%	1.8/1.8	5968	0			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			NO SAMPLE:	
			0.8/0.8	5966	2			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			NO SAMPLE:	
			0.5/0.7	5964	4			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			NO SAMPLE:	
			0.8/0.8	5962	6	04/11/88		CL:	Same as above: max. gravel size = 5 cm.
			0/0.6	5961	7			NO SAMPLE:	
			0/0.6					NO SAMPLE:	
			1.3/0.7	5960	8			CL:	Same as above.
			0/1.1	5959	9			NO SAMPLE:	
					10				

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.				

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	SILTY CLAY - grayish orange (10 YR 7/4) mod. plast., some sand and iron staining as mottles, trace of gravel and carbonaceous staining.
GC:	Clayey Sand and Gravel - grayish orange (10 YR 7/4), rounded to sub-rounded well graded, max. size approx. 6 cm.
NO SAMPLE:	
GC:	Same as above: moderately graded.
NO SAMPLE:	
GC:	Same as above: sub-angular to sub-rounded
SILTY CLAYSTONE:	Top of Bedrock Grayish orange (10 YR 7/4) and very lt. gray-mottled.
NO SAMPLE:	
SILTY CLAYSTONE:	Dark yellowish orange (10 YR 6/6) and lt olive gray (5 YR 6/1) - mottled, some iron staining and carbonaceous staining.
SILTY CLAYSTONE:	Same as above - est. med. plasticity.
SILTY CLAYSTONE:	Same as above - trace of fine sand in a lens 1/4 from bottom.
SILTY CLAYSTONE:	Same as above.

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

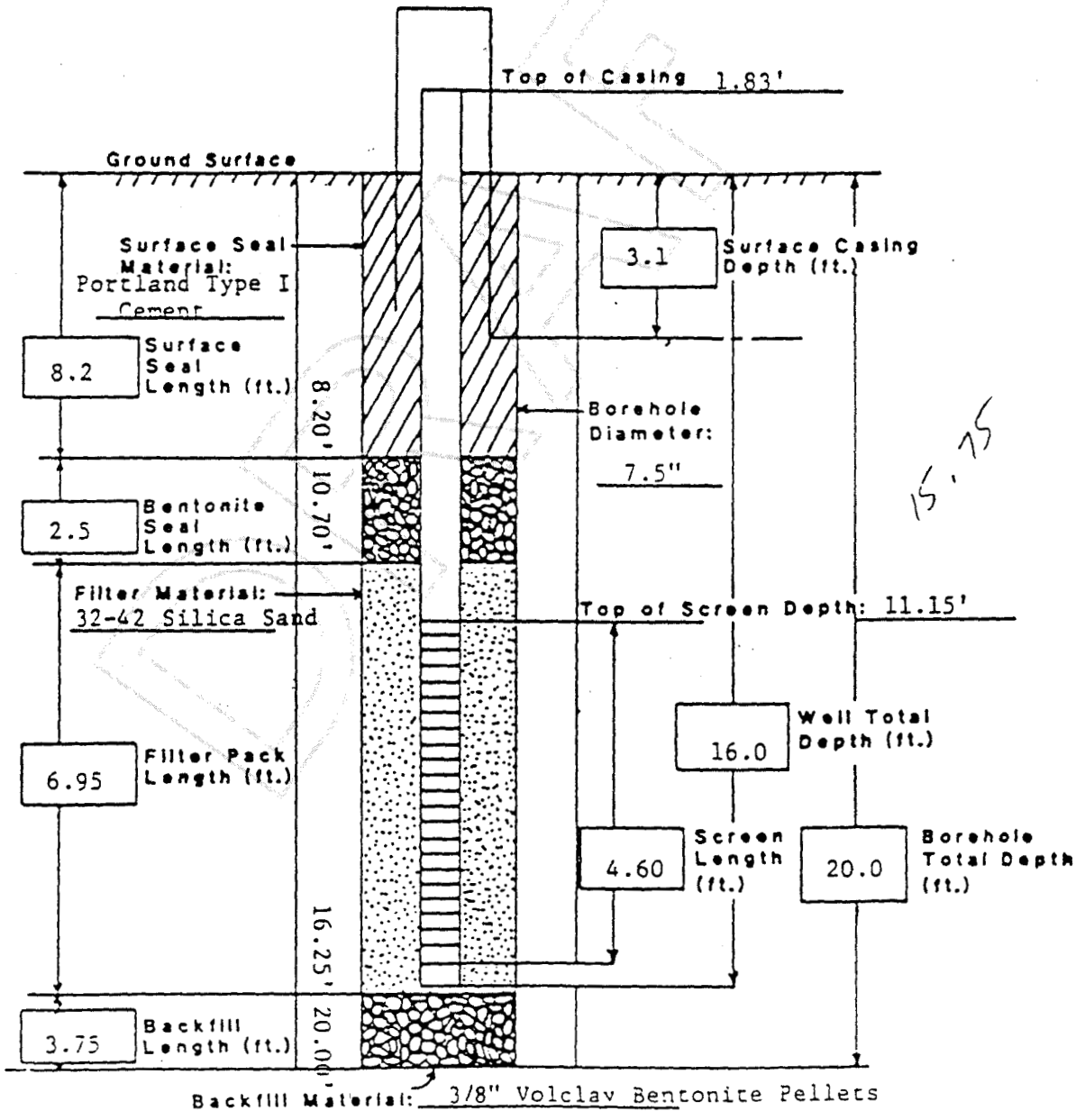
Date Installed December 4 & 7, 1987

Approved By _____
Site Manager

Installed By J. Bacchus
Geologist

_____
CEARP Manager

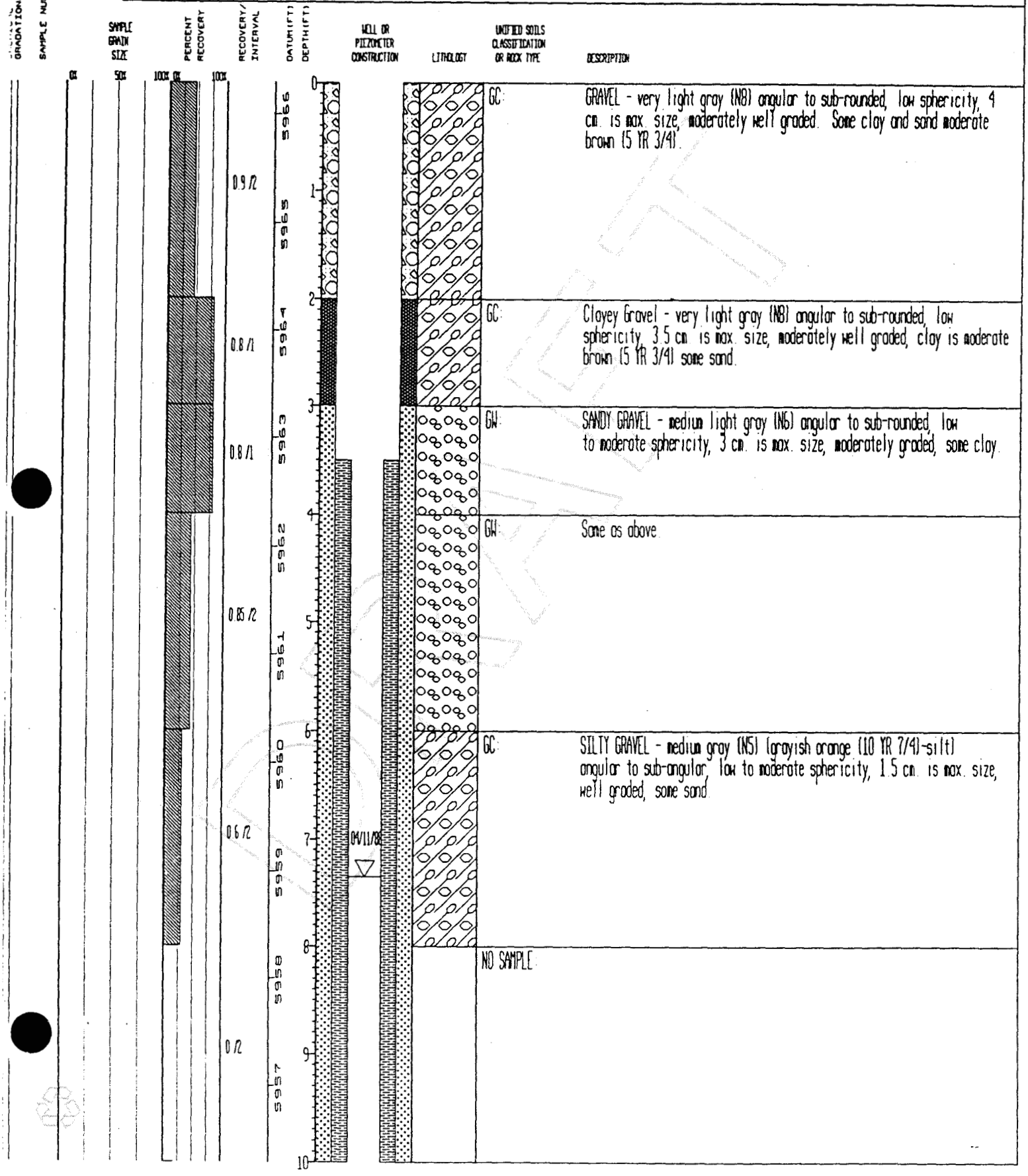
Comments _____



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



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 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
			0.35/2	5956	10			CH:	Gravelly Silty Clay - light gray (N7), high plasticity, gravel max. size = 7 cm and is dark gray (N3).
				5955	11				
			2.7/2	5954	12			SILTY CLAYSTONE:	Top of Bedrock Mottled very light gray (N8) and dark yellowish orange (10 YR 6/6), high plasticity, trace of fine sand.
				5953	13				
			1.9/2	5952	14			SILTY CLAYSTONE:	Same as above
				5951	15				
			1.5/1	5950	16	01/06/88		SILTY CLAYSTONE:	Medium gray (N5), medium plasticity, trace of fine sand.
				5949	17				
				5948	18				
				5947	19				
					20				

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

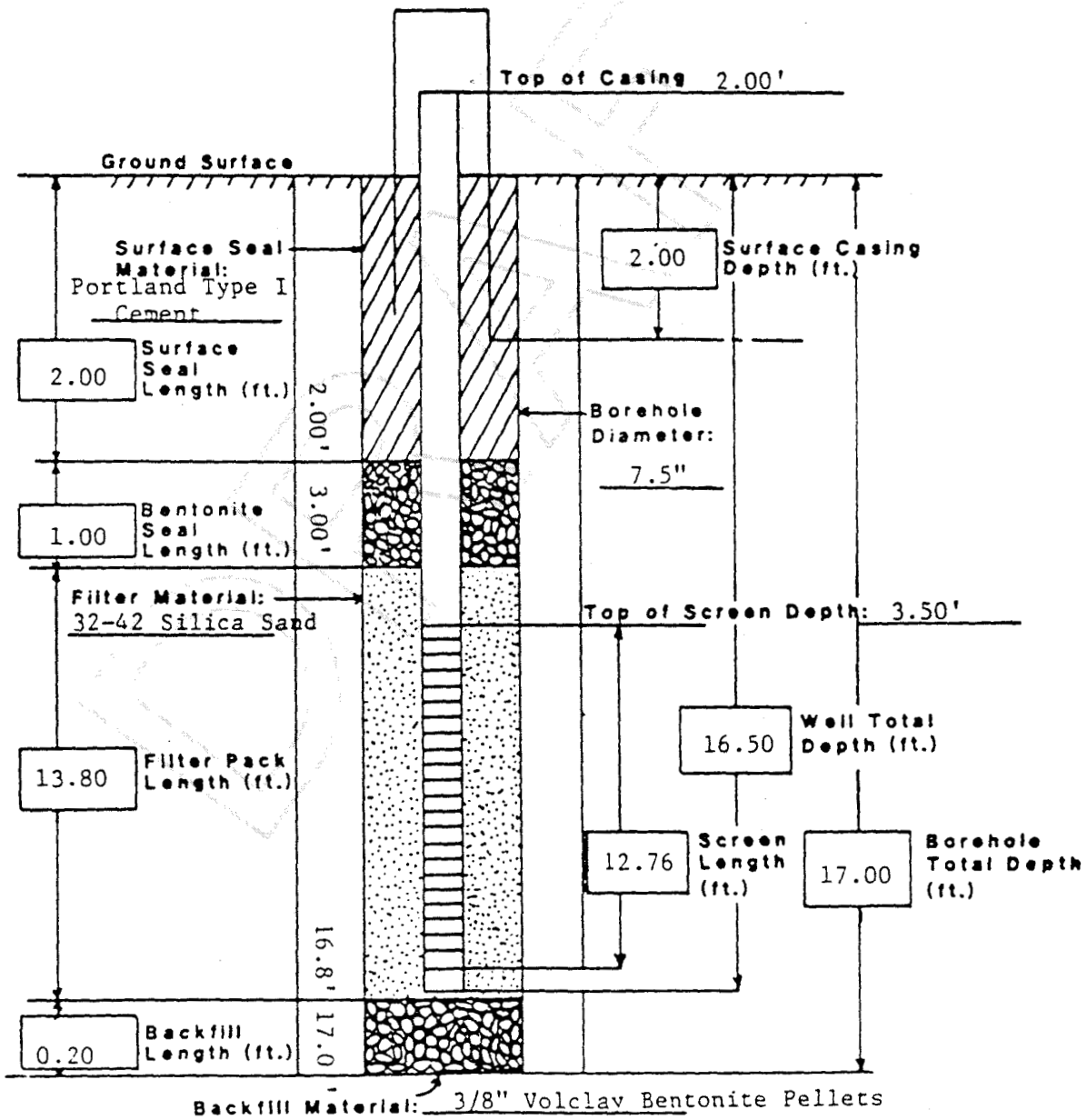
Approved By

Installed By R. Treat
Geologist

Site Manager

CEARP Manager

Comments



STATE PLANE COORDINATE		TOTAL DEPTH (FT) 19	GROUND ELEVATION (FT)	5963 39	PROJECT NUMBER	667 11	LOG OF BORING NUMBER
NORTH	753322	AREA LANDFILL	CASING DIAMETER (IN)	2 ID	GEOLOGIST	DCB/TSD	71-87
EAST	2264087	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			CALICHE	Same as above
			0/0 4	5959	4	03/14/88 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				

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	5953	10			NO SAMPLE	
			1 82/1 6	5952	11			CL	Same as previous description
			0/0 4	5951	12			NO SAMPLE	
			0 9/1 1	5950	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
					14			CLAYSTONE	Top of Bedrock
			0/0 9	5949				NO SAMPLE	
			0 77/1 1	5948	15			CLAYSTONE	Very light gray (N8) highly plastic, trace of medium grained sand.
			0/0 9	5947	16			NO SAMPLE	
			1/0 6	5946	17			CLAYSTONE	Same as previous sample
			0/1 4	5945	18			NO SAMPLE	
				5944	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

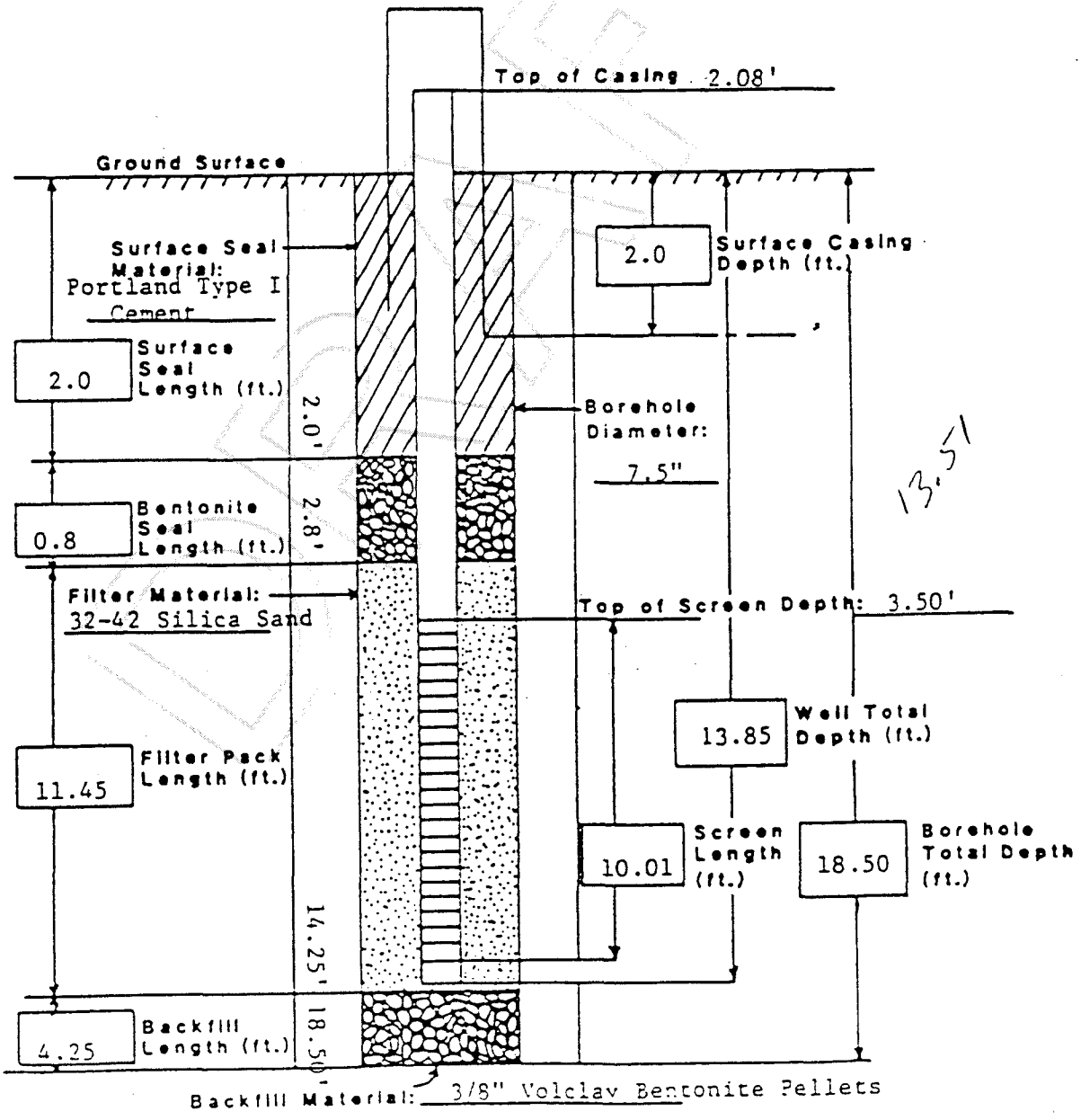
Approved By

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

Sample Number	Recovery/Interval	Unified Soils Classification or Rock Type	Description
72870000H	0.93/2	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	GP	Same as above; except no clay and roots and increased sand fraction, max size = 6.5 cm. (Gp/Gw)
	0/0.5	NO SAMPLE	
72870004UC	0.2/2	GP	Same as above. Max gravel size = 2.5 cm., some silt (Gp/Gw)
72870006WT	1.55/2	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	SILTY CLAYSTONE	Top of bedrock Same as above

Well or piezometer construction: 02/04/88, 01/06/88, 12/16/87

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

Datum (FT): 5969, 5968, 5967, 5966, 5965, 5964, 5963, 5962, 5961, 5960

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	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%							
				0/2	5959	10				NO SAMPLE
					5958	11				
				0/1	5957	12				NO SAMPLE
					5956	13				SILTY CLAYSTONE: Grayish orange (10 YR 7/4) to a pinkish gray (5 YR 8/1) - low plast, some fine sand.
				0.3/2	5955	14				
					5954	15				
					5953	16				
					5952	17				
					5951	18				
					5950	19				
						20				

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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

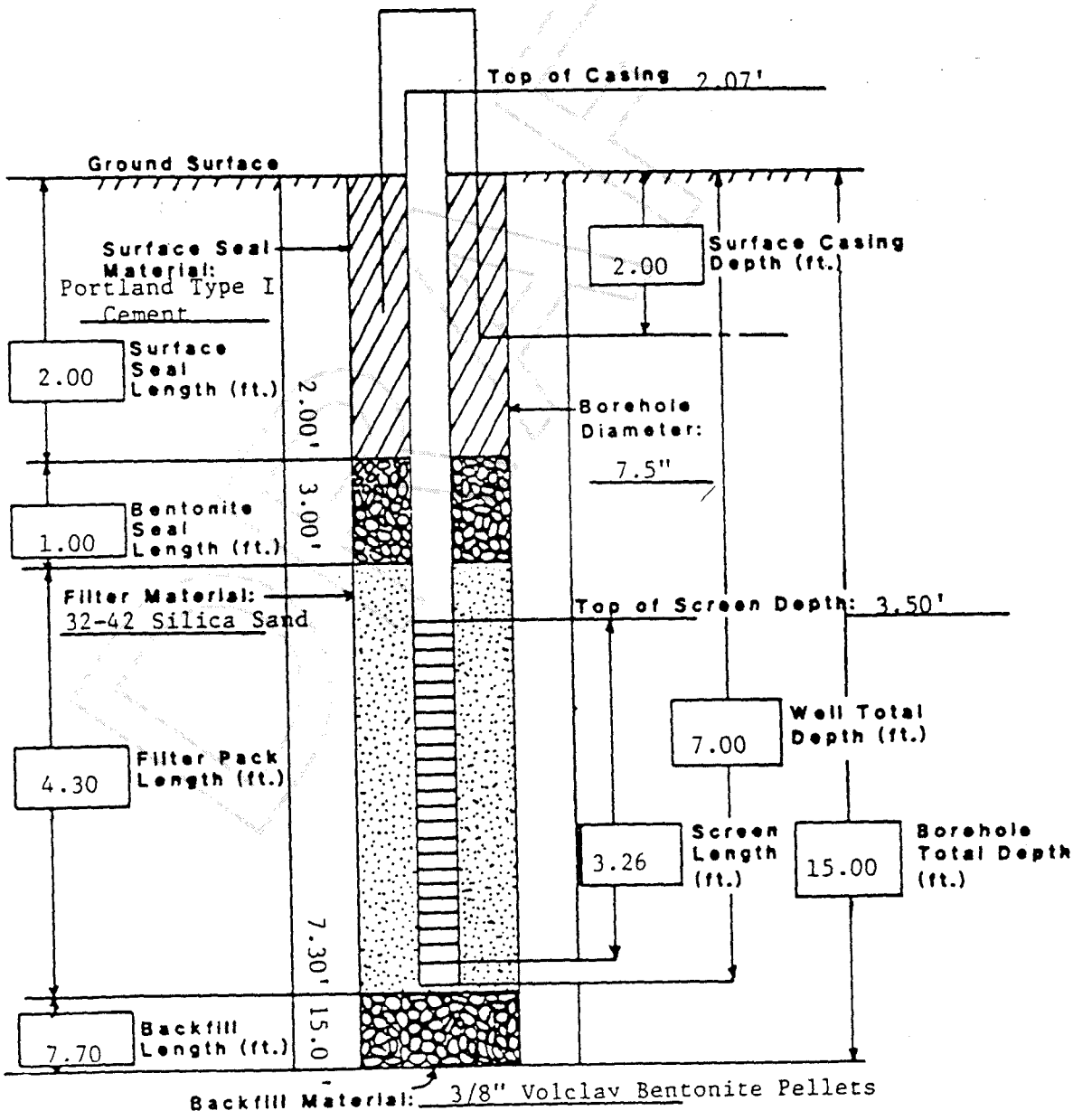
Approved By

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 / GEOTECHNICAL SAMPLE

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

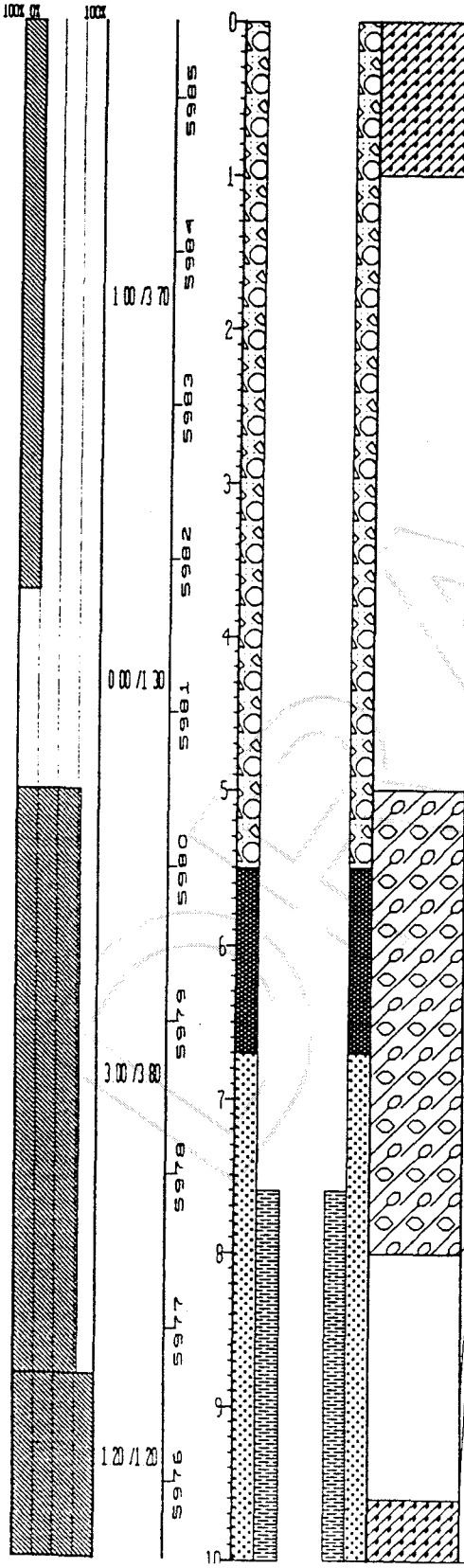
RECOVERY/INTERVAL: 1.00/3.70; 0.00/1.30; 3.00/3.80; 1.20/1.20

DATUM (FT): 5985, 5984, 5983, 5982, 5981, 5980, 5979, 5978, 5977, 5976

DEPTH (FT): 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

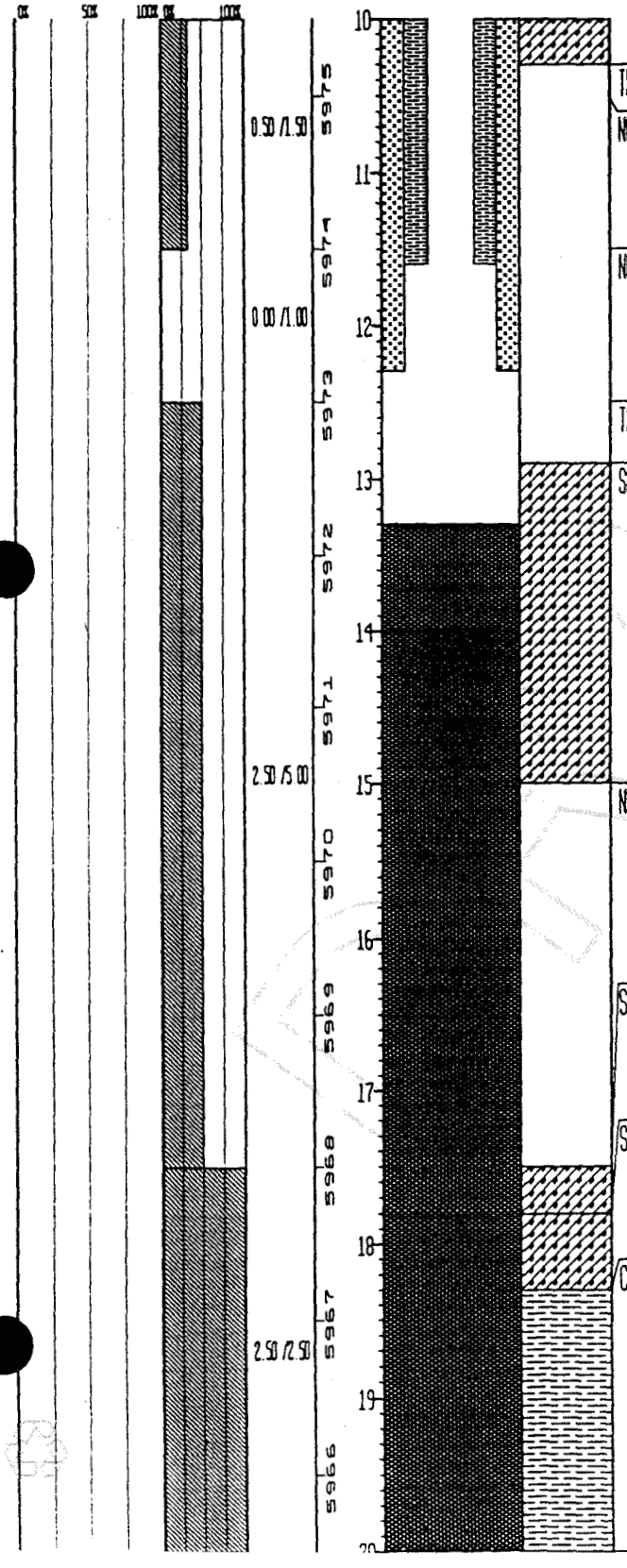


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC	Sandy Clay with some Gravel. Mod. brown (5 YR 4/4) to light brown (5 YR 6/4) fill. Calcareous. Apparent med. plasticity. Core dry, well cemented (argillaceous). +/-25% gravel.
NO SAMPLE	No recovery.
NO SAMPLE	No recovery. Center bit drilled.
GC	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.
NO SAMPLE	No recovery.
	Asphaltic material. Black (N1). Very slight odor on fresh break. 2.25 in. pebble at top of this interval
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.

SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% – 50%) | PERCENT RECOVERY (100% – 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. ERASCO Geologist: K. Tegtmeyer. Soil Gas Monitoring Well.

CHEMICAL SAMPLE / 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
				2.50 /2.50	5965	20			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.
					5964	21				
					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): 45.0	GROUND ELEVATION (FT):	5984.50	OLD WELL NUMBER:	LF02-89BR
NORTH: 752332	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 0.0	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
			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?)
LF02B9BR0002									
LF02B9BR0003			1.10/2.00	5983, 5982	1, 2			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.
			0.20/1.00	5981	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.
LF02B9BR0406			2.00/2.00	5980, 5979	4, 5			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.
LF02B9BR0309			1.40/2.00	5978, 5977	6, 7			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.
LF02B9BR0810			2.00/2.00	5976, 5975	8, 9, 10			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.

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 WELL 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	5974, 5973	10, 11			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.
	LF0289BR1016 LF0289BR1214			2.00 /2.00	5972, 5971	12, 13			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.
				1.70 /2.00	5970, 5969	14, 15			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.
	LF0289BR1618 LF0289BR1620			2.00 /2.00	5968, 5967	16, 17			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.
						18	05/25/89 ▽		SC	Clayey Gravelly Sand - same as above.
				1.99 /2.00	5966, 5965	19, 20			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.

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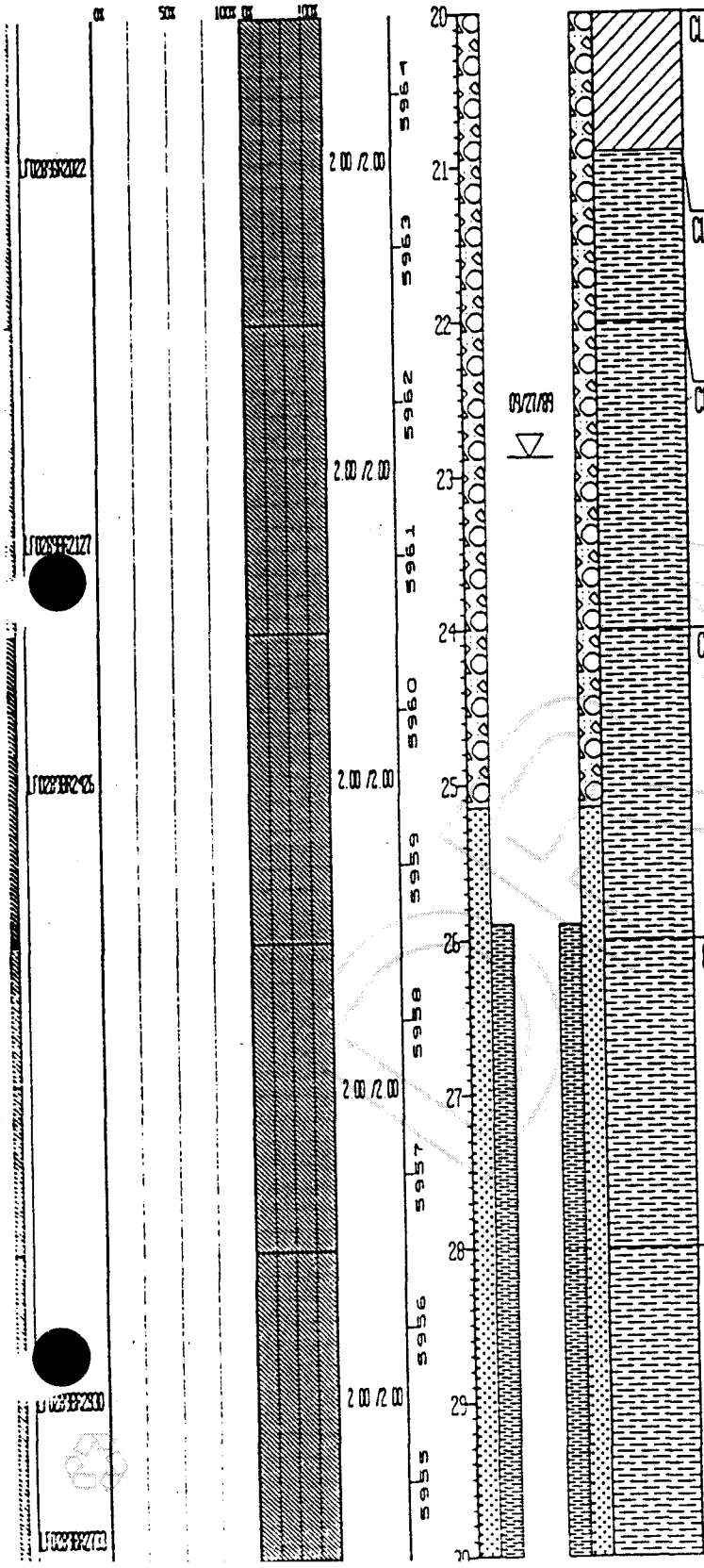
STATE PLANE COORDINATE	TOTAL DEPTH (FT): 45.0	GROUND ELEVATION (FT):	5984.50	OLD WELL NUMBER:	LF02-89BR
NORTH: 752332	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	SPC
EAST: 2083301	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN):	11.0	DATE DRILLED:	05/25/89

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



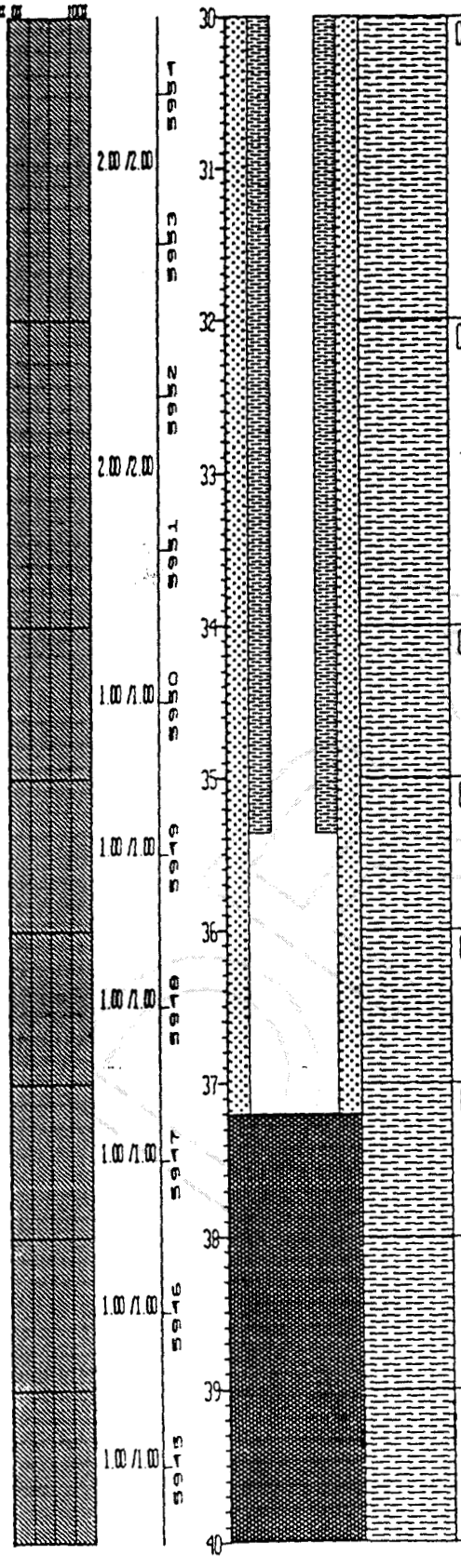
Unified Soils Classification or Rock Type	Description
CL:	Sandy Gravelly Clay - dark yellowish orange (10 YR 6/6). F.g. to c.g. sand. 1 cm. to 8 cm. gravel and pebbles, poorly sorted, sub-angular, granite and quartzite. Non-stratified, mod. consol., non-cemented, med. plastic, very stiff to hard. A 4 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%



Depth (ft)	Recovery/Interval	Datum (ft)	Unified Soils Classification or Rock Type	Description
30		5954	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.
31	2.00 /2.00	5953		
32		5952	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.
33	2.00 /2.00	5951		
34			CLAYSTONE	Same as above - brownish black (5 YR 2/1), med. gray (N 5/0), med. dark gray (N 4/0), mottled.
35	1.00 /1.00	5950	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.
36	1.00 /1.00	5949	CLAYSTONE	Same as above - med. gray (N 6/0) to med. dark gray (N 4/0). Blocky to platey, very hard.
37	1.00 /1.00	5948	CLAYSTONE	Same as above.
38	1.00 /1.00	5947	CLAYSTONE	Same as above - med. gray (N 5/0) to light gray (N 7/0).
39	1.00 /1.00	5946	CLAYSTONE	Same as above - dark gray (N 3/0) to light olive gray (5 Y 6/1). Laminated, manganese oxide staining in discrete layers.
40	1.00 /1.00	5945		

LF02BSBR3234

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 NU	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%	1.00/1.00	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				

DRAFT

WELL COMPLETION INFORMATION

QA By/Date [illegible] 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.

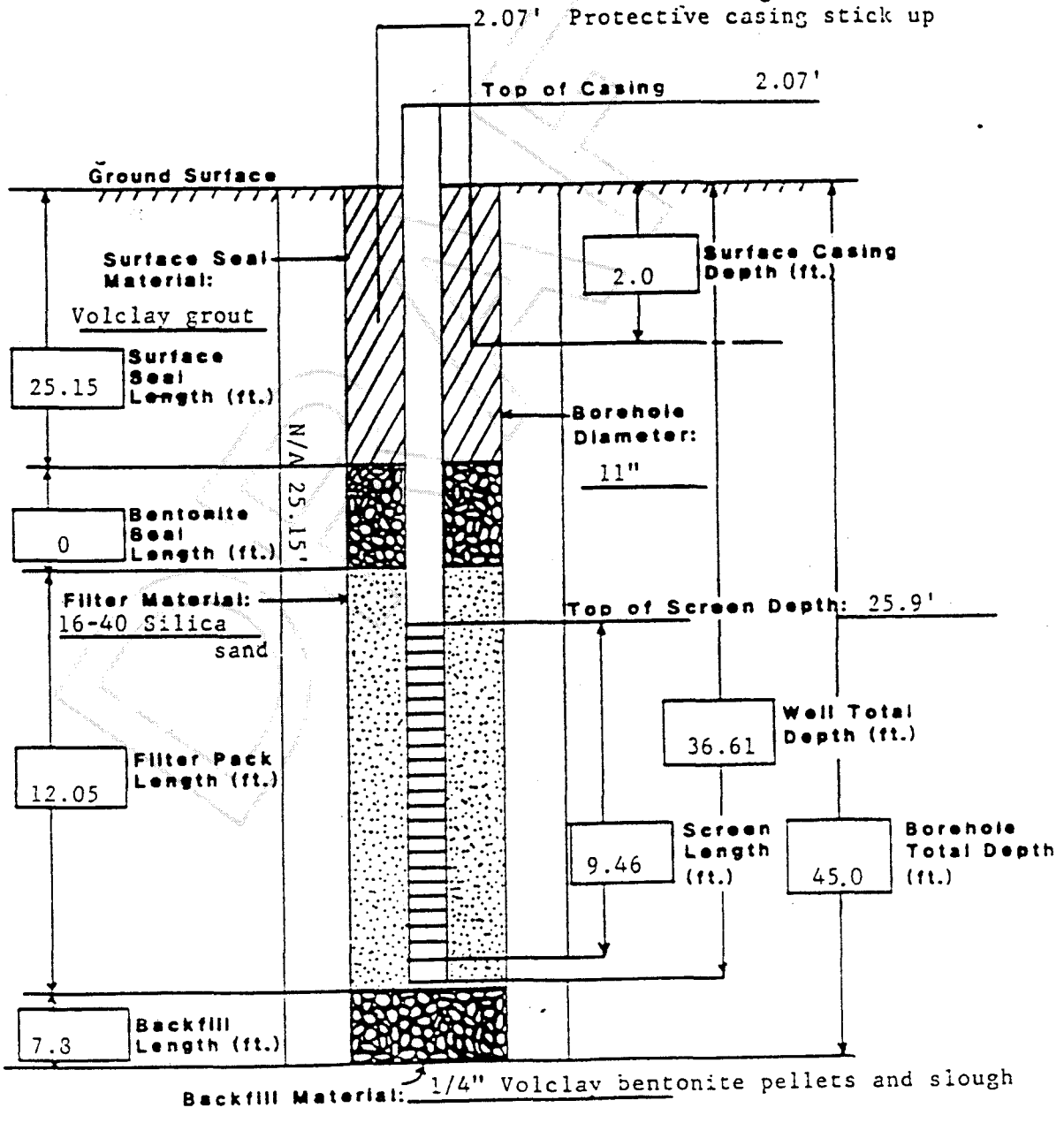
Date Installed 06/01/1989

Approved By [illegible]
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.



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	

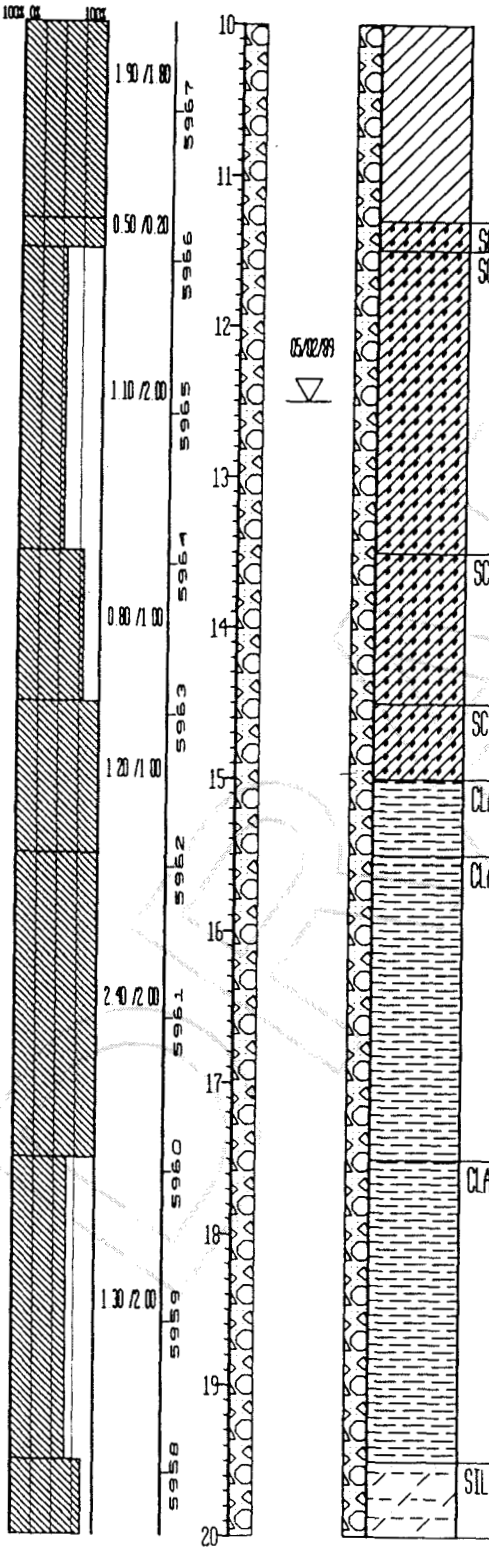
REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. ASI Log.

CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.20/1.50	5977	0			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)
				0.40/0.40	5976	1			GC	Clayey Sand and Gravel - matrix dark reddish brown (10 R 3/4). Gravel poorly sorted, granules to 3 cm. Sub-angular
				0.90/0.90	5975	2			CL	Sandy brown Mod. Clay and some gravel granules, larger sandy clay con- 25% gravel grades 35% as gravel in sandy silty clay matrix
				0.00/0.70	5974	3			NO SAMPLE	NO SAMPLE
				0.90/1.00	5973	4			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
				0.00/1.00	5972	5			NO SAMPLE	NO SAMPLE
				1.10/2.00	5971	6			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
				0.70/2.00	5970	7			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
					5969	8			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
					5968	9				
						10				

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% 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
	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 4 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

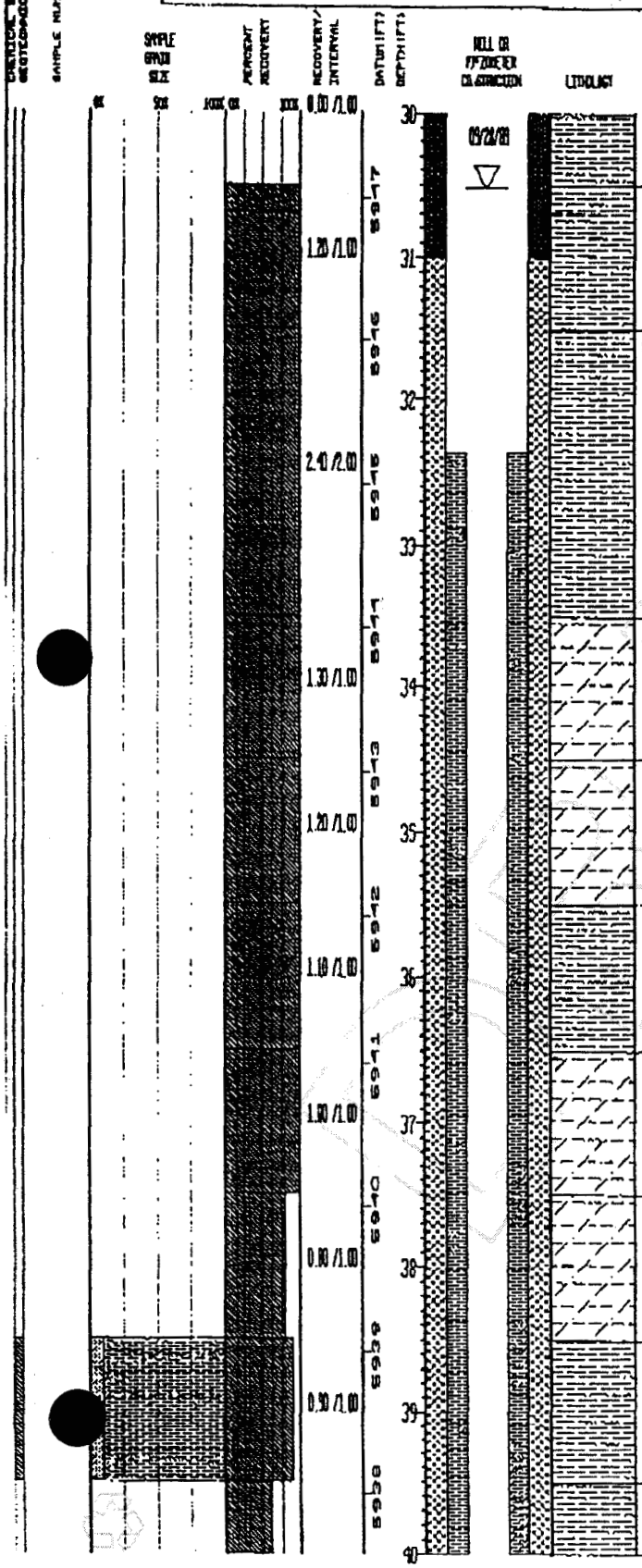
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 47.5	GROUND ELEVATION (FT):	5977.59	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	752253	AREA: LANDFILL	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	LAH	B206289
EAST:	2083564	LOCATOR NUMBER: K12	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/02/89	

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

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
				1.70 /2.00	5957	20, 21				
				0.40 /0.50	5956	22			SILTY CLAYSTONE	Same as above, some iron staining.
				1.90 /1.50	5955	23			CLAYSTONE	Light brownish gray (5 YR 6/1), mod. friable, bedding not evident, some silt.
				2.10 /2.00	5954, 5953	24, 25			CLAYSTONE	Same as above. Some dark yellowish orange (10 YR 6/6) mottling, some staining.
				1.50 /2.00	5952, 5951	26, 27			CLAYSTONE	Dusky yellowish brown (10 YR 2/2), bedding not evident, mod. friable, trace staining.
				1.10 /1.00	5950	28			SILTY CLAYSTONE	Mottled light brownish gray. Bedding not evident. Trace silt, slightly friable. Trace iron staining. Trace carbonaceous material.
				1.10 /1.00	5949	29			SILTY CLAYSTONE	Brownish gray (5 YR 4/1), highly weathered, highly friable, bedding not evident.
				0.00 /1.00	5948	30			CLAYSTONE	Light brownish gray (5 YR 4/1), highly friable, highly weathered, bedding not evident, some silt.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 47.5	GROUND ELEVATION (FT): 5977.59	OLD WELL NUMBER: LF0389BR	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		

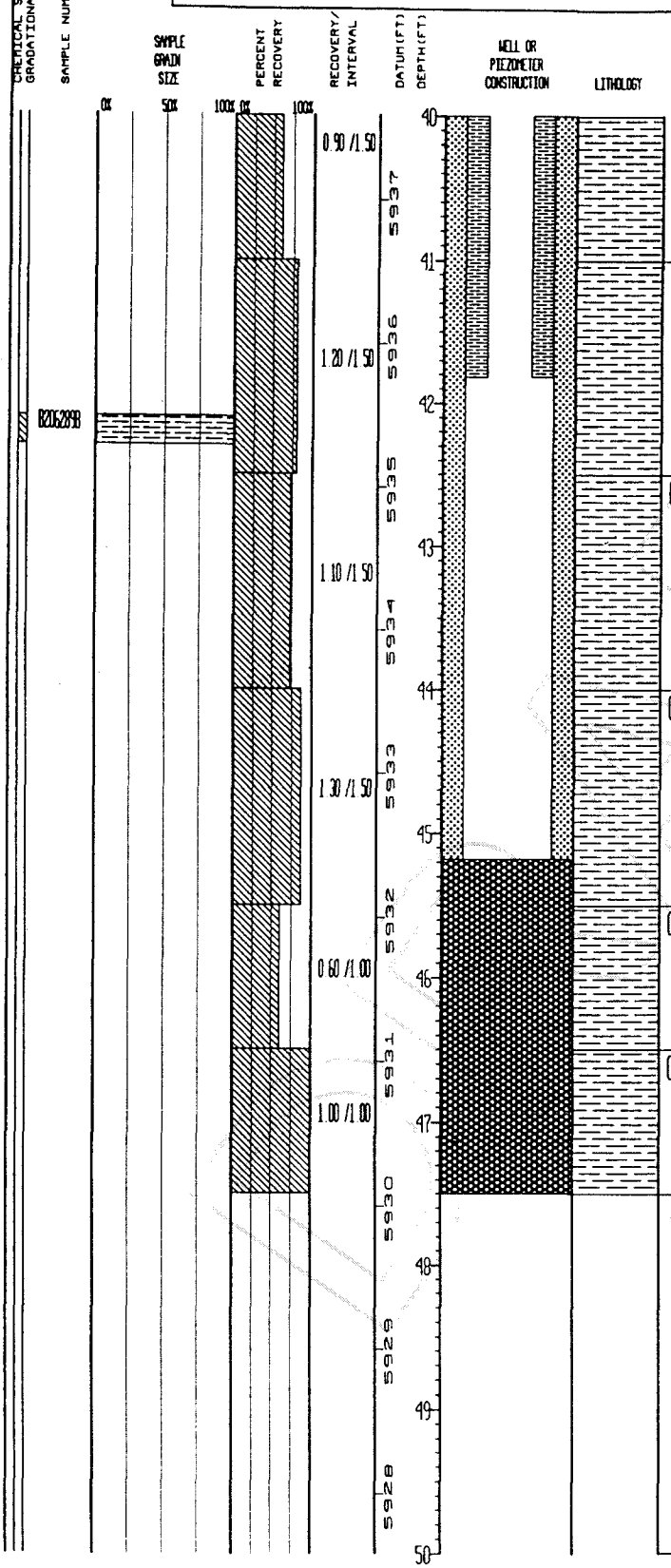
REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 41.45' to 42.65' below ground surface. ASI Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Brownish gray (5 YR 4/1), mod. friable, bedding not evident, some silt, dark yellowish orange silt.
CLAYSTONE:	Same as above, trace carbonaceous material. Color change to light olive gray (5 Y 6/1), becomes silty toward bottom of interval.
SILTY CLAYSTONE:	Same as above.
SILTY CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above, mod. friable.
SILTY CLAYSTONE:	Same as above. 20% silt.
SILTY CLAYSTONE:	Same as above. 45% silt.
CLAYSTONE:	Same as above, trace carbonaceous material, less silty. (Claystone with some Silt). 10% silt
CLAYSTONE:	Brownish gray (5 YR 4/1), mod. friable, bedding not evident, trace silt.

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'

DRAFT

WELL COMPLETION INFORMATION

QA By/Date Jorell 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.

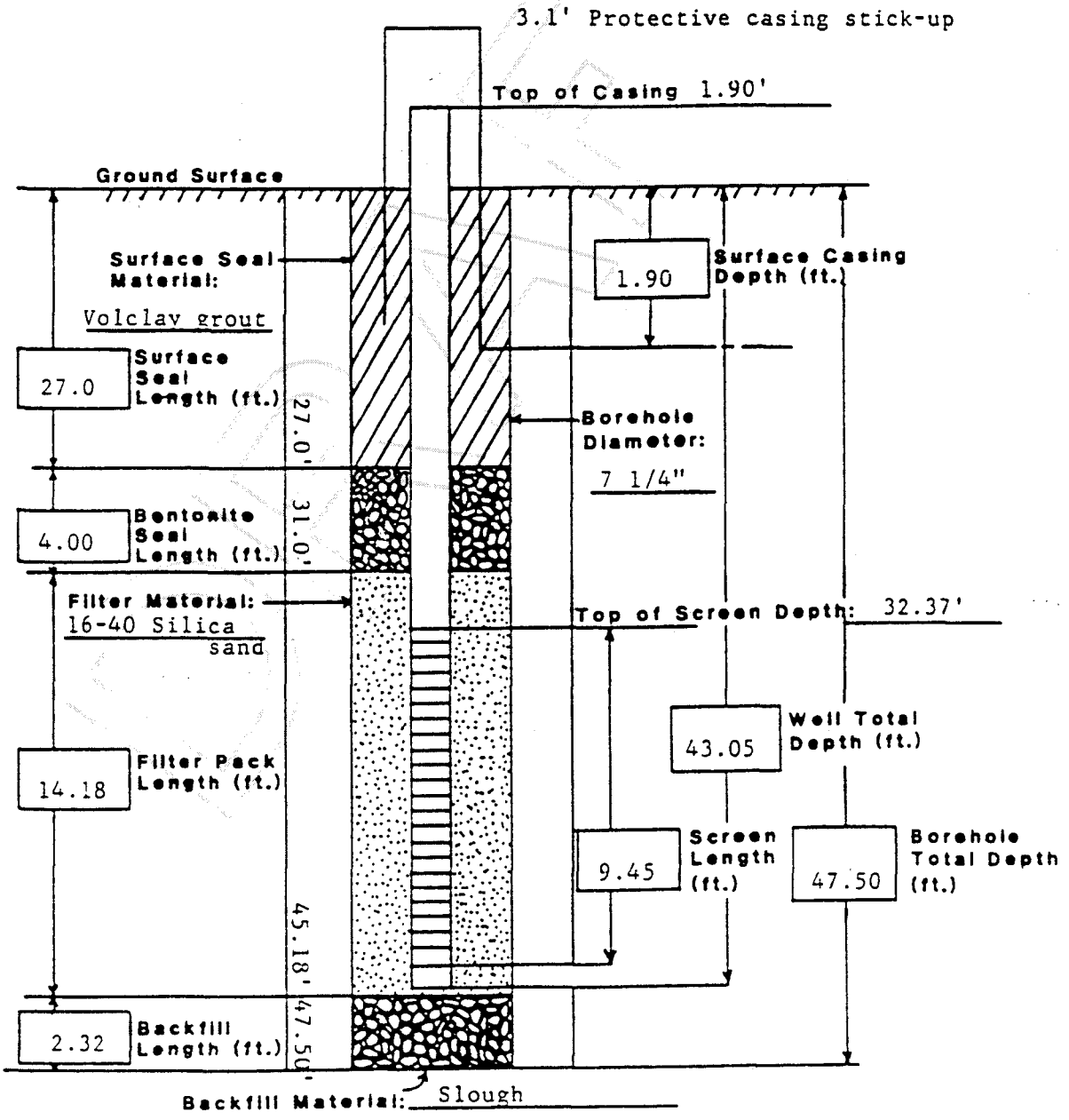
Date Installed 05/02/1989

Approved By Jorell 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.

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			CL	Sandy Clay - mod. yellowish brown (10 YR 5/4). Some gravel, very stiff to stiff, moist.
	LF04890002			1.70/2.20	5969	1			GC	Gravelly Sand and Clay - dusky yellowish brown (10 YR 2/2). Med. dense with asphalt and scattered metal debris, moist.
	LF04890003				5968				NO SAMPLE	NO SAMPLE
				1.45/1.80	5967	2			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.
	LF04890309				5966	3				
	LF04890406			0.90/2.00	5965	4				
					5964	5				
						6			NO SAMPLE	Drilled with center bit. No sample recovery.
				0.00/2.00	5963	7				
					5962	8			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.
				0.00/1.00	5961	9				
	LF04890910			0.70/1.00	5960	10				

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
	LF0489013			0.00 /2.00	5959	10–11			NO SAMPLE	Drilled with center bit. No sample recovery.
	LF0489214			1.90 /2.00	5957	12–13			GC	Sand and Gravel - same as above (reference intrval 9.0' to 10.0')
	LF0489416			1.90 /2.00	5955	14–15			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	16–17			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	18–19			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.

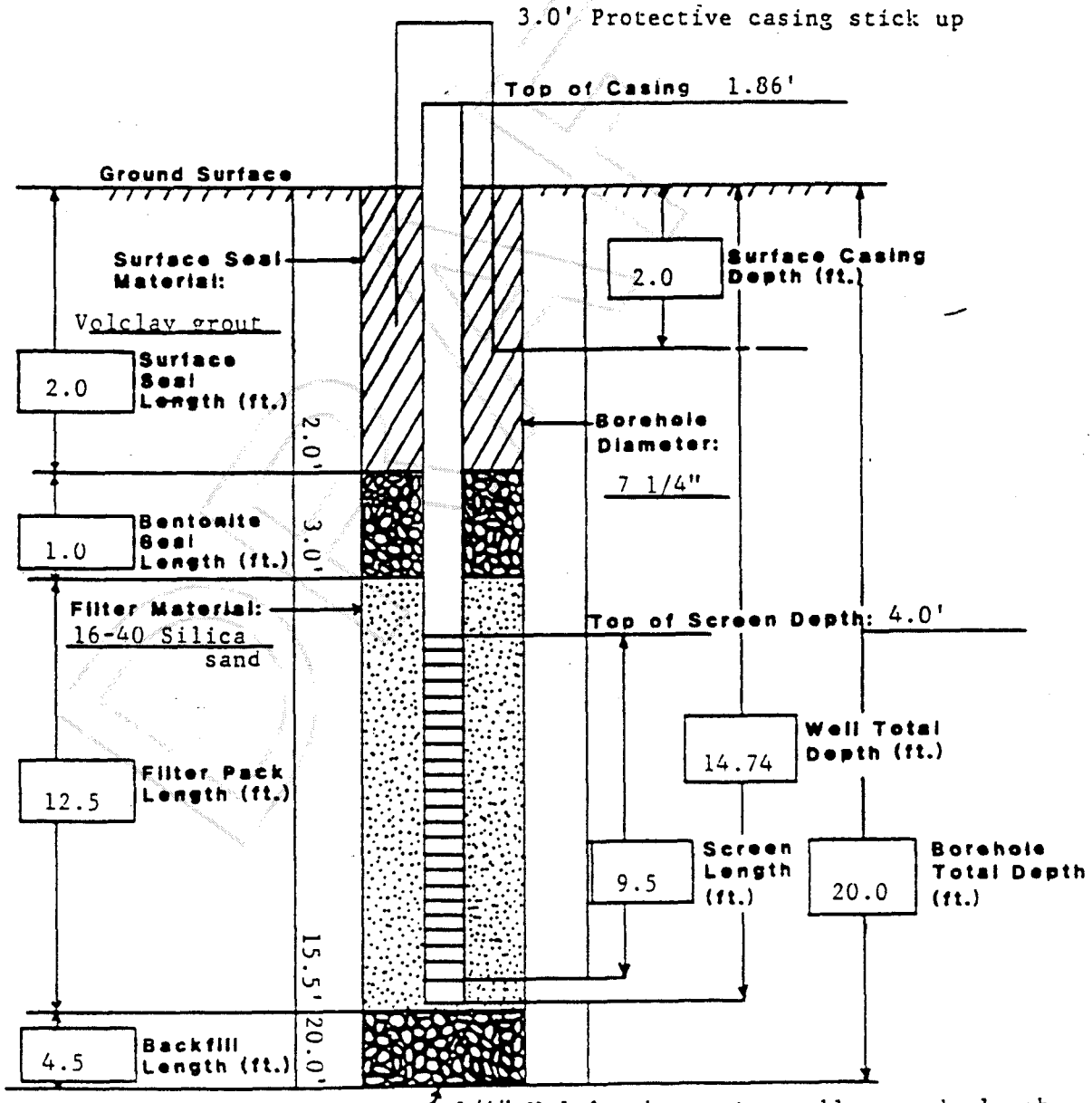
Date Installed 05/22/1989 **Approved By** Farell Burman

Installed By S.P. Carpenter
Geologist

Site Manager

CEARP Manager

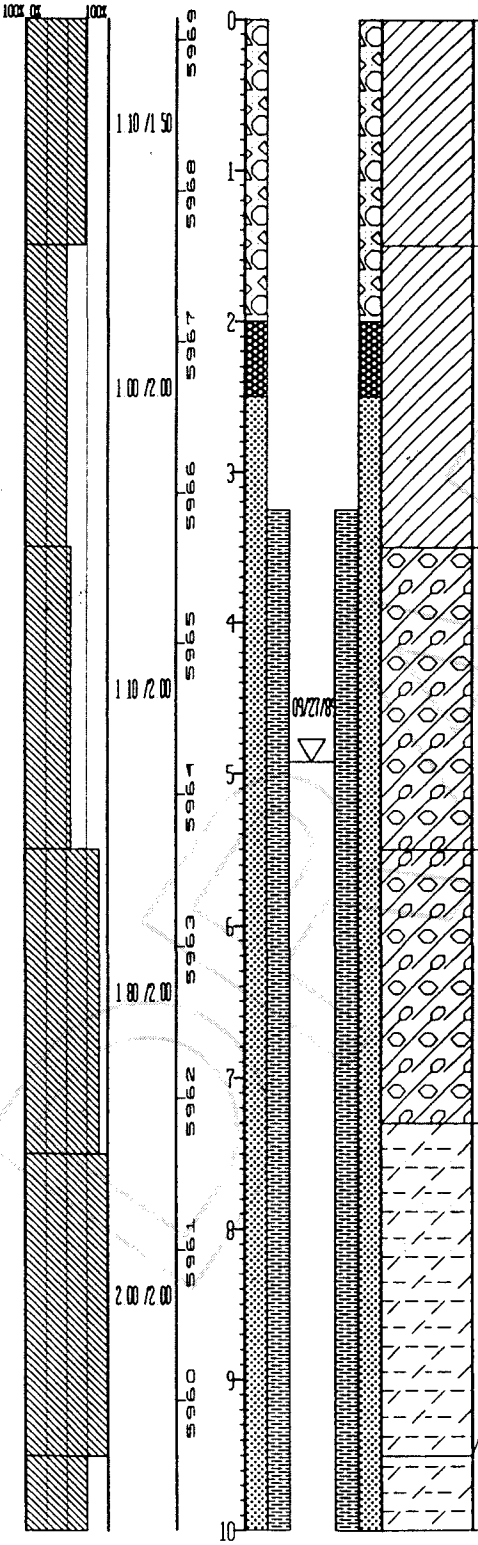
Comments Set stainless steel centralizer from 13.27' to 14.47' below ground surface.



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

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 0.0	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

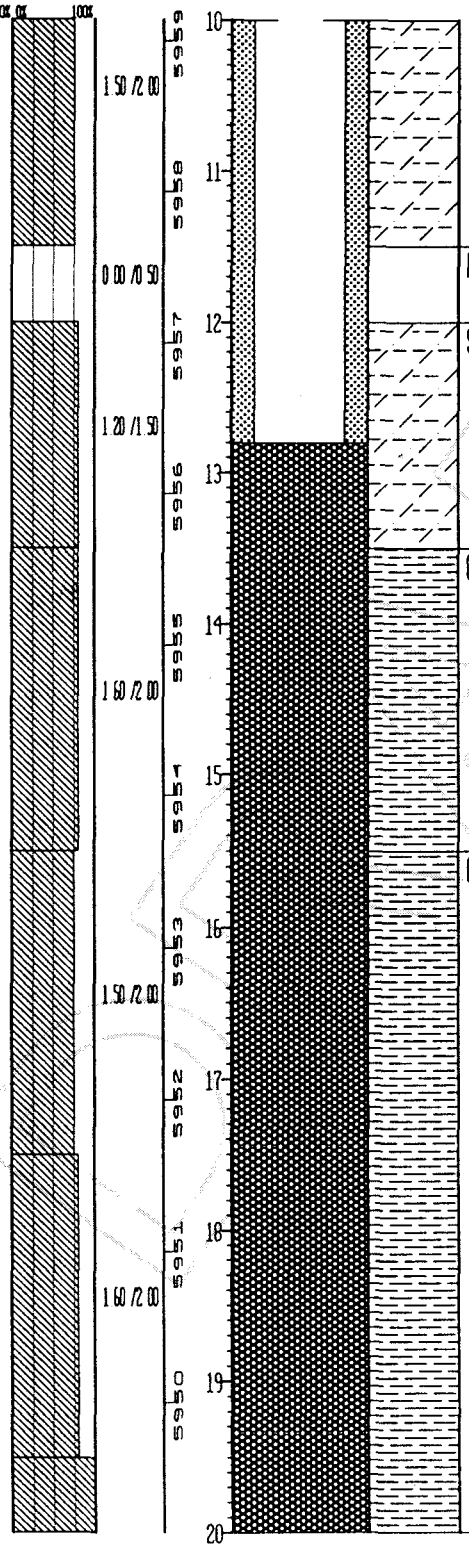


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL	Silty Clay (topsoil) - Dark yellowish brown (10 YR 4/2) to dusky yellowish brown, (10 YR 2/2). Mod. plasticity, trace sand, v.f.g. to m.g. Trace gravel (2 cm). Slightly calcareous, trace root material. >50% clay.
CL	Silty Clay - same as above. 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):	5959.14	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%)
PERCENT RECOVERY (100% 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

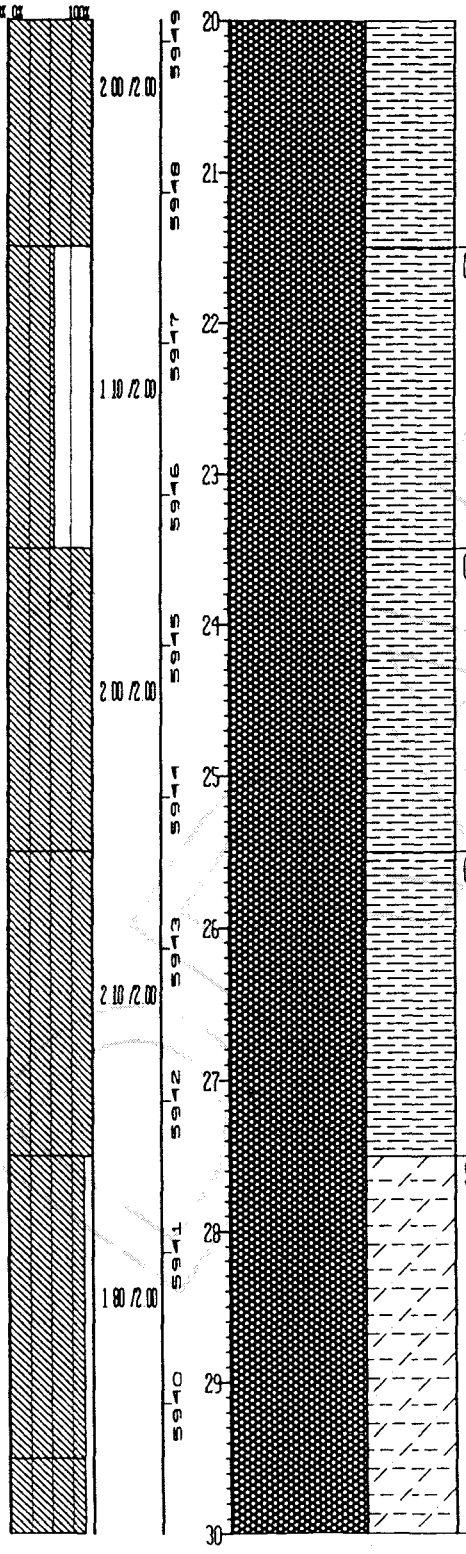
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 41.5		GROUND ELEVATION (FT)	5969.14	PROJECT NUMBER	
NORTH	752427	AREA LANDFILL		CASING DIAMETER (IN)	4.500	GEOLOGIST	LAH
EAST	2083964	LOCATOR NUMBER	K12	BOREHOLE DIAMETER (IN)	7.25	DATE DRILLED	05/03/89

REMARKS: Hollow Stem Auger ASI Log

LOG OF BORING NUMBER

B206489

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						

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
	B206489A			1.80/2.00	5939	30				
					5938	31				
				2.30/2.00	5937	32			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
					5936	33				
				2.20/2.00	5935	34				
					5934	35				
				1.70/2.00	5933	36			SILTY CLAYSTONE	Same as above, more friable. Staining still in fractures, but more irregular fractures. Less silt toward bottom >65% clay
					5932	37				
				0.90/2.00	5931	38			SILTY CLAYSTONE	Same as above. Abundt. iron staining and some iron precipitation in middle of interval. Some carbonaceous material >60% clay
					5930	39			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
						40				

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	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			100%	1.80/2.00	5929	40				
					5928	41				
					5927	42				
					5926	43				
					5925	44				
					5924	45				
					5923	46				
					5922	47				
					5921	48				
					5920	49				
						50				

Total Drilled Depth = 41.5'

DRAFT

WELL COMPLETION INFORMATION

QA By/Date Janell Burman / 5-5-89

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.

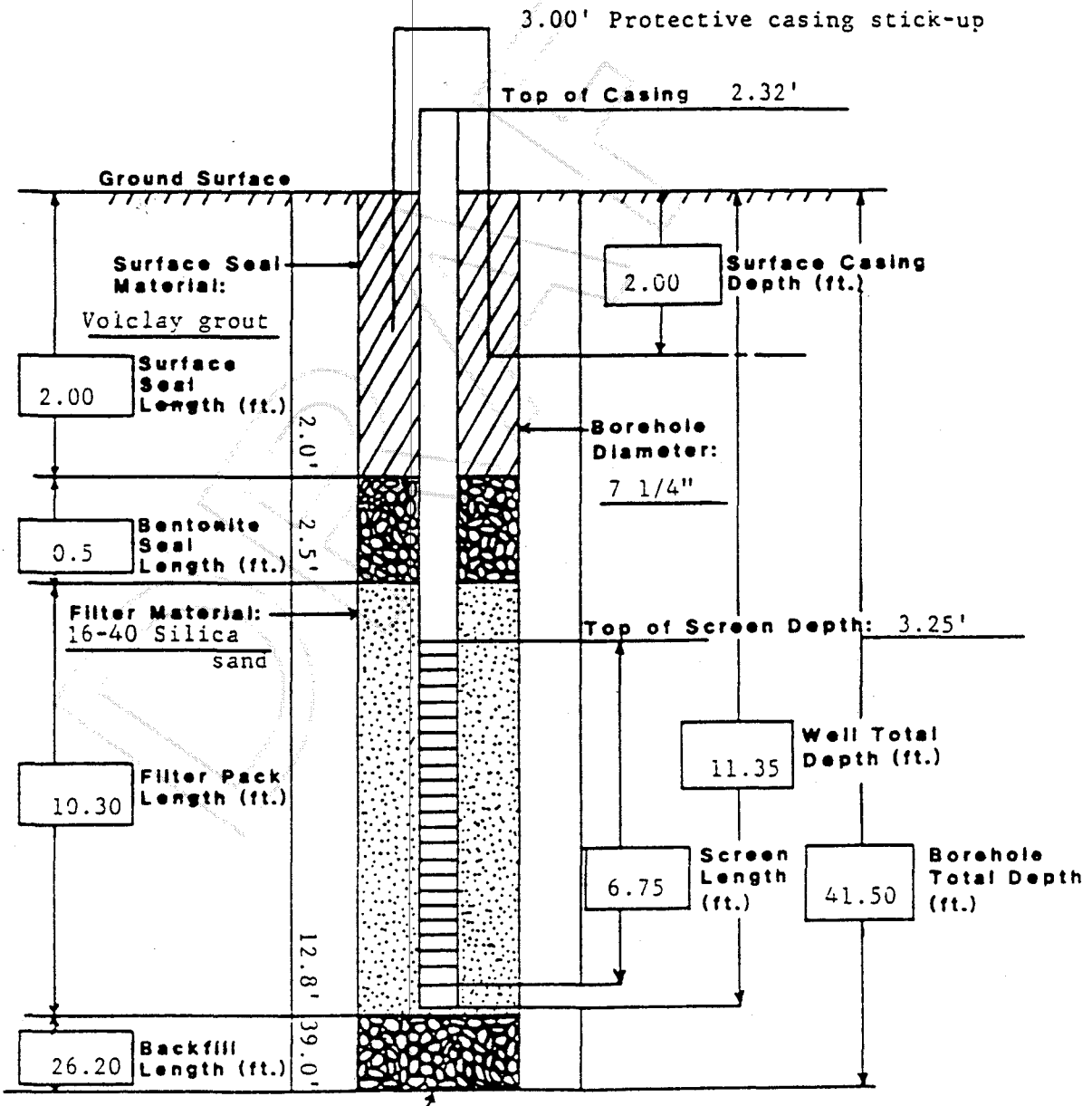
Date Installed 05/04/1989 **Approved By** Janell Burman

Installed By R.T. Treat
Geologist

Site Manager

CEARP Manager

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



Backfill Material: 1/4" Volclay bentonite pellets

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

CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL: 0.65/1.50; 1.20/2.00; 2.00/2.00; 2.00/2.00; 1.80/2.00
DATUM (FT): 5967, 5966, 5965, 5964, 5963, 5962, 5961, 5960, 5959, 5958
DEPTH (FT): 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
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. (an-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):	4.500	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

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
				0.95/2.00	5957	10–11				
				0.90/2.00	5956	11–12			CLAYSTONE	Color change to light gray (N7), trace amounts of carbonaceous material. Clay
				0.00/1.00	5955	12–13			NO SAMPLE	NO SAMPLE
				1.30/1.00	5954	13–14			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.
				1.40/2.00	5953	14–15			CLAYSTONE	Same as above. Trace amounts of carbonaceous material. Abundt hematite staining. Clay
				1.70/2.00	5952	15–16			CLAYSTONE	Same as above. Trace of carbonaceous material, mod. plasticity, no silt, mod. weathered. Clay
					5951	16–17			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
					5950	17–18				
					5949	18–19				
					5948	19–20				

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	

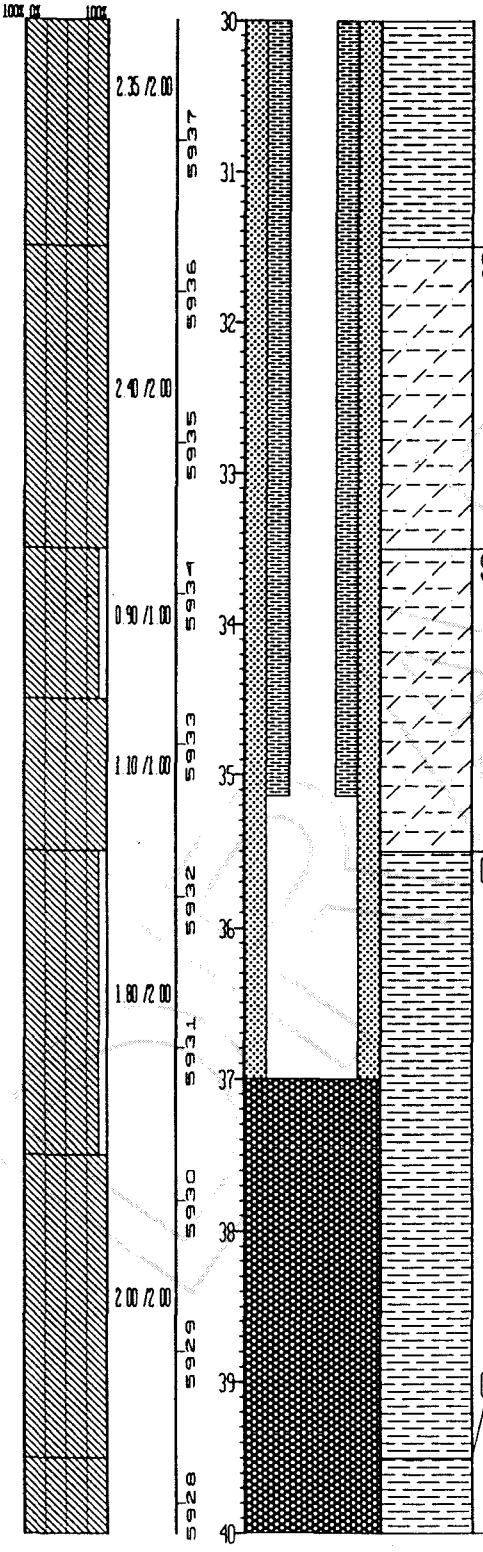
REMARKS: Hollow Stem Auger. Set stainless steel centralizer from 34.62' to 35.82' below ground surface. ASI Log.

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
				1.40/2.00	5947	20, 21				
				1.90/2.00	5946, 5945	22, 23			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.
	B206589A									
	B206589B			1.10/1.00	5944	24			CLAYSTONE	Color change to pred. yellowish gray (5 Y 7/2), med. plasticity, no silt, trace carbonaceous material, some Fe (Hematite) staining. >95% fines.
				0.65/1.00	5943	25			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.
				1.10/2.00	5942, 5941	26, 27	05/05/89		CLAYSTONE	Screen sampled this interval, 100% passed 200 screen, no apparent silt in 200 fractions, fines, med. plasticity.
				1.20/2.00	5940, 5939	28, 29			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.
					5938	30			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 centralizer 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 dissiminated 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:	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

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	5927	40				
						41				
					5926	42				Total Drilled Depth = 41.5'
					5925	43				
					5924	44				
					5923	45				
					5922	46				
					5921	47				
					5920	48				
					5919	49				
					5918	50				

DRAFT

WELL COMPLETION INFORMATION

QA By/Date Janell Burman / 5-10-89

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.

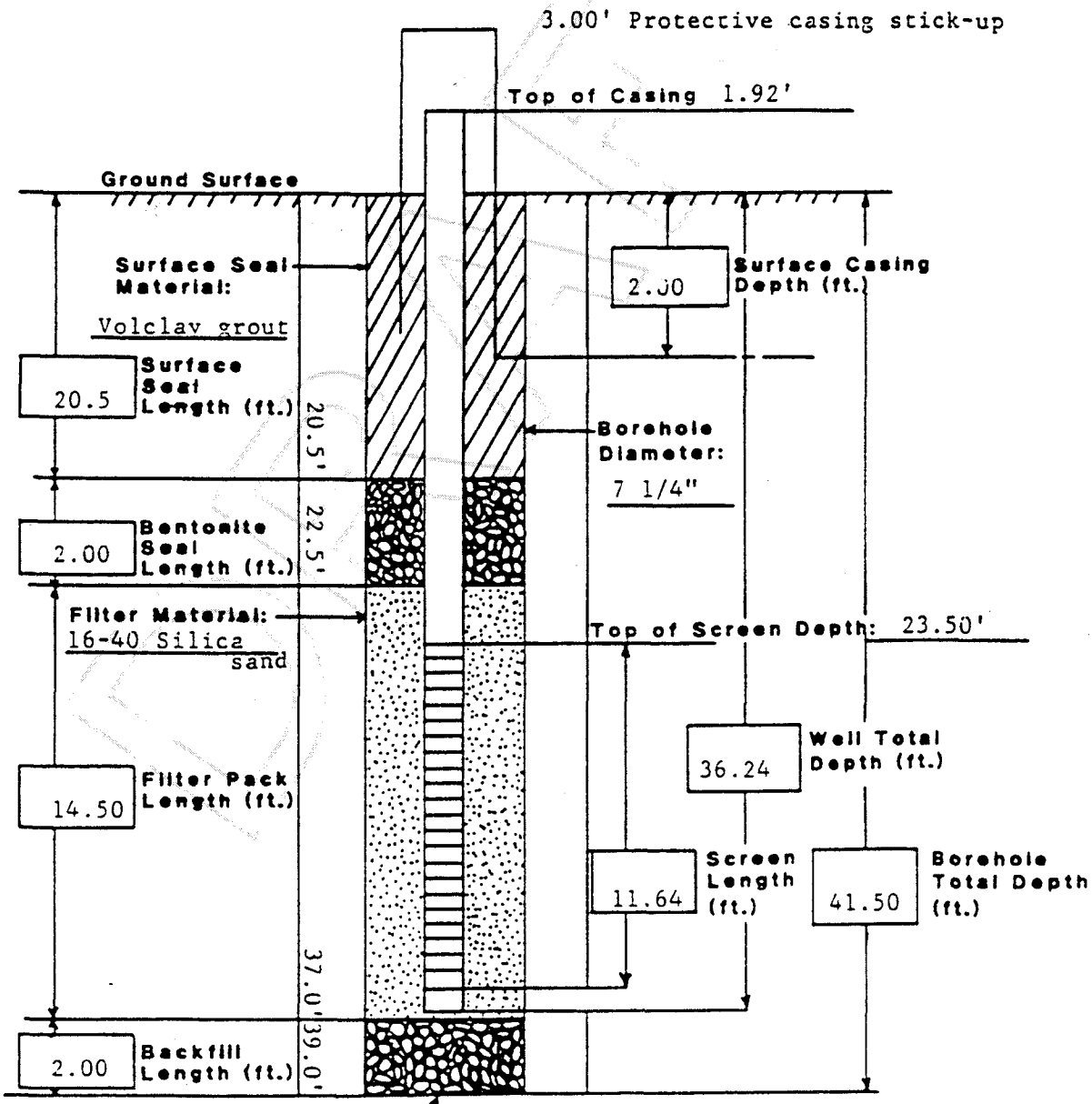
Date Installed 05/05/1989

Approved By Janell Burman
Site Manager

Installed By R.T. Treat
Geologist

CEARP Manager

Comments Set stainless steel centralizer from 34.62' to 35.02' below ground surface.

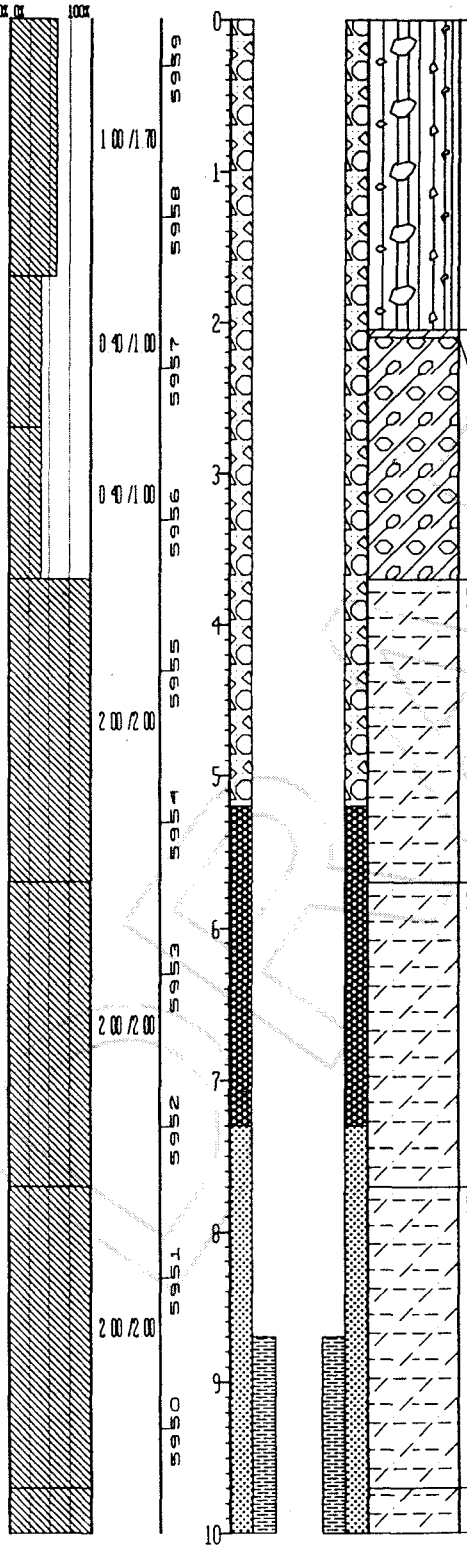


Backfill Material: 1/4" Volclay bentonite pellets

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: EMH	B206689
EAST	2084361	LOCATOR NUMBER: L12	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 04/28/89	

REMARKS: Hollow Stem Auger. Weston Log

CRITICAL 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

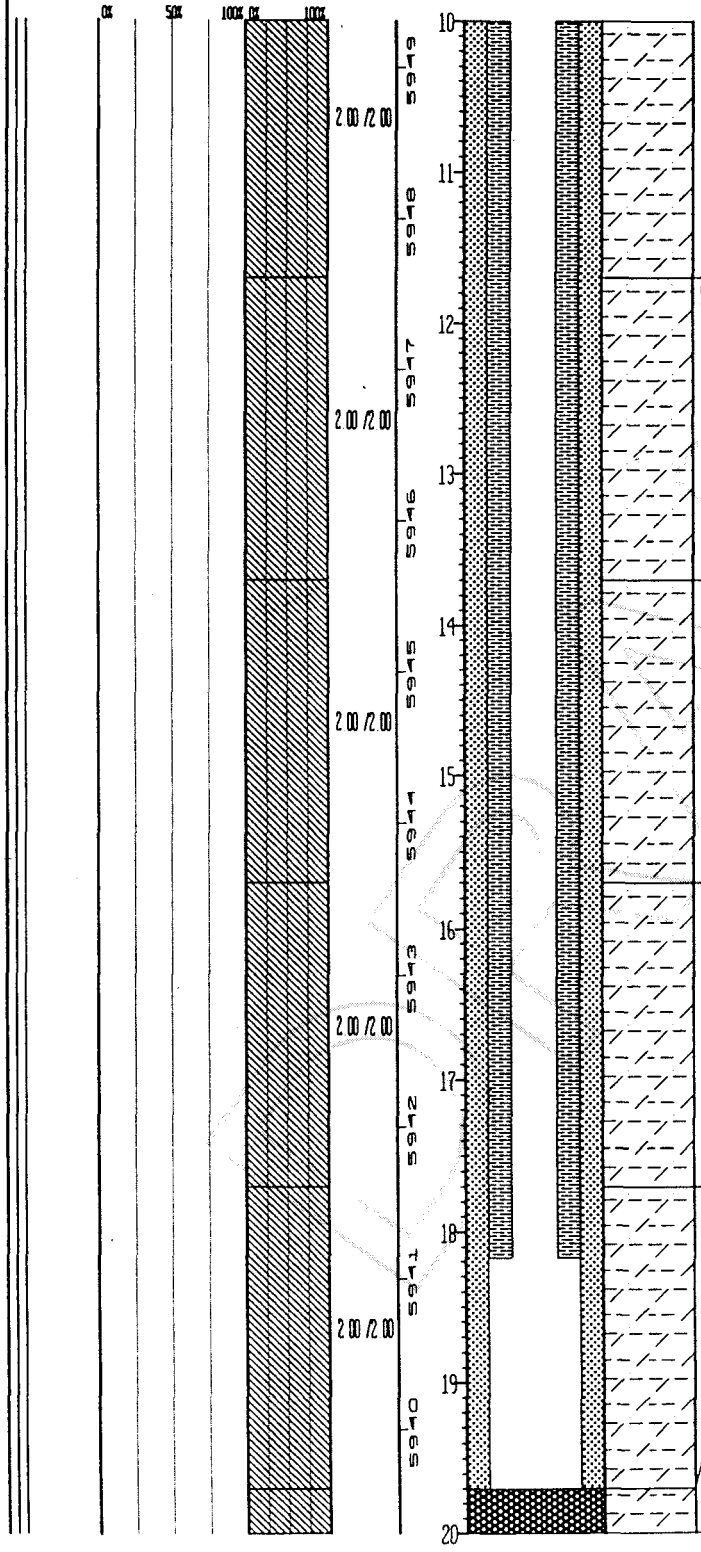


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GM	Silt, Sand and Gravel - grayish brown (5 YR 3/2). V.f.g. to c.g. sand. Fine to coarse gravel, sub-angular, granitic very loose. Humic, grass and roots, damp.
CL	Silty Clay - pale brown (5 YR 5/2), mod. plastic, soft, moist.
GC	Gravel, Cobbles and 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 10 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 0.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	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	5939 5938 5937 5936 5935 5934 5933 5932 5931 5930	20 21 22 23 24 25 26 27 28 29 30				Total Drilled Depth = 21.7'

DRAFT

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.

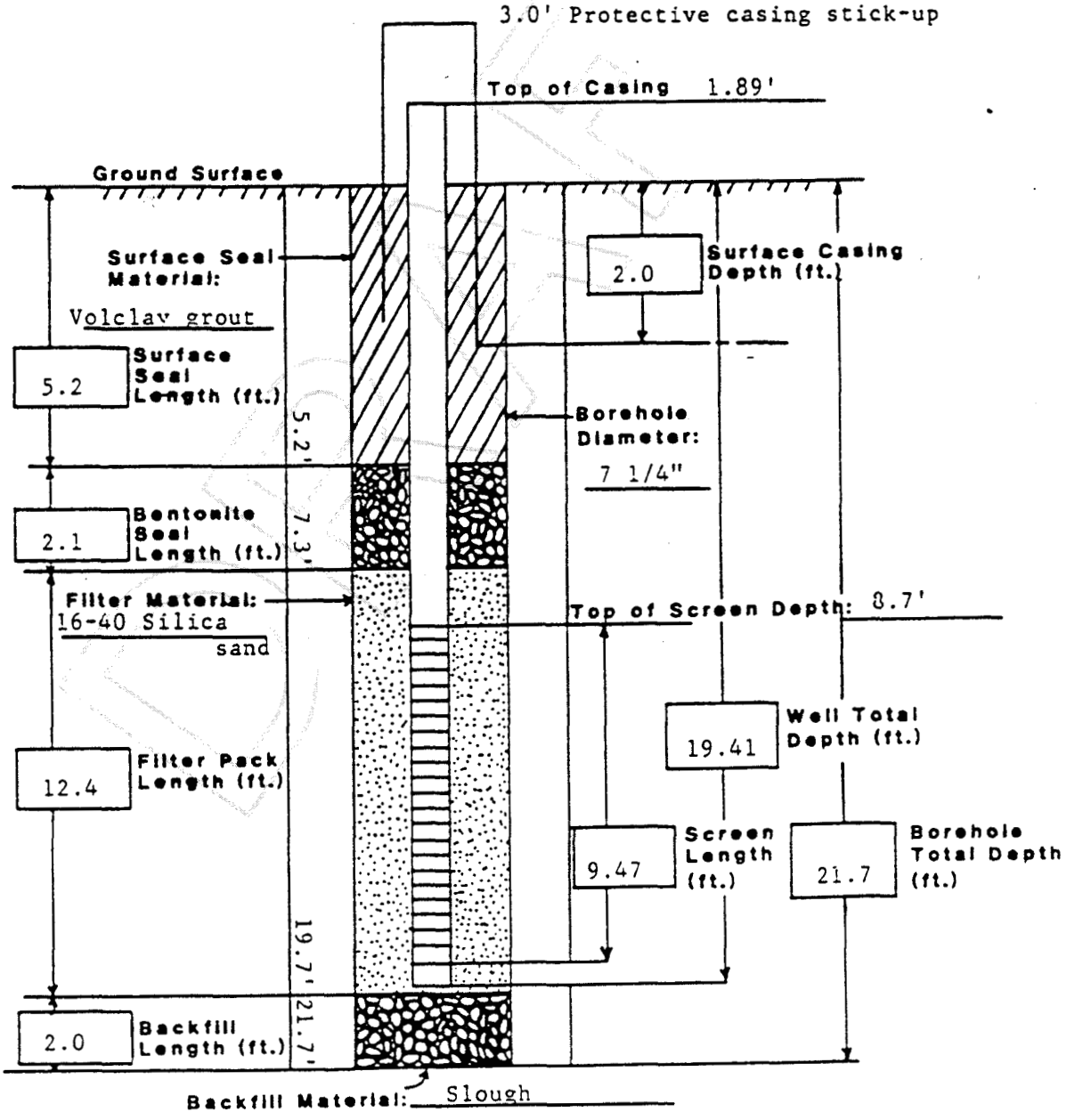
Date Installed 04/28/1989

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	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			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.
	LF09998002			1.50 /2.00	5927	1			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.
	LF09998003				5926	2			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?)
				1.60 /2.00	5925	3				
					5924	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.
	LF09998016			1.90 /2.00	5923	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	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	7				
	LF09998011				5920	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.
	LF09998010			2.00 /2.00	5919	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	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 0 0	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
				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)
	LF09899R1214			2.00 /2.00	5915	12–13			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
	LF09899R1117			2.00 /2.00	5913	14–15			CLAYSTONE	Same as above - med gray (N 5/0) to light olive gray (5 Y 5/2) with occasional bands of iron oxide staining
	LF09899R1618			2.00 /2.00	5911	16–17			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	5909	18–19			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
					5908	19–20			CLAYSTONE	Same as above (reference interval 18 0' to 18 4') Light olive brown (5 Y 5/6) to med gray (N 5/0)

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	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	5907	20–21			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.
				2.00/2.00	5906	22			CLAYSTONE	Same as above - light olive gray (5 Y 5/2) to med. gray (N 5/0)
				2.00/2.00	5905	23				
				2.00/2.00	5904	24			CLAYSTONE	Same as above - dark gray (N 4/0)
				2.00/2.00	5903	25				
					5902	26			CLAYSTONE	Same as above - light olive brown (5 Y 5/6) to dark gray (N 4/0). Banded due to iron oxide staining
				2.00/2.00	5901	27			CLAYSTONE	Same as above - light olive brown (5 Y 5/6), grading to olive/black (5 Y 2/1)
					5900	28			CLAYSTONE	Same as above - light olive brown (5 Y 5/6) to med. dark gray (N 4/0) Total Drilled Depth = 30.0'
				2.00/2.00	5899	29				
					5898	30				

WELL COMPLETION INFORMATION

QA By/Date Jarell 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.

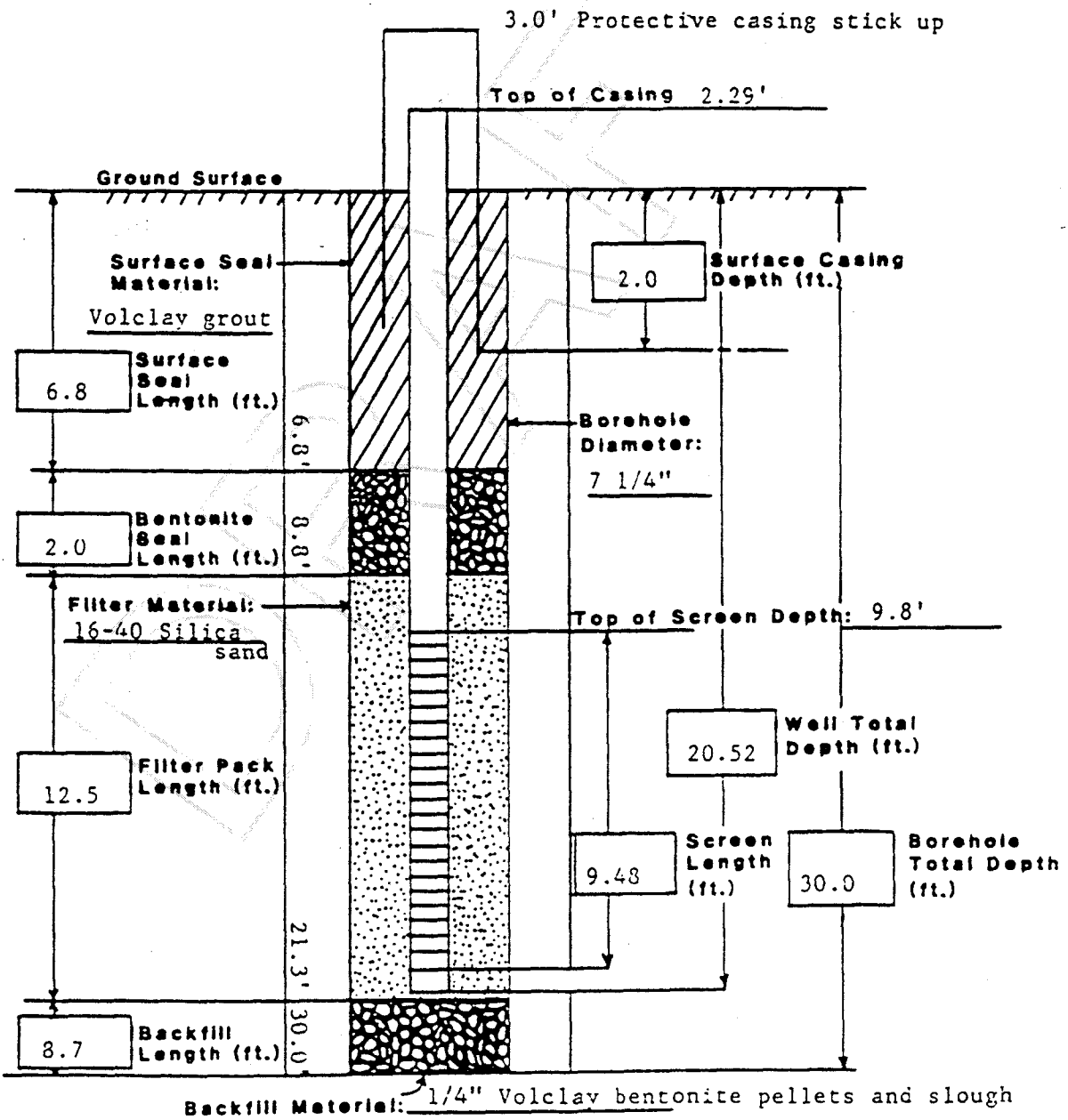
Date Installed 05/23/1989

Approved By Jarell Burman
Site Manager

Installed By S.P. Carpenter
Geologist

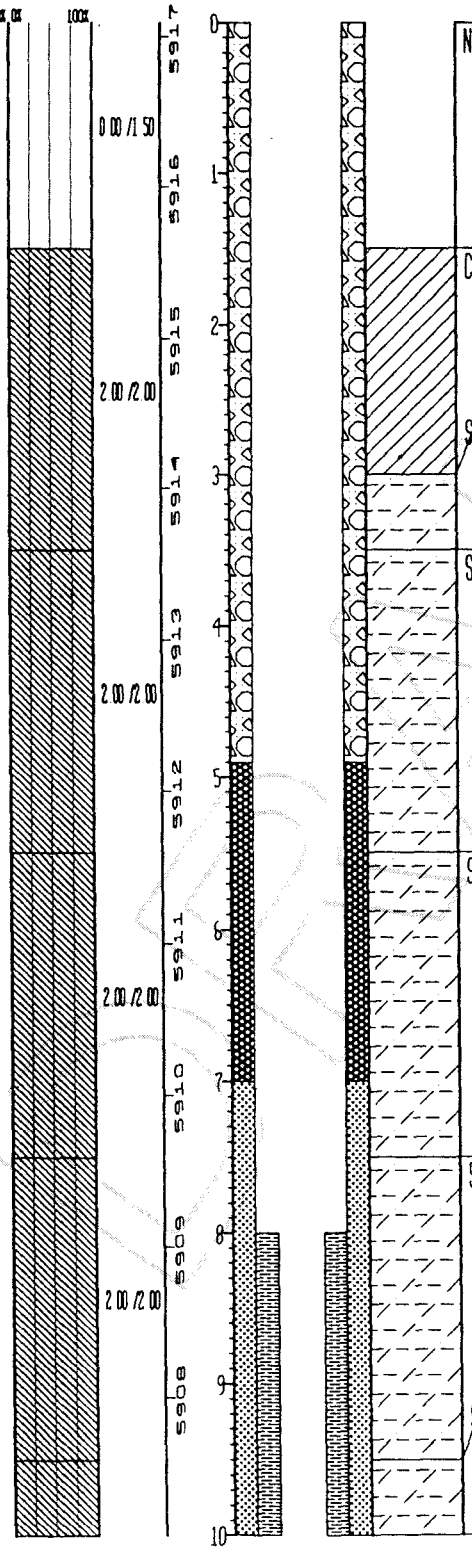
CEARP Manager

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



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

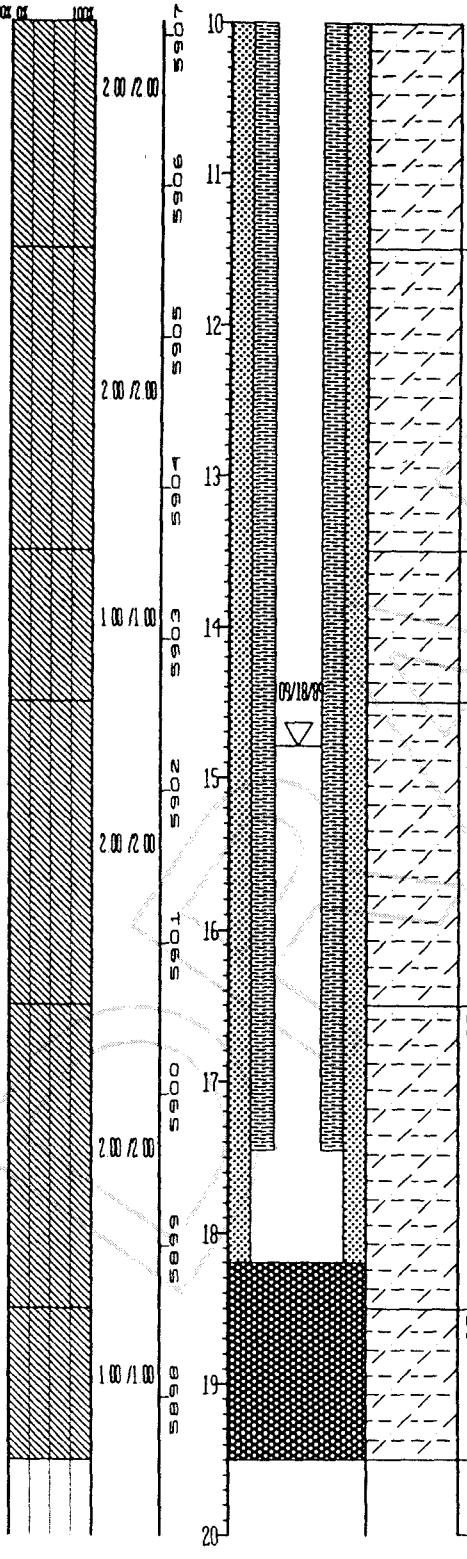


NO SAMPLE:	Note: 2.5' cobble in shoe, no recovery.
CL:	Silty Clay - dark yellowish brown (10 YR 4/2). Some v.f.g. to m.g. sub-angular sand. Fine roots, stiff, damp.
SILTY CLAYSTONE:	Top of Bedrock. Brownish gray (5 YR 4/1). Laminated, frequent Lignite layers (<1 mm.), occasional calcite (calcareous) 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 Farrell Bryman 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.

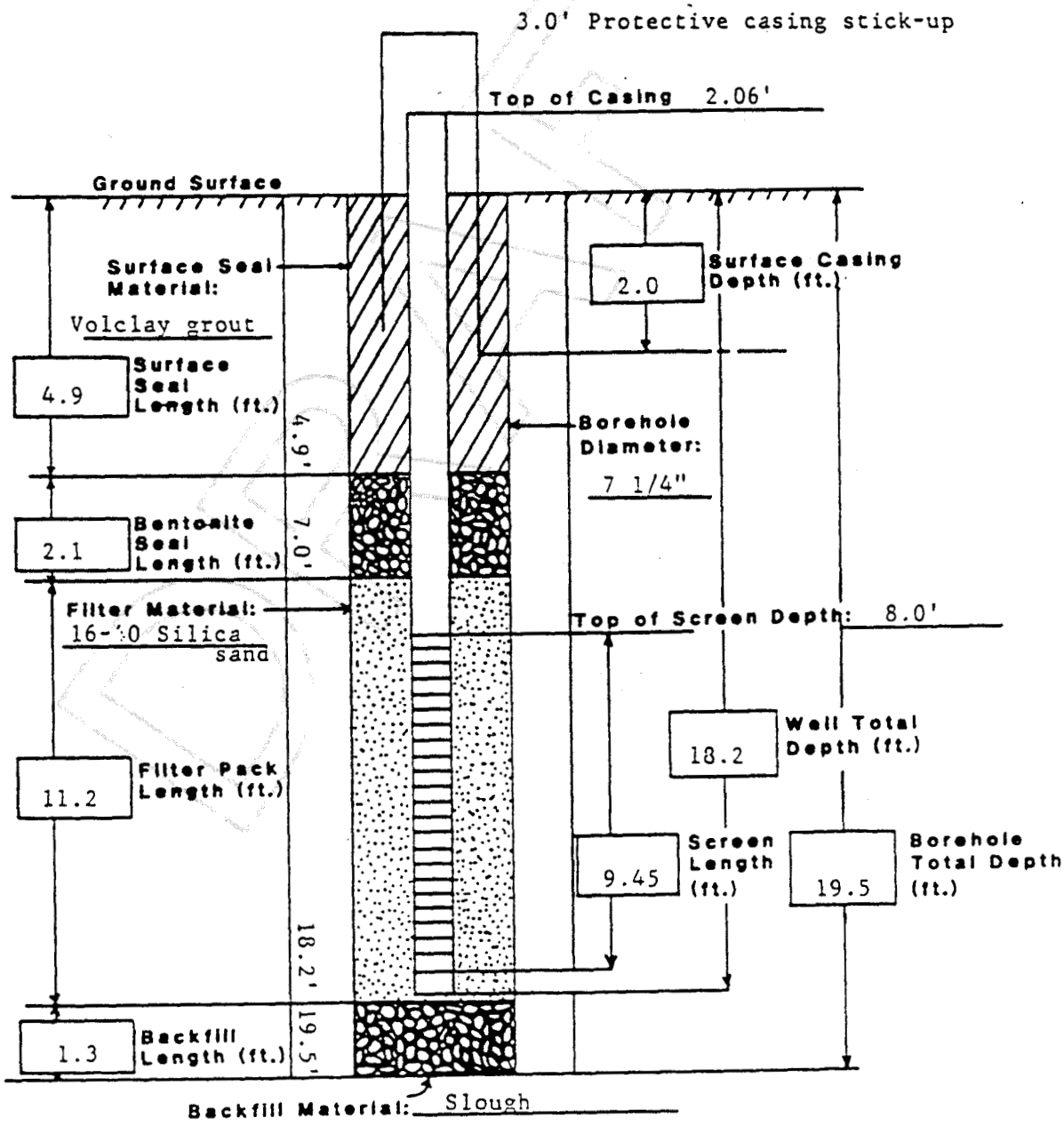
Date Installed 04/27/1989 **Approved By** Farrell Bryman

Installed By E.M. Hill
Geologist

Site Manager

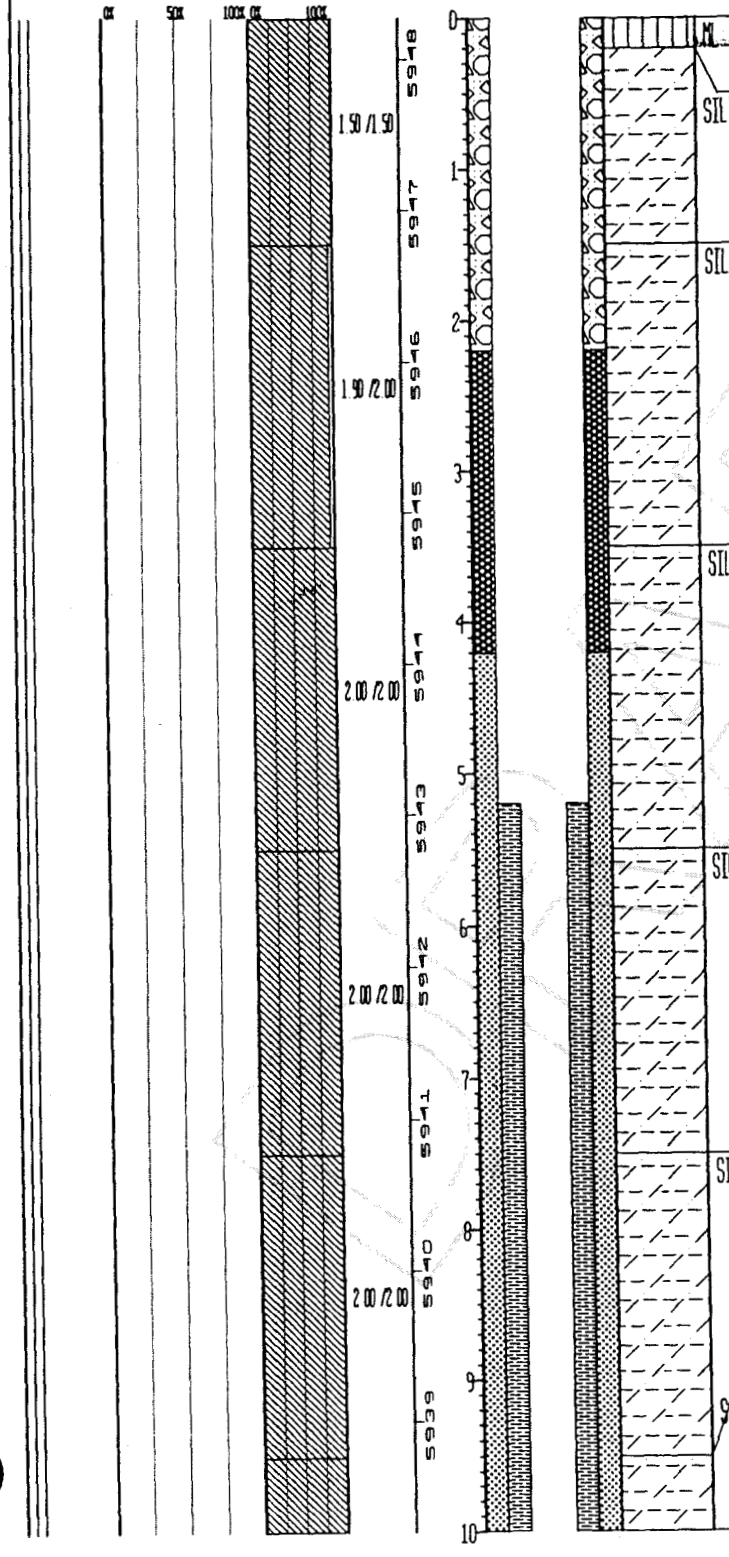
CEARP Manager

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					

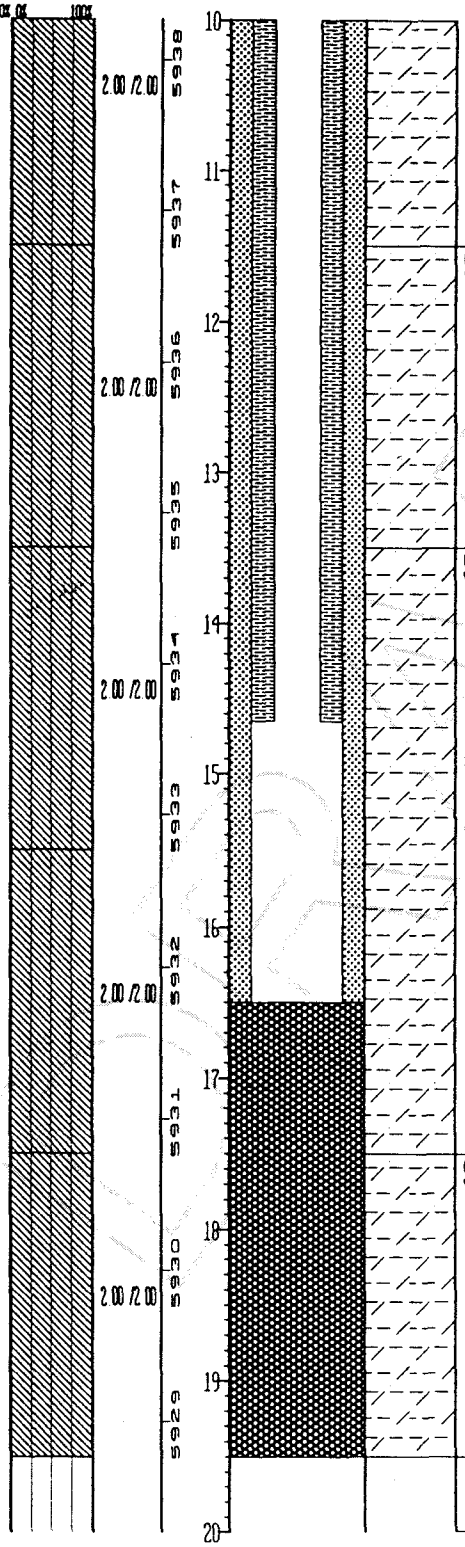
CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
ML	Silt - grayish brown (5 YR 3/2). Humic, rooted, loose, damp.
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
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
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
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
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
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

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 19.5		GROUND ELEVATION (FT):	5998.27	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	753267	AREA: LANDFILL		CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	EMH/RTT
EAST:	2084360	LOCATOR NUMBER:	L13	BOREHOLE DIAMETER (IN):	8-5/8	DATE DRILLED:	04/27/89
REMARKS: Hollow Stem Auger Weston Log							B207289

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	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
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
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
	Total Drilled Depth = 19.5'

WELL COMPLETION INFORMATION

QA By/Date Jodell Bussman 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.

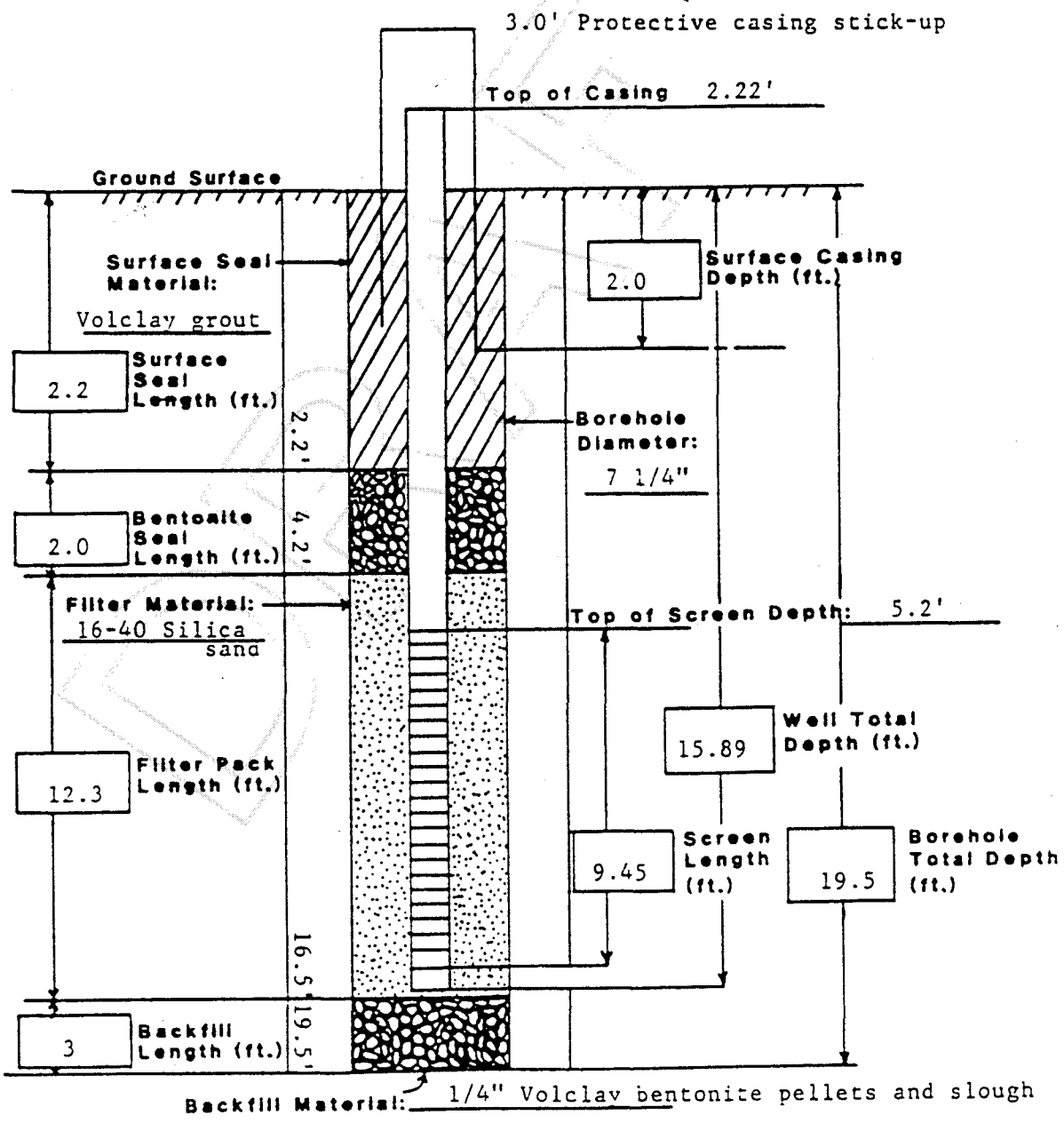
Date Installed 04/28/1989 **Approved By** Jodell Bussman

Installed By E.M. Hill
Geologist

Site Manager

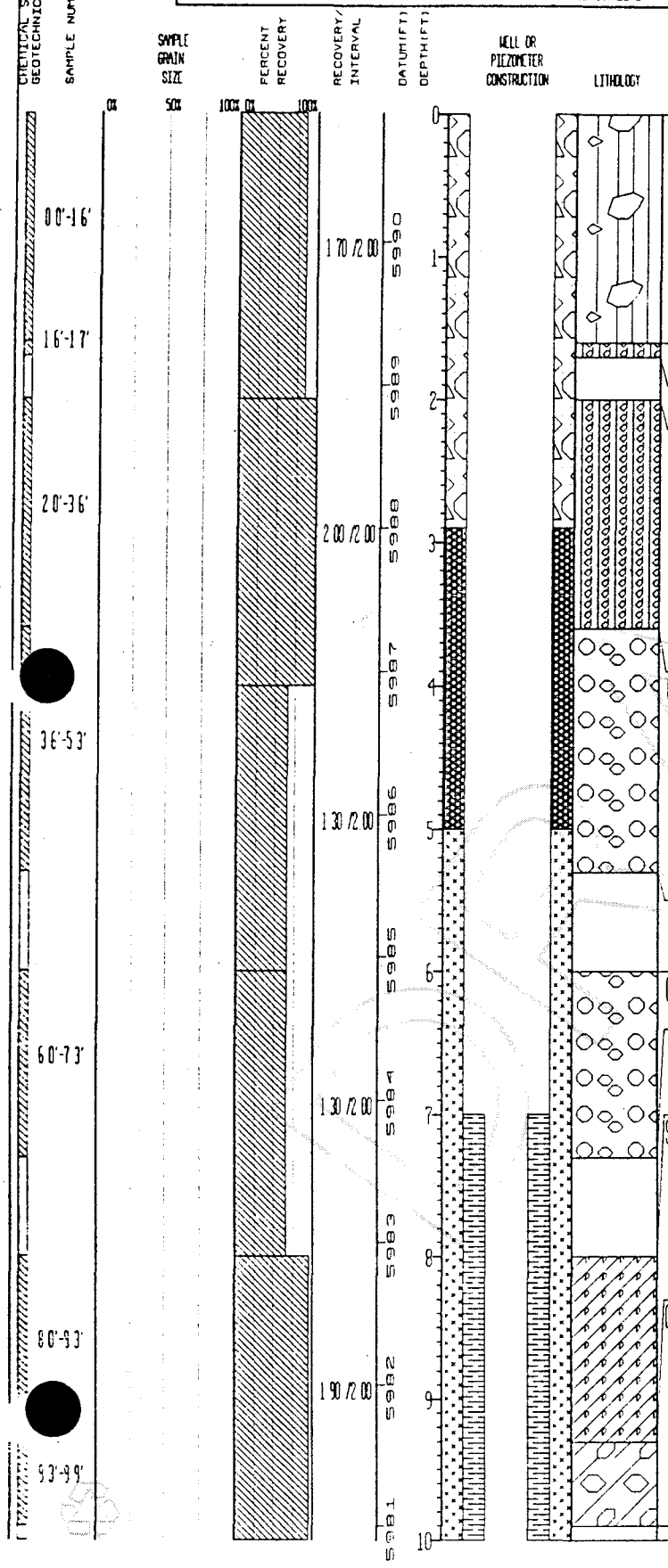
CEARP Manager

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



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 sub-rounded, 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

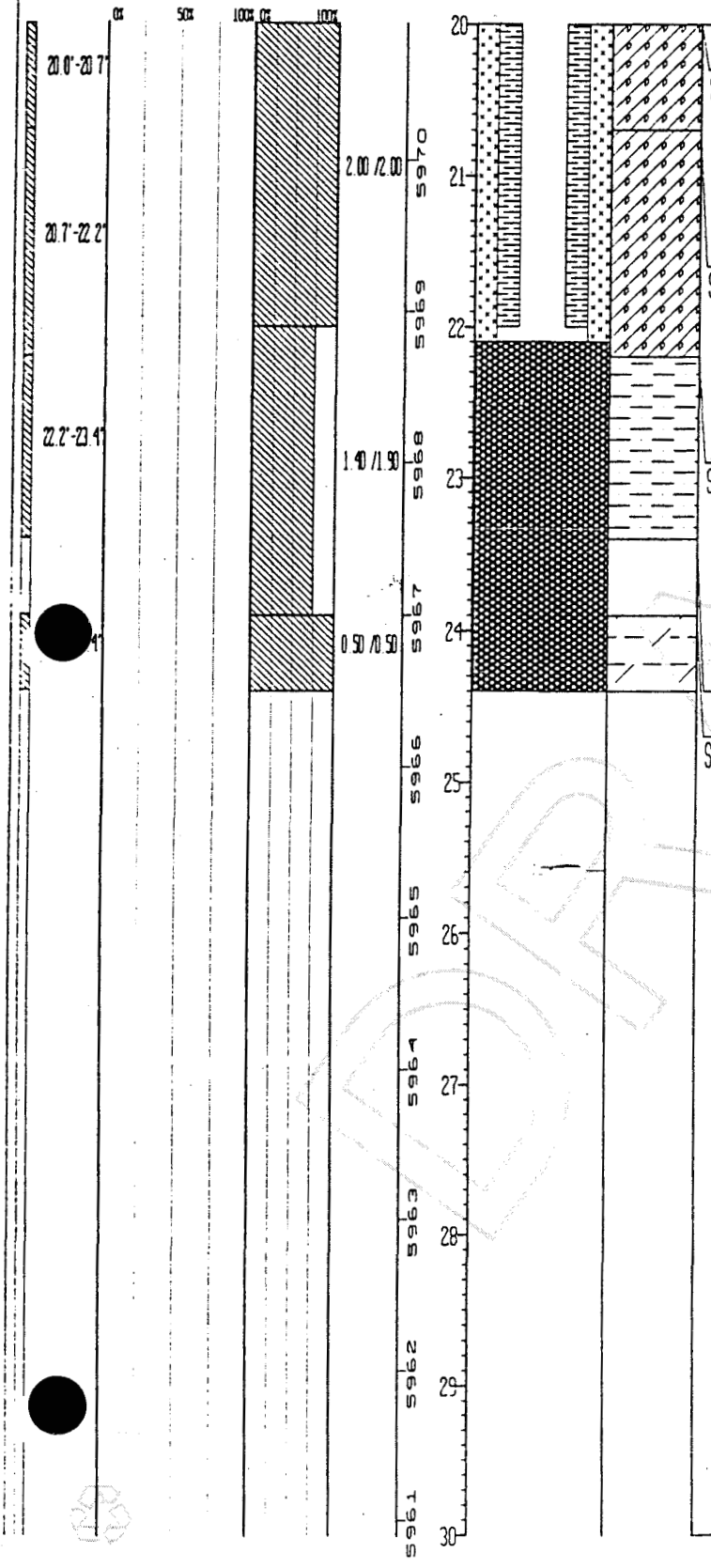
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 24.4	GROUND ELEVATION (FT) 5990.90	PROJECT NUMBER 989073	LOG OF BORING NUMBER
NORTH	752675	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70093
EAST	2082657	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 7	DATE DRILLED 01/12/93	

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 SAMP. 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
					5975	12				No core recovery (11.8'-12.0')
	12.0'-13.1'			1.10/2.00	5970	13			GC	Same as above Strong brown (7.5 YR 5/6) below 12.0')
					5965	14				No core recovery (13.1'-14.0')
	14.0'-17.8'			2.00/2.00	5960	15	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	5955	16				
					5950	17				No core recovery (17.8'-18.0')
	18.0'-19.6'			1.60/2.00	5945	18			GC	Same as above Saturated between 18.0'-18.6'
					5940	19				No core recovery (19.6'-20.0')
						20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 24.4	GROUND ELEVATION (FT)	5990.90	PROJECT NUMBER	999073	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	

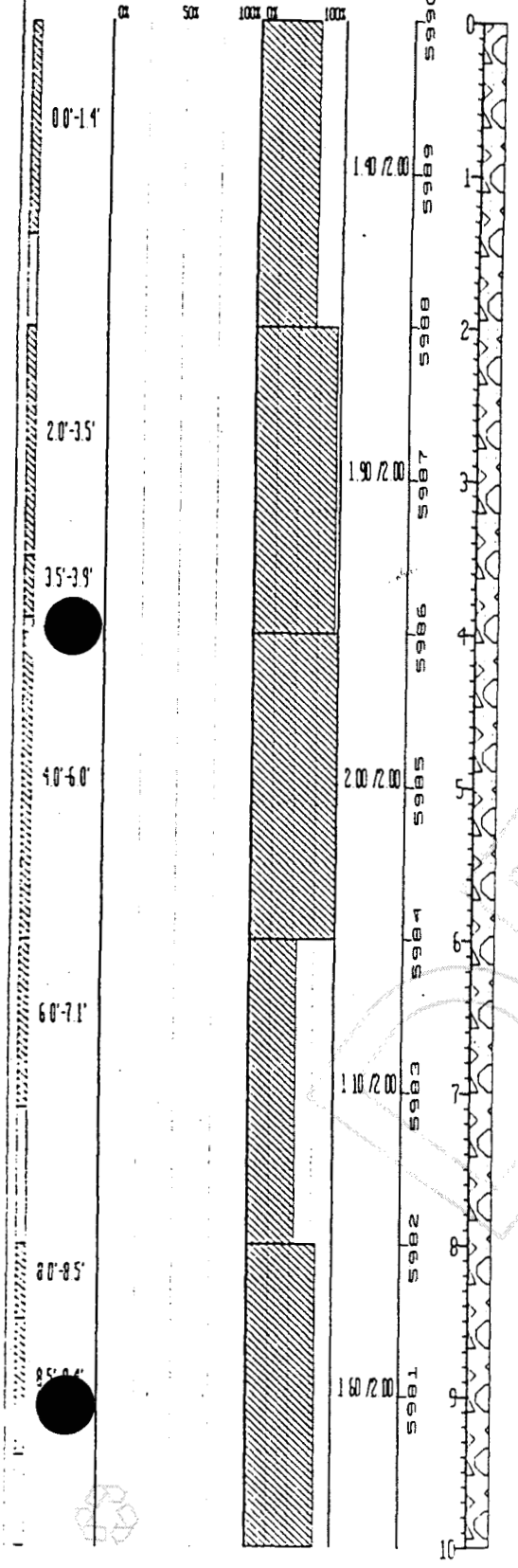
REMARKS MOBIL DRILL B-57. HSA. CEMENT GROUT 0.0'-2.9', BENTONITE SEAL 2.9'-5.0', SAND 5.0'-22.1'. NATURAL BACKFILL 22.1'-24.4'. CENTRALIZERS PLACED 3.0' AND 23.9'. 2.0' SUMP 22.0'-24.0'. DEPTH TO BEDROCK 22.2'



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	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 OUT PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70193
EAST	2082674	LOCATION 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'



WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	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=2 1/2", mean=1 1/2" diam), very fine to coarse sand (mean=medium) in clayey silt matrix. Well graded subangular to subrounded gravel and sand composed mainly of quartzite and quartz with some granite, feldspar, metamorphic frags. Not bedded, slightly moist. 65% Gravel, 20% sand, 10% silt, and 5% clay
			No core recovery (1.4'-2.0')
		SM	Gravelly sand with some silt and clay. Reddish brown (2.5 YR 4/4). Fine to medium gravel (max=2", mean=3/4" diam), very fine to coarse sand (mean=medium), in a silty clay matrix. Well graded. Angular to subangular gravel and sand comprised of granite, quartzite, schist, and quartz. Gravel strongly weathered and often ground to powder. Not bedded, moist. 39% Gravel, 43% sand, 13% silt, and 5% clay
		GW	Sandy Gravel. Light olive brown (2.5 Y 5/3). Fine to coarse gravel (max=2", mean=1 1/4" diam), angular to subrounded. Very fine to coarse sand (mean=coarse), subangular to subrounded. Gravel and sand mainly composed of rock frags, weathered granite, schist, and quartzite. Not bedded, slightly moist. 45% Gravel, 46% sand, 7% silt, 2% clay
			No core recovery (3.9'-4.0')
		GW	Same as above
		SM	Gravelly sand with some silt. Light olive brown (2.5 Y 5/6 to 2.5 Y 6/4). Coarse to fine gravel (max=2 1/2", mean=1" diam) and very fine to coarse (mean=coarse) sand, in clayey silt matrix. Well graded. Angular to subrounded gravel and sand composed of quartzite, quartz, granite, schist, with some sand of feldspar and mafic minerals. Not bedded, moist. 30% Gravel, 45% sand, 16% silt, 9% clay
			No core recovery (7.1'-8.0')
		SM	Same as above
		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) and very fine to coarse sand (mean=fine) in silty clay matrix. Well graded. Angular to subangular sand and gravel composed of quartzite, quartz, granite, and feldspar. Not bedded, moist. 21% Gravel, 39% sand, 28% clay, and 12% silt
			No core recovery (9.4'-10.0')

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	2062674	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'

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	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
						10				No core recovery (9.4'-10.0')
10.0'-11.3'				1.30/2.00	5979	11			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.
					5978	12				No core recovery (11.3'-12.0')
12.0'-13.9'				1.90/2.00	5977	13			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.
					5976	14	01/28/93 ▽			No core recovery (13.9'-14.0')
14.0'-15.1'									GC	Same as above
				1.60/2.00	5975	15				
15.1'-15.6'									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.
16.0'-16.5'					5974	16				
16.5'-17.7'				1.70/2.00	5973	17				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'.
					5972	18				No core recovery (17.7'-18.0')
18.0'-19.0'									GC	Same as above. Saturated
				1.60/2.00	5971	19			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.
						20				

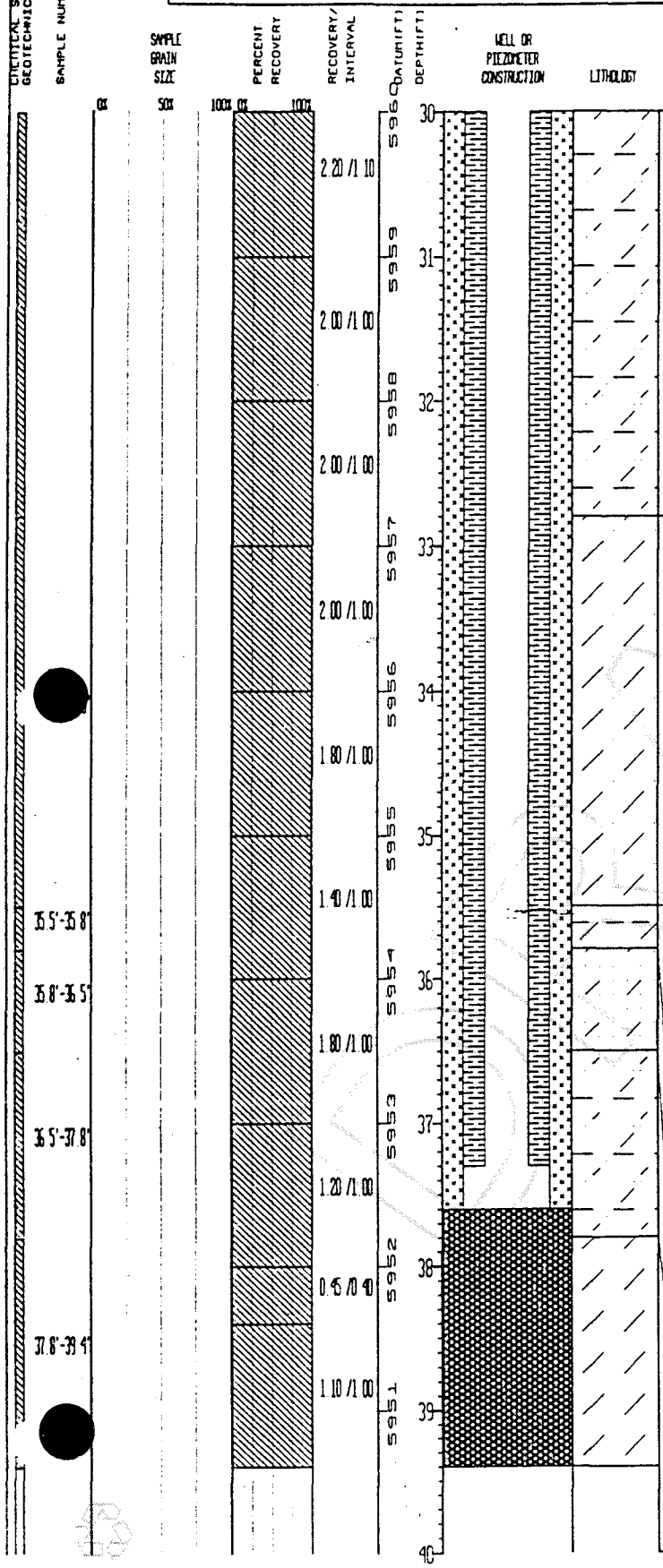
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 39.4	GROUND ELEVATION (FT) 5990.00	PROJECT NUMBER 999073	LOG OF BORING NUMBER
NORTH	752688	AREA 007 PRESENT LANDFILL	CASING DIAMETER (IN) 2	GEOLOGIST JAB/KJT	70193
EAST	2082674	LOCATOR NUMBER 12J	BOREHOLE DIAMETER (IN) 10.25	DATE DRILLED 01/15/93	

REMARKS MOBIL DRILL 8-57. 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 (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
19.5'-22.0'				2.00/2.00	5969	20–21	01/15/93		SILTY CLAYSTONE	Silty Claystone with trace of very fine sand. Light olive gray (5 Y 6/2) to olive yellow (2.5 Y 6/8) where stained by Fe-oxides, moderately sorted, porosity=18%, no cement, moderately to highly friable, massive claystone with mottled coloring due to weathering, increasing silt content with depth. Moist. 20% Silt and 80% clay.
22.0'-26.8'				2.20/2.00	5967	22–23			CLAYEY SILTSTONE	Clayey Siltstone with some very fine sand. Gray (5 Y 6/1) to light yellowish brown (2.5 Y 6/4) and olive yellow (2.5 Y 6/8), moderately sorted, porosity=20%-25%, no cement, highly to moderately friable, composed of varying proportions of clay and silt, siltstone often contains up to 10% of very fine sand, mottled coloring due to weathering, thin and irregular subparallel bedding to disturbed bedding, not fractured, moist to wet. 5% Sand, 65% silt, and 30% clay.
				1.00/1.00	5965	24–25				
				1.00/1.00	5964	25–26				
				1.40/0.90	5963	26–27				
26.8'-32.8'				1.70/1.00	5962	27–28			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
				1.10/1.00	5961	28–29				
				1.70/1.00		29–30				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 39.4	GROUND ELEVATION (FT)	5990.00	PROJECT NUMBER	959073	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'



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 (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'-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 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
				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
				5975	18				No core recovery (17 5'-18 0')
18 0'-18 3'								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)	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	

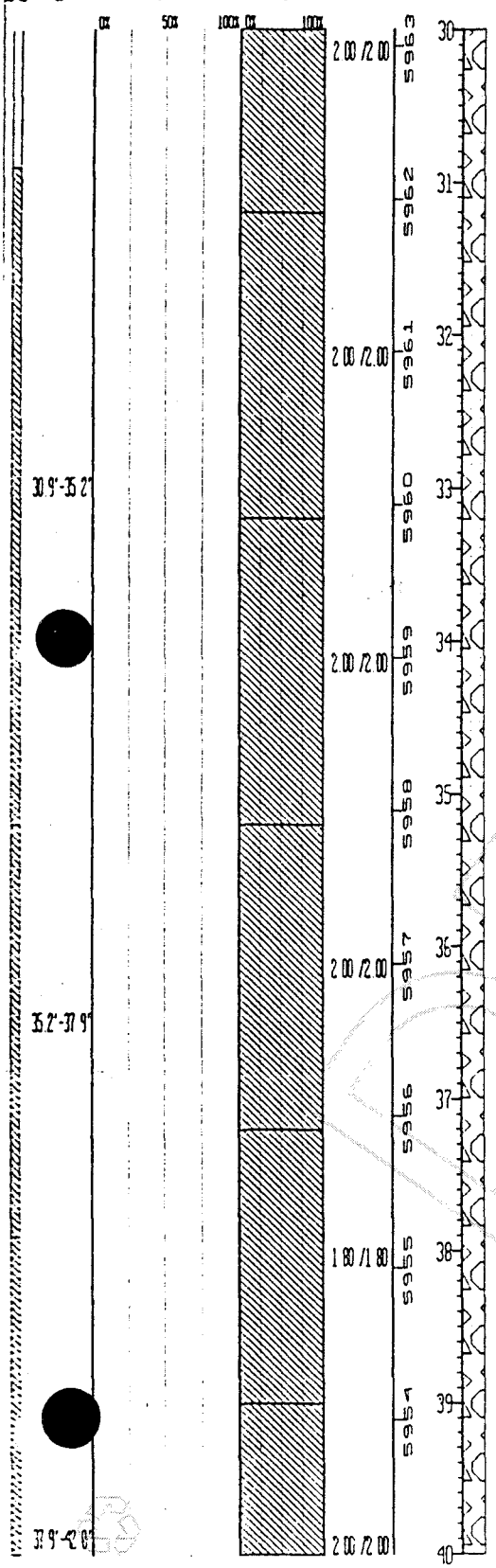
REMARKS MOBIL DRILL B-57, HSA. GROUT 0.0'-47.9', BENTONITE SEAL 47.9'-50.1', SAND 50.1'-69', NATURAL BACKFILL AND BENTONITE 69.0'-69.1'. CENTRALIZERS PLACED AT 9.6', 29.6', AND 47.1'. BOREHOLE DIAMETER 10.25" 0.0'-69.5' AND 3.0" 69.5'-73.3'. 2' SUMP 67.1'-69.1'. DEPTH TO BEDROCK 21.5'

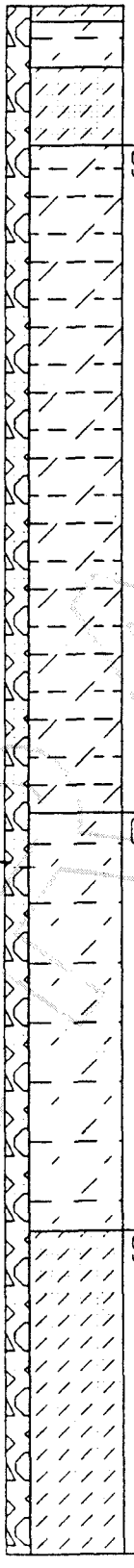
SAMPLE NUM.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					20				No core recovery (18.3'-20.0')
20.0'-21.5'								SM	Same as above. Top of bedrock 21.5'
			2.00/2.00	5972	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' is 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	01/20/93			
			2.00/2.00	5970	23				
21.5'-26.2'				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					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.
				5964	29				
					30				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 73.3	GROUND ELEVATION (FT)	5993.11	PROJECT NUMBER	929073	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 NUMB
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
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.
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.
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.

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 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 TP 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
			100%	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
				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 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'

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% 50% 100%	0% 100%	0 70 /2 00	5993	50				No core recovery (49 7'-51 0')
51 0'-51 9'					5992	51			SILTSTONE	Same as above, not disturbed
				0 90 /2 00	5991	52				No core recovery (51 9'-53 0')
53 0'-53 5'					5990	53			SILTSTONE	Same as above, not disturbed
				0 50 /1 00						No core recovery (53 5'-54 0')
					5989	54			SILTSTONE	Same as above, not disturbed
54 0'-57 0'					5988	55				
				4 35 /5 00	5987	56				
					5986	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'					5985	58				
										No core recovery (58 35'-59 0')
					5984	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 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 TP BEDROCK 21 5'

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%		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)
				5932	61				
			1.5 /5.00	5931	62				
59 0'-66 6'				5930	63				
				5929	64				
				5928	65				
			1.50 /1.50	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	

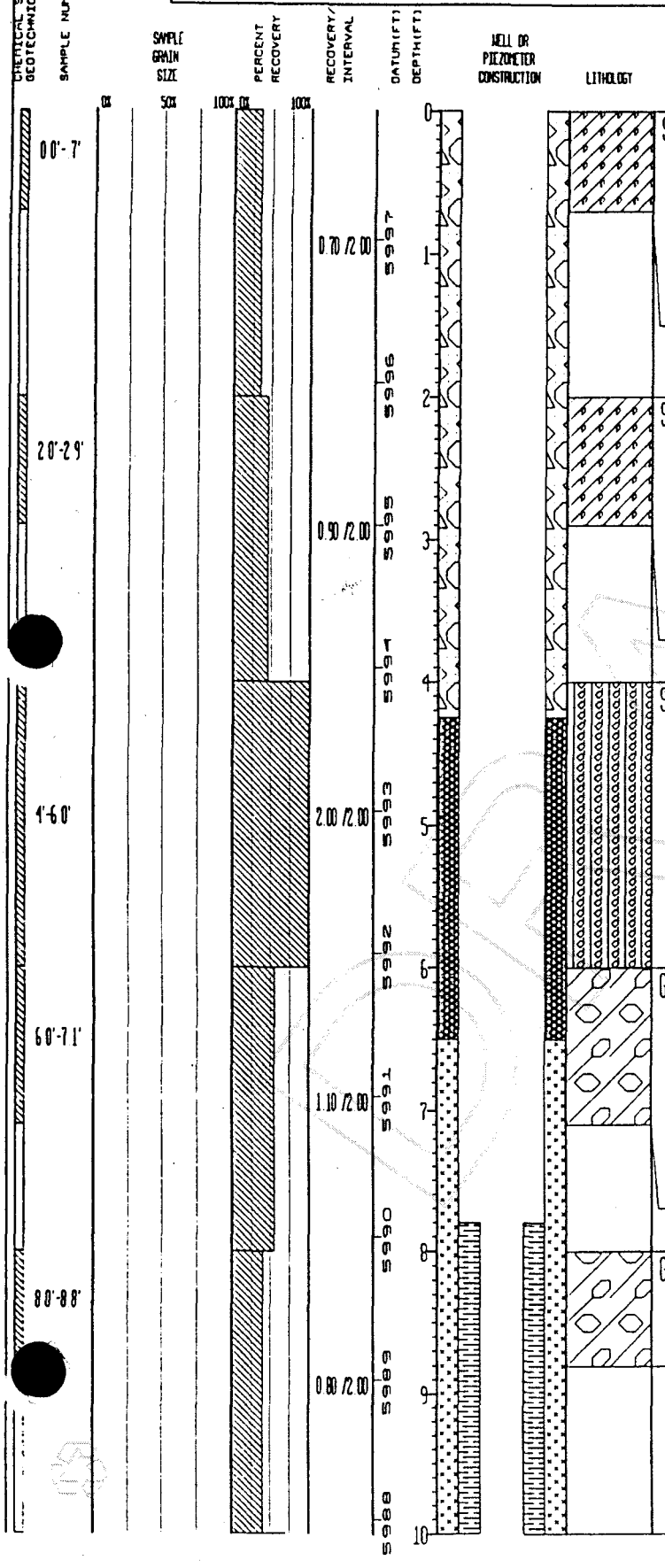
REMARKS MOBIL DRILL B-57, HSA, GROUT 0 0'-47 9', BENTONITE SEAL 47 9'-50 1', SAND 50 1'-69', NATURAL BACKFILL AND BENTONITE 69 0'-69 1', CENTRALIZERS PLACED AT 9 6', 29 6', AND 47 1', BOREHOLE DIAMETER 10 25" 0 0'-69 5' AND 3 0" 69 5'-73 3', 2' SUMP 67 1'-69 1', DEPTH TO BEDROCK 21 5'

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
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'

DRAFT

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	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. 15% Gravel, 67% sand, 7% clay, and 7% silt
	No core recovery (0.7'-2.0')
SC	Gravelly Clayey Sand. Grayish brown (2.5 Y 5/2), dark grayish brown (2.5 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
	No core recovery (2.9'-4.0')
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
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.
	No core recovery (7.1'-8.0')
GC	Same as above. See description 6.0'-7.1'
	No core recovery (8.8'-10.0')

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	

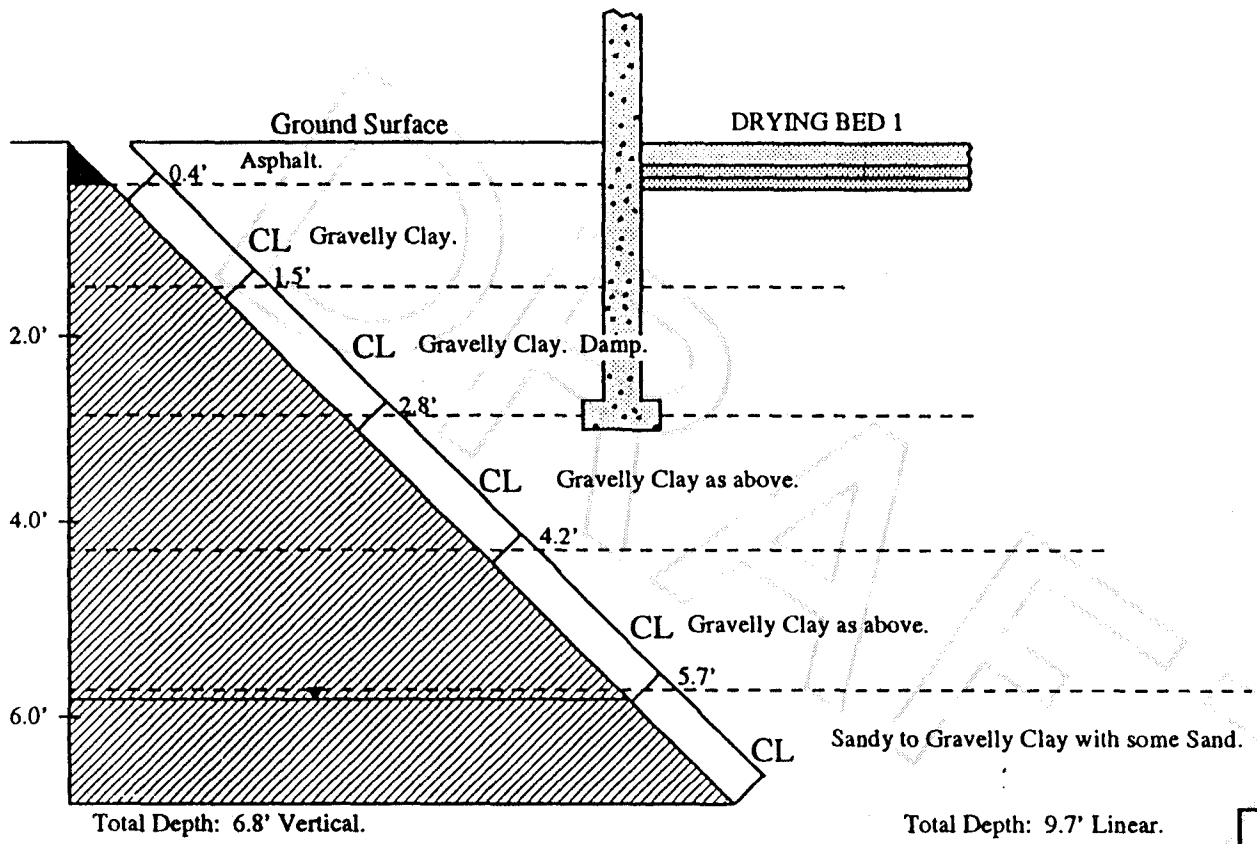
REMARKS MOBIL DRILL B-57, HSA, CEMENT GROUT 0 0'-4 25', BENTONITE SEAL 4 25'-6 5', SAND 6 5'-24 5', NATURAL BACKFILL 24 5'-26', CENTRALIZERS PLACED AT 3 8' AND 24 2', 2' SUMP 22 8'-24 8', DEPTH TO BEDROCK 22 8'

CRITICAL SAMPLE GEOTECHNICAL SP	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 0'-11 1'			1 10 /2 00	5987	10–11			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 sub-angular to subrounded, comprised of igneous rock frags and pegmatitic quartzite No bedding Slightly moist 30% Gravel, 50% sand, and 20% fines
	11 1'-11 4'									
	12 0'-12 9'			1 80 /2 00	5985	12–13			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
	12 9'-13 8'									
							02/02/93			No core recovery (11 4'-12 0')
							02/05/93		SC	Same as above See description 11 0'-11 4'
	14 0'-14 6'			0 60 /2 00	5983	14–15			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')
	16 0'-16 4'			0 40 /2 00	5981	16–17			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')
	18 0'-18 3'				5980	18			SC	Same as above See description 14 0'-14 6'
	18 3'-20 0'			2 00 /2 00	5979	19–20			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'

CHEMICAL SAMP. 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
	20.0'-22.8'			1.30/2.00	5977	20–21			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'.
					5976	22				
				0.90/2.00	5975	23			CLAYSTONE	Claystone. Top of bedrock 22.8'. See description below.
										No core recovery (22.9'-24.0').
					5974	24			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%. Argilloceous 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'.
	22.9'-26.0'			2.40/2.00	5973	25				
					5972	26				
					5971	27				
					5970	28				
					5969	29				
					5968	30				



LEGEND

CL
Unified Soil Classification

North
(View from East)

0 1 2 FEET

Scale: 1/2 inch = 1 foot
(drying bed not to scale)

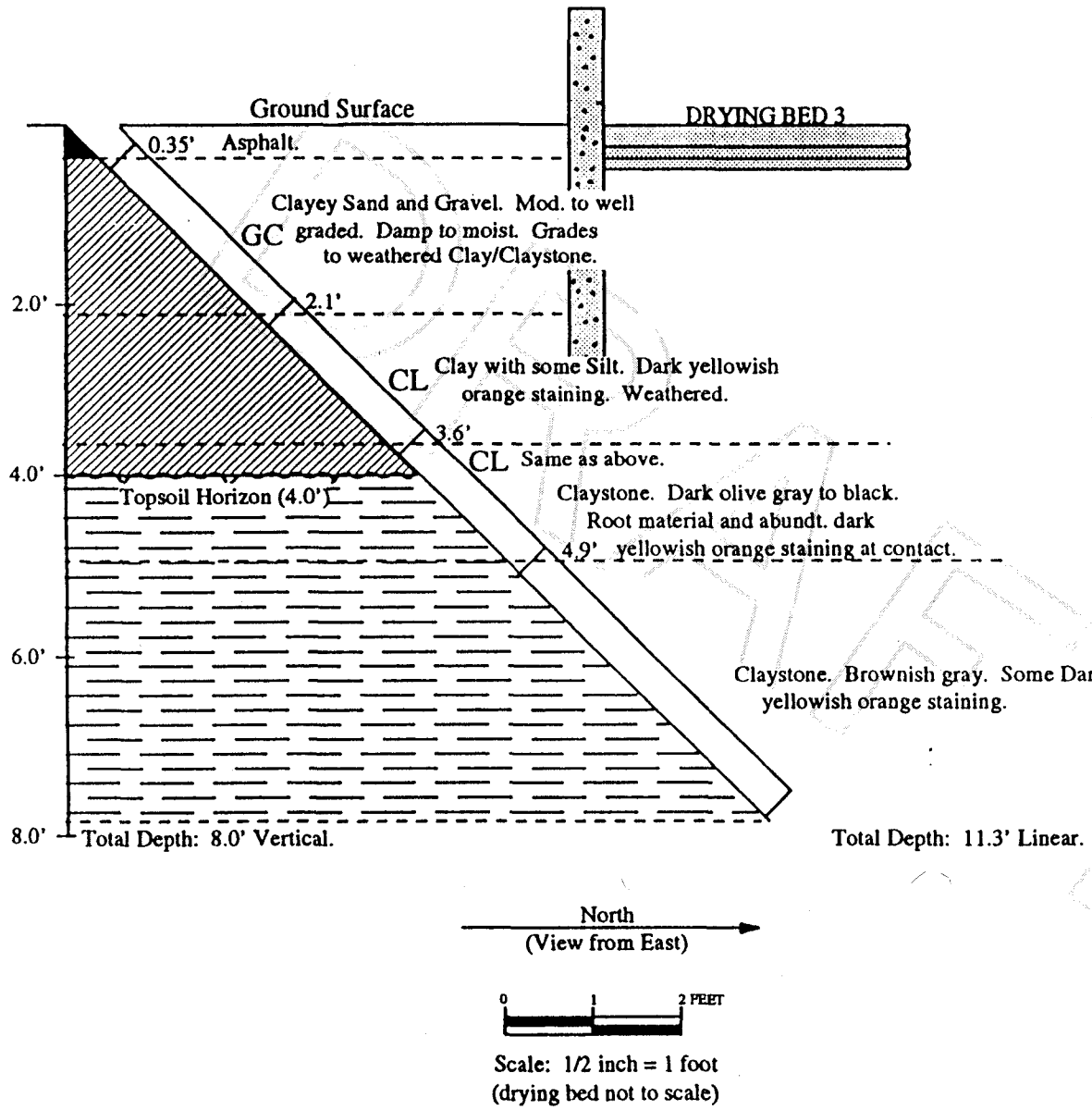
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

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

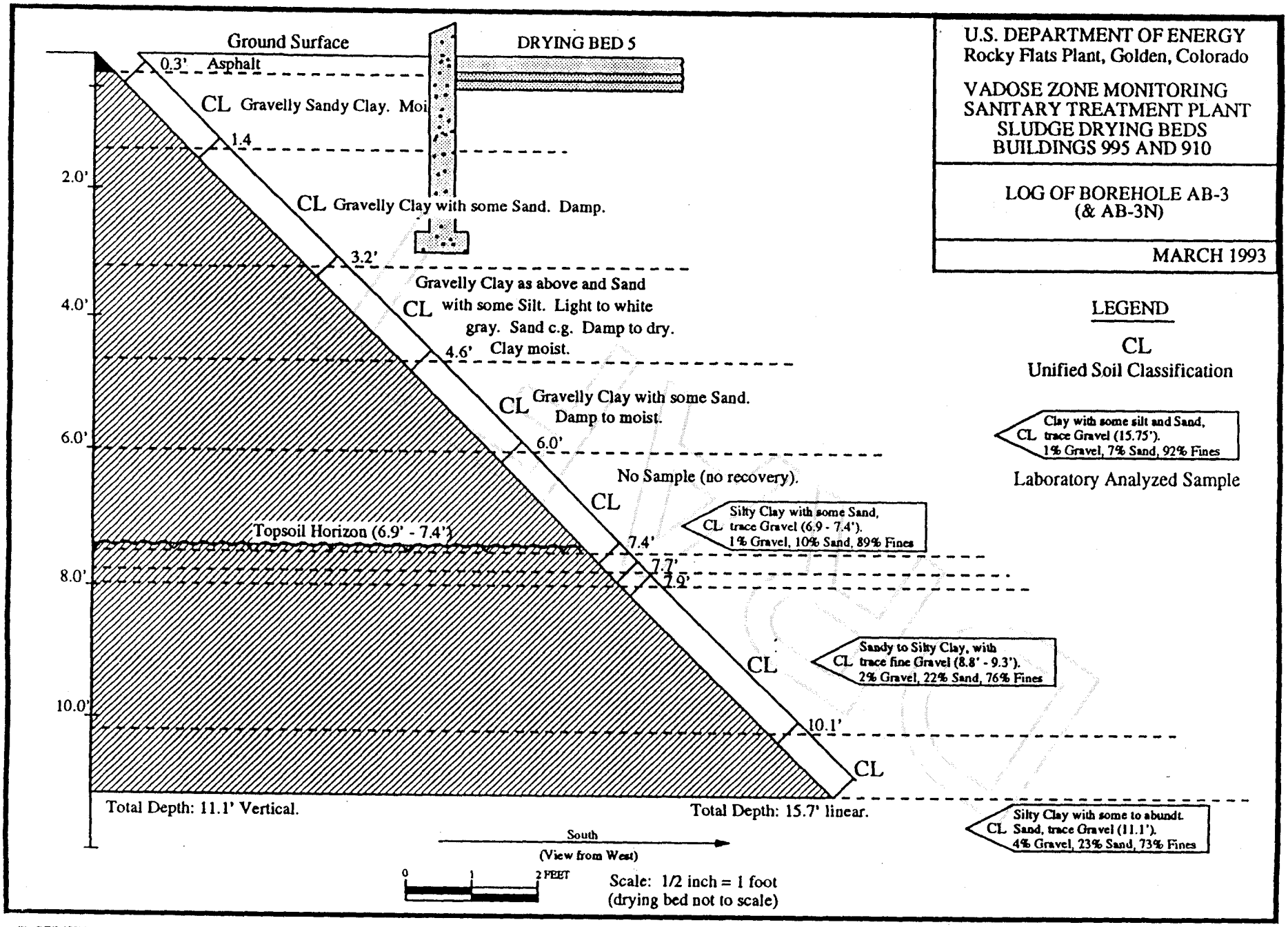
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

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

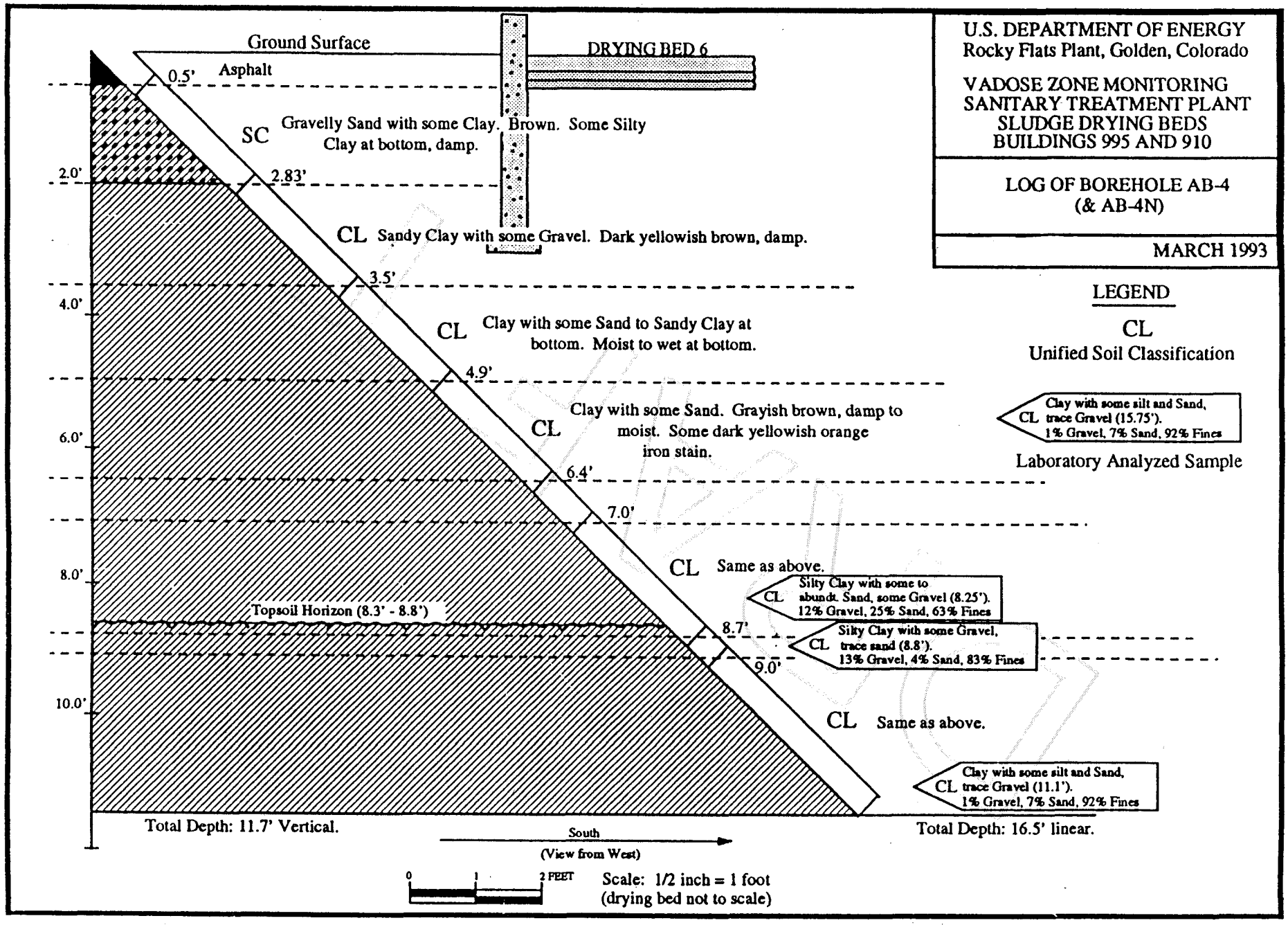
LOG OF BOREHOLE AB-2

MARCH 1993

(From DOE 1993 b)



(From DOE 1993b)



(From DOE 1993b)

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): 2.10	GEOLOGIST: DCB	19-86
EAST:	2083298	LOCATOR NUMBER: K10	BOREHOLE DIAMETER (IN): 7.5	DATE DRILLED: 09/11/86	

REMARKS: Hollow Stem Auger.

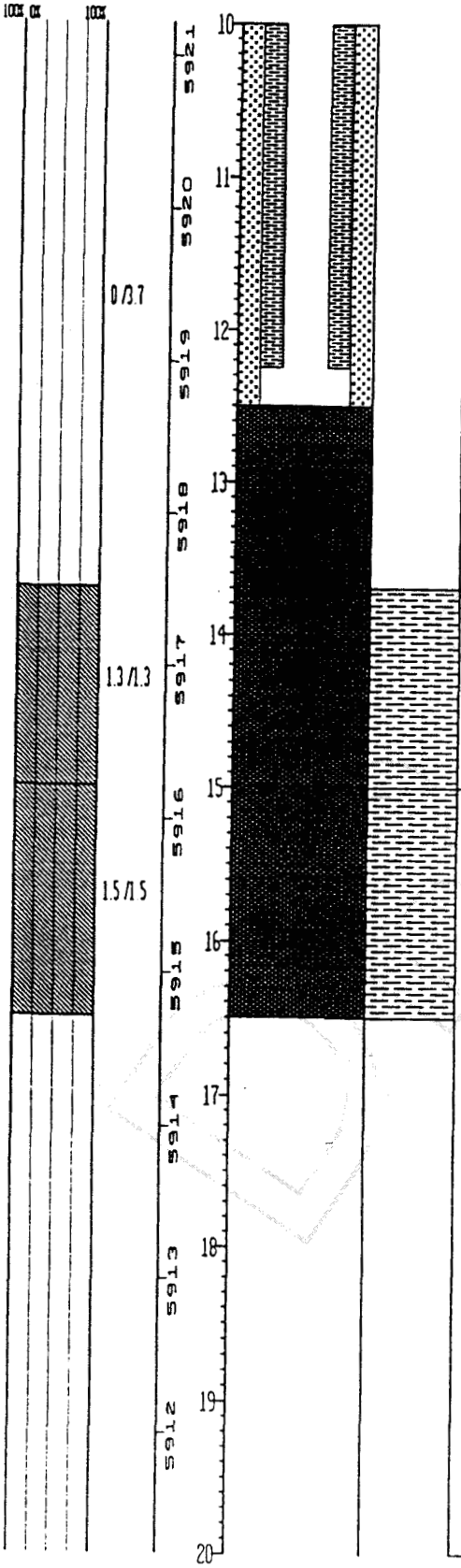
GRADATIONAL / SAMPLE DEPTH	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0%	50% 100%	0% 100%	0/10	5931, 5930, 5929, 5928, 5927, 5926, 5925, 5924, 5923, 5922	0, 1, 2, 3, 4, 5, 6,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

DRAFT

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) 2.10	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 (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:

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.

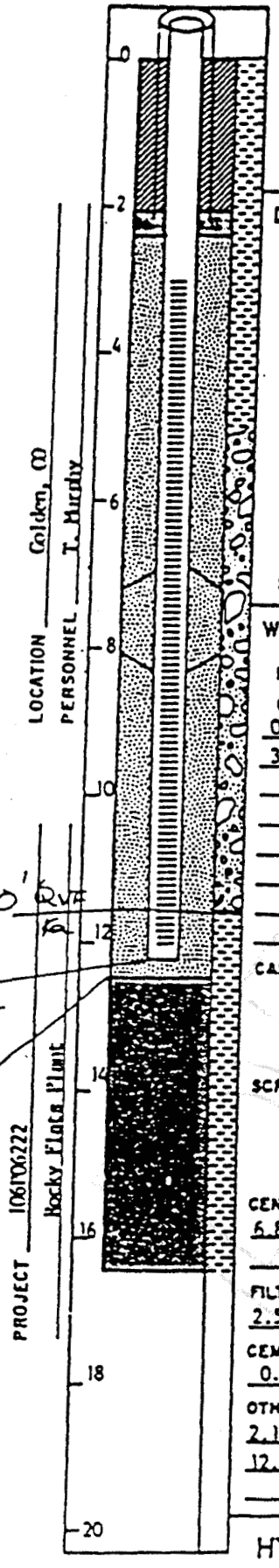
DRAFT

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 Bowles 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	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	0				NO SAMPLE:
				5980	1				
				5979	2				
				5978	3				
				5977	4				
				5976	5				
			0/12.5	5975	6				
				5974	7				
				5973	8				Top of Bedrock
				5972	9				
					10				

DRAFT

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				
				1.4/1.4	5968	13			CLAYSTONE	Light gray (N7) bedding not apparent, slightly weathered, slightly friable, caliche occurs as fracture filling, local iron staining, slight silt fraction.
					5967	14			CLAYSTONE	As above with iron staining on fractures and moderate amount of Mg oxide mineralization.
				2/2	5966	15				
					5965	16			CLAYSTONE	As above.
				1/1						
				0.3/0.29	5964	17			CLAYSTONE	As above.
									CLAYSTONE	As above.
				1.7/1.7	5963	18				
					5962	19			CLAYSTONE	As above
				1.8/1.8		20				

DRAFT

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	

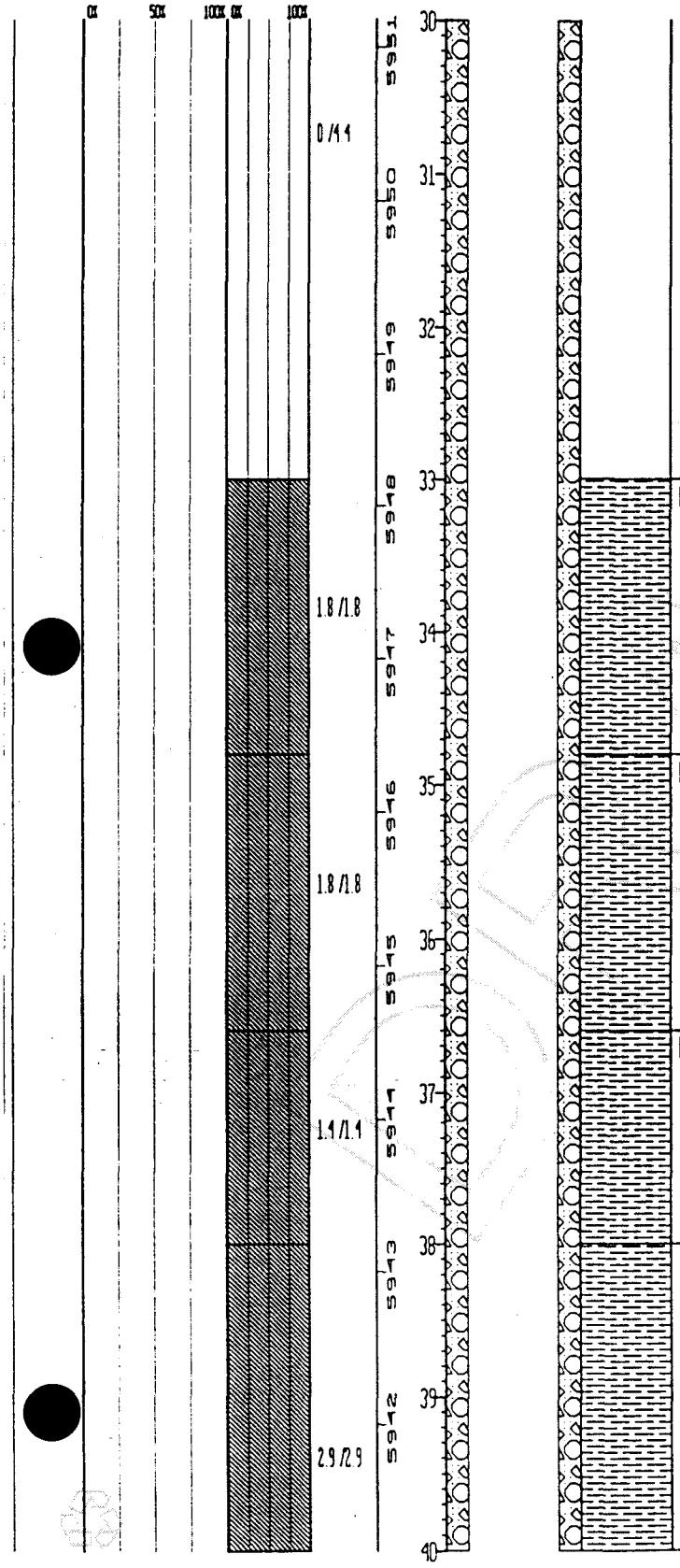
REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	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.
				5959	22			CLAYSTONE	Same as above, carbonaceous mineralization (low grade coal) at approx. 22.8 ft.
			1.8/1.8	5958	23				
				5957	24			CLAYSTONE	Same as above, slickensides at approx. 25 ft
			1.7/1.7	5956	25				
				5955	26			CLAYSTONE	Same as above.
			1.5/1.5	5954	27			CLAYSTONE	Same as above, slickensides at 28.2 ft and 28.6 ft. attitudes approx. 30 degrees.
			1.6/1.6	5953	28				
				5952	29			NO SAMPLE	
					30				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 130.5	GROUND ELEVATION (FT):	5981.18	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:
NORTH:	750257	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 NU | 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
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 (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
				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			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.
			1.9/1.9	5932	49				
					50				

DRAFT

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
			1.6/1.6	5931	50			CLAYSTONE	As above, slickensides at approx. 50.1 to 50.4 ft.
			2.7/2.7	5930	51			CLAYSTONE	As above, slickensides at approx. 52.5 ft.
			1.5/1.5	5929	52			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	5928	53			NO SAMPLE	
			1.6/1.6	5927	54			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.
			2/2	5926	55			CLAYSTONE	As above.
				5925	56				
				5924	57				
				5923	58				
				5922	59				
					60				

DRAFT

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
				5921	60				
				5920	61			CLAYEY SILTSTONE	Light gray (N7), bedding not apparent (massive?), slightly friable, iron stain at approx. 62 ft with possible carbonaceous mineralization.
			1.8/1.8	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 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.

UNAUTHORIZED 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
					5911	70				
					5910	71			CLAYSTONE	As above.
					5909	72				
				2/5	5908	73				
					5907	74				
					5906	75				
					5905	76			CLAYSTONE	As above, slickensides at approx. 77.0 ft.
				1.9/1.9	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.

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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	

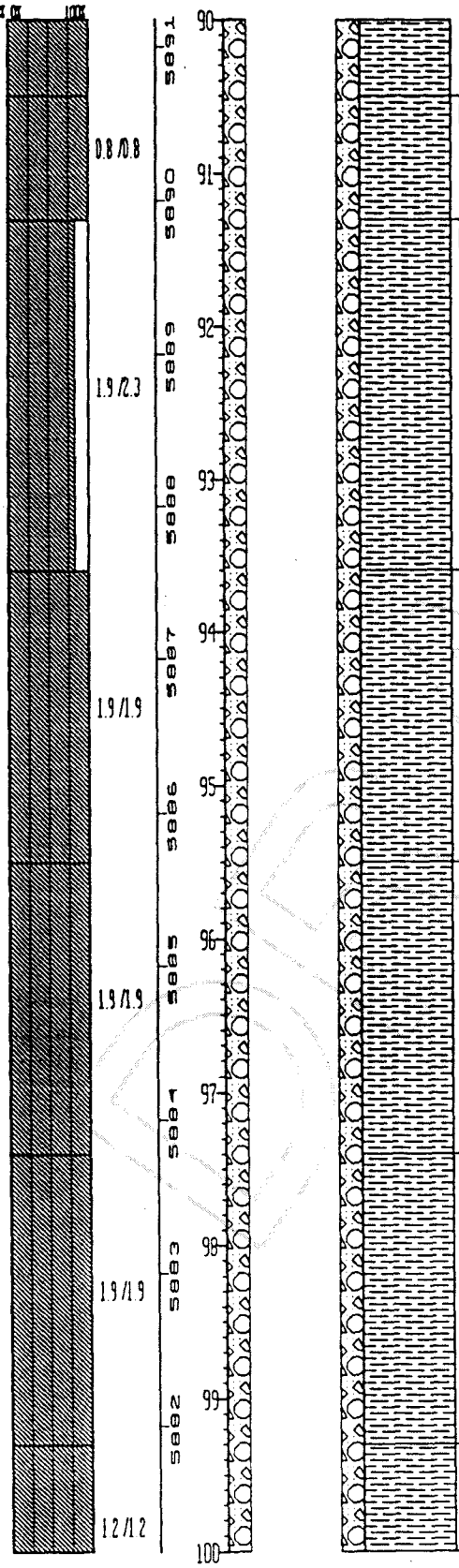
REMARKS: Hollow Stem Auger/NC Core. Built well in NC rod: no centralizers used.

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%		5901	80				
			0.5/0.5					CLAYSTONE	Light olive gray (5Y 6/1), bedding not apparent, slightly friable, occasional iron staining, moderate silt fraction.
				5900	81			CLAYSTONE	As above.
			2.3/2.3	5899	82				
				5898	83				
								CLAYSTONE	As above. Slickensides at approx. 85.2 ft. with 40 degree attitude.
			2.2/2.2	5897	84				
				5896	85				
								CLAYSTONE	As above, slickensides are absent. Irregular body of VFG sand at approx. 85.9 ft.
			1.9/1.9	5895	86				
				5894	87				
								CLAYSTONE	As above.
			1.8/1.8	5893	88				
				5892	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 | 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
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 (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
				5981	100				
			1.8/1.8	5980	101			CLAYSTONE	As above, lense of FG sand at approx. 102 ft. approx. 2 mm. in thickness.
				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				
6275			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				

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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.

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
			0.6 /0.59	5971	110			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).
			1.1 /1.1	5970	111			CLAYSTONE	Same as above.
			1.8 /1.8	5969	112			CLAYSTONE	Same as above.
			2.1 /2.1	5968	113			SILTSTONE	Light gray (N7), bedding not apparent, slightly friable, occasional carbonaceous mineralizations.
			0.2 /0.1	5967	114			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.
			1.9 /1.9	5966	115			SILTY CLAYSTONE	As above.
			1.6 /1.6	5965	116			SILTY CLAYSTONE	As above, thin stringers of coal <2 mm. which appear to cross out bedding.
			1.1 /1.1	5964	117			SILTY CLAYSTONE	As above.
				5963	118				
				5962	119				
					120				

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	120				
			0.6/0.59					SILTY CLAYSTONE	As above.
				5960	121				
			1.8/1.8	5959	122			SILTY CLAYSTONE	As above, slickensides at approx. 122.7 Ft.
				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.

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	5951	130				NOTE: No water encountered while drilling.
				5950	131				
				5949	132				
				5948	133				
				5947	134				
				5946	135				
				5945	136				
				5944	137				
				5943	138				
				5942	139				
					140				

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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%						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.
			2.5/2.5	5980, 5979, 5978	0, 1, 2			CALICHE:	Caliche and Gravel - white (N9).
			0.8/2.5	5977, 5976	3, 4				
			0/2	5975, 5974	5, 6			NO SAMPLE	
			0.2/0.2	5973	7			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.
DC828			1.6/1.6	5972	8			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.
			1.8/1.8	5971	9, 10			CLAYSTONE	Same as above.

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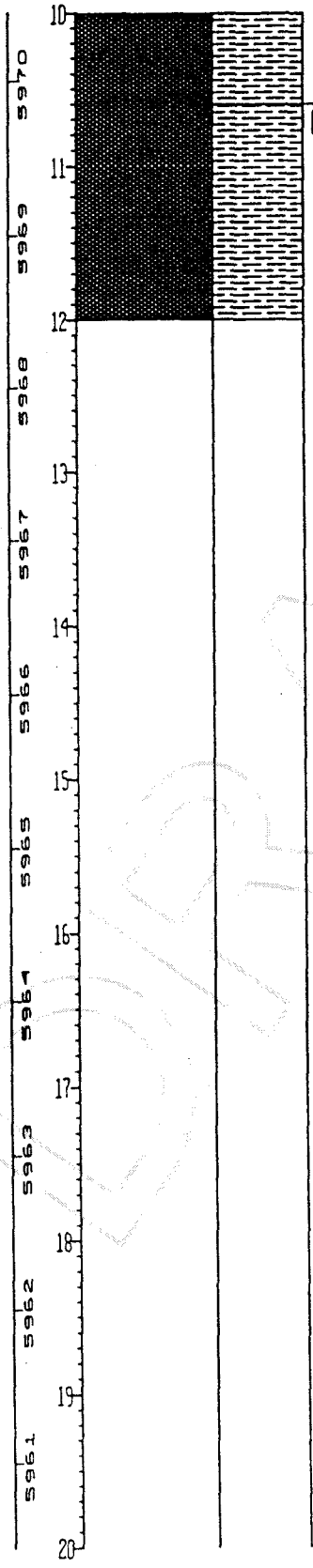
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 12	GROUND ELEVATION (FT): 5980.45	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH: 750357	AREA: SOLAR POND	CASING DIAMETER (IN): 2 ID	GEOLOGIST: DCB	24-86
EAST: 2084277	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/12/86	

REMARKS: Hollow Stem Auger. Cave from TD to 11.9

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



1.4/1.4

CLAYSTONE: Same as above.

NOTE: No water encountered while drilling.

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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	

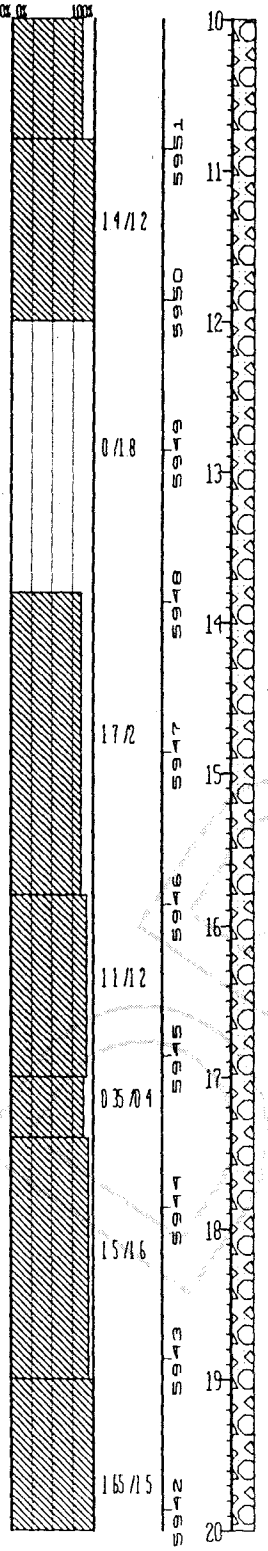
REMARKS Hollow Stem Auger/NC Core

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 9/2	5961	0			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
					5960	1				
				0 75/2	5959	2			GC	Same as above, silty clay matrix, some sand
					5958	3				
				1 8/17	5957	4			GC	GRAVEL in Caliche Matrix - gravel as above. Matrix very pale orange to white (10YR 8/2 to N9), some silt and sand
					5956	5				
				0 11/13	5955	6			GC	This interval consists of only a few pieces of sandy clayey gravel Not enough sample to characterize interval
					5954	7			NO SAMPLE	
				0/1			09/18/86 ▽			
				0 4/0 8	5953	8			GC	GRAVEL - med dk gray (N4), angular to sub-rounded, poorly graded, max size approx 5 cm, some sand and clay
					5952	9				
				1 7/2		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

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 15.7	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.

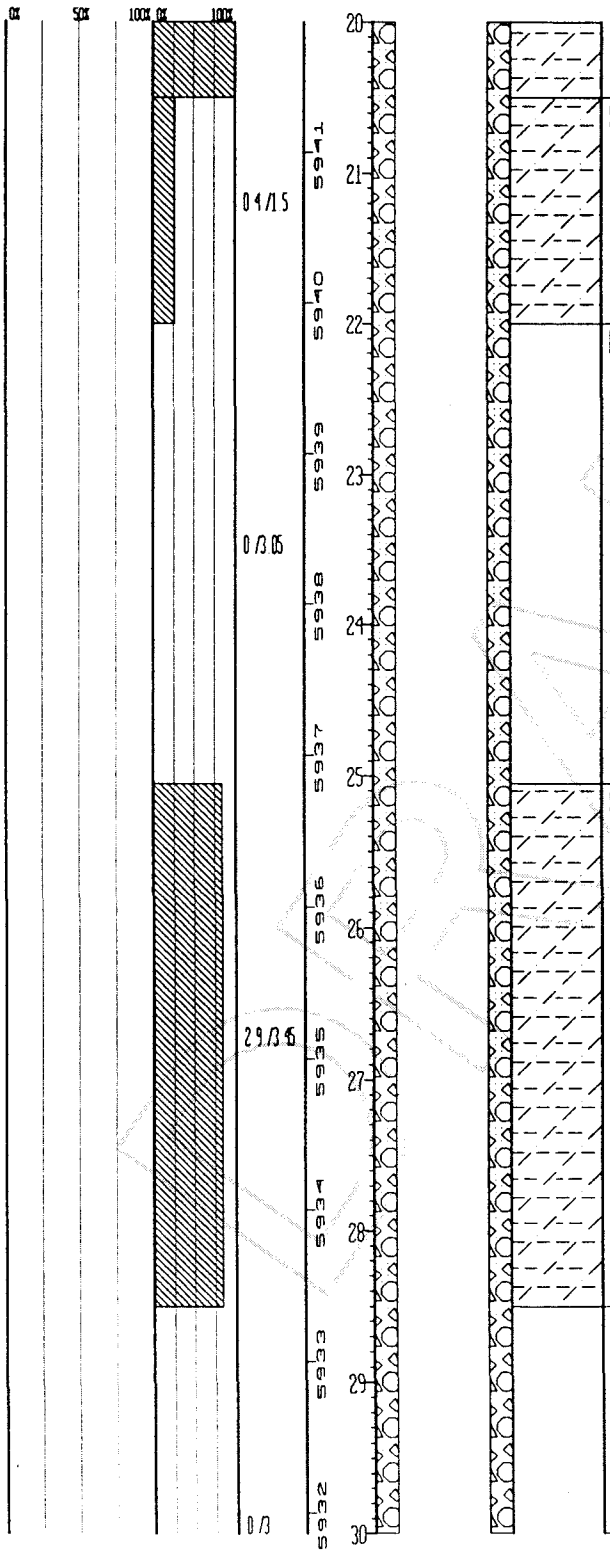
CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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 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

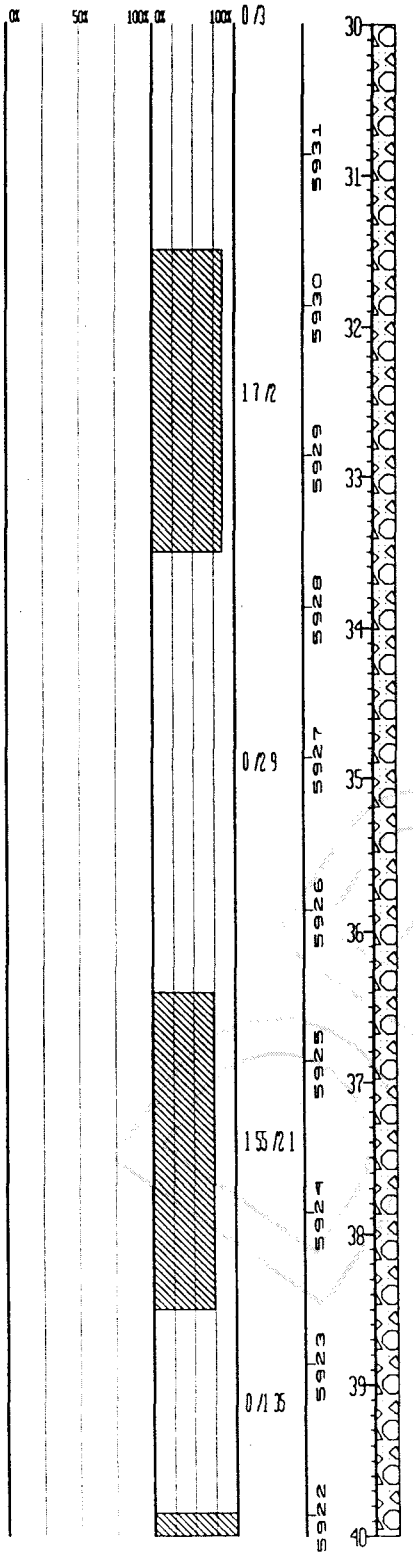


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Very pale orange (10YR 8/2) to grayish orange (10YR 7/4), highly weathered, mod friable, bedding not evident
NO SAMPLE	
SILTY CLAYSTONE	Very pale orange to dk yellowish orange (10YR 8/2 to 6/6), mod weathered, slightly friable, some iron staining, carb material in fractures, bedding not evident, trace CaCO3
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 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

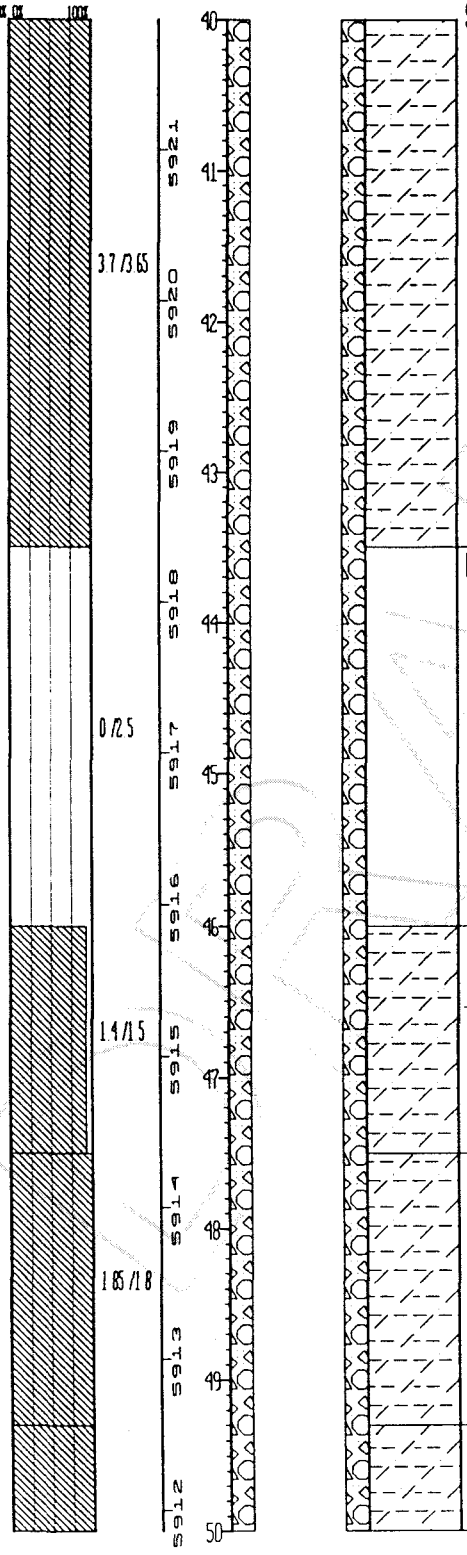
CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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: K10	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	Lt. brownish gray (5YR 6/1), mod. weathered, mod. to slightly friable, bedding not evident, trace CaCO3, carb. material.
NO SAMPLE	
SILTY CLAYSTONE	Same as above, some iron staining, some carb. material.
SILTY CLAYSTONE	Same as above.
SILTY CLAYSTONE	Brownish gray (5YR 4/1), mod. weathered, slightly to mod. friable, bedding appears massive, some possible slickensides on fractures.

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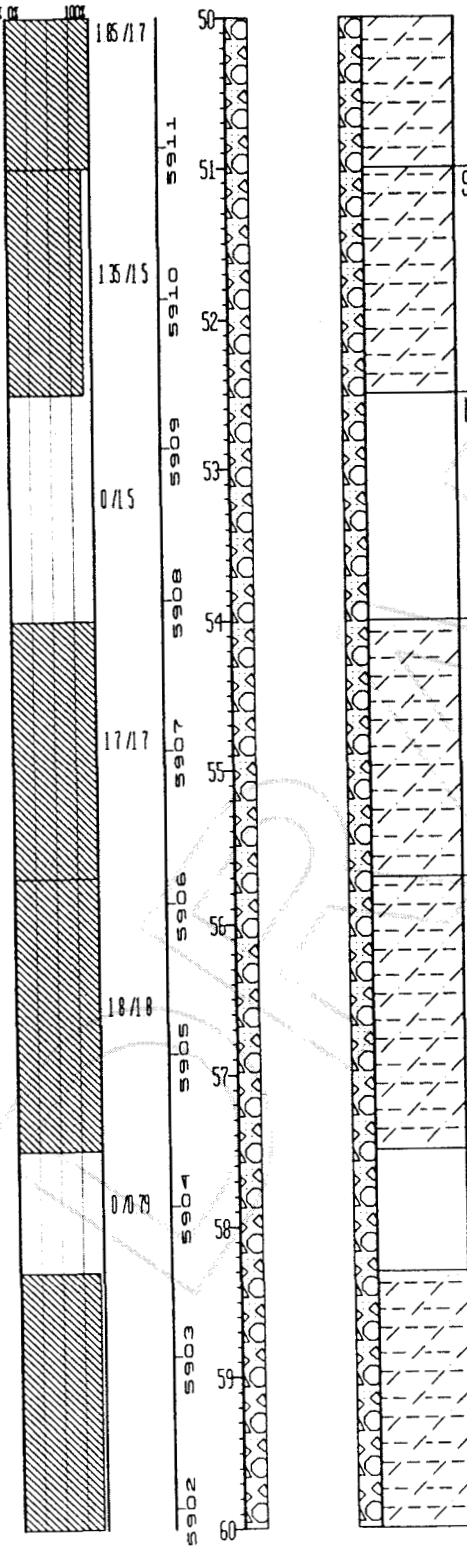
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 157	GROUND ELEVATION (FT) 5961.86	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH	750796	AREA SOLAR POND	CASING DIAMETER (IN) 2 ID	GEOLOGIST LAA	27-86
EAST	2085239	LOCATOR NUMBER M10	BOREHOLE DIAMETER (IN) 7.25	DATE DRILLED 09/18/86	

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	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

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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
				1/1.2	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.
				3/3	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.
				2/2	5895	67				
				16/16	5894	68			SILTY CLAYSTONE	Same as above.
					5893	69				
				17/18	5892	70			SILTY CLAYSTONE	Same as above, more common VFG sand layers

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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	

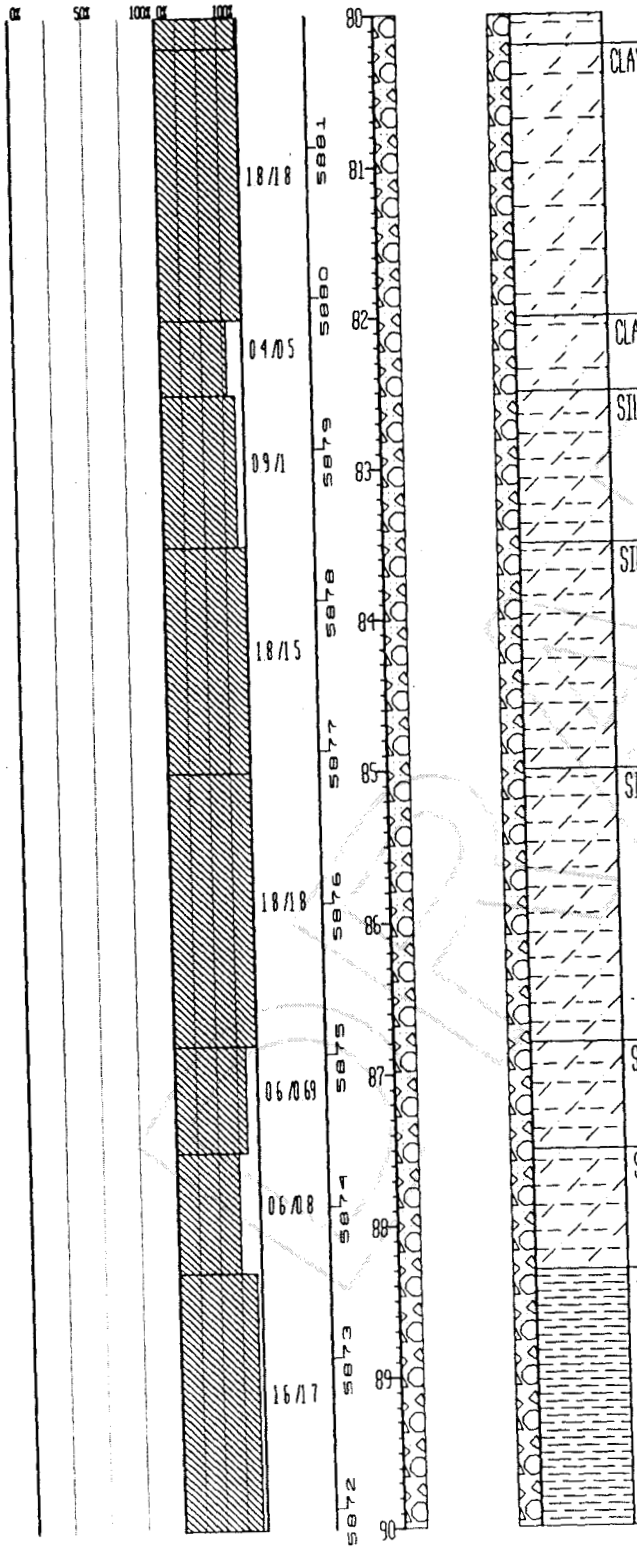
REMARKS: Hollow Stem Auger/NC Core

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%	17/18	5961	70				
				19/16	5960	71			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
				0/0.69	5959	72			NO SAMPLE	
				18/18	5958	73			SILTY CLAYSTONE	Same as above, no CaCO3 or discoloration
				29/25	5957	74			SILTY CLAYSTONE	Lt olive gray (5Y 6/1), mod weathered, mod friable, bedding appears horizontal, uneven, some carb material, trace iron staining
				0/0.5	5956	75			NO SAMPLE	
				04/03	5955	76			CLAYEY SILTSTONE	Yellowish gray (5Y 8/1), slightly weathered, slightly friable, slightly tilted uneven bedding, some VFG sand
				1.85/1.89	5954	77			CLAYEY SILTSTONE	Same as above, trace carb material
					5953	78				
					5952	79				
						80				

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

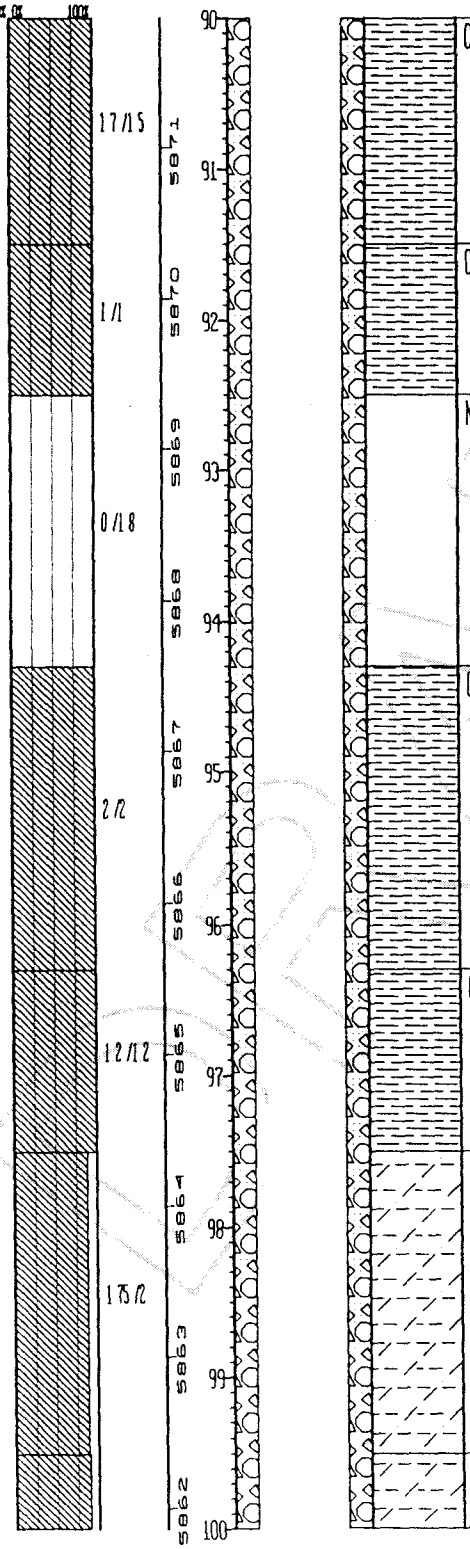


CLAYEY SILTSTONE	Lt. olive gray (5Y 6/1), slightly weathered, slightly friable, distorted bedding possibly due to soft sed. deform., some VFG sand, some carb. material.
CLAYEY SILTSTONE	Same as above.
SILTY CLAYSTONE	Brownish gray (5YR 4/1), mod. weathered, mod. friable, bedding not evident, trace carb. material
SILTY CLAYSTONE	Same as above, highly weathered, highly friable
SILTY CLAYSTONE	Same as above, mod. weathered, mod. friable.
SILTY CLAYSTONE	Same as above.
SILTY CLAYSTONE	Same as above.
CLAYSTONE	Same as above, less silt

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
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

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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	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 8/2	5961	100				thin layers (<1 mm) and VFG sand, trace carb material
				0 75/1	5960	101				SILTY CLAYSTONE Same as above
				0/1 2	5959	102				NO SAMPLE
				0 75/0 9	5958	103				SILTY CLAYSTONE Same as above
				0 85/1 9	5957	104				SILTY CLAYSTONE Same as above
				1/1	5956	105				SILTY CLAYSTONE Same as above
				0 75/0 69	5955	106				SILTY CLAYSTONE Same as above, bedding slightly tilted
				1 7/1 8	5954	107				SILTY CLAYSTONE Same as above, bedding does not appear to be tilted, some carb material
					5953	108				
					5952	109				
						110				

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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 N10	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
				0.7/0.5		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.
					5851	111			NO SAMPLE	
					5850	112				
				0/4.3	5849	113				
					5848	114				
					5847	115			SILTY CLAYSTONE	Same as above, grades to claystone toward bottom, some slickensides in vertical features in claystone
				1.8/2.2	5846	116				
					5845	117			NO SAMPLE	
				0/1.5	5844	118				
				1.8/1	5843	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	5842	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

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 6 /2	5941	120–121			CLAYSTONE	Olive gray (5Y 4/1), slightly weathered, slightly friable, bedding appears massive, trace carb material, some possible slickensides in fractures
				1 7 /2	5940, 5939	122–123			SILTY CLAYSTONE	Lt olive gray (5Y 6/1), slightly weathered, slightly friable, massive bedding, trace carb material
				1 75 /2	5938, 5937	124–125			SILTY CLAYSTONE	Same as above, less silty
				1 25 /1	5936, 5935	126–127			SILTY CLAYSTONE	Same as above, more silty
				0 35 /0 4					SILTY CLAYSTONE	Same as above
	6079			1 65 /2 1	5934, 5933	128–129			SANDY CLAYSTONE	Brownish gray (5YR 4/1), slightly weathered, slightly friable, massive bedding, some carb material, sand VF6, well sorted
				0 3 /0 5	5932	130			SANDY CLAYSTONE	Same as above, very thin coal layer approx 1 mm

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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	LMA
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
				12/12	5931	130–131			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
				08/08	5930	132			SANDY SILTSTONE	Pinkish gray (5YR 8/1), mod weathered, mod friable, tilted, layered bedding approx 1 in thick layers, sand VFG, some clay
				0/15	5929	133			NO SAMPLE	
				08/08	5928	134			SANDY SILTSTONE	Same as above, grading to silty claystone
				19/189	5927	135			SILTY CLAYSTONE	Olive gray (5Y 4/1), slightly weathered, slightly friable, bedding not evident, some small bodies of silt (approx 1 in in diam)
				08/08	5925	137			SILTY CLAYSTONE	Same as above, with some siltier layers
				0/18	5924	138			NO SAMPLE	
				1/1	5923	139			SILTY CLAYSTONE	Same as above
					5922	140			SILTY CLAYSTONE	lt olive gray (5Y 6/1), slightly weathered, slightly friable, massive

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	

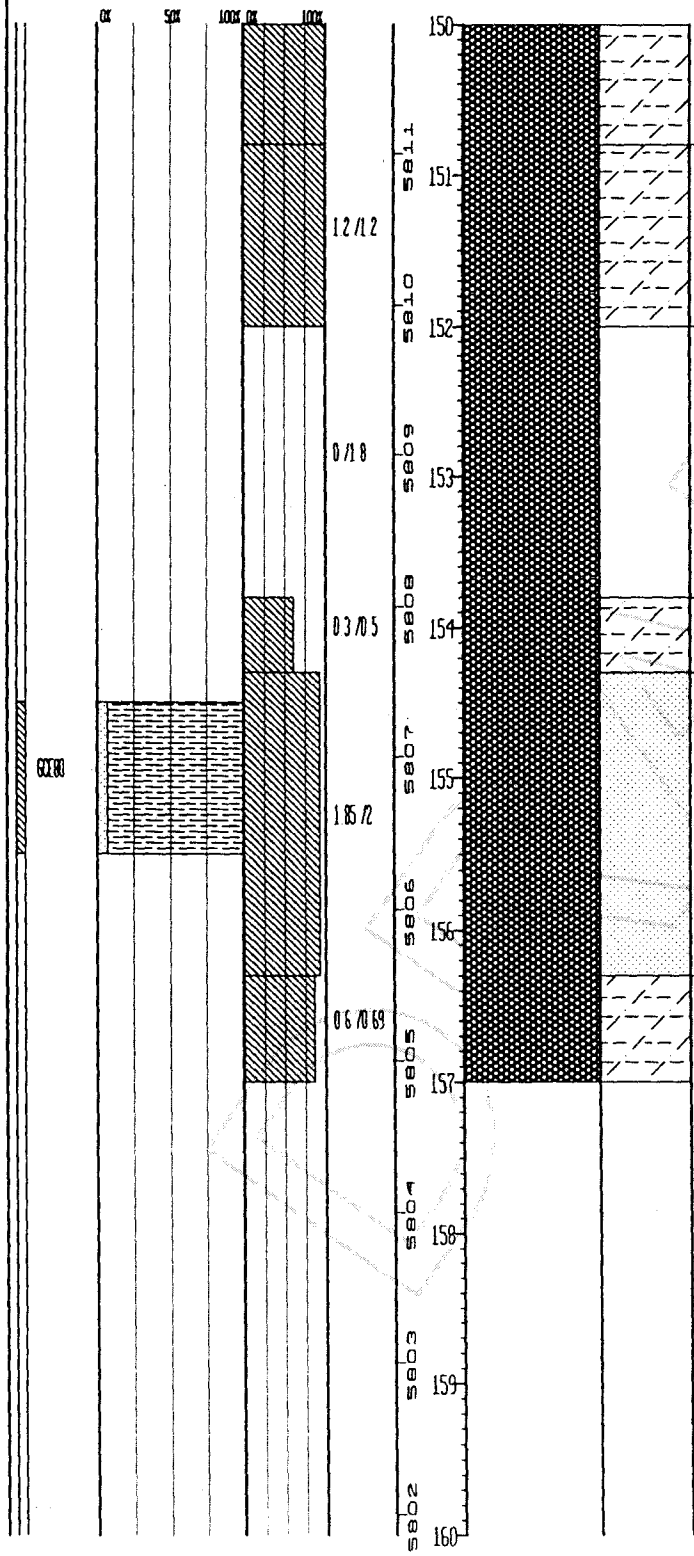
REMARKS: Hollow Stem Auger/NC Core

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
				1.7/1.7	5921	140–141			SILTY CLAYSTONE	Lt. olive gray (5Y 6/1), slightly weathered, slightly friable, massive bedding
				0.45/0.5	5920	142			SILTY CLAYSTONE	Same as above
				1.3/1.5	5919	143			SILTY CLAYSTONE	Same as above, uneven layered bedding, some carb. material
				1.55/1.7	5918 / 5917	144–145			SILTY CLAYSTONE	Same as above, some silt layers, very thin (<1 mm.), trace spotty iron staining
				1.85/1.8	5916 / 5915	146–147			SILTY CLAYSTONE	Same as above, interbedded in very fine layers with VFG sandstone (layers (1 mm.), trace carb. material
				1.9/2	5914 / 5913	148–149			SILTY CLAYSTONE	Same as above. Some grayish orange (10YR 7/4) discolored silt in some areas
				1.8/1.8	5912	150			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 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

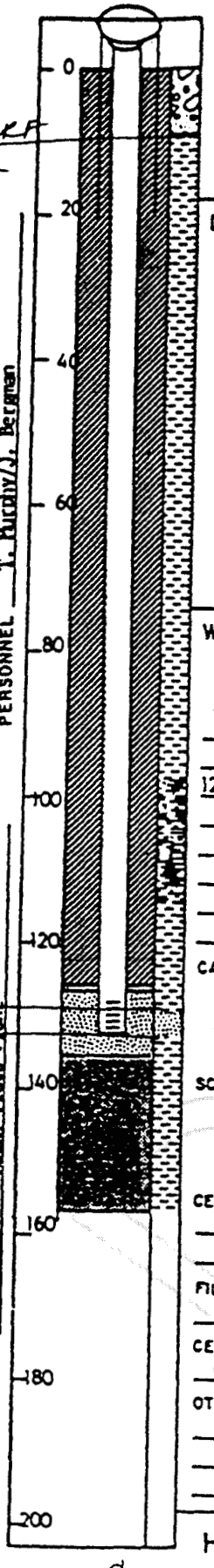
CHEMICAL SAMPLE DEPTH / GRADATIONAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



Depth (ft)	Unified Soils Classification or Rock Type	Description
151–152	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
152–154	NO SAMPLE	
154–155	SILTY CLAYSTONE	Same as above
155–156	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
156–157	SILTY CLAYSTONE	Lt. brownish gray (5YR 6/1), slightly weathered, slightly friable, massive bedding, trace carbs

WELL 27-86

WELL CONSTRUCTION SUMMARY



LOCATION OF 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'

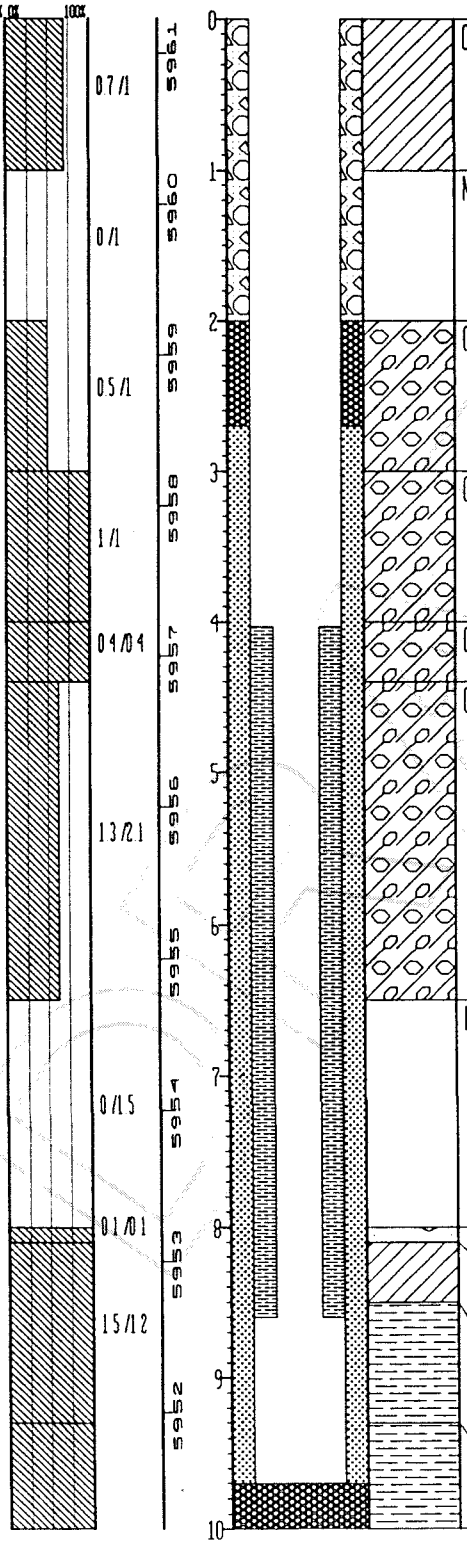
LOCATION Golden, CO
PERSONNEL T. Murphy/J. Bergman
PROJECT 106106222 Rocky Flats Plant

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					

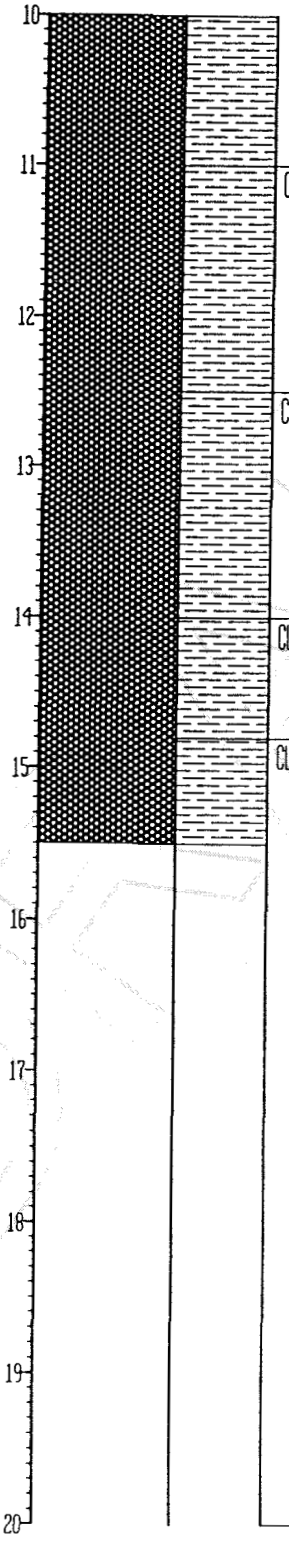
CHEMICAL SAMPLE DEPTH
GRADATIONAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



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 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% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



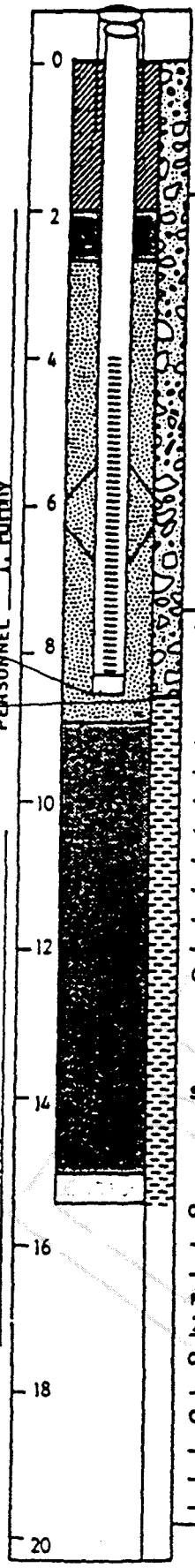
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Same as above.
CLAYSTONE	Same as above.
CLAYSTONE	Same as above.
CLAYSTONE	Same as above.

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 Bowles 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 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'

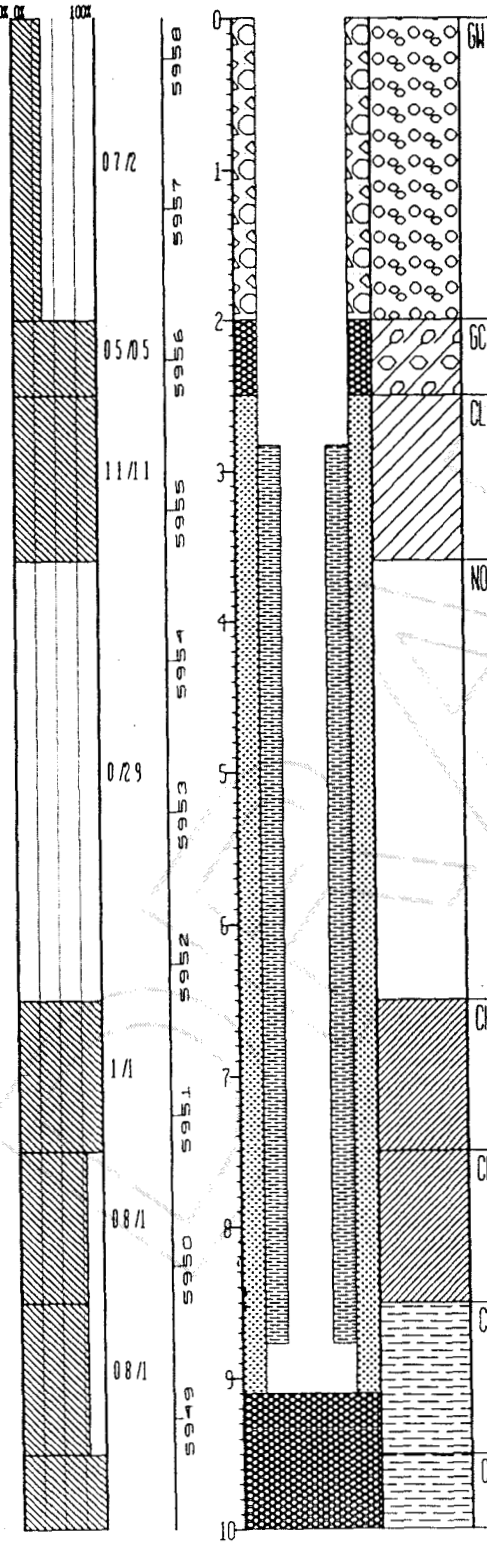
HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGIST

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
				15/15	5948	10				
				15/15	5947	11			CLAYSTONE	Same as above.
				2/2	5946	12			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.
	008-18				5945	13				
					5944	14				
				15/15	5943	15			SANDY SILTSTONE	Dark yellowish orange (10 YR 6/6), to very light gray (N8), bedding not apparent, moderately friable, sand is VFG
				15/15	5942	16			SANDY SILTSTONE	Same as above.
					5941	17				
	008-200				5940	18			SANDY SILTSTONE	Same as above, with weathered Fe-oxide concretion at 22.5 ft.
					5939	19				
	008-19			15/15		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
	009-19	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				

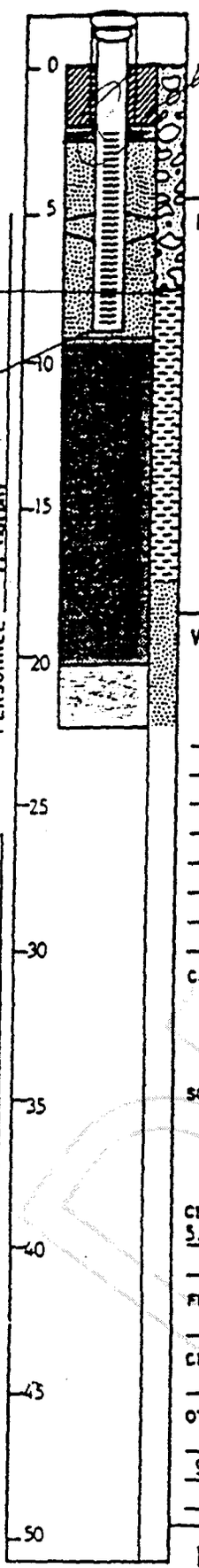
DRAFT

WELL 29-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5957'
TOP OF CASING 5958.78'



PROJECT 1061006222 Rocky Flats Plant
LOCATION Golden, CO
PERSONNEL T. Murphy

DRILLING SUMMARY:

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

DRILLER Bowles 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 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'

HYDRO-SEARCH RENO•DENVER CONSULTING HYDROLOGISTS-GEOLOGISTS

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'

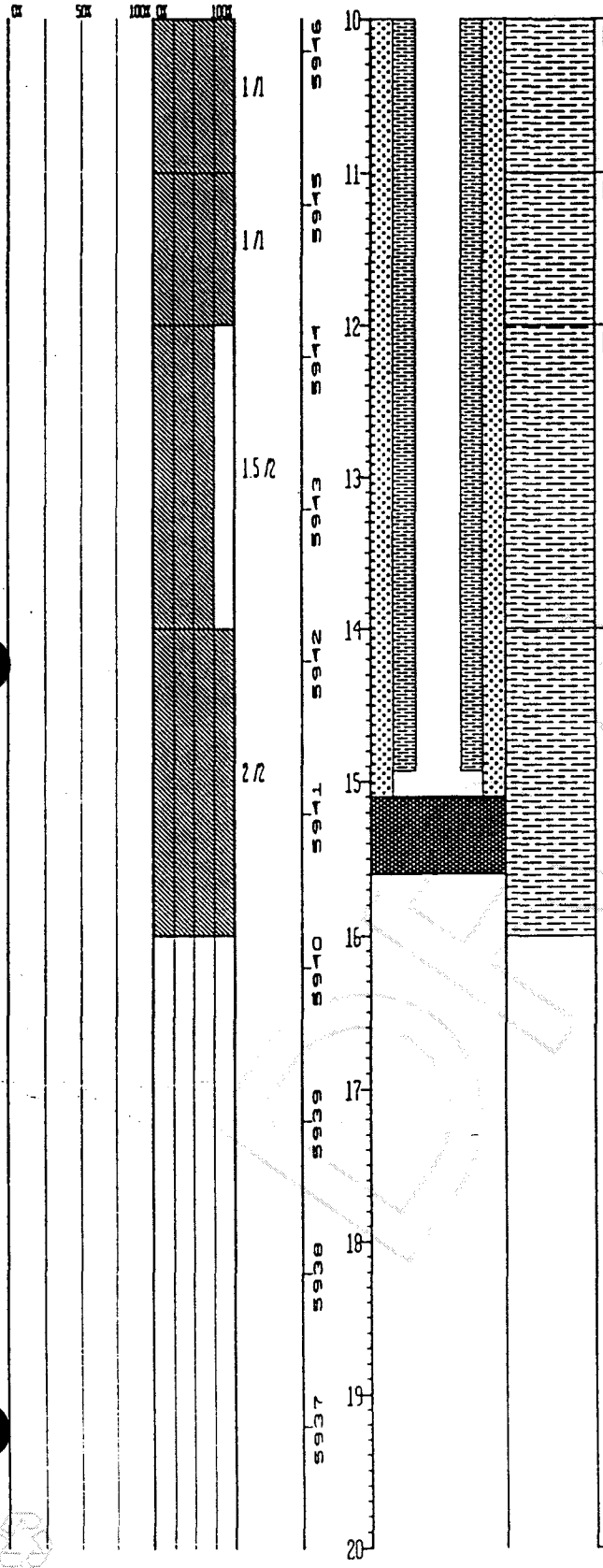
SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	100%	1.5 ft	5956	0			CL:	CLAY, light brownish gray (5 YR 4/1), grades to very light gray (N8), moderate to low plasticity, calcareous, some roots and gravel in upper 1.5 ft., some silt in upper 2.0 ft.
		0.8 ft	5955	1			CL:	Same as above.
		0.9 ft	5954	2			CLAYSTONE:	Top of Bedrock Same as above.
		2 ft	5953	3			CLAYSTONE:	Interval grades to highly weathered or incompletely indurated Claystone.
		2 ft	5952	4			CLAYSTONE:	Very light gray (N8), bedding not apparent, highly weathered, slightly friable, occasional iron stains and bodies of caliche.
		2 ft	5951	5			CLAYSTONE:	Same as above.
		2 ft	5950	6			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.
			5949	7				
			5948	8				
			5947	9				
				10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 16	GROUND ELEVATION (FT):	5956.21	PROJECT NUMBER:	667.11
NORTH: 751094	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	DCB
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'.

LOG OF BORING NUMBER: 30-86

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



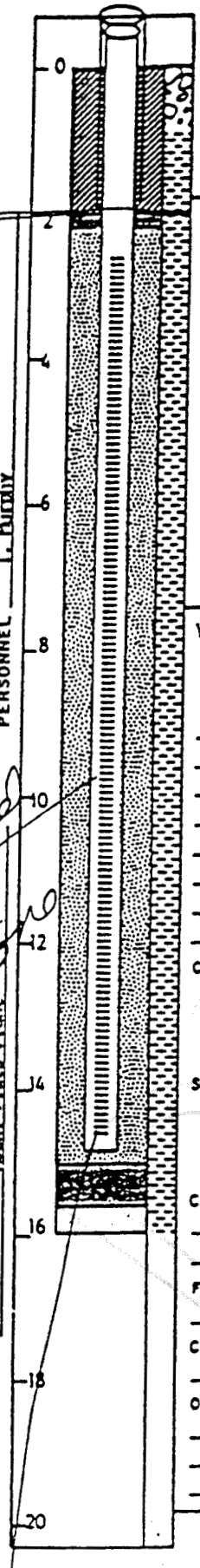
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Very light gray, (N8), bedding not apparent, highly weathered, slightly friable, iron staining locally and on partings, Mg oxide mineralization occurs locally, slight silt fraction.
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above.
CLAYSTONE:	Same as above. NOTE: No water encountered while drilling.

WELL 30-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5955'
TOP OF CASING 5956.50'



20'

PROJECT 106D06222 Rocky Flats Plant
LOCATION Golden, CO
PERSONNEL T. Murphy

I 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) 13.5	GROUND ELEVATION (FT)				
NORTH	751068	AREA SOLAR POND	CASING DIAMETER (IN)	2 ID	GEOLOGIST	LAW/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 SYMBOL	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 5961	2 3			SANDSTONE:	As above, also has dark yellowish orange (10 YR 6/6) coloring.
			1.85/2	5960 5959	4 5			SANDSTONE:	As above, some CaCO3 in matrix. Some black carb. material.
			1.7/1.5	5958 5957	6 7			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	5956	8			SANDSTONE:	Same as above.
			1.65/1.2	5955	9 10			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

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 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				degrees. Bedding angle = 20 degrees.
			1.5/1.5	5954 5953	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	5952 5951	12 13			CLAYEY SILTSTONE	Same as above. Bedding closer to horizontal.
			1.7/1.6	5950 5949	14 15			CLAYEY SILTSTONE	Same as above. Slightly weathered, slightly friable. Bedding not evident.
			1.7/1.6	5948	16			CLAYEY SILTSTONE	Same as above.
			1.7/1.8	5947 5946	17 18			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	5945	19 20			SILTY CLAYSTONE	Same as above. Some pure silt areas. Some very heavily iron stained areas.

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 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	5941	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).
			1.8/1.9	5943	21				
			1.7/1.6	5942	22				SILTY CLAYSTONE: Same as above.
			1.6/1.5	5941	23				
			0/1	5940	24				SILTY CLAYSTONE: Same as above.
				5939	25				
				5938	26				SILTY CLAYSTONE: Same as above.
				5937	27				
				5936	28				NO SAMPLE.
				5935	29				
					30				

STATE PLANE COORDINATE: TOTAL DEPTH (FT): 133 GROUND ELEVATION (FT): 5961.10 PROJECT NUMBER: 661.11 LOG OF BORING NUMBER:

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

EAST: 2089745 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%			30				
				5934					
					31			CLAYSTONE:	Light gray (N 7), bedding not apparent, weathered, slightly friable, iron staining on fractures, occasional carbonaceous mineralization.
				5933					
			2.2 /2.2		32				
				5932					
					33				
				5931				CLAYSTONE:	Same as above.
					34				
			1 /2.8	5930					
					35				
				5929					
					36			NO SAMPLE:	
				5928					
					37				
				5927					
					38				
				5926					
					39				
				5925					
					40				

DRAFT

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 1.5	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 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%							
			0/0	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				

DRAFT

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 133	GROUND ELEVATION (FT):	5904.10	PROJECT NUMBER:	007.11	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 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:	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	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.8/1.8	5904	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				
			0/1.5	5895	69				
					70				

DRAFT

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 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
				5894	70				
				5893	71				
			0.5/0.5					CLAYSTONE:	Dark gray (N 3), bedding may be horizontal based on appearance of core breaks. Weathered, slightly friable, carbonaceous, occasional bodies of coal.
				5892	72			CLAYSTONE:	Medium gray (N 5), bedding not apparent, weathered, slightly friable, moderate amount of carb. mineralization, slight silt fraction.
			0.3/2.5	5891	73				
				5890	74				
			0.7/1		75			CLAYSTONE:	Same as above.
				5889				CLAYSTONE:	Same as above. Slickensides at 76.8 ft., 55 to 90 degrees.
			1.5/1.5	5888	76				
				5887	77			NO SAMPLE:	
			0/3	5886	78				
				5885	79				
					80				

NORTH:	751068	AREA: SOLAR POND	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA/DCB	32-86
EAST:	208475	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
			0.2 /0.4	5884	80			CLAYSTONE:	Same as 72.0 to 77.0 ft.
			1.6 /1.6	5883	81			CLAYSTONE:	Same as above.
			1 /1	5882	82			CLAYSTONE:	Same as above, slickensides at approx. 83.0 ft., curvilinear surface.
			0 /1	5881	83			NO SAMPLE:	
			0.55 /0.69	5880	84			CLAYSTONE:	Same as 72.0 to 77.0 ft.
			2.3 /2.3	5879	85			CLAYSTONE:	Same as above. Slickensides at approx. 86.0 ft., attitude approx. 80 degrees.
			0 /1.2	5878	86			NO SAMPLE:	
			2.1 /2.1	5877	87			SILTY CLAYSTONE:	Light gray (N 7), thin (< 2 mm) horizontal bedding, slightly friable, moderate amount of carb. mineralization.
				5876	88				
				5875	89				
					90				

DRAFT

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
					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:	
			0.25/0.28	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.

DRAFT

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 115	GROUND ELEVATION (FT): 5569.46		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 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%	1.8/1.8	5564	100				
				5563	101				
			1.5/1.5	5562	102			CLAYSTONE:	Same as above.
				5561	103			NO SAMPLE:	
			0/1.7	5560	104				
			0.3/0.3					CLAYSTONE:	Same as 99.7 to 101.5 ft.
				5559	105			CLAYSTONE:	Same as above.
			2/2	5558	106				
				5557	107			NO SAMPLE:	
			0/2.7	5556	108				
				5555	109				
					110			CLAYSTONE:	Medium gray (N 5), bedding not apparent, slightly friable, moderate silt

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 125	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 GRAIN 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	5951	110				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			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	114				
			1.8/1.8	5949	115			SANDSTONE:	Bioturbated, slightly friable, VFG, well sorted, slight to moderate silt fraction.
			0/2.8	5948	116			NO SAMPLE:	
				5947	117				
				5946	118				
				5945	119				
					120			SANDSTONE:	Same as 115.2 to 117.0 ft.

60201

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 TD	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	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
60201			1.3/1.3	5844	120			SANDSTONE:	Same as 115.2 to 117.0 ft.
			0.9/0.9	5843	121			SANDSTONE:	Same as above. Influx of silt approx. 121 ft., bedding is thin (< 2 mm) and exhibits soft sediment deformation.
			0/0.8	5842	122			NO SAMPLE:	
			0.8/1.83	5841	123			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.
				5840	124				
			1.6/1.6	5839	125			SILTY CLAYSTONE:	Medium gray (N 5), bedding not apparent, slightly friable, occasional iron stains, carb. mineralization on partings.
			1.7/0.63	5838	126			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.
				5837	127			NO SAMPLE:	
			0/3	5836	128				
				5835	129				
					130				

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.

DEPTH	GRADATIONAL S	SAMPLE	SAMPLE GRADI SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				100%	2/2	5934	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.
					0/1.5	5933	131				
						5932	132			NO SAMPLE:	
						5931	133				
				100%	1.5/1.5	5930	134			CLAYSTONE:	Same as above.
						5929	135				
						5928	136				
						5927	137				
						5926	138				
						5925	139				
							140				

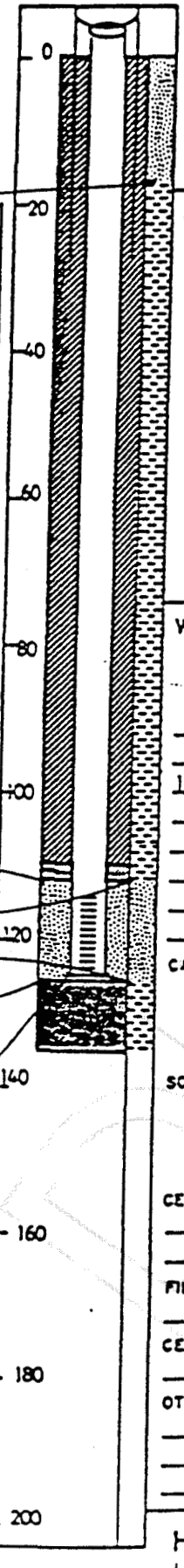
DRAFT

WELL 32-86

WELL CONSTRUCTION SUMMARY

LOCATION or COORDS: _____

ELEVATION: GROUND LEVEL 5964'
TOP OF CASING 5966.50'



17.0' QEF
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.

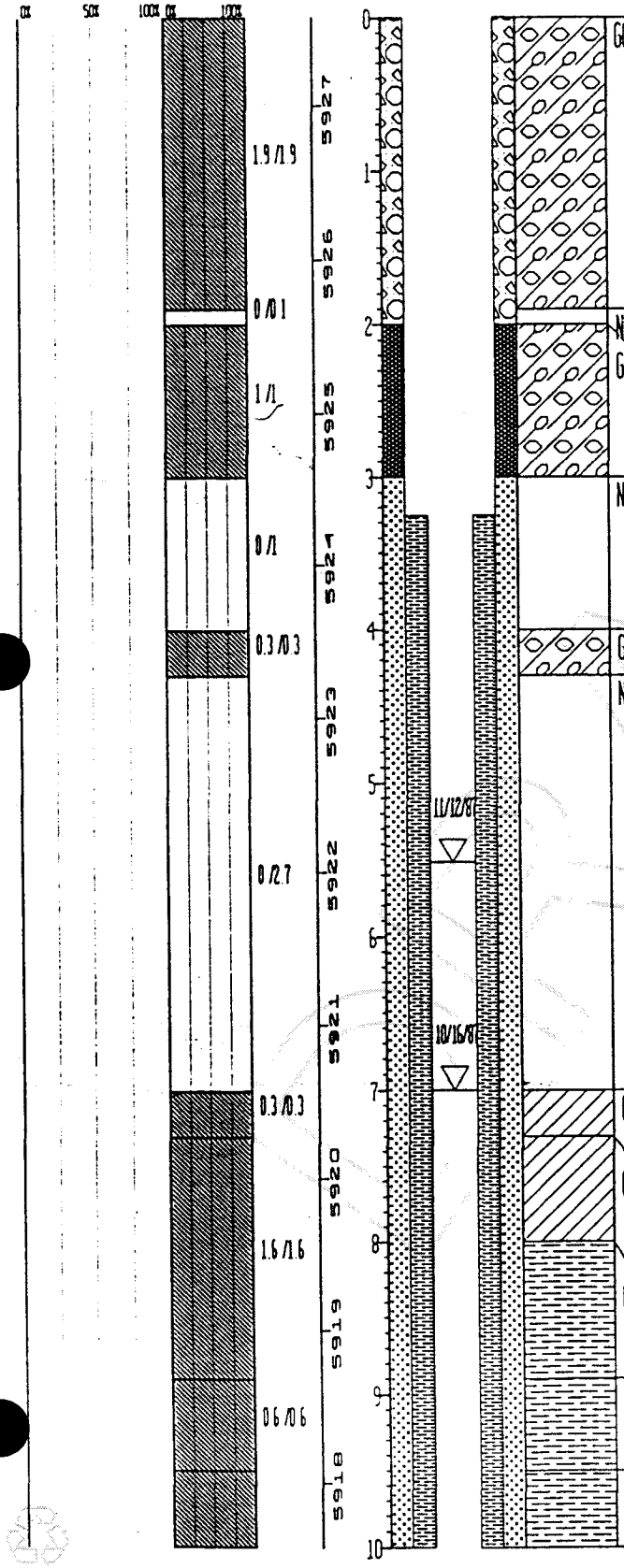
Top of stainless steel casing: 2.50'

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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
NO SAMPLE	
GC	As above (reference interval 0.0 to 1.9 ft.), clay matrix is med. dark gray (N4)
NO SAMPLE	
GC	As above (reference interval 0 to 1.9 ft.)
NO SAMPLE	
CL	CLAY - light gray (N7), low to moderate plasticity, some gravel from 7.0 to approx. 7.4 ft., trace of calcareous mineralization.
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
CLAYSTONE	Same as above
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) 2.10	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				

DRAFT

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'

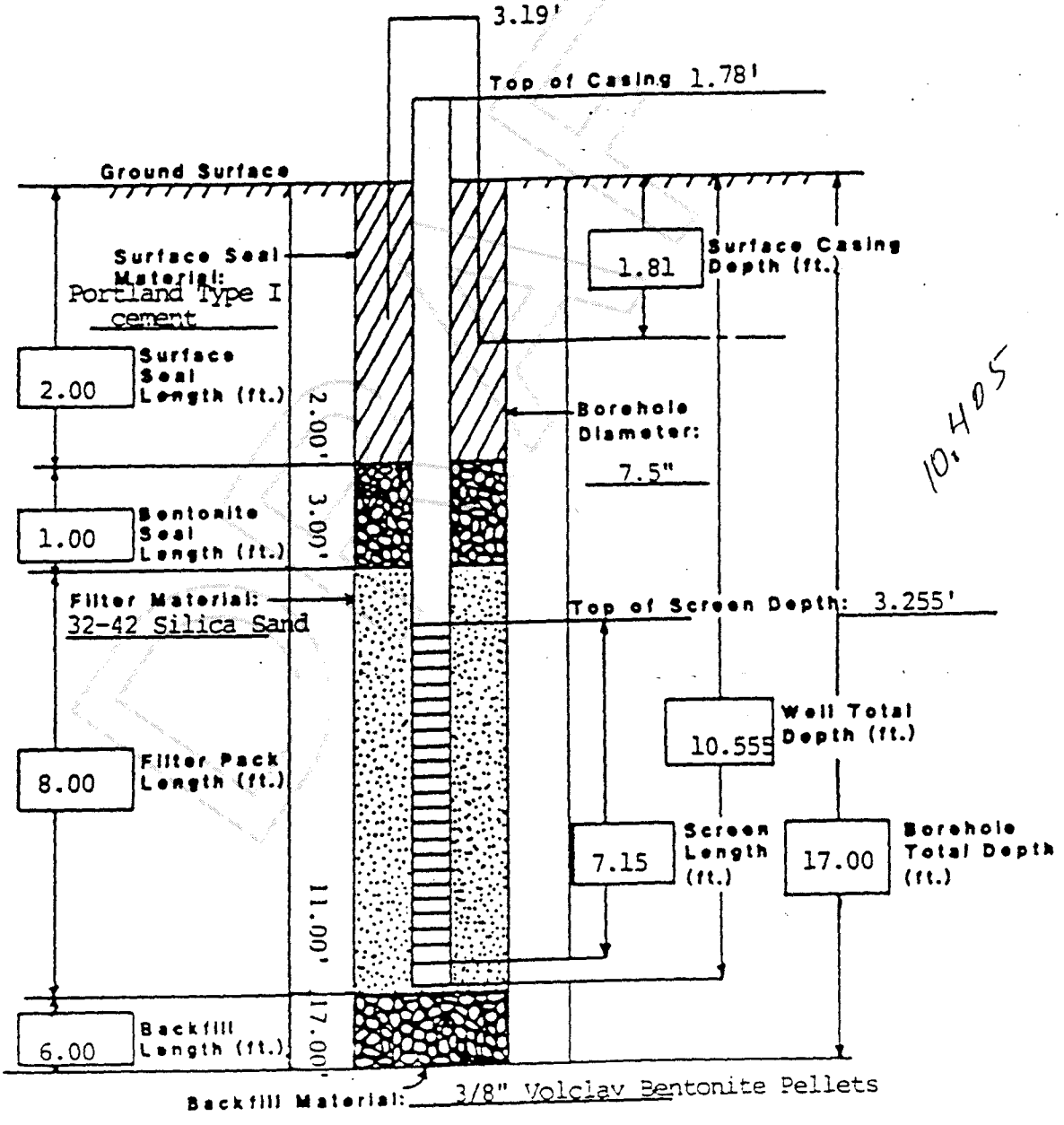
Top of Casing 5929.36'

Casing Diameter 2" ID

Surface Casing Diameter 5" ID

Approved By
Site Manager
CERP Manager

Comments



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STATE PLANE COORDINATE		TOTAL DEPTH (FT): 11.1	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 NUM	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.85/2	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.
				5929	1				
			1.5/1.5	5928	2			GC:	Same as above.
			0/0.5	5927	3			NO SAMPLE:	
			1.75/2	5926	4			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.
				5925	5				
			1.6/1.9	5924	6			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	5923	7			CH:	Same as above.
			0.9/1	5922	8			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	5921	9			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.
					10				

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
			1.8/1.6	5920	10–11			CL:	Same as above.
			0.3/0.4	5919	12	10/08/87 ▽		CL:	Same as above.
			1.4/1	5918	13			CL:	Same as above, some sub-rounded lg. gravel - max. 6.5 cm.
								CLAYSTONE:	Top of Bedrock Same as above, but without gravel.
			1.1/1	5917	14			CLAYSTONE:	Same as above, but without gravel.
			0.7/0.8	5916	15			CLAYSTONE:	Same as above, higher silt content, larger areas of dark yellowish orange coloring.
			1.6/1.2	5915	16			CLAYSTONE:	Same as above, siltier at top of interval, less silt toward bottom.
			1.75/1.4	5914	17			CLAYSTONE:	Lt. brownish gray (5YR 4/1), est. plasticity moderate, slightly silty in some areas, trace root material.
			0.75/0.6	5913	18			CLAYSTONE:	Same as above, some dk. yellowish orange (10YR 6/6) mottling.
			1/0.75	5912	19			CLAYSTONE:	Same as above, some calcareous nodules.
			1.7/1.2	5911	20			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: 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 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				
	5910				CLAYSTONE:	Lt. olive gray (5Y 6/1), massive bedding, highly weathered, moderately friable, some silt, some dark yellowish orange (10YR 6/6) mottling.
1.8/1.8		21				
	5909					
0.4/0.2		22			CLAYSTONE:	Same as above.
0/0.29					NO SAMPLE:	
	5908				CLAYSTONE:	Same as above, some areas slightly siltier.
1.2/1		23				
	5907				CLAYSTONE:	Lt. olive gray (5Y 6/1), possible horizontal bedding, highly weathered, moderately friable, silty in areas.
1.6/1		24				
	5906				CLAYSTONE:	Same as above.
1.6/1		25				
	5905				CLAYSTONE:	Same as above, some iron staining, some fractures with mineralization.
1.55/1		26				
	5904				CLAYSTONE:	Same as above, more mottled.
1.45/1		27				
0.4/0.2	5903				CLAYSTONE:	Same as above.
1.7/0.79		28			CLAYSTONE:	Same as above.
	5902				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.
1.65/1		29				
	5901				SILTY CLAYSTONE:	Same as above.
1.5/1		30				

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: M3	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.
00822			3.8/4.35	5884	47				
				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:	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 GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
									slickensides visible in fractures, trace iron staining.
			2.2/3.05	5880	50			CLAYSTONE:	Same as above.
			1.9/2	5879	51				
				5878	52				
				5877	53				
			1.9/2	5876	54			CLAYSTONE:	Light olive gray (5Y 6/1), massive bedding, weathered, slightly friable, some silt, some carbonaceous material, some iron staining.
				5875	55				
				5874	56				
			3.7/4	5873	57			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.
				5872	58				
				5871	59				
					60				

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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 NUM.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					60				
				5970	61			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.
				5969	62				
			3.6 ft	5968	63				
				5967	64				
				5966	65			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).
				5965	66				
			3.1 ft	5964	67				
				5963	68				
				5962	69			CLAYSTONE:	Olive gray (5Y 4/1), massive bedding, mod. weathering, slightly friable, abundant carbonaceous material, slickensides present in fractures.
			2.35 ft	5961	70				

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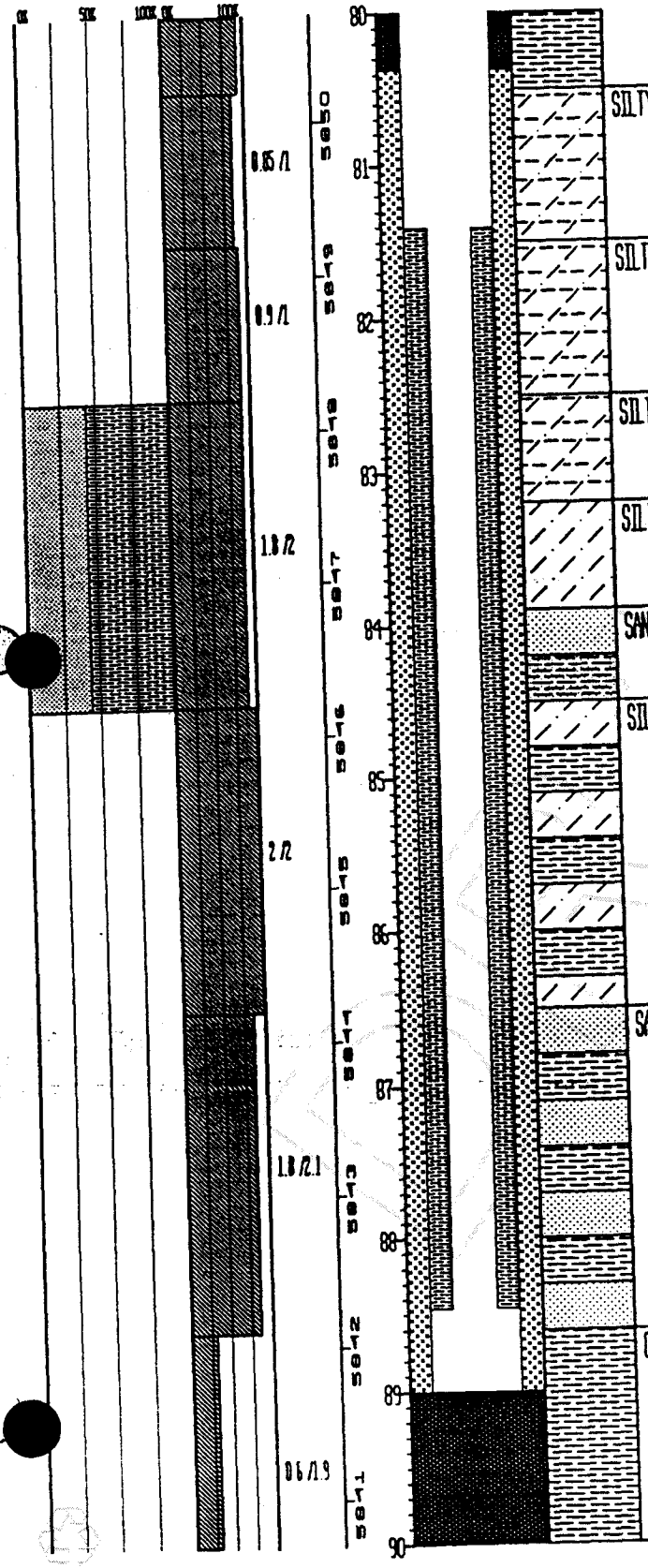
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT):	5930.7	PROJECT NUMBER:	667.11	LOG OF BORING NUMBER:	
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN):	2 ID	GEOLOGIST:	LAA	22-87BR	
EAST:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87		

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	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%			70				
				5860	71			CLAYSTONE:	As above interval, vertical fracture with slickensides.
			1.85 /2	5859	72				
				5858	73			CLAYSTONE:	As above.
			1.85 /2	5857	74				
				5856	75			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.
			1.7 /2	5855	76				
				5854	77			CLAYSTONE:	Same as above, except highly weathered, friable. Olive gray to olive black (5Y 2/1) to (5Y 4/1).
			3.7 /2	5853	78	12/01/87			
				5852	79			CLAYSTONE:	Same as above, slightly less weathered, less friable, more carbonaceous material.
			1.85 /2	5851	80				

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:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/08/87	

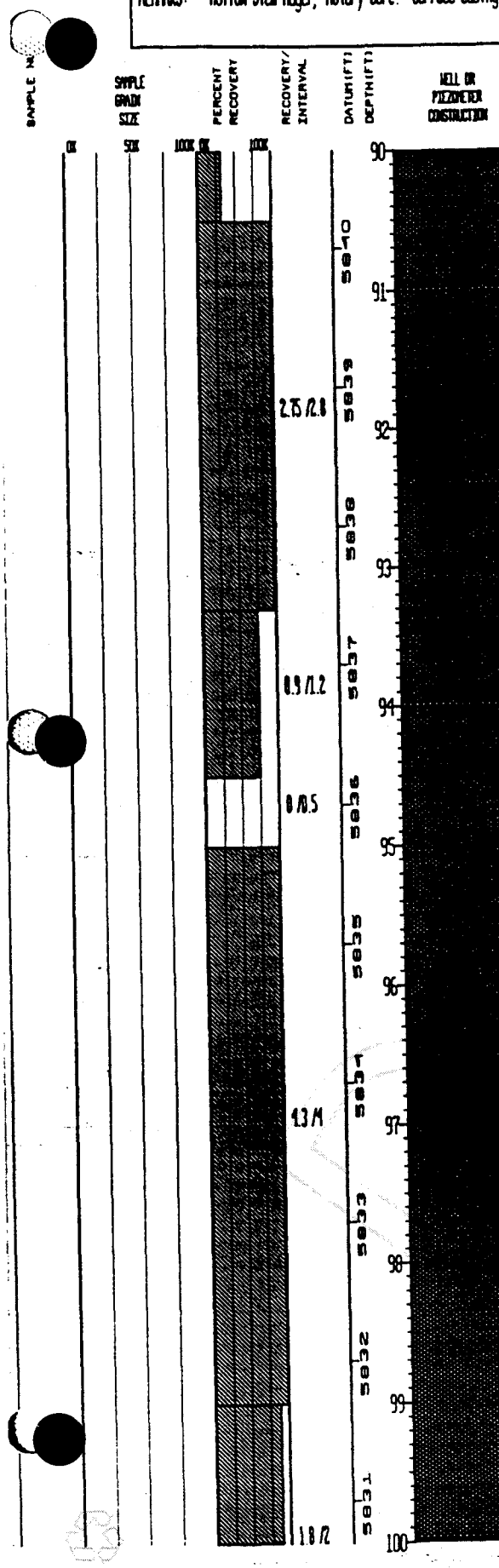
REMARKS: Hollow Stem Auger, Rotary Core. Surface casing set to 43.59' by K.D. Holliway on October 2, 1987.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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:	2385822	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.



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.

CLAYSTONE: Brownish gray (5YR 4/1), massive bedding over interval, slightly weathered, slightly friable.

NO SAMPLE:

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.

CLAYSTONE: Same as above.

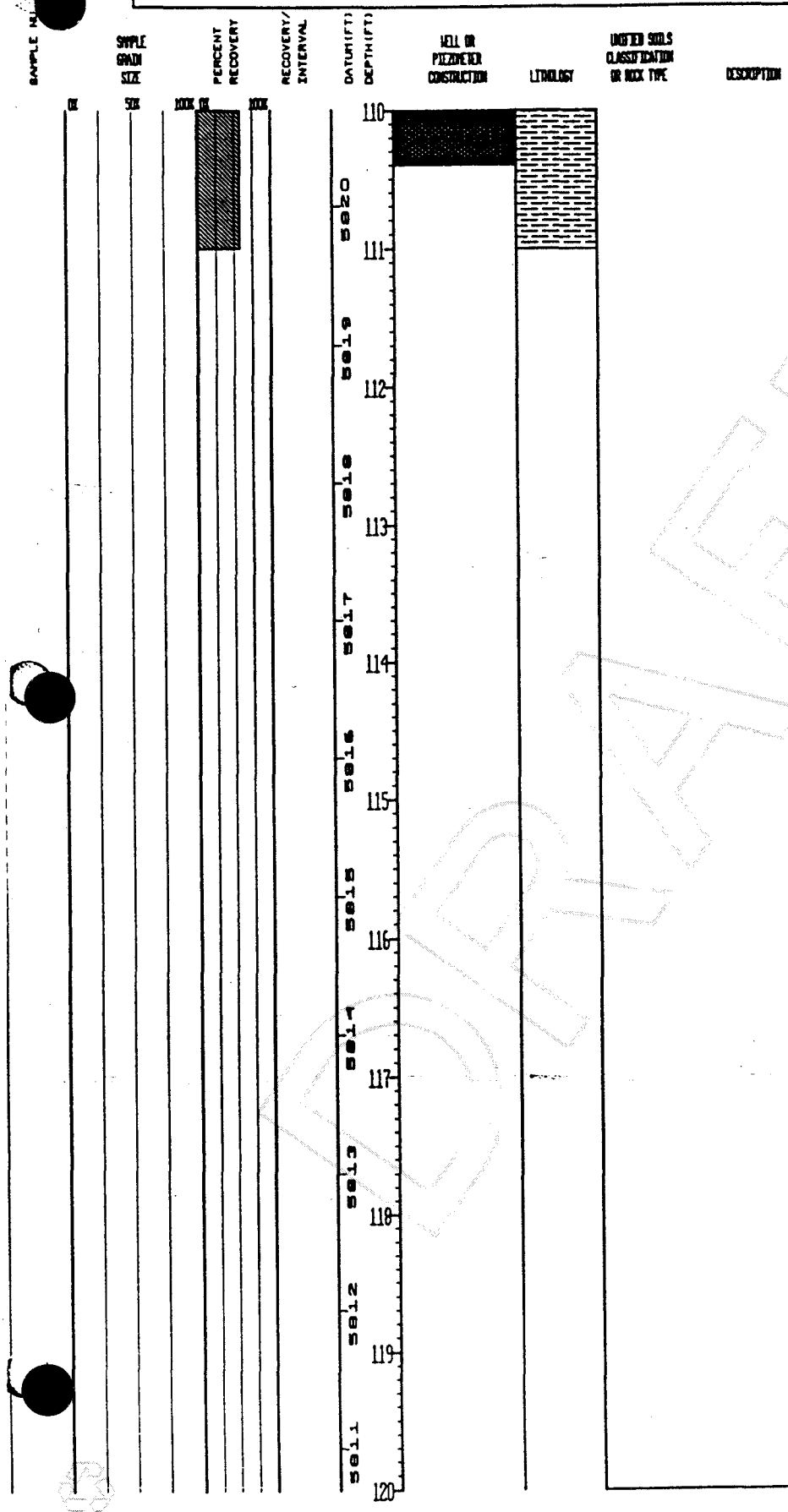
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 111	GROUND ELEVATION (FT): 5930.7	PROJECT NUMBER: 667.11	LOG OF BORING NUMBER:
NORTH:	749924	AREA: MOUND AREA	CASING DIAMETER (IN): 2 ID	GEOLOGIST: LAM	22-87BR
EAST:	2085822	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/08/87	

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
			1.8 ft	5830	100				
			0 ft	5829	101			NO SAMPLE:	
			1.8 ft	5828	102			CLAYSTONE:	Brownish gray (5Y 4/1), massive bedding, moderately weathered, slightly friable, abundant black carbonaceous material, silty, some fractures.
			3.5 ft	5827	103				
				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 ft	5822	108				
				5821	109				
				5820	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.

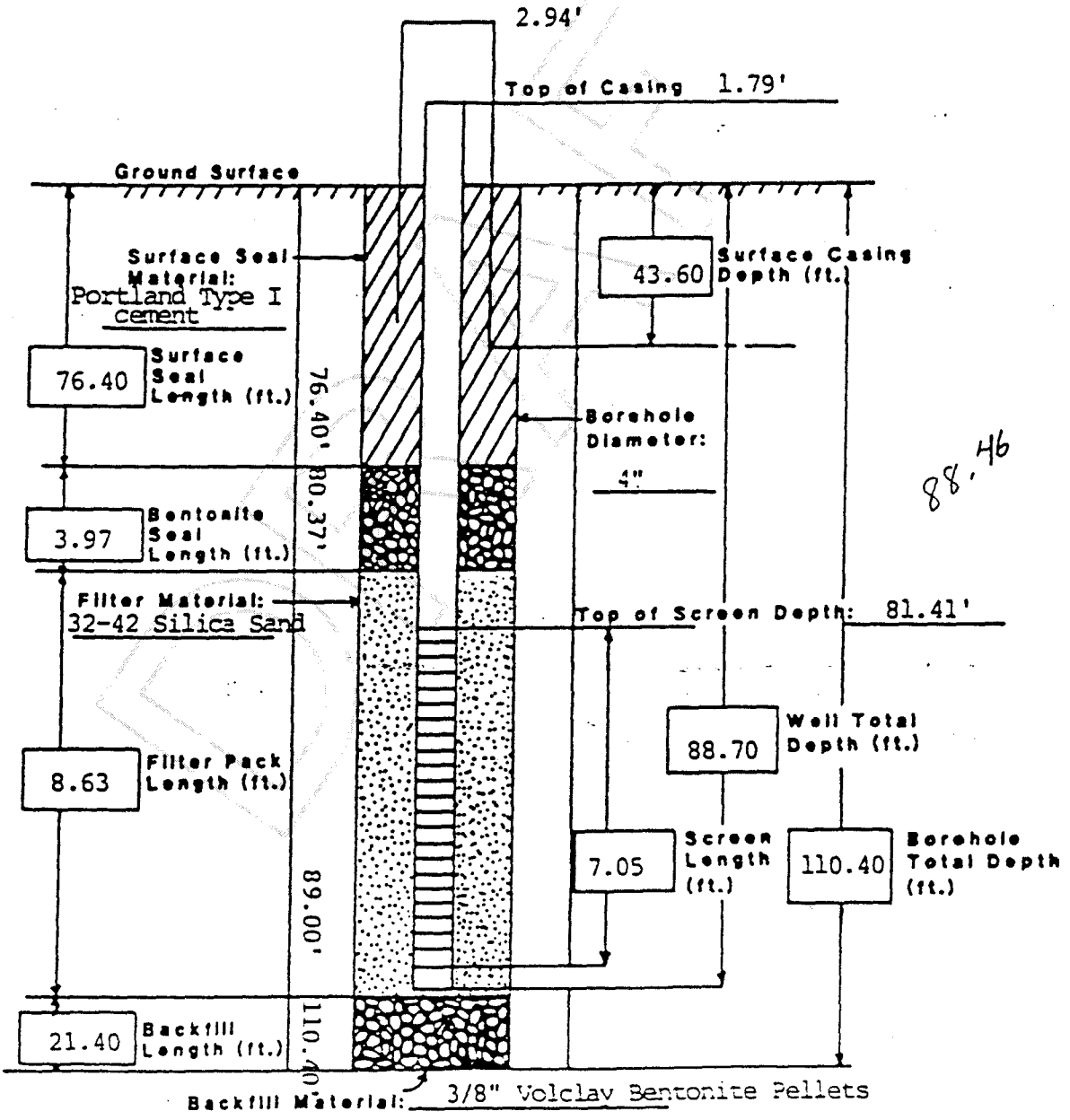


DRAFT

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



88.46

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'

Top of Casing 5973.95'

Total Depth: Well 9.50'

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

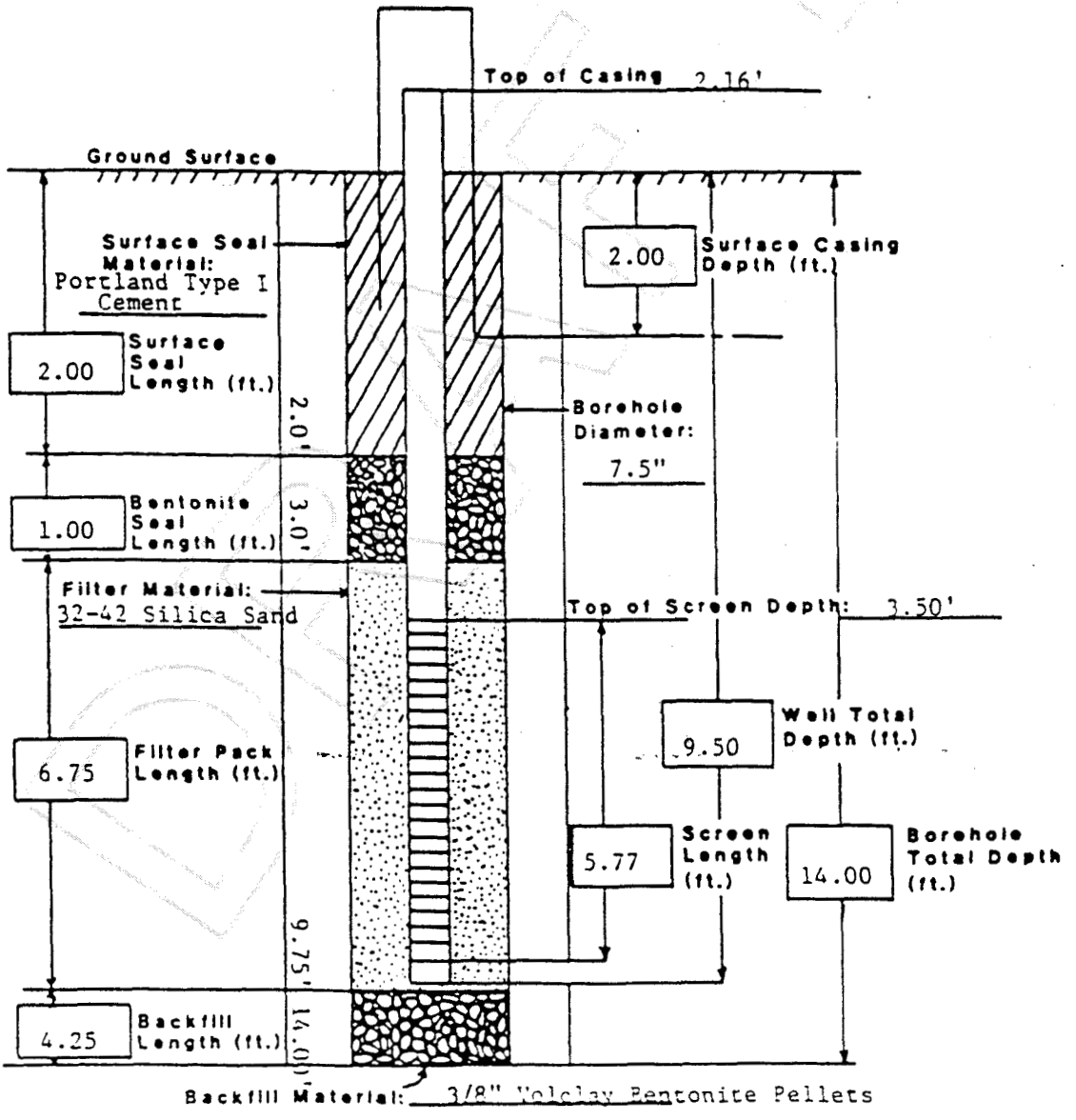
Date Installed: October 28, 1987

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
				0.7/2	5947, 5946, 5945	0, 1, 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	5944, 5943	3, 4			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.
	SP088703UC			2.45/3	5942, 5941	5, 6			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.
	SP088706CT			0.75/2.5	5940, 5939, 5938	7, 8, 9, 10			SILTY CLAYSTONE:	Very pale orange (10YR 8/2), est. plast. low to mod., some iron staining.
									SILTY 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/LAM	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE DEPTH	GRADATION	SAMPLE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SP0887BR			0% 50% 100%	0% 100%	1/2.5	5937	10				
						5936	11				
						5935	12				SILTY CLAYSTONE: Very pale orange (10YR 8/2), est. plast. low to mod., some iron staining, trace VFG sand.
					0.7/2.5	5934	13				
						5933	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	5932	15				
						5931	16				
						5930	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	5929	18				
						5928	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 NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.25/2.5	5927	20				
				5926	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 $CaCO_3$.
			2.8/2.5	5919	28				
				5918	29			CLAYSTONE:	Same as above.
					30				

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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 | 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
1.25/2.5	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), same as above.
	5910	37	CLAYSTONE:	Same as above, slightly more silt.
1.85/2.5	5909	38		
	5908	39	CLAYSTONE:	Lt. brownish gray (5YR 6/1), bedding not evident, highly weathered, mod. to highly friable, some silt, trace carb. material.
		40		

02/01/88

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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/LMA	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
			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.
			1.1/2.73	5904	43				
				5903	44	02/29/88		CLAYSTONE:	Same as above, trace of fine sand on bedding plane.
			0.1/1.37	5902	45				
				5901	46			CLAYSTONE:	Same as above (44.03 to 45.4).
			1.8/1.6	5900	47			CLAYSTONE:	Same as above.
			1.85/2.03	5899	48				
			0.15/0.47	5898	49			CLAYSTONE:	Same as above
					50			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	2085259	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	PERCENT RECOVERY	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				
						5891	56			CLAYSTONE	As above.
					1.15/1.15						
					0.3/0.28	5890	57			CLAYSTONE	As above.
										CLAYSTONE	As above.
					1.73/1.73	5889	58				
						5888	59			CLAYSTONE	As above.
							60				

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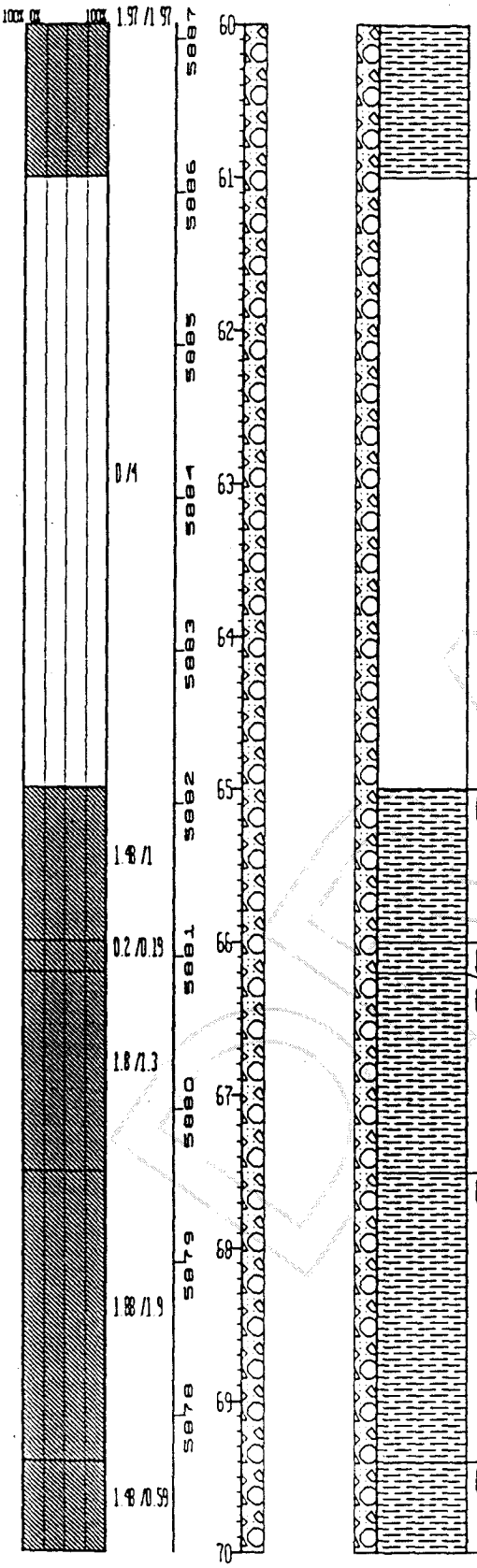
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 138	GROUND ELEVATION (FT)	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH:	751080	AREA: SOLAR POND	CASING DIAMETER (IN)	2 ID	GEOLOGIST	TSD/DCB/LAA	39-87BR
EAST:	2085269	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/10/87	

REMARKS: Hollow Stem Auger; NC Core.

SAMPLE N | SAMPLE GRAIN SIZE (0% – 50%) | 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
NO SAMPLE	
CLAYSTONE	Medium gray (N5) bedding not apparent, highly weathered, moderately friable, some carbonaceous material throughout, trace of iron oxide staining. One fracture observed.
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.
CLAYSTONE	Carbonaceous, grayish black (N2) to black (N1), thin horizontal bedding 1 to 3 mm. thick, highly weathered, moderately friable.
CLAYSTONE	Same as above but shaley and has a trace of fine sand.

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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
			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				

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STATE PLANE COORDINATE		TOTAL DEPTH (FT) 128	GROUND ELEVATION (FT)	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH	751080	ARCA SOLAR POND	CASING DIAMETER (IN)	2 ID	GEOLOGIST	TSD/DCB/LAA	39-87BR
EAST	2085269	LOCATION NUMBER MJD	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
			1.5/1.28	5967	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	5966	81			CLAYSTONE	Same as above except fine sandstone lenses are throughout, but noncontinuous.
			1.2/1	5965	82			CLAYSTONE	Same as above.
			1/1	5964	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	5963	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	5962	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	5961	86			CLAYSTONE	Same as above.
			1.52/1.55	5960	87			CLAYSTONE	Same as above with iron staining in fracture.
			0.15/0.19	5959	88			CLAYSTONE	Same as above no obvious fractures.
			1.94/1.9	5958	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) 100	GROUND ELEVATION (FT) 5597.1	PROJECT NUMBER 667.11	LOG OF BORING NUMBER
NORTH	751080	AREA SOLAR POND	CASING DIAMETER (IN) 2 ID	GEOLOGIST TSO/DCB/LAA	39-87BR
EAST	2085269	LOCATOR NUMBER 4410	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
CL 50%	100% OR 100%		5597	90				NO SAMPLE
		0/1.9	5596	91				
			5595	92				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.
		1.85/1.85	5594	93				
			5593	94				SILTY CLAYSTONE Same as above
		1.65/1.65	5592	95				
		0.5/0.5	5591	96				SILTY CLAYSTONE Same as above
		1.15/1.15	5590	97				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	5589	98				CLAYEY SILTSTONE Same as above
		1.15/1.15	5588	99				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
				100				

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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)	2.10	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 OF 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				

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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) 2.10	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
6281			1.75/1.65	5937	110			SANDY SILTSTONE	Very fine, very light gray (N8) massive bedding highly weathered, slightly friable, trace of carbonaceous material
			0.55/0.55	5936	111			SANDY SILTSTONE	Same as above with an increase in carbonaceous material
			0.33/0.03	5935	112			CLAYSTONE	Medium gray (N5) highly weathered, moderately friable some carbonaceous material
			0.7/0.59					CLAYSTONE	Same as above with some very fine sandstone and siltstone layers.
			1.65/1.56	5934	113			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.
				5933	114				
			1.82/1.84	5932	115			SANDY SILTSTONE	Same as above with a trace of iron staining.
				5931	116			SANDY SILTSTONE	Same as above with some clay. Stone is shaley and moderately friable.
			1.7/.72	5930	117				
				5929	118			CLAYSTONE	Medium gray (N5) thin horizontal bedding (<1 mm. to ?) shaley, highly weathered, moderately friable, some carbonaceous material, trace of silt and iron staining
			1.14/1.9	5928	119				
			0.55/0.59		120			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	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

Recovery/Interval	Depth (ft)	Unified Soils Classification or Rock Type	Description
1.1/1	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	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	122	SANDY SILTSTONE	Same as above
1.93/1.95	123	SANDY SILTSTONE	Same as above
1.85/1.8	124	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
1.55/1.5	126	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	128	SANDY SILTSTONE	Same as above, less sand
1.05/0.8	130	SILTY CLAYSTONE	Light olive gray (5Y 6/1) massively bedded ? to shaley highly weathered, moderately friable, trace of carbonaceous material

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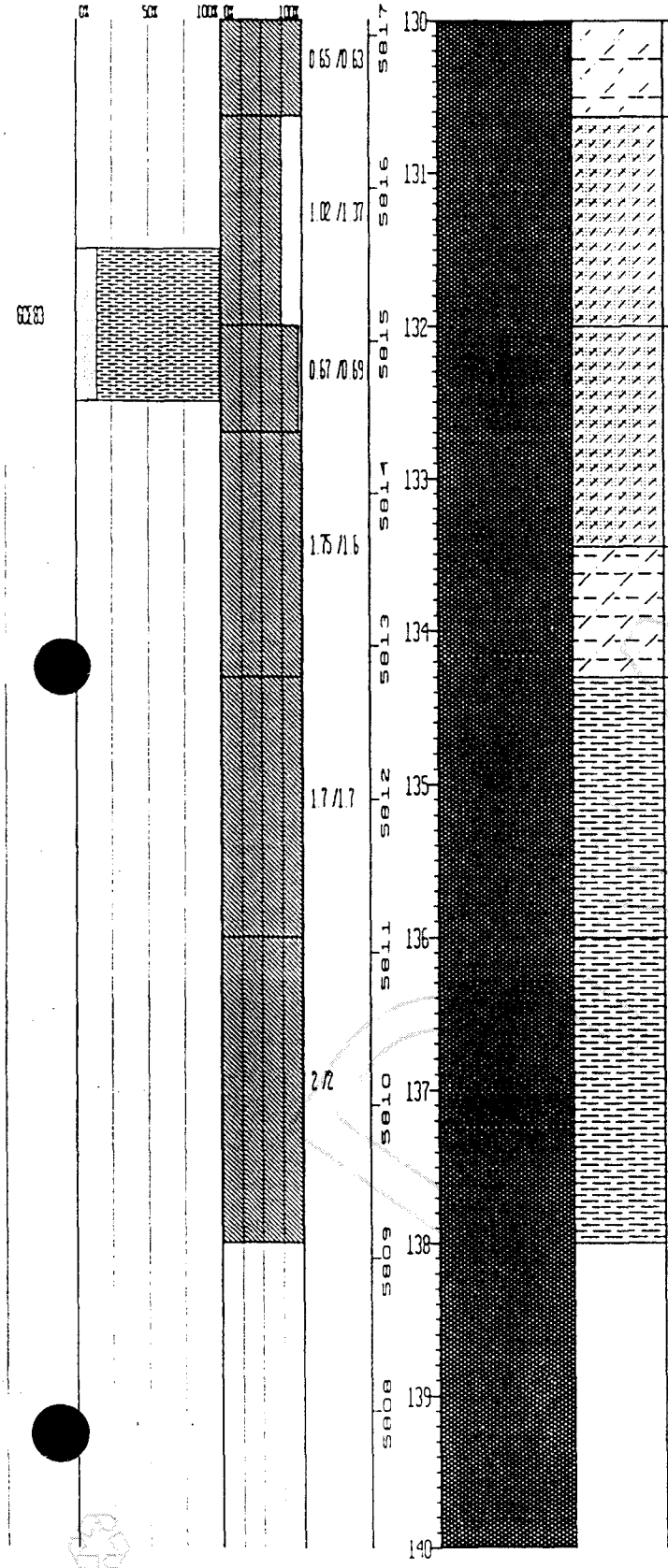
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 138		GROUND ELEVATION (FT)	5947.1	PROJECT NUMBER	667.11	LOG OF BORING NUMBER
NORTH	751080	AREA SOLAR POND		CASING DIAMETER (IN)	2 ID	GEOLOGIST	TSO/DCB/LAA	39-87BR
EAST	2085269	LOCATOR NUMBER	M10	BOREHOLE DIAMETER (IN)	4	DATE DRILLED	11/10/87	

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SILTSTONE	Greenish gray (5GY 6/1), massively bedded ? to thin bedding, highly weathered, slightly friable.
SANDY SILTSTONE	V. fine, greenish gray (5GY 6/1), massive bedding ?, highly weathered, slightly friable, some clay, trace of carbonaceous material.
SANDY SILTSTONE	Same as above.
SILTY CLAYSTONE	Grades into a silty claystone, olive gray (5Y 4/1), shaley, highly weathered, moderately friable, some carbonaceous material.
CLAYSTONE	Greenish gray (5GY 6/1), shaley, highly weathered, moderately friable, trace of silt and carbonaceous material.
CLAYSTONE	Top 1/2 of interval is same as above, 2nd 1/2 of interval becomes highly carbonaceous and shaley, approaches highly friable.

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

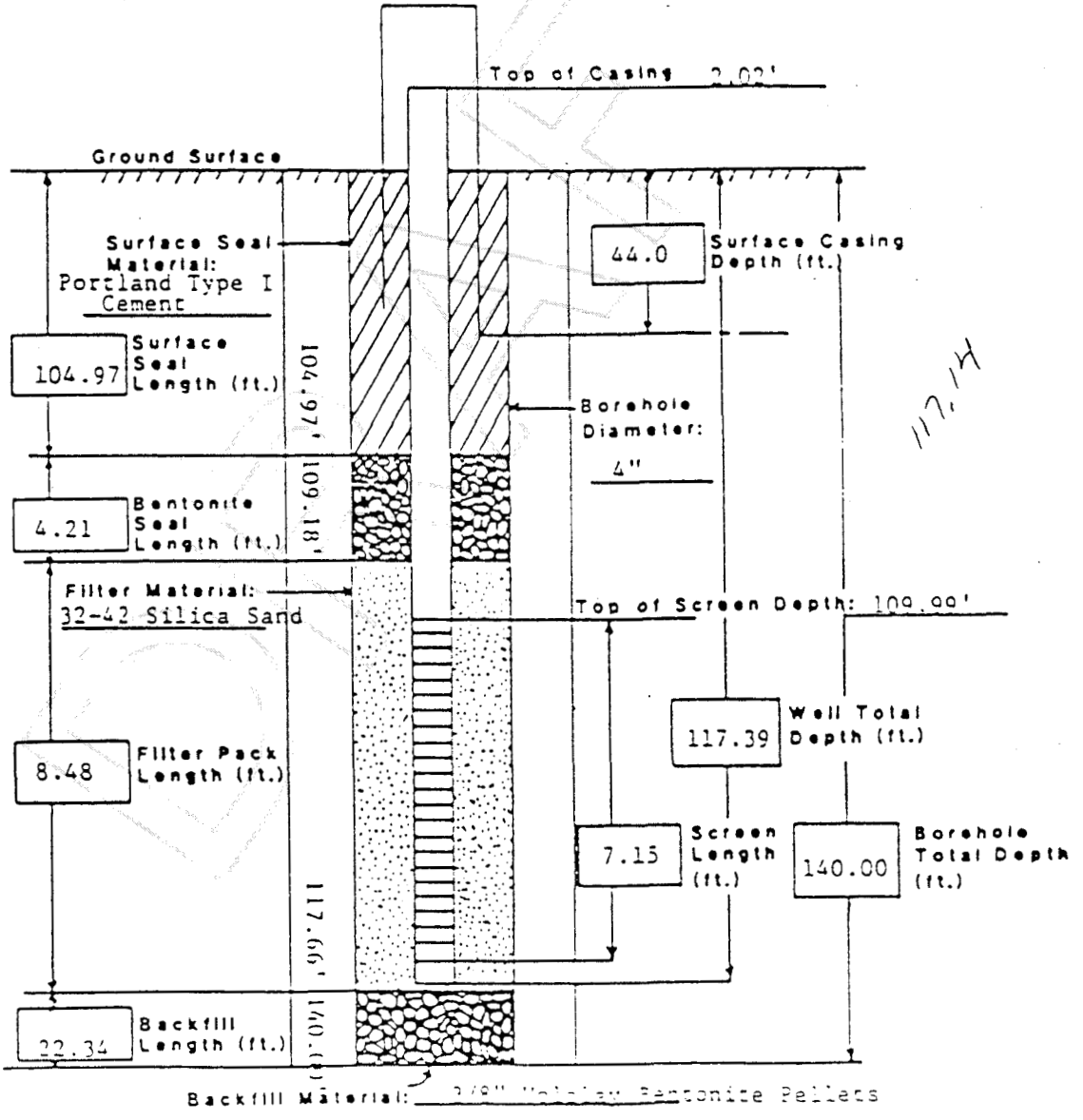
Approved By

Installed By K.D. Holliway
Geologist

Site Manager

CEARP Manager

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



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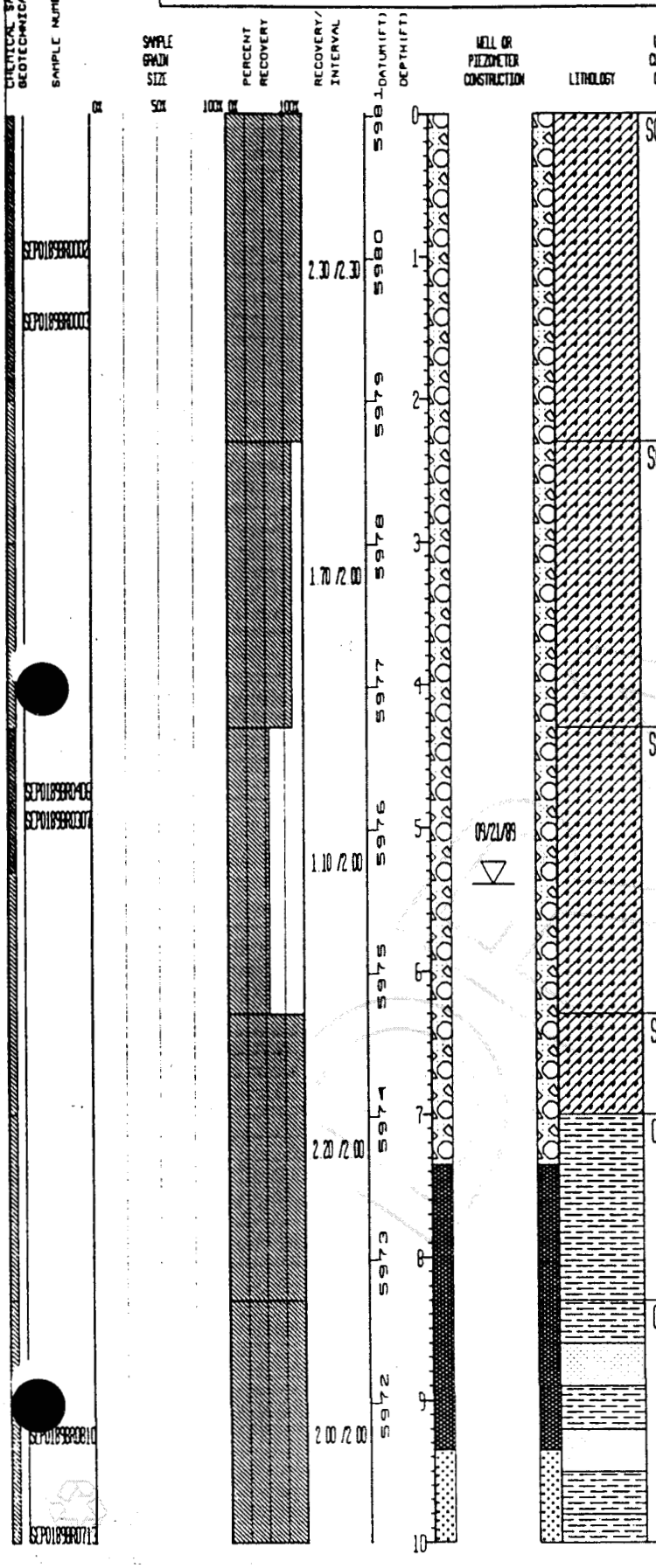
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 23.3	GROUND ELEVATION (FT)	5981.02	OLD WELL NUMBER	SEP01-89BR	LOG OF BORING NUMBER:
NORTH	750195	AREA: SOLAR POND	CASING DIAMETER (IN)	4.5 O.D.	GEOLOGIST	RAC	P207389
EAST	2084468	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN)	7.25	DATE DRILLED	06/05/89	

REMARKS: Hollow Stem Auger. Weston Log.



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. coliche 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	LOG OF BORING NUMBER:	
NORTH: 750195	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 / 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
SEP0189BR0713	0% 50%	100% 0% 100%		5971	10				
			2.00/2.00	5970	11			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
				5969	12				
SEP0189BR1214			1.50/2.00	5968	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.
				5967	14				
								SANDSTONE	Same as above. 80% sand, 20% fines
			2.00/2.00	5966	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				5965	16				
SEP0189BR1618			2.00/2.00	5964	17			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.
				5963	18				
			2.00/1.00	5962	19			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
SEP0189BR1920			1.00/1.00		20			SILTY CLAYSTONE	Same as above (Silty Claystone with some Sand) 10% sand

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 23.3	GROUND ELEVATION (FT)	5981.02	OLD WELL NUMBER	SEPOL-898R	LOG OF BORING NUMBER
NORTH:	750195	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	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				
				1.50 /1.00	5960	21			SILTY CLAYSTONE	Same as above - soft to firm. (Silty Claystone with some Sand). 10% sand.
				1.50 /1.00	5959	22			SILTY CLAYSTONE	Same as above - iron staining in layers. (Silty Claystone with some Sand). 10% sand.
				1.50 /1.00	5958	23			SILTY CLAYSTONE	Same as above. (Silty Claystone with some Sand). 10% sand.
										Total Drilled Depth = 23.3'.
					5957	24				
					5956	25				
					5955	26				
					5954	27				
					5953	28				
					5952	29				
						30				

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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	2084481	LOCATOR NUMBER: L10	BOREHOLE DIAMETER (IN)	7.25	DATE DRILLED	06/06/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SP - 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
	SEP0289002			2.00 /2.00	5985	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.
					5984	1				
				2.00 /2.00	5983	2			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.
					5982	3				
					5981	4			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.
	SEP0289016									
	SEP0289016			1.00 /2.00	5980	5	09/20/89			
					5979	6			SM:	Silty Clayey Sand and Gravel - same as above. (sm-gc)
				2.00 /2.00	5978	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.
					5977	8			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'
	SEP0289010									
				2.00 /2.00	5976	9				
						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

Sample Number	Recovery/Interval	Unified Soils Classification or Rock Type	Description
SEP04890002	1.60 /2.20	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.
SEP04890006	1.20 /2.00	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).
SEP04890406	1.50 /2.00	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	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.
SEP04890810 SEP04890612	1.80 /2.00	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.

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

Well or piezometer construction: 09/14/89 ▽ 05/05/89

Datum (FT): 5966, 5965, 5964, 5963, 5962, 5961, 5960, 5959, 5958, 5957

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: K10	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
					5966	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	5965	11				
					5964	12			SC	Clayey Sand - same as above
	SEP04891214			2.20 /2.00	5963	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
	SEP04891215				5962	14				
				1.10 /2.00	5961	15			SILTY CLAYSTONE	Same as above.
					5960	16				
				0.00 /2.00	5959	17			NO SAMPLE	NO SAMPLE
					5958	18				
					5957	19				Total Drilled Depth = 18.2'
						20				

WELL COMPLETION INFORMATION

QA By/Date Farrell 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.

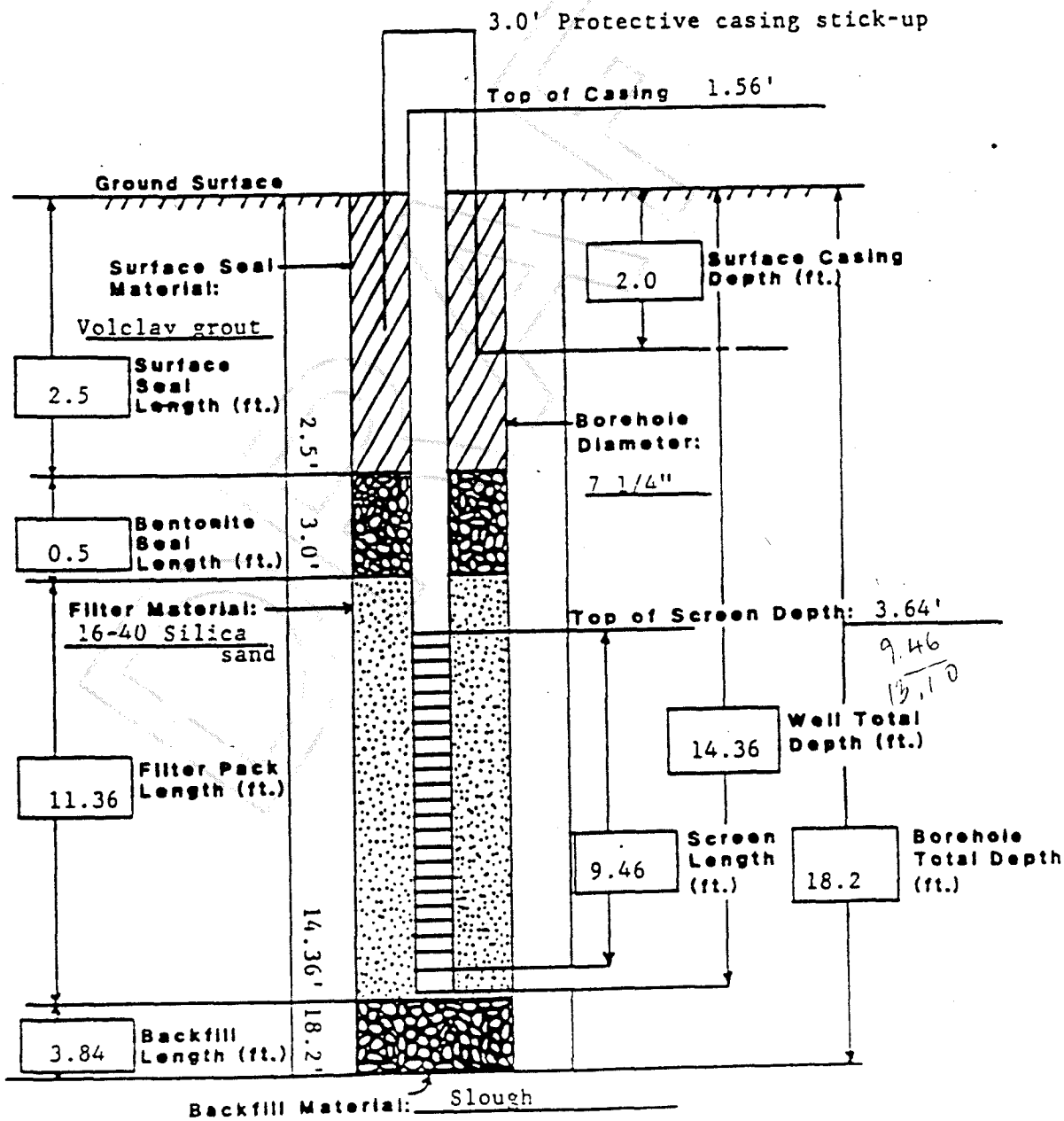
Date Installed 05/05/1989

Approved By Farrell 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
	SEP05B9BR0002			1.40 /2.30	5965, 5964	0–2			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.
	SEP05B9BR0006			0.30 /2.00	5963, 5962	2–4			CL	Gravelly Clay - same as above. Highly calcareous caliche (HCl reactive), damp.
	SEP05B9BR0406			1.50 /2.00	5961, 5960	4–6			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	6–8			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)
	SEP05B9BR0810 SEP05B9BR0613			2.20 /2.00	5957, 5956	8–10			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:
NORTH: 750392
EAST: 2085343

TOTAL DEPTH (FT): 32.3
AREA: SOLAR POND
LOCATOR NUMBER: M10

GROUND ELEVATION (FT): 5965.88
CASING DIAMETER (IN): 4.5 0.0
BOREHOLE DIAMETER (IN): 7.25 .4

PROJECT NUMBER:
GEOLOGIST: KEM
DATE DRILLED: 05/05/89

LOG OF BORING NUMBER: P207789

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
						10				
				2.20/2.00	5955	11			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.
					5954	12				
					5953				CL	Gravelly Clay - same as above.
	SEP05898R1214			2.20/2.00		13			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.
					5952	14				
					5951				SILTY CLAYSTONE	Same as above - interbedded sand lense. C.g. to f.g. quartz. Highly calcareous, caliche, HCl reactive.
				2.20/2.00		15				
	SEP05898R1318				5950	16				
					5949	17			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.
	SEP05898R1618			2.20/2.00						
					5948	18				
					5947	19			SILTY CLAYSTONE	Same as above - grading to olive gray (5 Y 4/1). Lignite, black (N 1/0).
				2.20/2.00						
					5946	20				

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

Sample Number	Recovery/Interval	Depth (FT)	Description
SEP0589BR2022 SEP0589BR1824	2.20/2.00	20–22	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.
	2.20/2.00	22–24	SILTY CLAYSTONE: Same as above.
SEP0589BR2426	2.20/2.00	24–26	SILTY CLAYSTONE: Same as above - grading to olive gray (5 Y 3/2). Mottling, dark yellowish orange (10 YR 6/6).
	2.20/2.00	26–28	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	28–30	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.

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

Well or piezometer construction: 09/14/89

Datum (FT): 5945, 5944, 5943, 5942, 5941, 5940, 5939, 5938, 5937, 5936

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
				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				
					5932	33				Total Drilled Depth = 32.3'
					5931	34				
					5930	35				
					5929	36				
					5928	37				
					5927	38				
					5926	39				
						40				

DRAFT

WELL COMPLETION INFORMATION

QA By/Date Jarell 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.

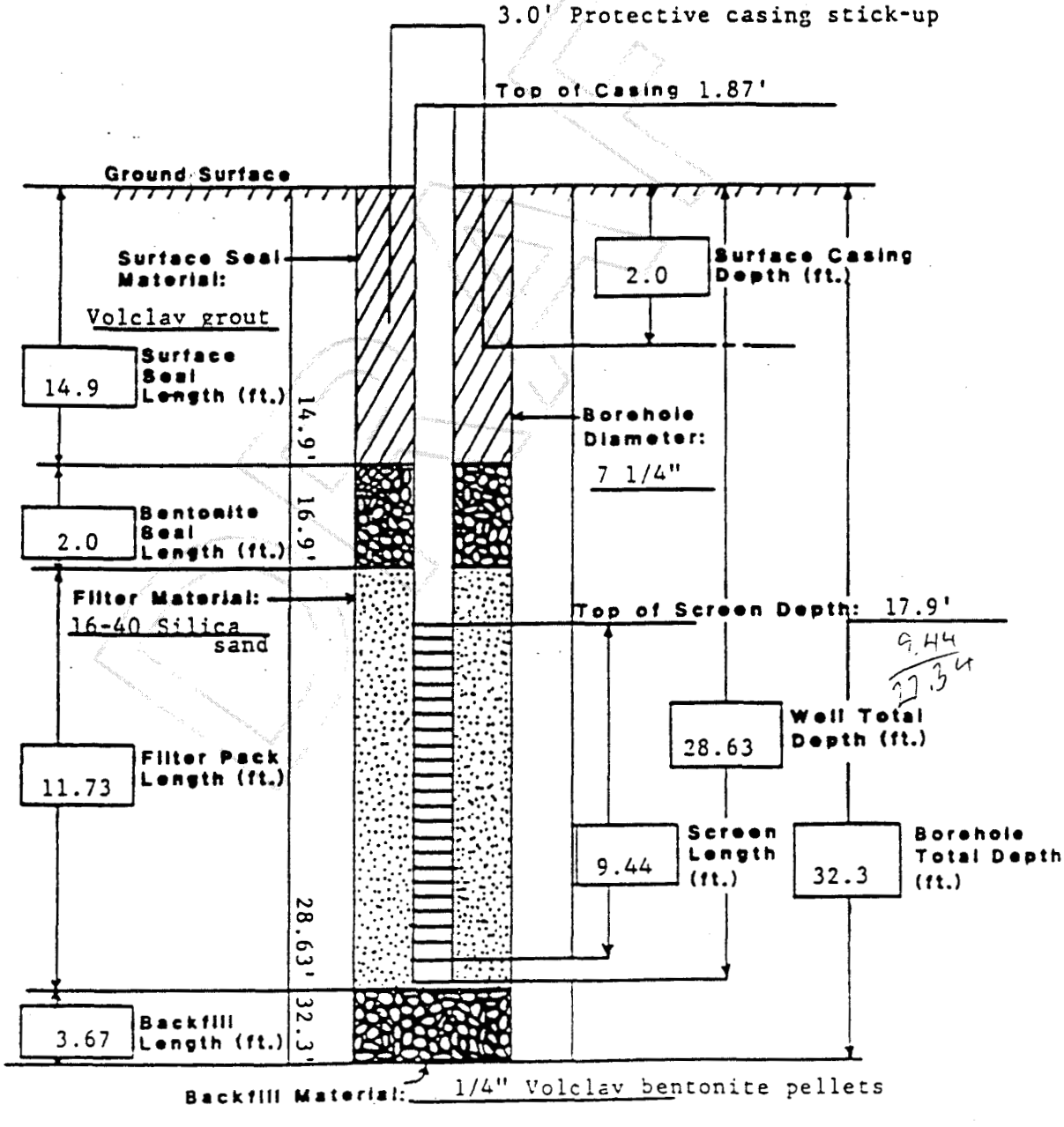
Date Installed 05/08/1989

Approved By Jarell 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: SEP06-898R
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. ASI Log.

CRITICAL 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
SEP06890002			0.90 /1.00	5962	0	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	1			NO SAMPLE:	NO SAMPLE.
			0.50 /0.50	5960	2	09/15/89		GC:	Clay - mod. brown (5 YR 4/4), mod. plasticity. Trace sand and gravel.
			1.50 /1.70	5959	3			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.
SEP06890406			1.30 /1.00	5958	4				
			0.00 /1.00	5957	5			NO SAMPLE:	NO SAMPLE.
			0.80 /0.90	5956	6			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	7			NO SAMPLE:	NO SAMPLE.
			2.20 /2.00	5954	8			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.
				5953	9				
					10				

STATE PLANE COORDINATE:
NORTH: 750671
EAST: 2085343

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

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

OLD WELL NUMBER: SEPC6-B9BR
GEOLOGIST: BCB
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 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
						10				
					5952	11				Total Drilled Depth = 10.5'.
					5951	12				
					5950	13				
					5949	14				
					5948	15				
					5947	16				
					5946	17				
					5945	18				
					5944	19				
					5943	20				

DRAFT

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'

Top of Casing 5964.90'

Total Depth: Well 8.95'

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.

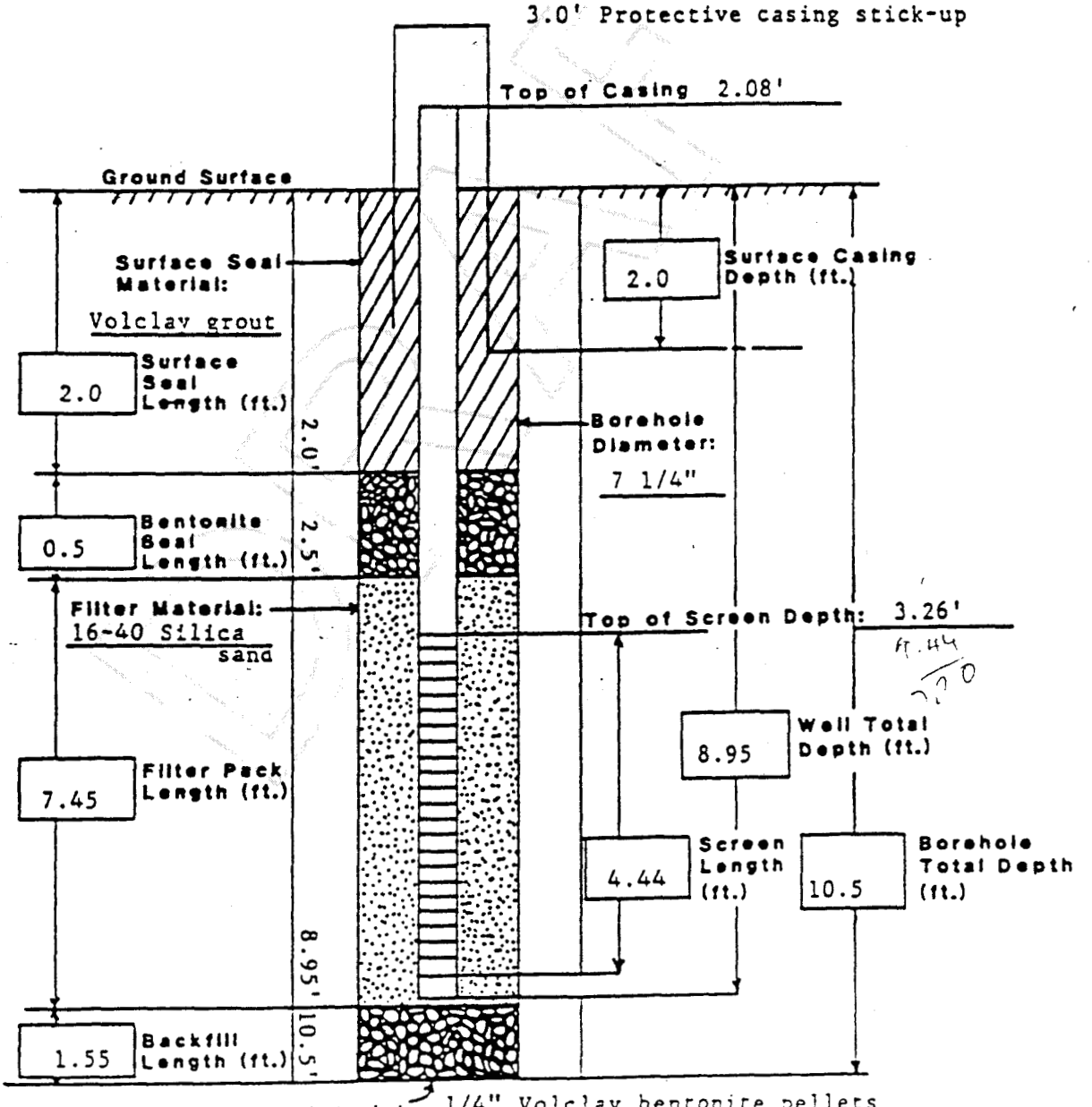
Date Installed 05/01/1989

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:	SEP07-898R	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.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	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
				1.60 /2.10	5962	1			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
	SEP07898R0002 SEP07898R0003			0.00 /0.10	5961	2			NO SAMPLE:	NO SAMPLE.
				1.20 /1.20	5960	3			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	5959	4	05/02/89		NO SAMPLE:	NO SAMPLE.
	SEP07898R0005			1.60 /2.00	5958	5			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.
				2.10 /2.00	5956	7			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.
				1.90 /2.00	5954	9				

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

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%		5953	10			CLAYSTONE:	Same as above. Caliche component decreases below 10.0' and localized iron staining increases in frequency. >50% clay.
	SEP07890R1012			1.90 /2.00	5952	11				
					5951	12				
				1.90 /2.00	5950	13				
					5949	14	09/14/89			
	SEP07890R1416			1.90 /2.00	5948	15				
	SEP07890R1218				5947	16				
				1.90 /2.00	5946	17				
					5945	18			CLAYSTONE:	Same as above. Heavily iron stained from approx. 18.2' to 18.3' with poorly developed, iron-rich nodules and some calcitic mineralization.
	89BR1820			1.90 /2.00	5944	19				
						20				

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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: 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				
				5941	22			CLAYSTONE:	Same as above - Trace of silt below approx. 22.0'.
			1.20 /2.00	5940	23				
				5939	24			CLAYSTONE:	Interval grades to well weathered below approx. 24.4' and exhibits iron stained fractures.
			1.80 /2.00	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.

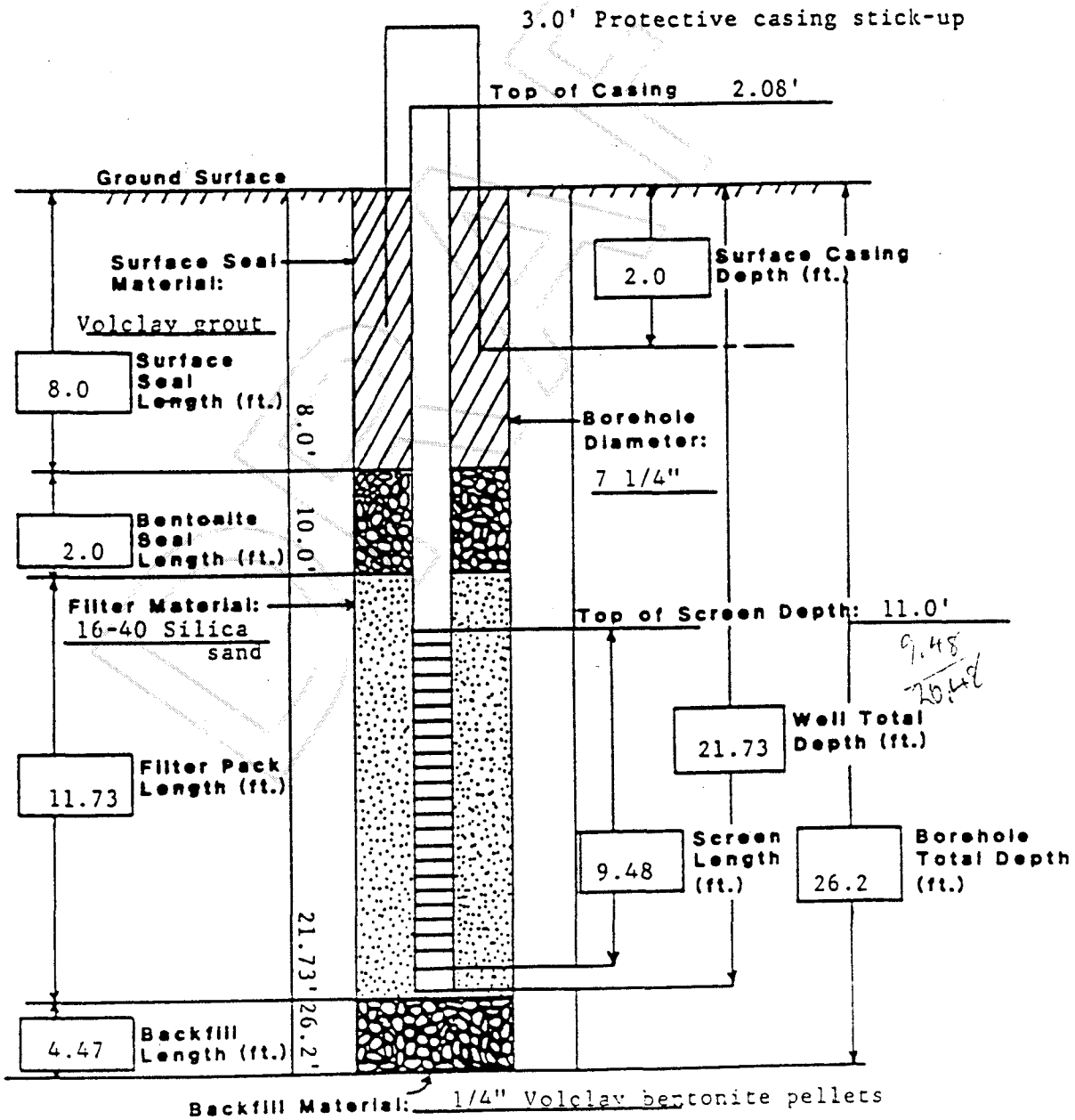
Date Installed 05/02/1989

Approved By Jarell Burman
Site Manager

Installed By K.E. Miller
Geologist

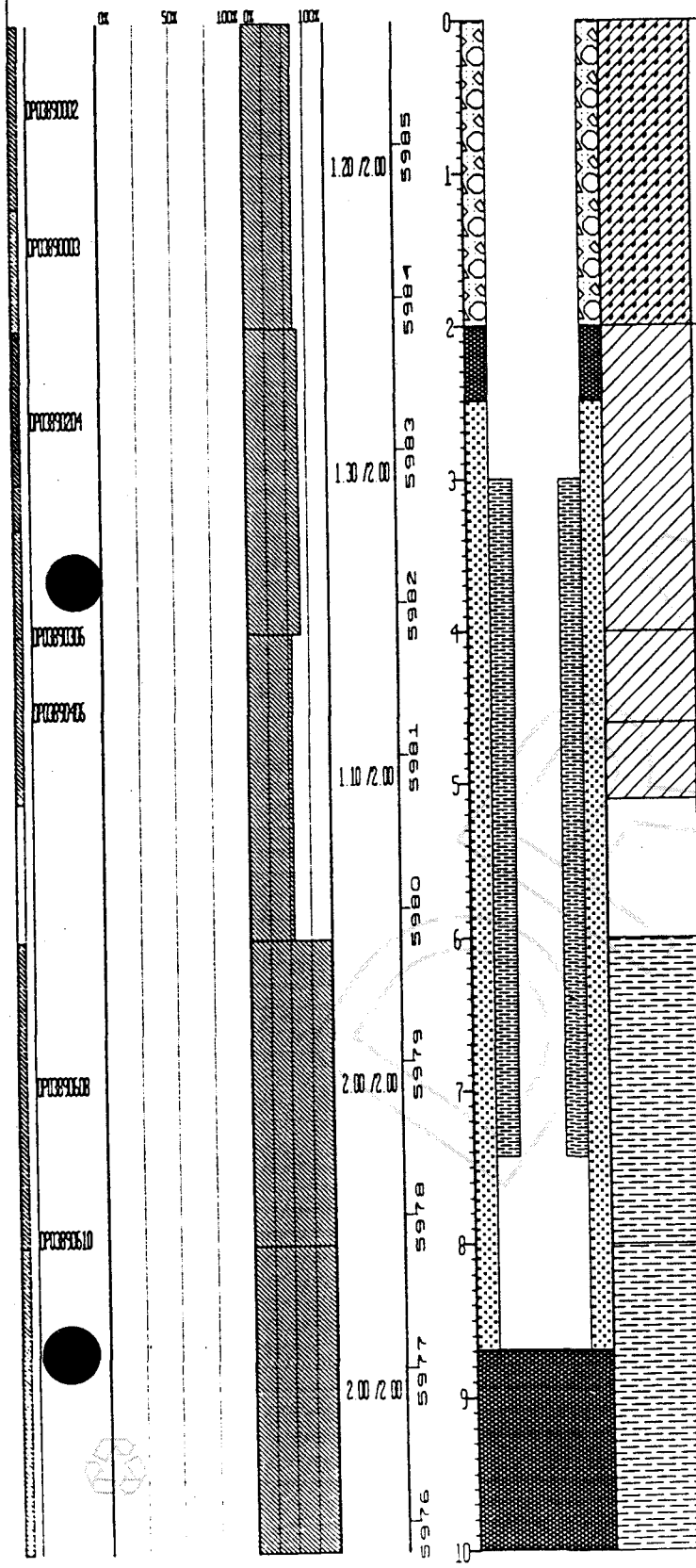
CEARP Manager

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): 4.500	GEOLOGIST: SPC	P218089	
EAST: 2084020	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/01/89		

REMARKS: Hollow Stem Auger. Weston Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
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.
CL:	Gravelly Sandy Clay - same as above.
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.
NO SAMPLE:	NO SAMPLE.
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.
CLAYSTONE:	Same as above - decreasing amount of calcareous material, trace dentrites.

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

LOG OF BORING NUMBER: P218089

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	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	11–12				
					12				SILTY CLAYSTONE: Same as above - increased iron staining.
			2.00/2.00	5973	12–13				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.
					13				SILTY CLAYSTONE: Same as above (reference interval 12.0' to 12.4').
				5972	14				
			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				
				5969	17				Total Drilled Depth = 16.0'.
				5968	18				
				5967	19				
				5966	20				

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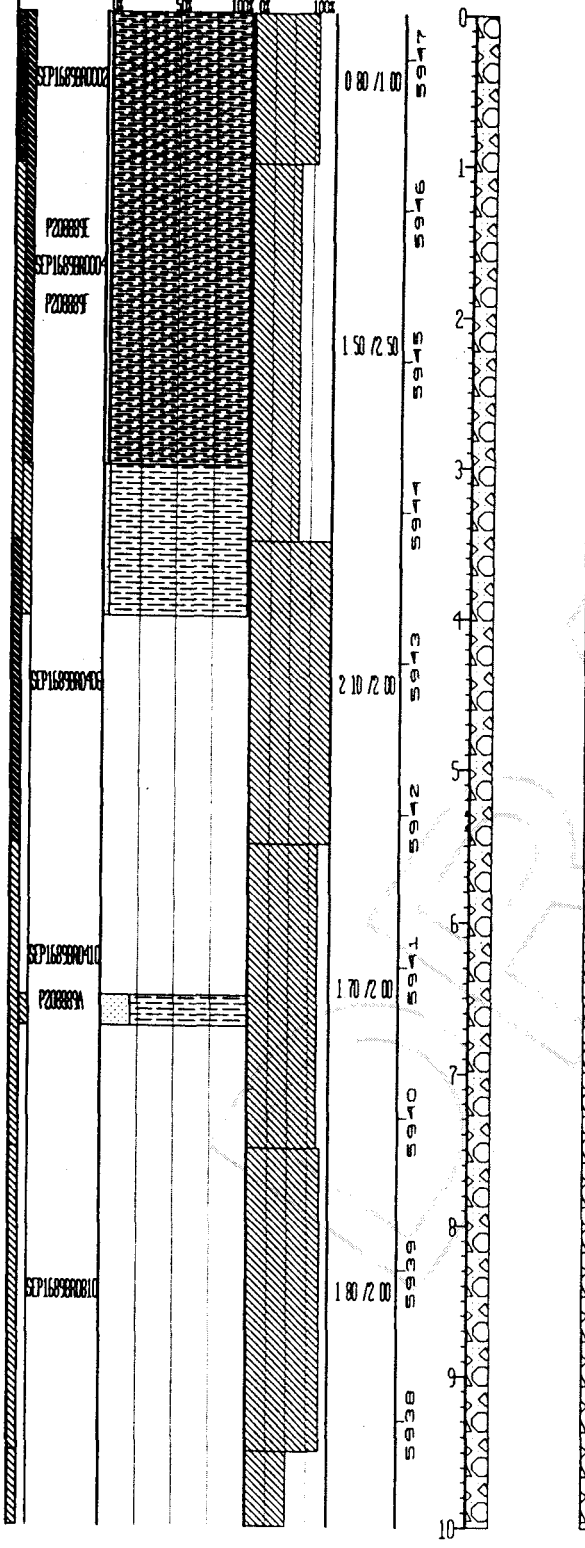
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT):	5947.30	PROJECT NUMBER:		LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	06/23/89	

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



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	

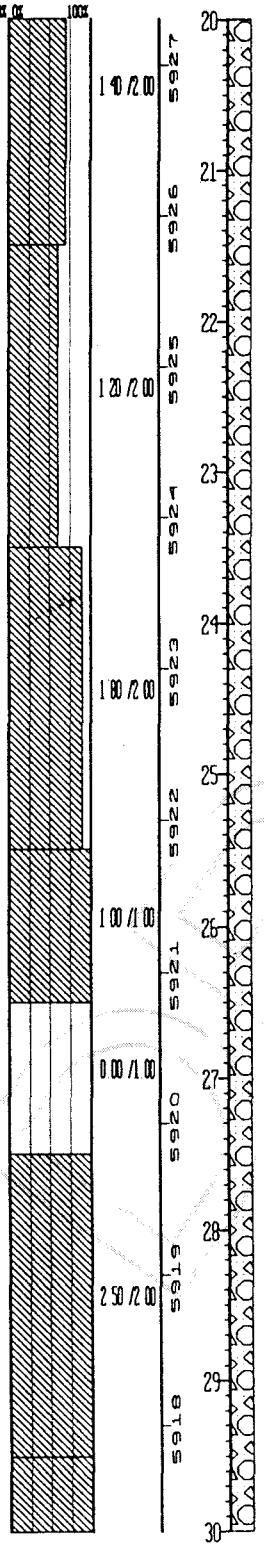
REMARKS: Hollow Stem Auger 0'-41.5', Rotary Core 41.4'-105.7'. ASI Log. Surface casing set to 41.5' on 05/09/89 by K.E. Miller
Geotechnical Sample 87.76' to 96.94', 2% sand, 50% silt, 48% clay

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
				1.00/2.00	5937	10				
					5936	11				
	SEP168958R1018					12			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
	SEP168958R1214			1.90/2.00	5935					
					5934	13				
				1.40/1.80	5933	14				
	P208889					15				
				0.80/0.20	5932				NO SAMPLE	NO SAMPLE
						16			SANDY SILTSTONE	Same as above (reference interval 12.0' to 15.3'). 45% v.f.g. sand, 55% silt
	SEP168958R1618			1.80/2.00	5931					
					5930	17				
					5929	18				
				1.10/2.00						
					5928	19			SILTY CLAYSTONE	Light olive gray (5 Y 6/1), bedding not apparent. Mod friable, well weathered. Silt fraction decreases with depth. >50% clay
						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.

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	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

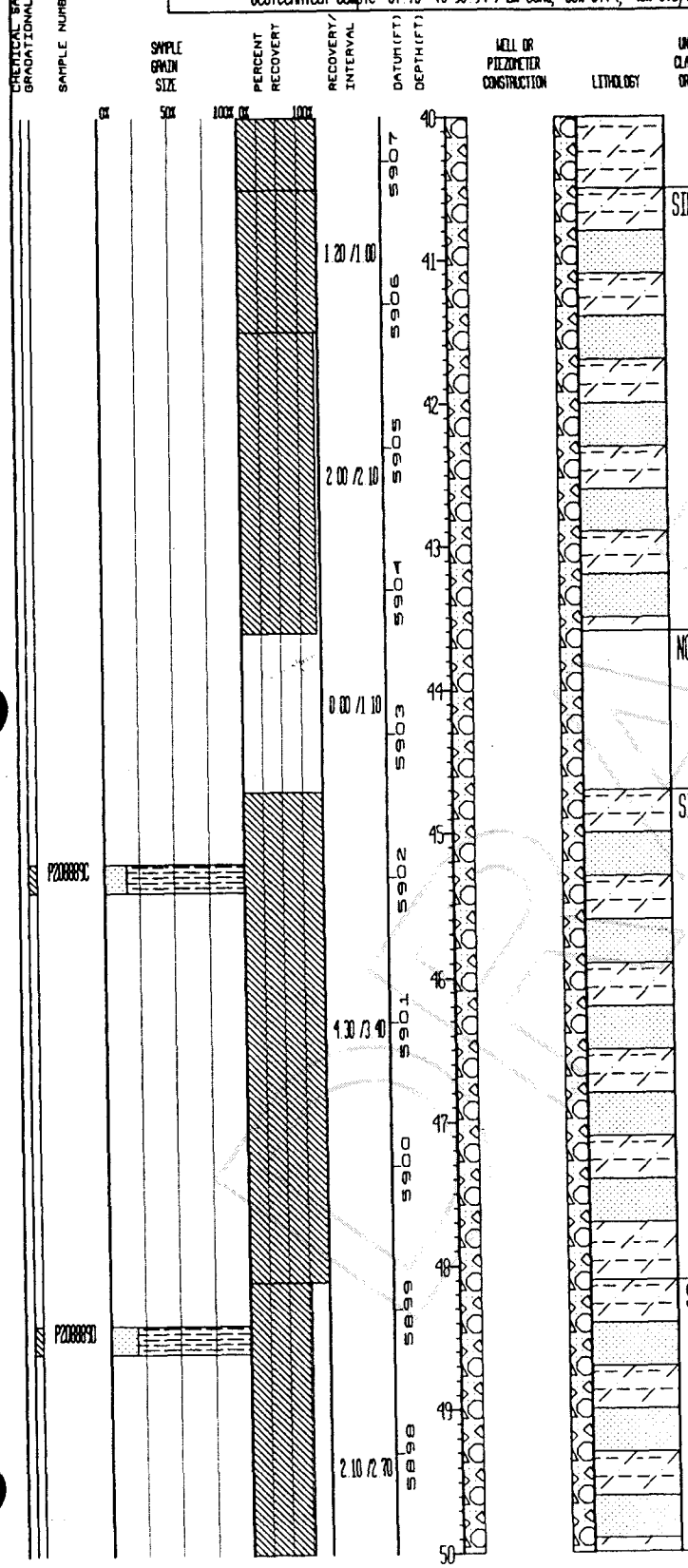
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT): 5947.30	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: DCB	P208889
EAST:	2085249	LOCATOR NUMBER: N11	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 06/23/89	

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	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%	2.30 /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: 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
SILTY CLAYSTONE	Interbedded Silty Claystone and v.f.g. Sandstone - med. gray (N5) and light gray (N7) respectively, slightly friable. Thin bedded (<2" min.). 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'. 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
				1.90/1.90	5897, 5896, 5895	50, 51, 52				
				4.00/4.00	5894, 5893, 5892, 5891	53, 54, 55, 56			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
				3.90/3.70	5890, 5889, 5888	57, 58, 59, 60			SILTY CLAYSTONE	Same as above. Sand and silt fraction decrease with depth.

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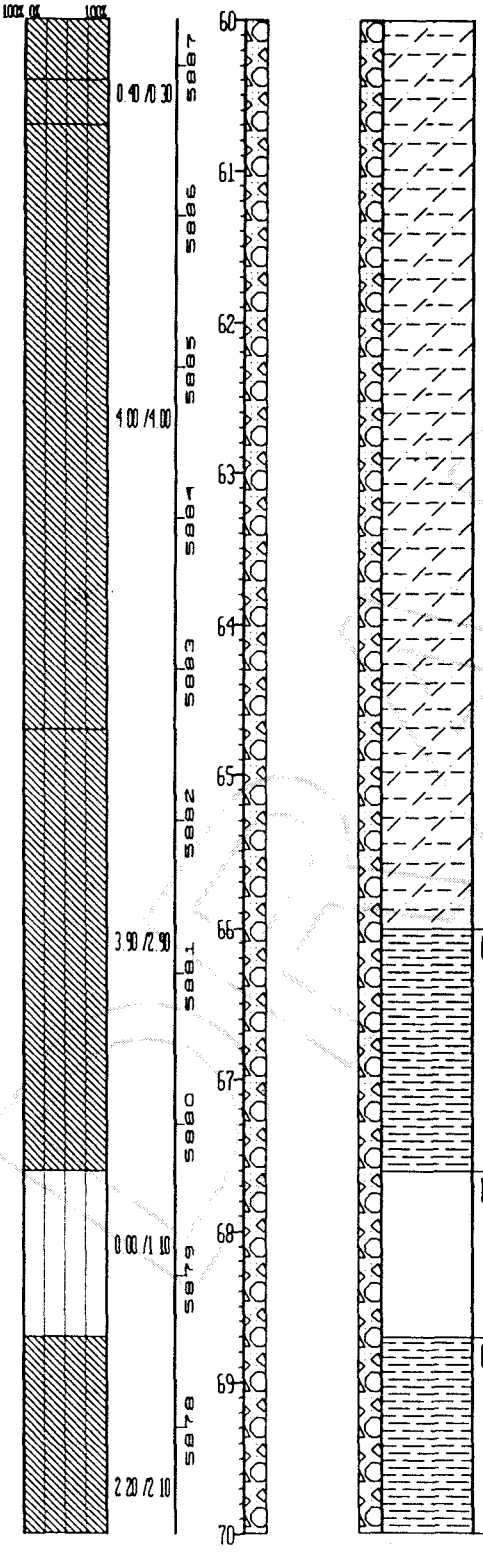
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 105.7	GROUND ELEVATION (FT): 5947.30	PROJECT NUMBER:	LOG OF BORING NUMBER:
NORTH:	751086	AREA: SOLAR PONDS	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: DCB	P208889
EAST:	2085249	LOCATOR NUMBER: M11	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 06/23/89	

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% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

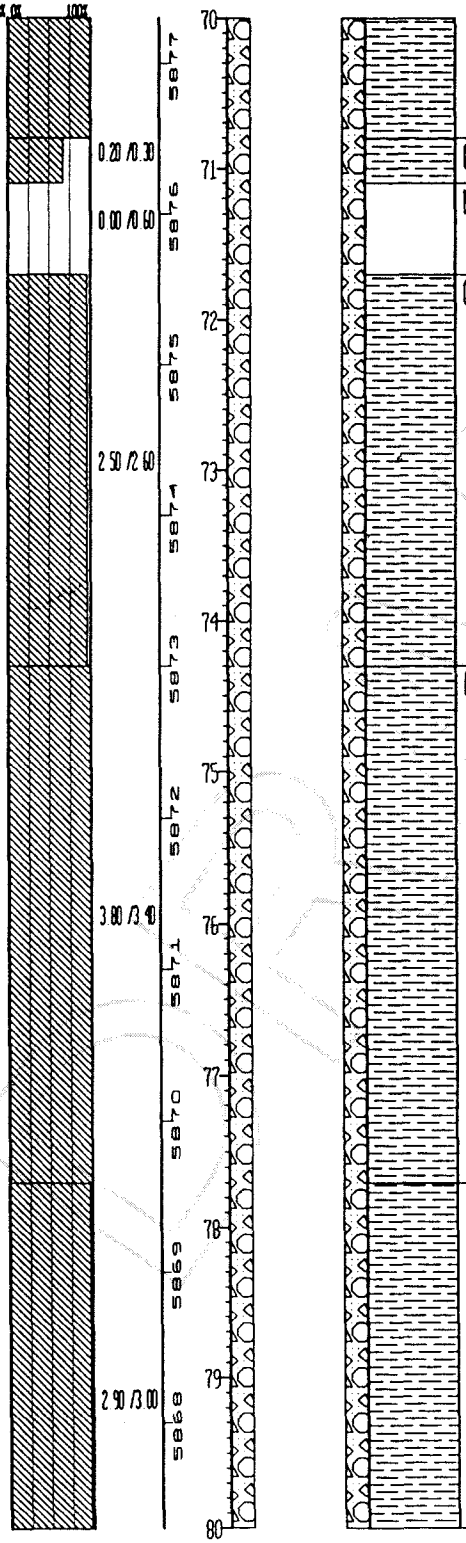


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Interval grades to Claystone - med. dark gray (N4), poorly bedded. Slightly to mod. friable, some silt. Trace of carbonaceous material.
NO SAMPLE	NO SAMPLE
CLAYSTONE	Same as above (reference interval 66.0' to 67.6')

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% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Same as above.
NO SAMPLE	NO SAMPLE.
CLAYSTONE	Same as above (referenced interval 66.0' to 67.6').
CLAYSTONE	Color grades to med. gray (N5) below approx. 74.5'
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% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL: 0.90/1.00; 1.50/1.00; 1.00/3.90; 0.15/0.20
DATUM (FT): 5967, 5966, 5965, 5964, 5963, 5962, 5961, 5960, 5959, 5958
DEPTH (FT): 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
WELL OR PIEZOMETER CONSTRUCTION: 09/19/89
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

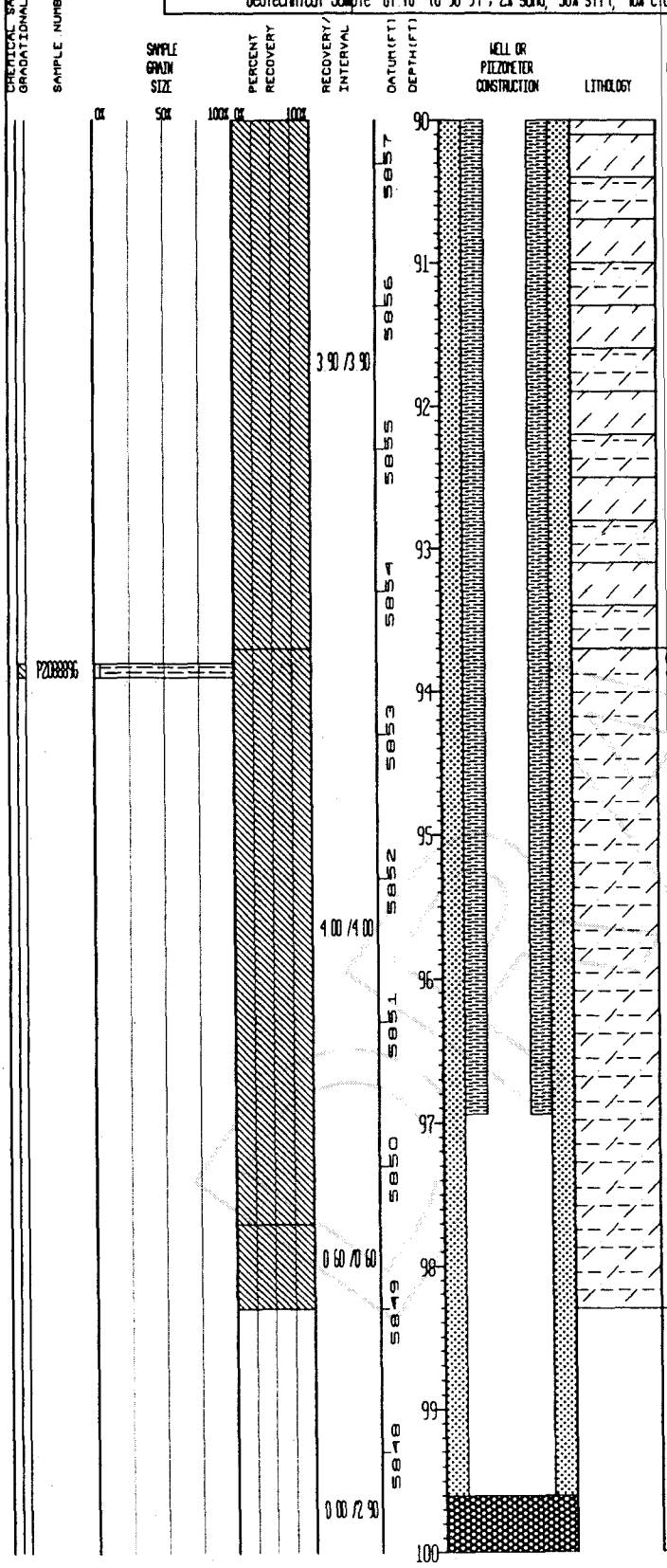
SILTY CLAYSTONE: Silty Claystone and interbedded v.f.g. Sandstone - med. dark gray (N4) and light gray (N7), thin bedded (2 mm.), slightly friable
35% v.f.g. sand, 65% silt/clay

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

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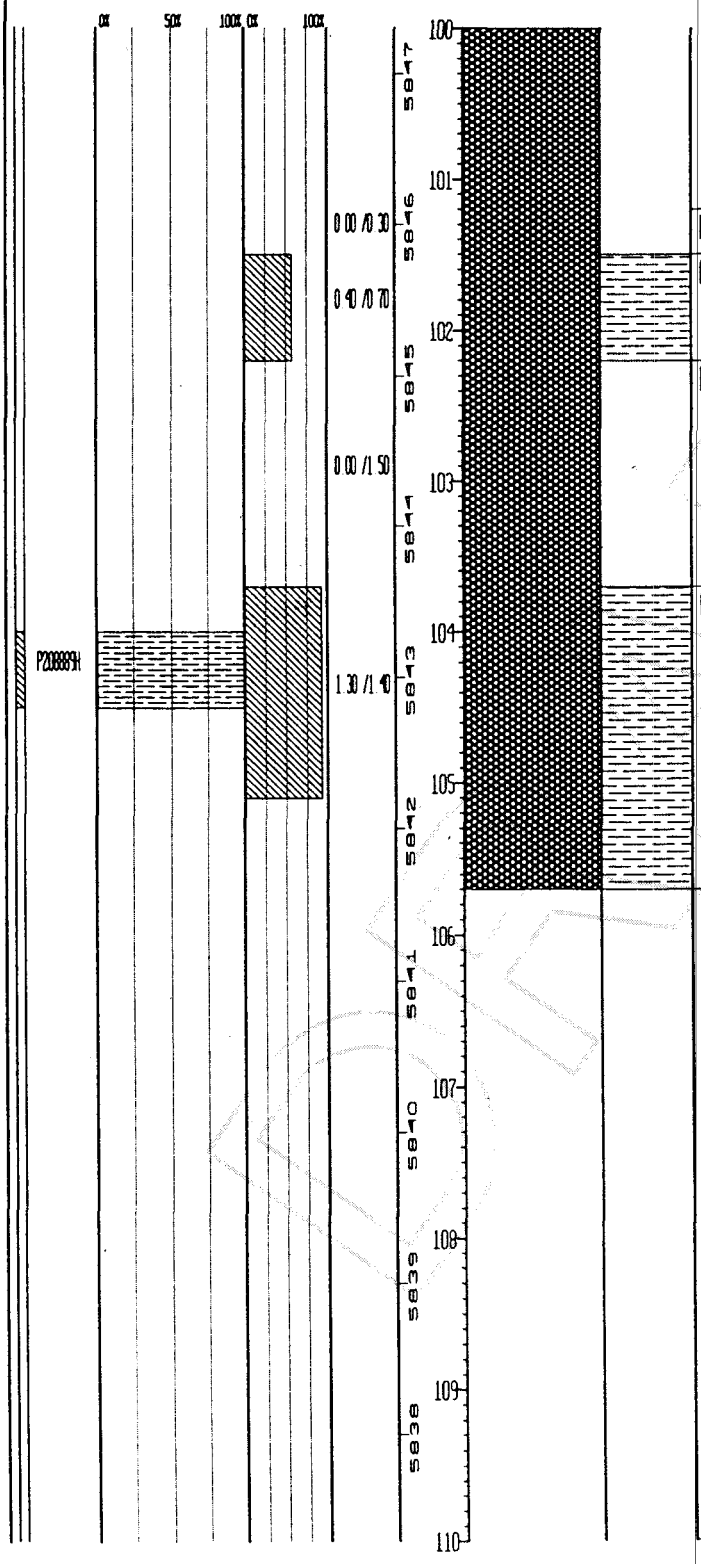
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 105.7	GROUND ELEVATION (FT) 5947.30	PROJECT NUMBER	LOG OF BORING NUMBER
NORTH	751086	AREA SOLAR PONDS	CASING DIAMETER (IN) 2 3/8 O.D.	GEOLOGIST DCB	P208889
EAST	2085249	LOCATOR NUMBER M11	BOREHOLE DIAMETER (IN) 4	DATE DRILLED 06/23/89	

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'

Total Depth: Well 99.16'

Top of Casing 5949.25'

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.

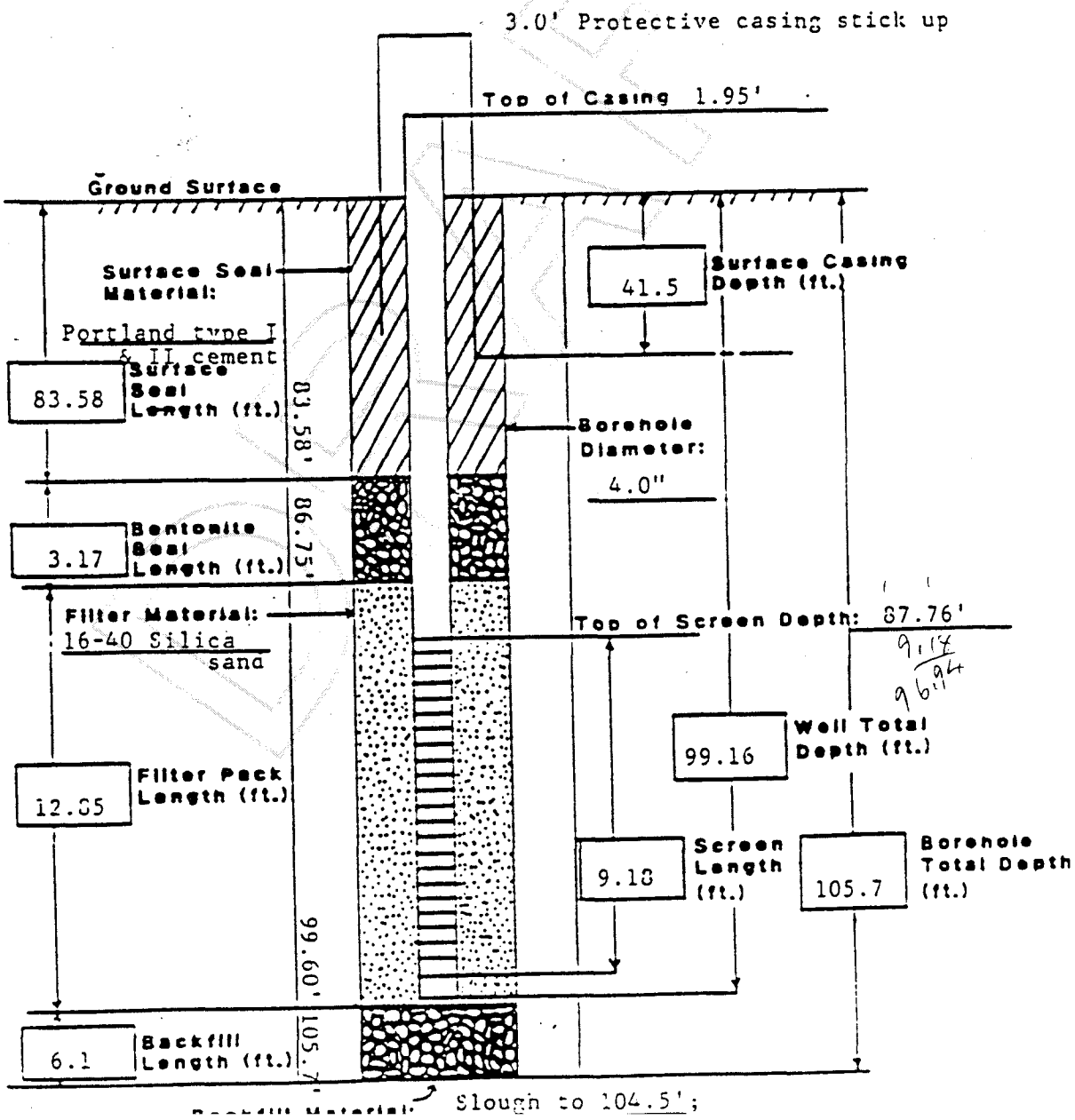
Date Installed 06/26/1989

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:	SEP17-898R	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'.

GEOTECHNICAL 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
SP178980002	50%	100%	0.20 /0.30	5962	0			GP:	One cobble, approx. 2" in diameter, sub-angular.
			0.00 /2.00	5961	1			NO SAMPLE:	NO SAMPLE.
			0.00 /2.30	5960	2			NO SAMPLE:	Top of Bedrock at 3.5'.
SP178980010			1.30 /2.00	5959	3			CLAYSTONE:	Dark yellowish orange (10 YR 6/6), no apparent bedding. NOTE: Rock type stated as Calcareous Claystone.
			1.90 /2.00	5958	4			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.
SP178980010			1.75 /2.00	5957	5			CLAYSTONE	Light olive gray (5 Y 6/1), no apparent bedding. Some Fe staining as mottles, trace of Mg staining at base of interval
				5956	6				
				5955	7				
				5954	8				
				5953	9				
					10				

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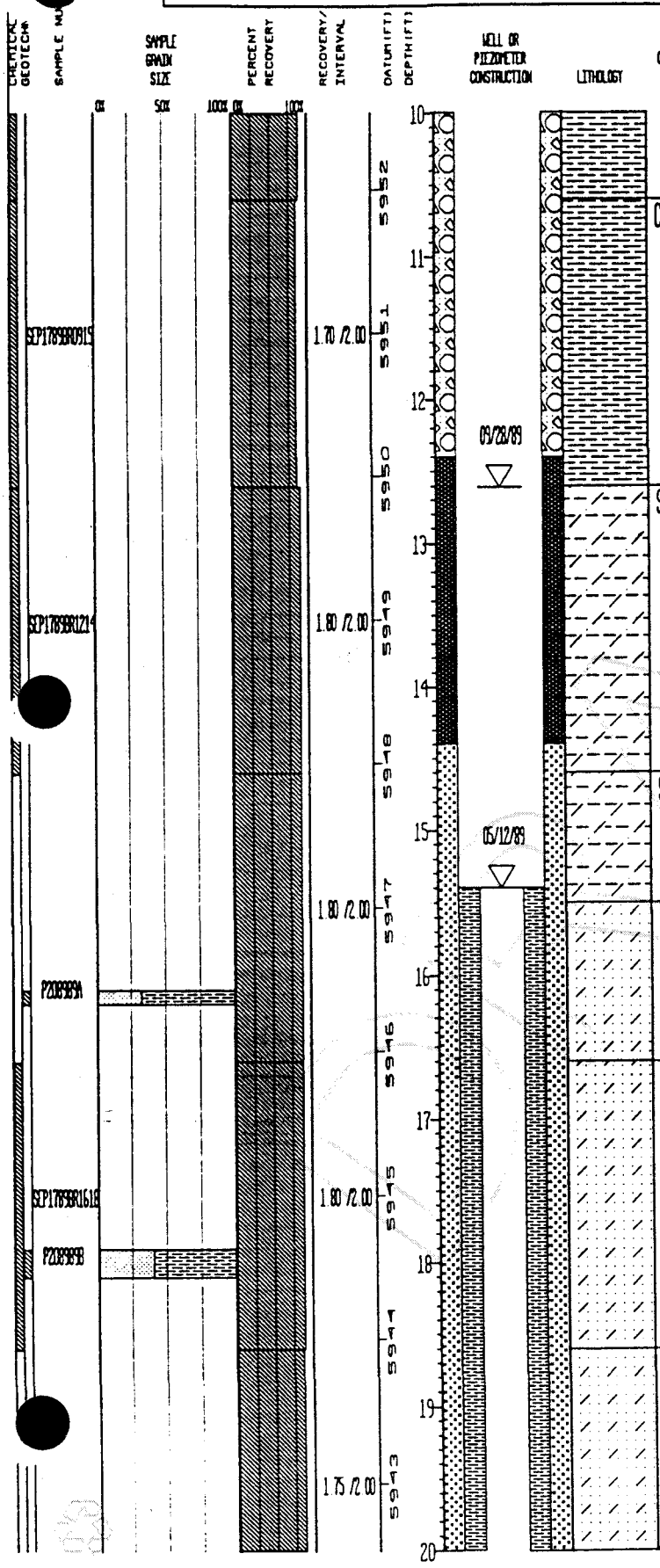
STATE PLANE COORDINATE:		TOTAL DEPTH (FT) 28.6	GROUND ELEVATION (FT):	5962.53	OLD WELL NUMBER:	SEP17-89BR	LOG OF BORING NUMBER:
NORTH:	751044	AREA: SOLAR POND	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	DAT	P208989
EAST:	2084839	LOCATOR NUMBER: L11	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	05/12/89	

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



CLAYSTONE: Light olive gray (5 Y 6/1), no apparent bedding. Some Fe staining as mottles, trace of Mg staining.

SILTY CLAYSTONE: Light brownish gray (5 YR 6/1), no apparent bedding. Some Fe staining as mottles, trace of coal.

SILTY CLAYSTONE: Same as above.

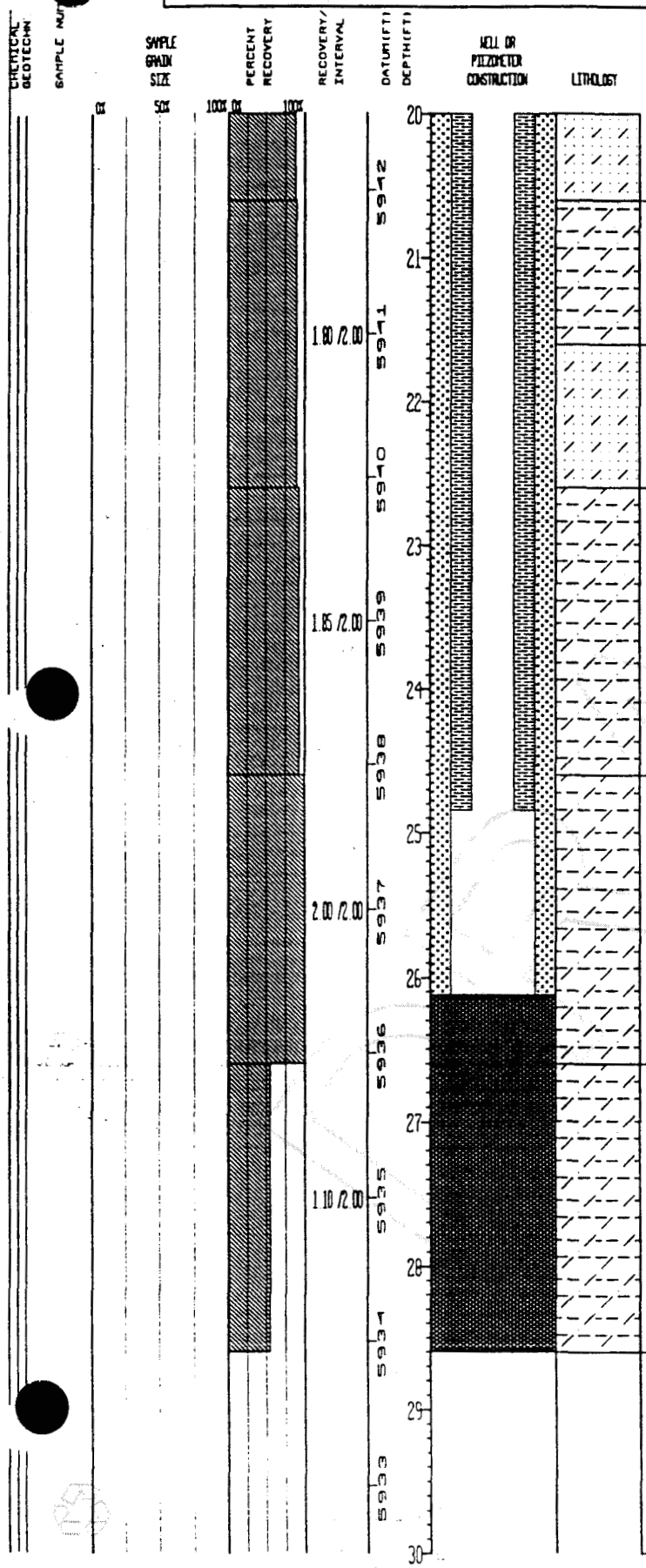
SILTY SANDSTONE: Very pale orange (10 YR 8/2). V f.g. sand, mod. to well rounded. Mod. sorted, mod. friable. No apparent bedding. Some Fe staining as mottles.

SILTY SANDSTONE: Same as above, increase in Fe along beddings.

SILTY SANDSTONE: Same as above, decrease in Fe at base of interval.

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 Burman 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.

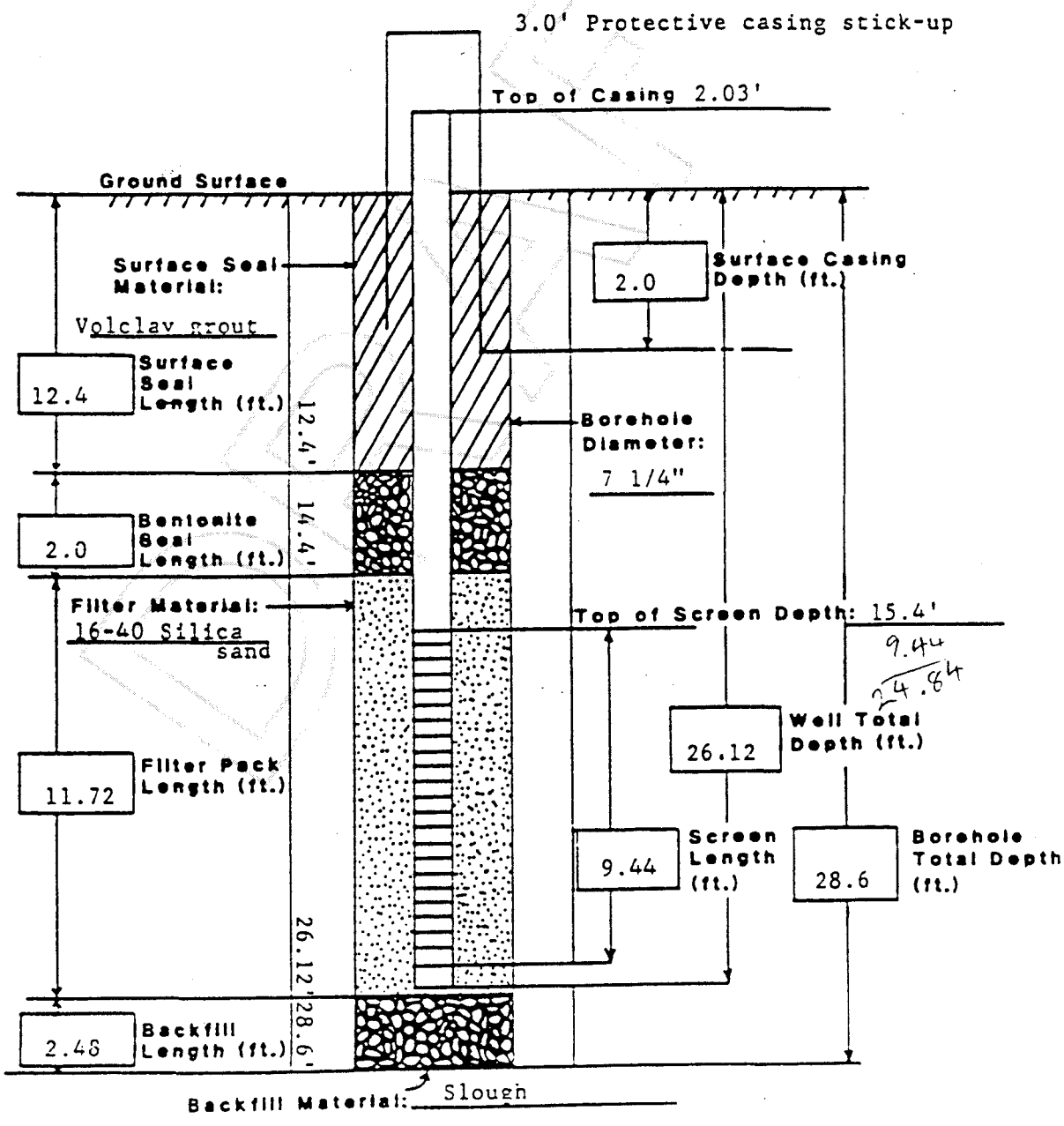
Date Installed 05/12/1989

Approved By Jarell Burman
Site Manager

Installed By K.E. Miller
Geologist

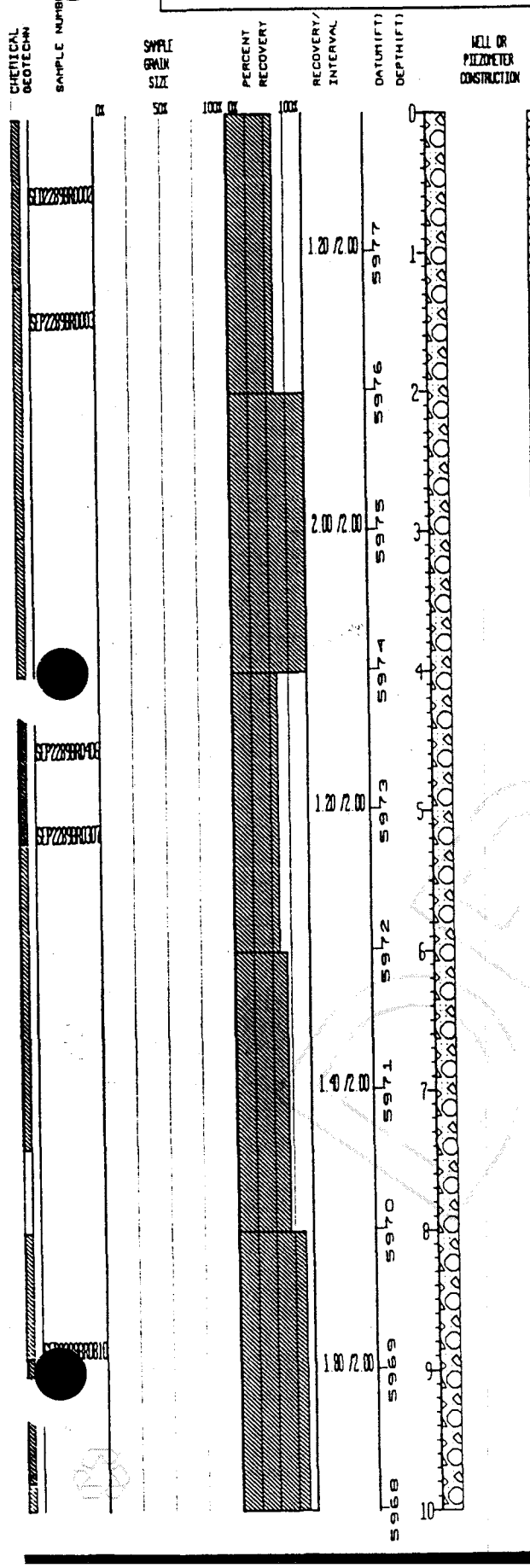
CEARP Manager

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:	SEP22-89BR	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.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
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.
CL	Clay - pinkish gray (5 YR 8/1). Caliche (highly effervescent with HCl). Quartzite gravels to 5 cm., sub-angular to angular. Soft, dry.
NO SAMPLE	No recovery.
CL	Silty Clay - light olive brown (5 Y 5/6). Some gravels (35 cm.), angular to sub-angular. Soft, dry.
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.
NO SAMPLE	NO SAMPLE

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.

GEOTECHNI BAMPLE DEPTH	BAMPLE NO.	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP22898R012			2.20 /2.00	5967	11			SANDY SILTSTONE	Med. light gray (N 6/0). Abundt. caliche (effervesces with HCl), friable, dry.
					5966	12			SANDY SILTSTONE	Mod. yellowish brown (10 YR 5/4). Abundt. caliche (effervesces with HCl), friable, dry.
	SEP22898R013								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.
	SEP22898R014			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.
	SEP22898R015			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.
	SEP22898R016			2.00 /2.00	5961	17				
					5960	18				
	SEP22898R017			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	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.

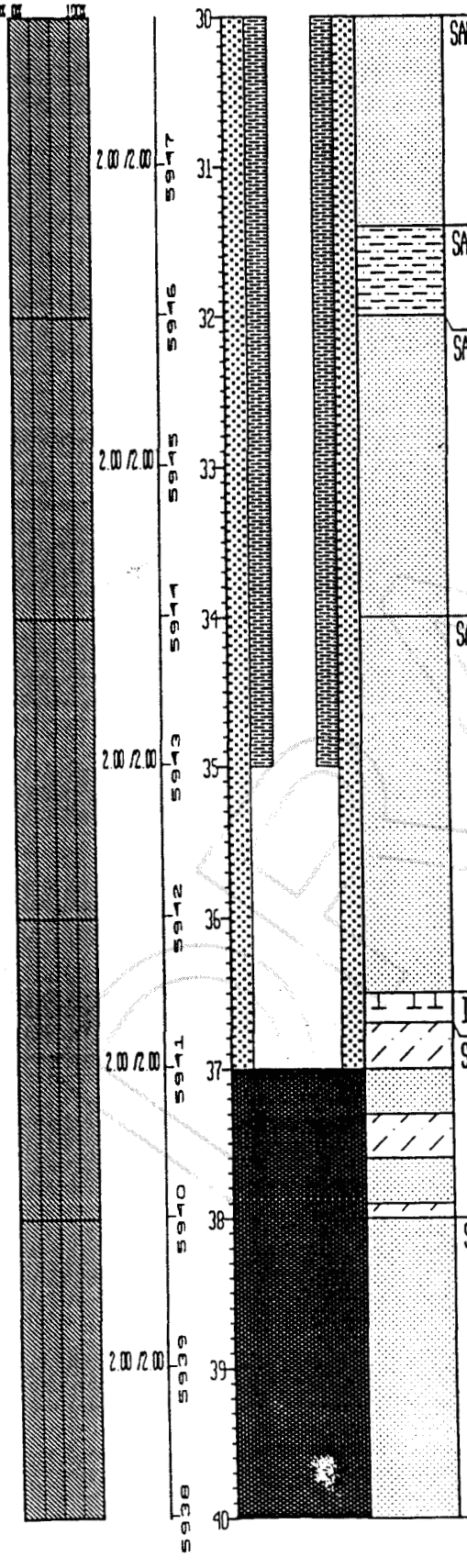
CHEMICAL / GEOTECHNI	SAMPLE NUMBE	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SEP22B9BR2022			2.00 /2.00	5957	20–21			SILTY SANDSTONE:	Same as above - 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	28–30				

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
GEOTECHNI SAMPLE DEPTH
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

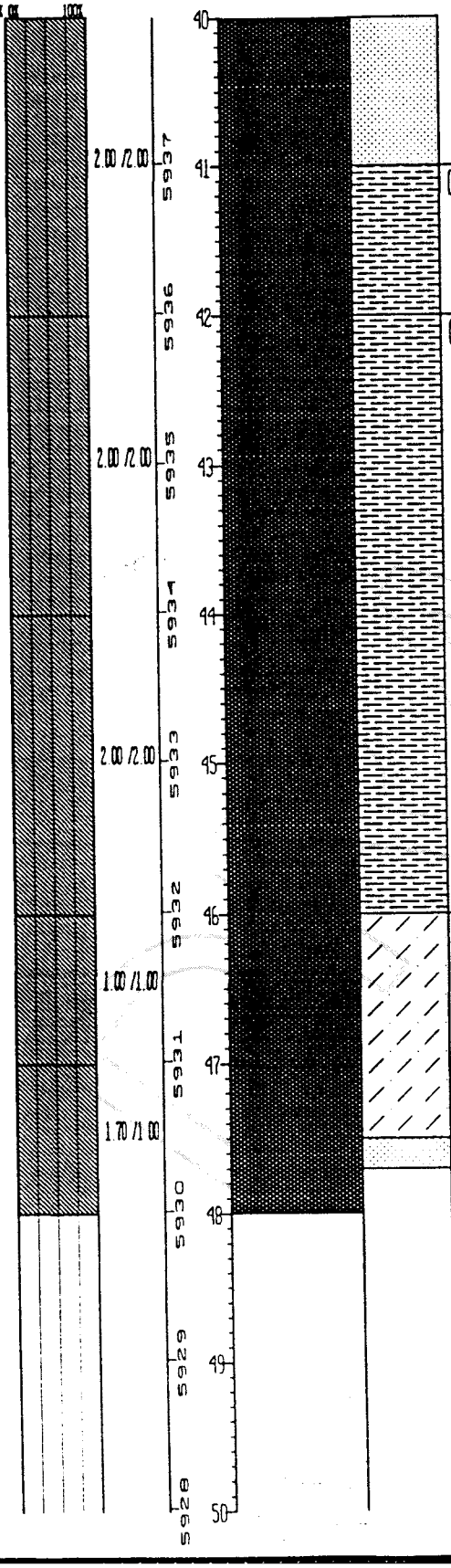


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDSTONE:	Same as above, wet.
SANDY CLAYSTONE:	Light olive gray (5 Y 5/2). V.f.g. to f.g. quartzose sand. Mod. brown (5 YR 4/4), mottled, some iron streaks, blocky Claystone texture, damp.
SANDSTONE:	Same as above. (reference interval 30.0' to 31.4').
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	SEP22-8988	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 NUMBE | 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	Olive gray (5 Y 4/1), blocky. Some Siltstone. Some organic fragments, black (N 1/0). Consol., dry.
CLAYSTONE	Same as above. Trace to some sand, dry.
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.
SANDSTONE	Light olive gray (5 Y 6/1). V.f.g., silty, quartzose, rounded, friable, unconsol., dry.
NO SAMPLE	NO SAMPLE

Total Drilled Depth = 48.0'

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.

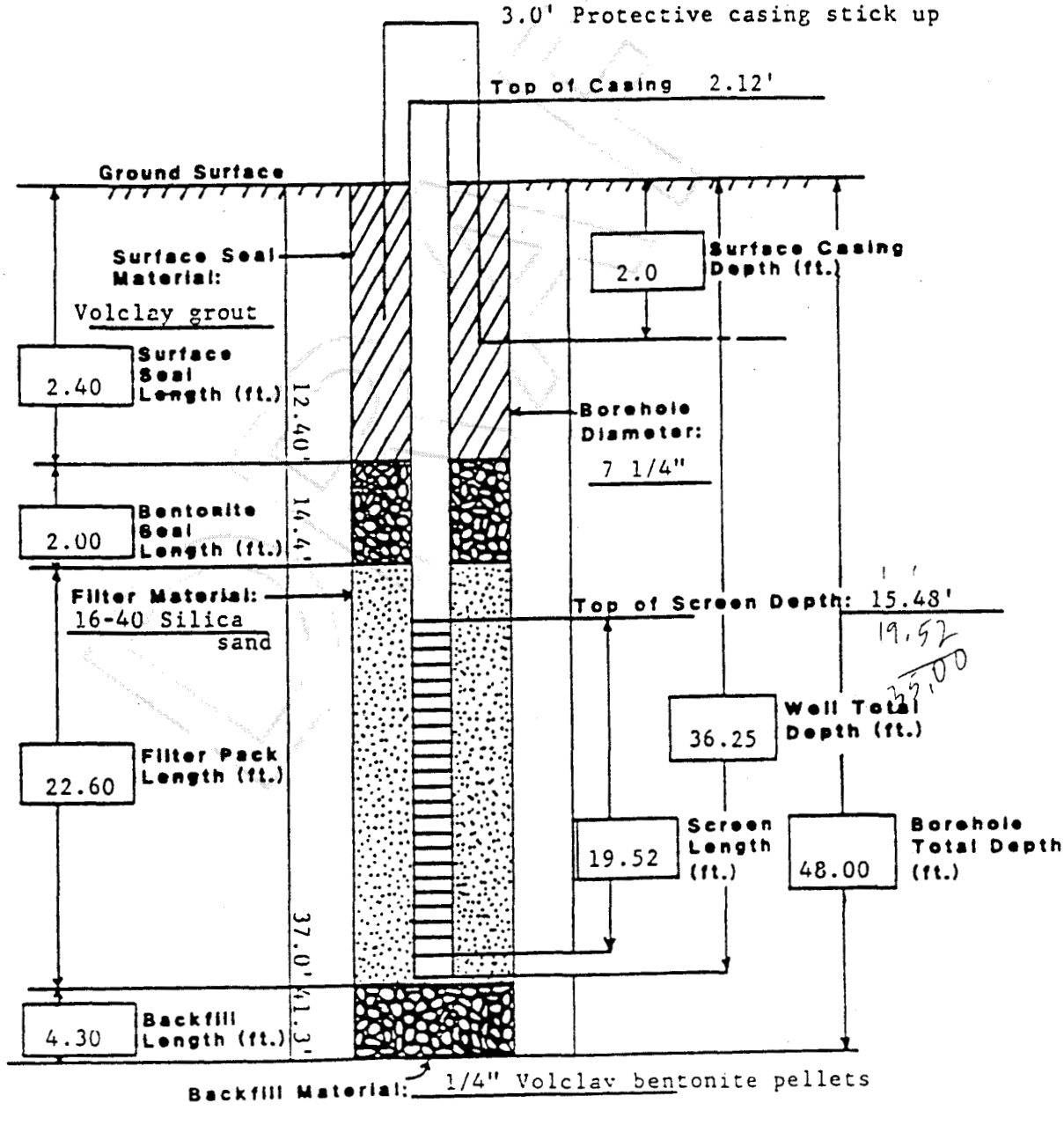
Date Installed 05/16 & 05/17/1989

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.



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 (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			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
	SP209589001			2.00 /2.00	5947	1				
	SP209589002				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.
	SP209589003			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.
	SP209589004			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
	SP209589005			2.00 /2.00	5939	9				
						10				

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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 (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
				1.20/2.00	5938, 5937	10, 11			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.
	SEP2389R1015			0.00/2.00	5936, 5935	12, 13			NO SAMPLE	NO SAMPLE.
	SEP2389R1416			0.50/2.30	5934, 5933, 5932	14, 15, 16	09/19/89		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.
				2.00/2.00	5931, 5930	17, 18			SANDY CLAYSTONE	Sandy Silty Claystone - same as above - less sand, mottled dark yellowish orange (10 YR 6/6), dry.
	SEP2389R1821			2.00/2.00	5929	19, 20			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):	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 (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)	Description
	5928	20	
1.10 /2.00	5927	21	SILTY CLAYSTONE: Same as above
	5926	22	
2.00 /2.00	5925	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
	5924	24	
1.20 /2.00	5923	25	SILTY CLAYSTONE: Same as above
	5922	26	
2.00 /2.00	5921	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
	5920	28	
2.00 /2.00	5919	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 0 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 GRADN 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				

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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'

Top of Casing 5950.04'

Total Depth: Well 19.77'

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.

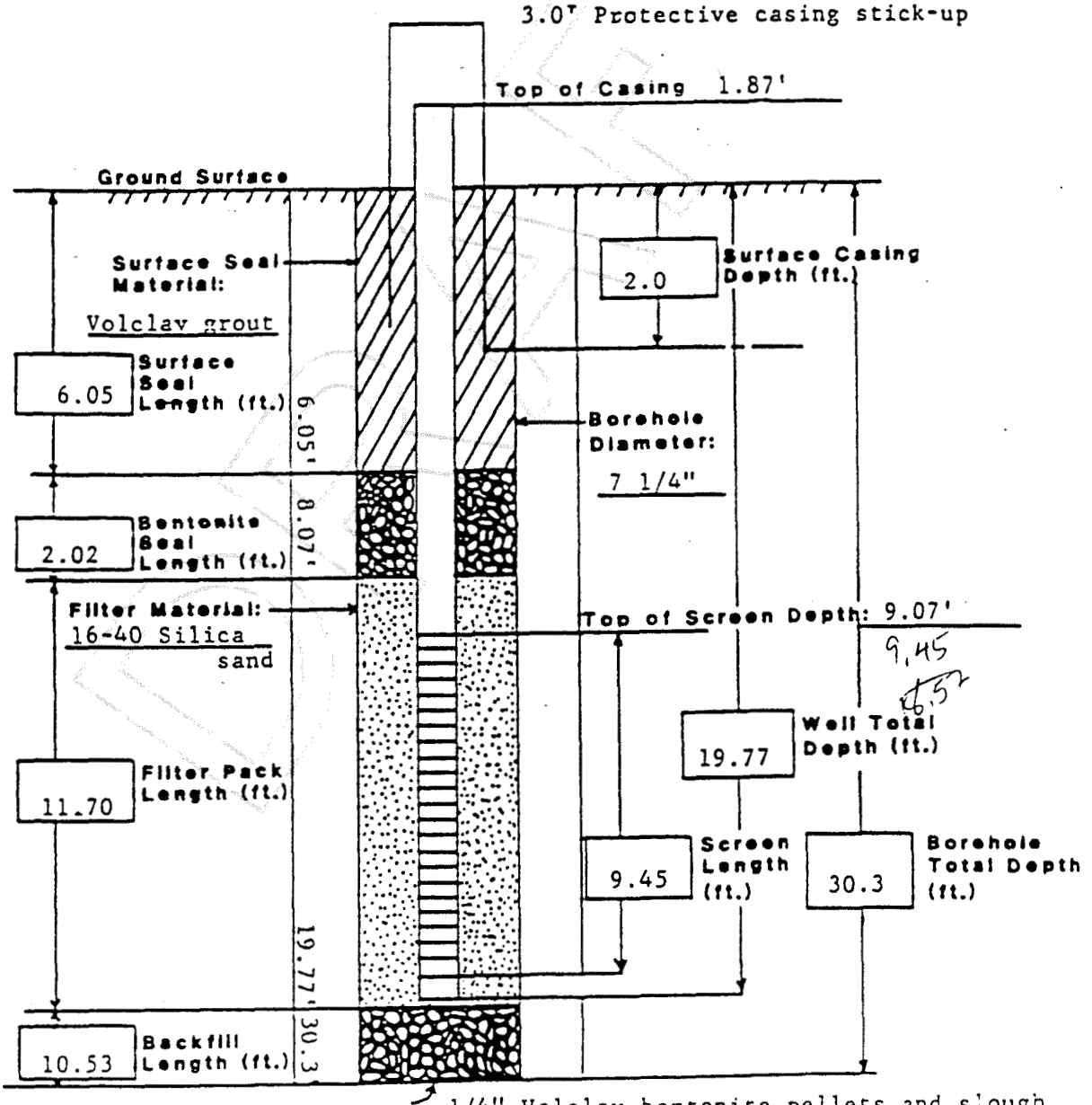
Date Installed 05/11/1989

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 0.0 (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	4 / 5 / 6			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 / 8	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	9			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	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 (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	5952, 5951	10, 11, 12			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
	SEP24898R1214			2.20/2.00	5950, 5949	13, 14			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
	SEP24898R1218			2.00/2.00	5948, 5947	15, 16			SANDY CLAYSTONE	Sandy Silty Claystone - same as above, wet.
	SEP24898R1618			2.00/2.00	5946, 5945	17, 18			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.
				2.20/2.00	5944, 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.
	0.00 /2.00	28–30	NO SAMPLE	No sample.

Well or piezometer construction: 09/21/89

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

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
					5932	30				Total Drilled Depth = 30.2'
					5931	31				
					5930	32				
					5929	33				
					5928	34				
					5927	35				
					5926	36				
					5925	37				
					5924	38				
					5923	39				
						40				

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WELL COMPLETION INFORMATION

A By/Date Farell Bugman 15-8-89

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.

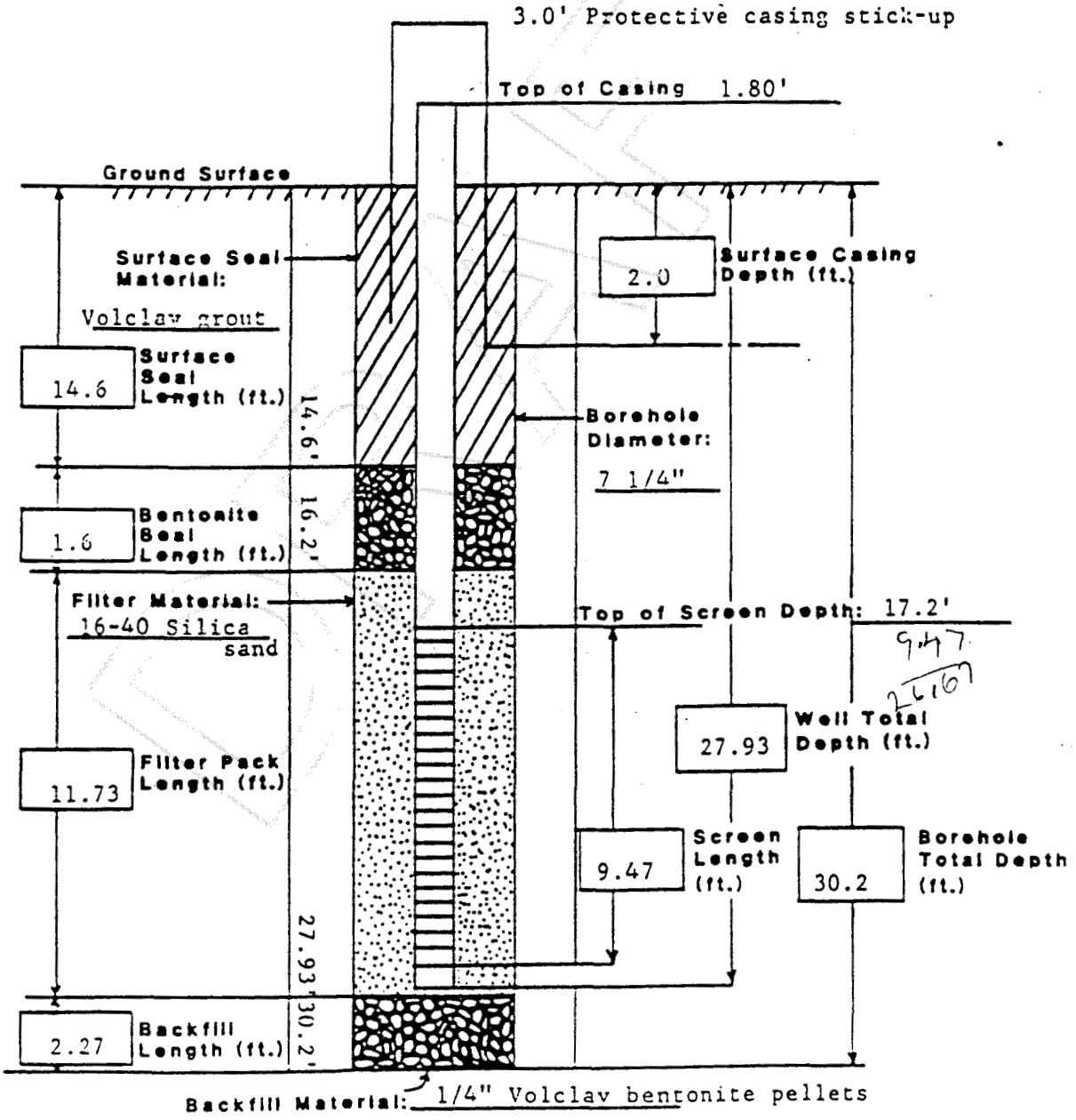
Date Installed 05/03/1989

Approved By Farell Bugman
Site Manager

Installed By K.E. Miller
Geologist

CEARP Manager

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



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 (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
	SP2589002			1.00/2.20	5962	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.
									GC	Clayey Gravel - grayish brown (5 YR 3/2). Coarse to fine. Trace silt, interbedded, loose, non to low plasticity, damp.
					5961	2			NO SAMPLE	No recovery.
	SP2589006			0.20/2.00	5960	3	09/13/89		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-gcl), damp.
					5959	4				
	SP2589016			2.00/2.00	5958	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.
					5957	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.
	SP2589028			2.00/2.00	5956	7			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.
					5955	8	05/04/89		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			1.40/1.40	5954	9			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	5953	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
	SEP25891812	0% 50% 100%	0% 100%	2.00/2.00	5952 5951	10 11			CL	Gravelly Clay - same as interval 8.6' to 9.6' (cl with sand).
						12			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 Jarell 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.

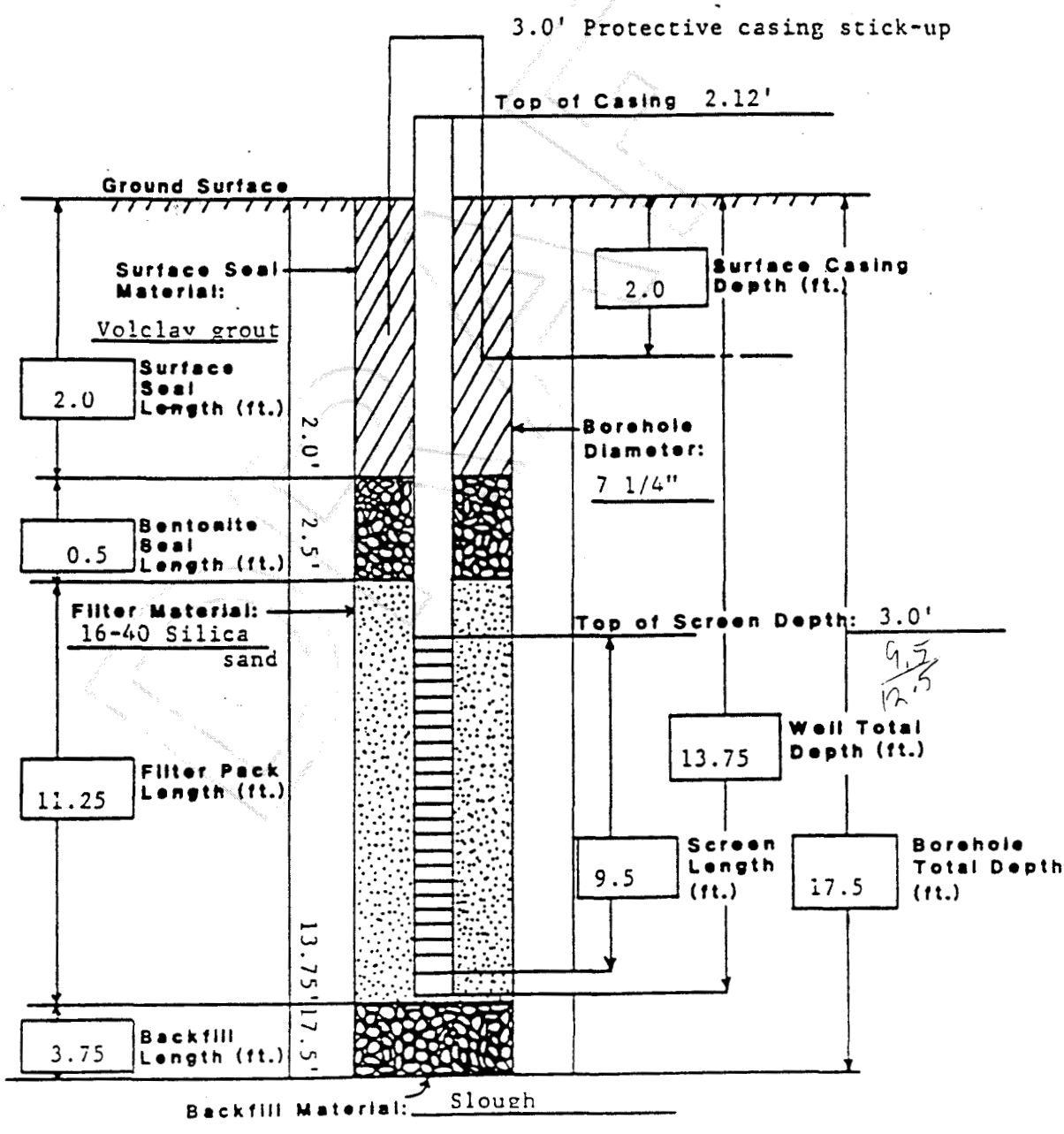
Date Installed 05/04/1989

Approved By Jarell 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 (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)	Well or Piezometer Construction	Unified Soils Classification or Rock Type	Description
SEP2689BR0002	1.90/1.90	0–1.9		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.
SEP2689BR0004		1.9–2.0		CL	Gravelly Clay - same as above (reference interval 0.0' to 1.9')
	2.00/2.00	2.0–3.0	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.
SEP2689BR0406	2.00/2.00	3.0–5.0		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.
SEP2689BR0410	2.00/2.00	5.0–7.0	05/11/89	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.
SEP2689BR0810	2.00/2.00	7.0–9.0		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.
		9.0–10		SILTY CLAYSTONE	Same as above - more saturated

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

Datum (FT): 5940, 5939, 5938, 5937, 5936, 5935, 5934, 5933, 5932, 5931

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 0.0	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

Sample Number	Recovery/Interval	Depth (ft)	Description
	2.00/2.00	10–11	
SEP26890R1016	1.20/2.00	12–13	SILTY CLAYSTONE: Same as above (reference interval 7.9' to 9.9')
SEP26890R1214			
	2.00/2.00	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	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	18–19	SILTY CLAYSTONE: Same as above
		20	SILTY CLAYSTONE: Same as above

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

Datum (FT): 5930, 5929, 5928, 5927, 5926, 5925, 5924, 5923, 5922, 5921

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%	2.00/2.00	5920	20				
					5919	21				
				2.00/2.00	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
					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 21882.16 (RFP)

Elevation: Ground Surface 5940.28'

Top of Casing 5942.40'

Total Depth: Well 19.63'

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.

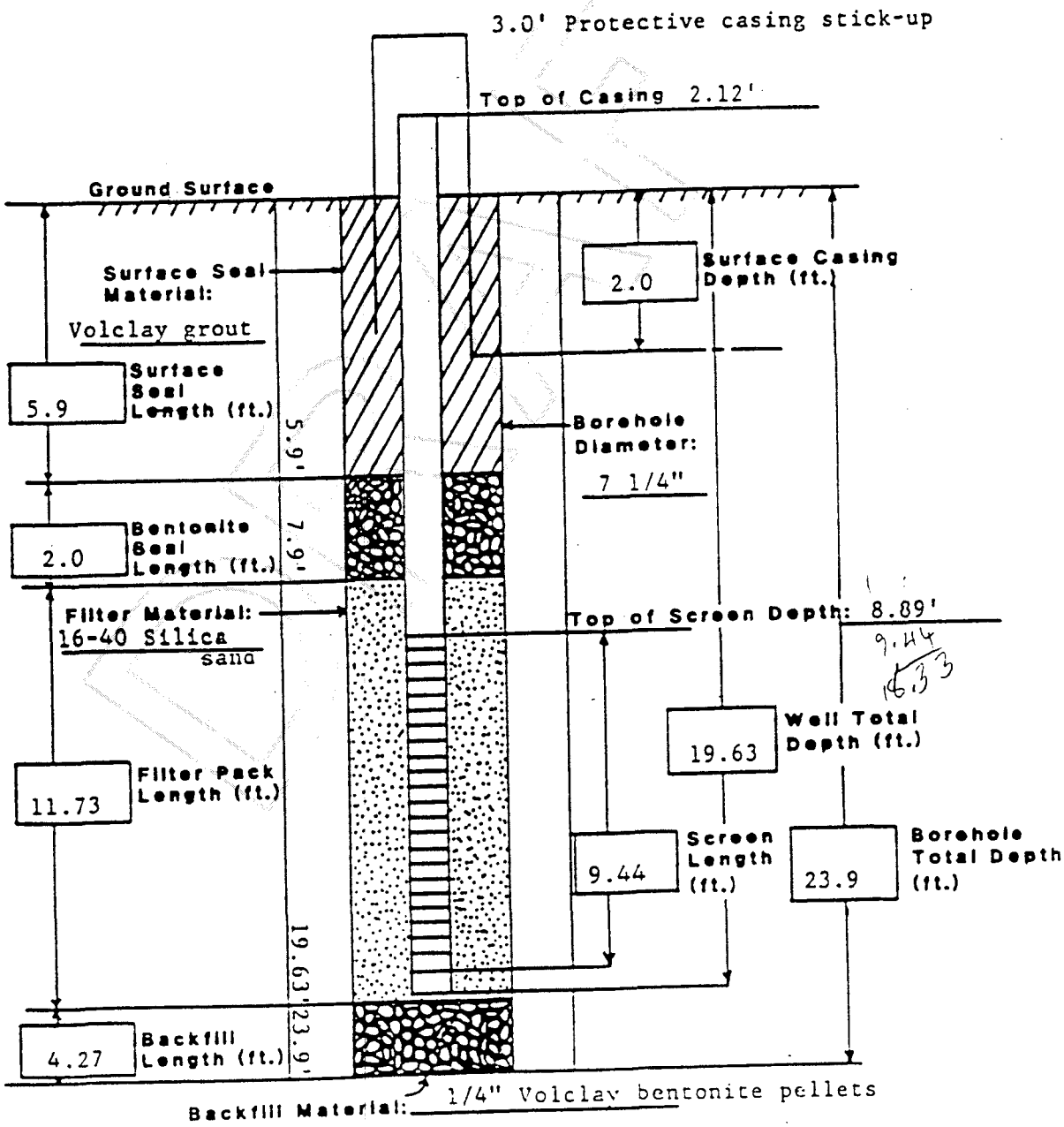
Date Installed 05/11/1989

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 0.0	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 / 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
	SEP3189B0012			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
	SEP3189B0013				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
	SEP3189B0014				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
	SEP3189B0406			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
									NO SAMPLE	NO SAMPLE
					5959	8			SILTY CLAYSTONE	Same as above, (reference interval 6.6' to 7.1')
	SEP3189B0810			2.00 /2.00	5958	9				
	SEP3189B0713					10				

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% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5957	10				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.
				2.00 /2.00	5956	11				
					5955	12				SILTY CLAYSTONE: Same as above.
	SEP3189BR1214			2.00 /2.00	5954	13				
					5953	14	09/15/89			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.
				2.00 /2.00	5952	15				
	SEP3189BR1319				5951	16				SILTY CLAYSTONE: Same as above, small carbonaceous pieces, black (N 1/0), damp.
	SEP3189BR1618			2.00 /2.00	5950	17				
					5949	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:	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% 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	5917	20			SILTY CLAYSTONE	Olive gray (5 Y 4/1) to light olive gray (5 Y 5/2) Consol, stiff to hard, med plasticity, dry
					5916	21				
					5915	22			SILTY CLAYSTONE	Same as above Large caliche nodule (2 cm), high HCl reaction, dry
				1.20/2.00	5914	23				
					5913	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	5912	25				
					5911	26				Total Drilled Depth = 26.0'
					5910	27				
					5909	28				
					5908	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'

Top of Casing 5969.19'

Total Depth: Well 22.27'

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.

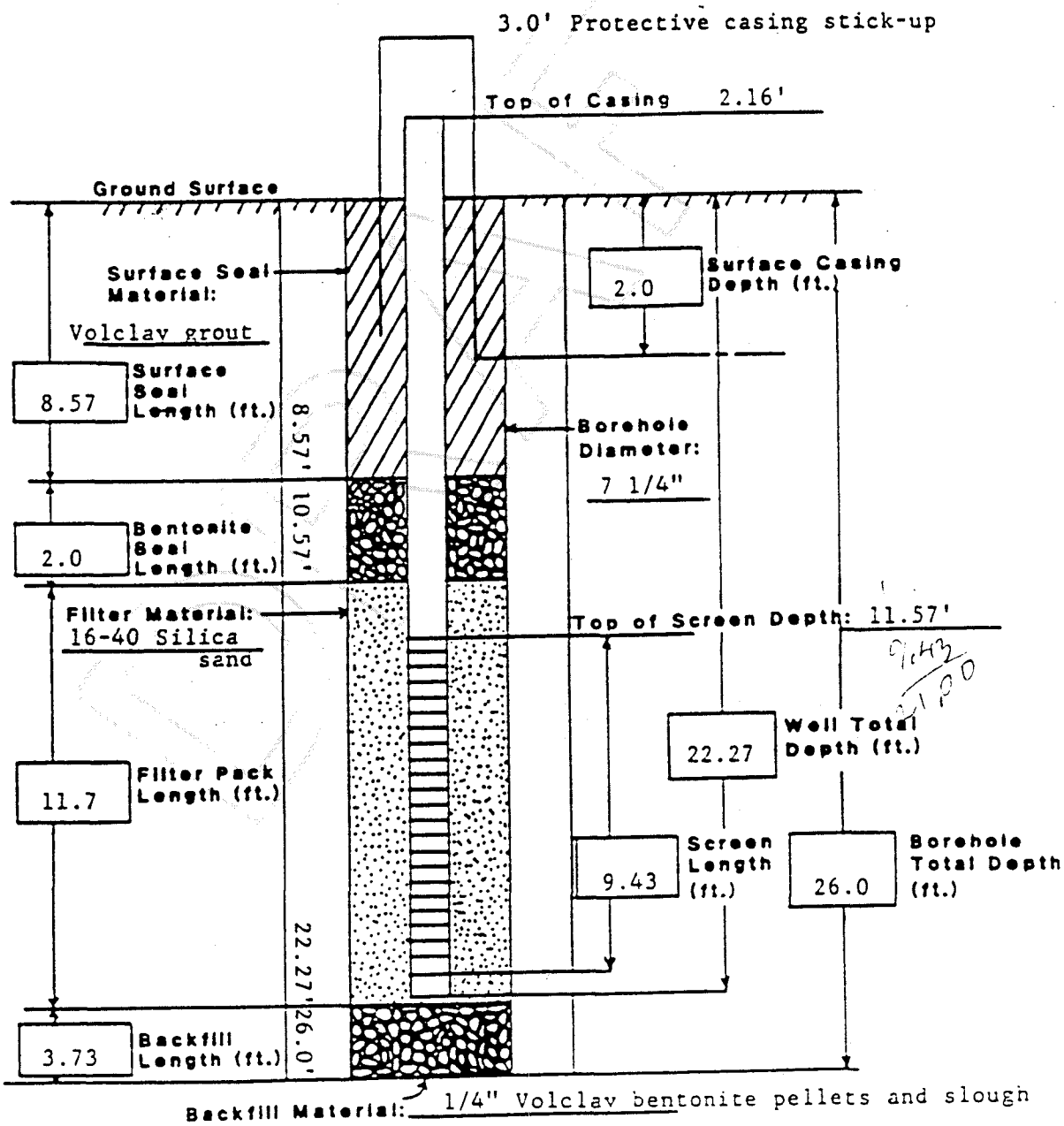
Date Installed 05/15/1989

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	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P218389002 P218389003			1.70/2.00	5956 5955	0 1			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.
					5954	2			SC	Gravelly Clayey Sand - same as above.
	P218389004			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.
	P218389006			1.30/2.00	5952 5951	4 5			SC	Gravelly Clayey Sand - same as above. Grayish brown (5 YR 3/2), mod. brown (5 YR 4/4).
	P218389008 P218389012			0.80/2.00	5950 5949	6 7			SC	Gravelly Clay and Sand - same as above. Mod. brown (5 YR 3/4). (sc-cl)
					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: P2183891012, P2183891214, P2183891216, P2183891416

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 0.50/2.00; 2.00/2.00; 2.00/2.00; 2.00/2.00; 1.40/2.00

DATUM (FT): 5946, 5945, 5944, 5943, 5942, 5941, 5940, 5939, 5938, 5937

DEPTH (FT): 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

WELL OR PIEZOMETER CONSTRUCTION: 01/17/90

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
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.
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.
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.
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.
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.
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.

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:	2085649	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	0%	SAMPLE GRAIN SIZE 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	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				

DRAFT

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.

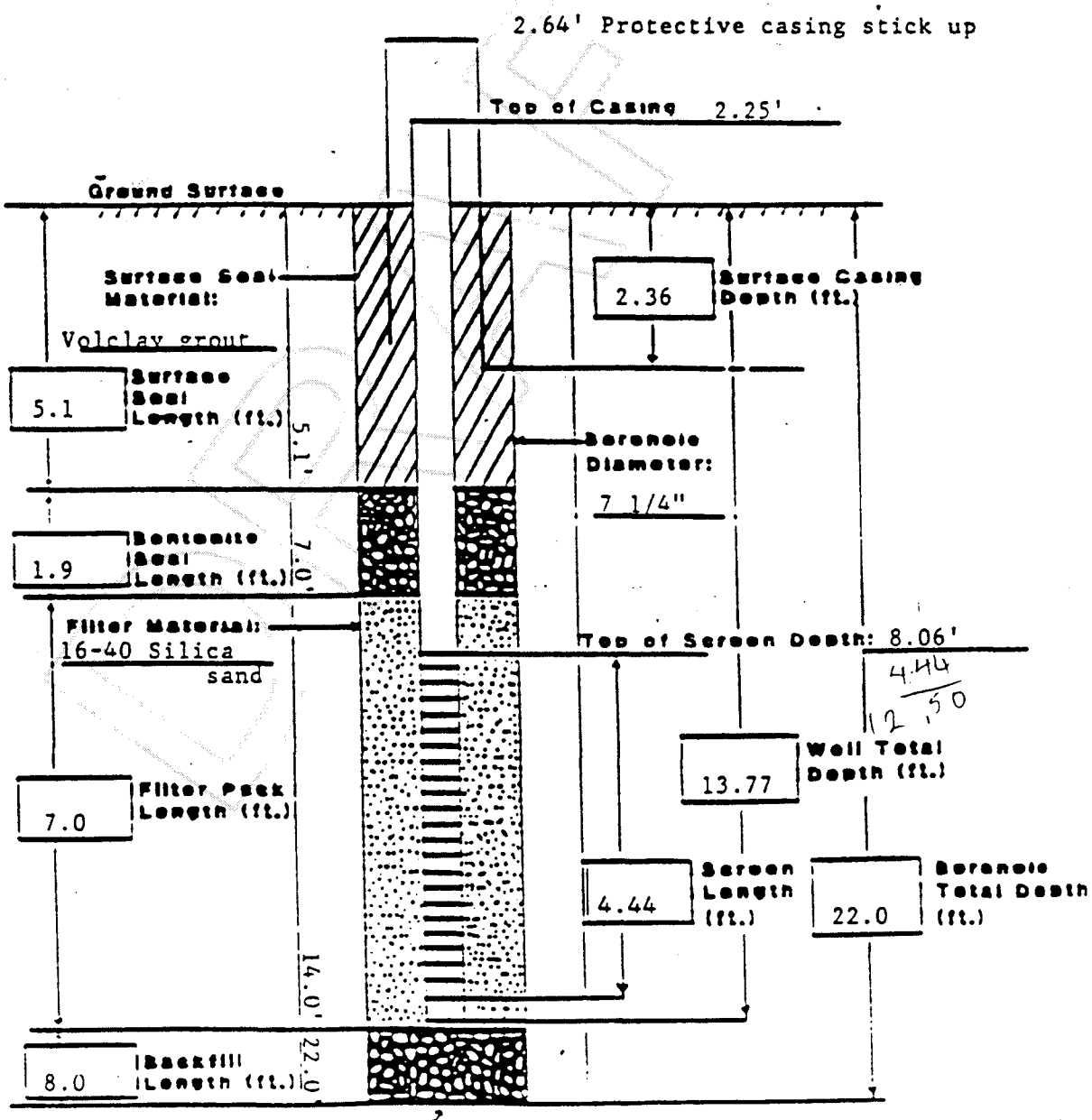
Date Installed 11/08/1989

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

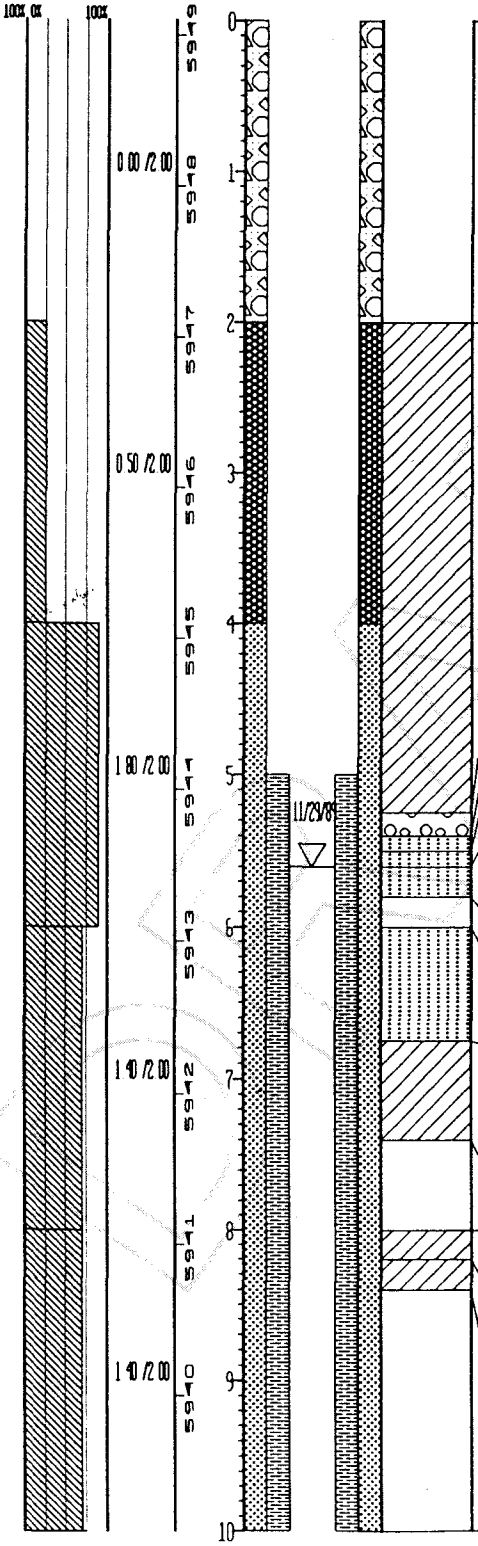


Backfill Material: 1/4" Volclay bentonite pellets, slough and sand

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

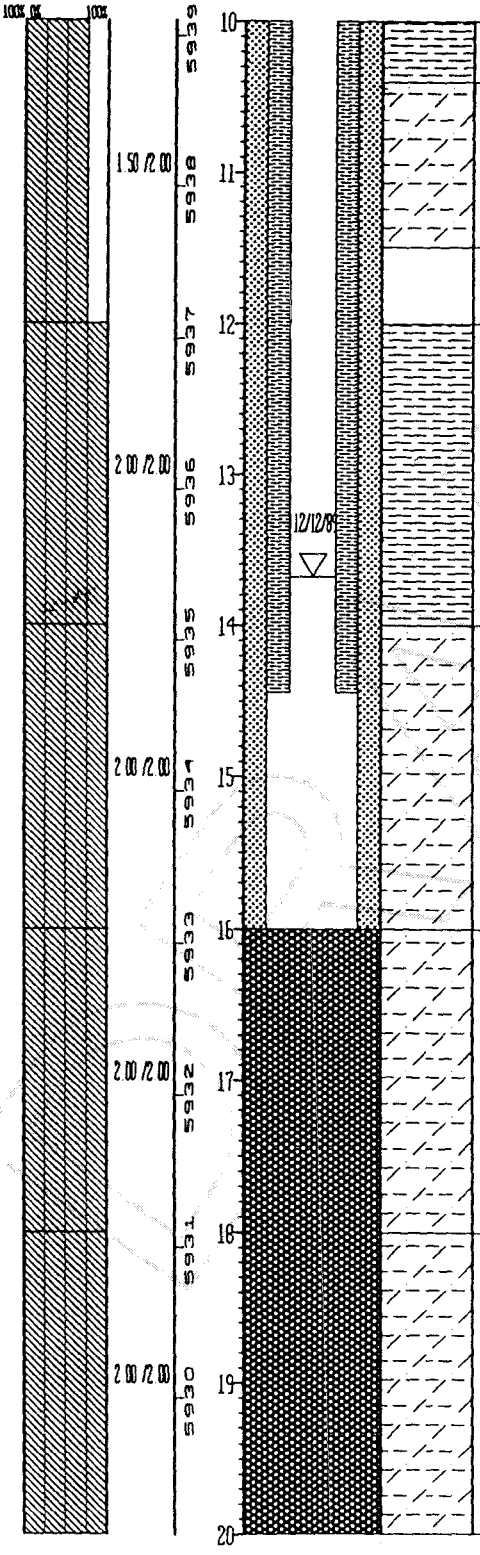


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	NO SAMPLE
CL	Asphalt and Sandy Clay - dark yellowish brown (10 YR 4/2), unconsol.; high plasticity. Angular, poorly sorted, m.g. to c.g. granitic sand. Damp
GW	Gravel - coarse, mod. sorted, angular, unconsol. Granitic, quartzose, and feldspathic 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 0 0	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.

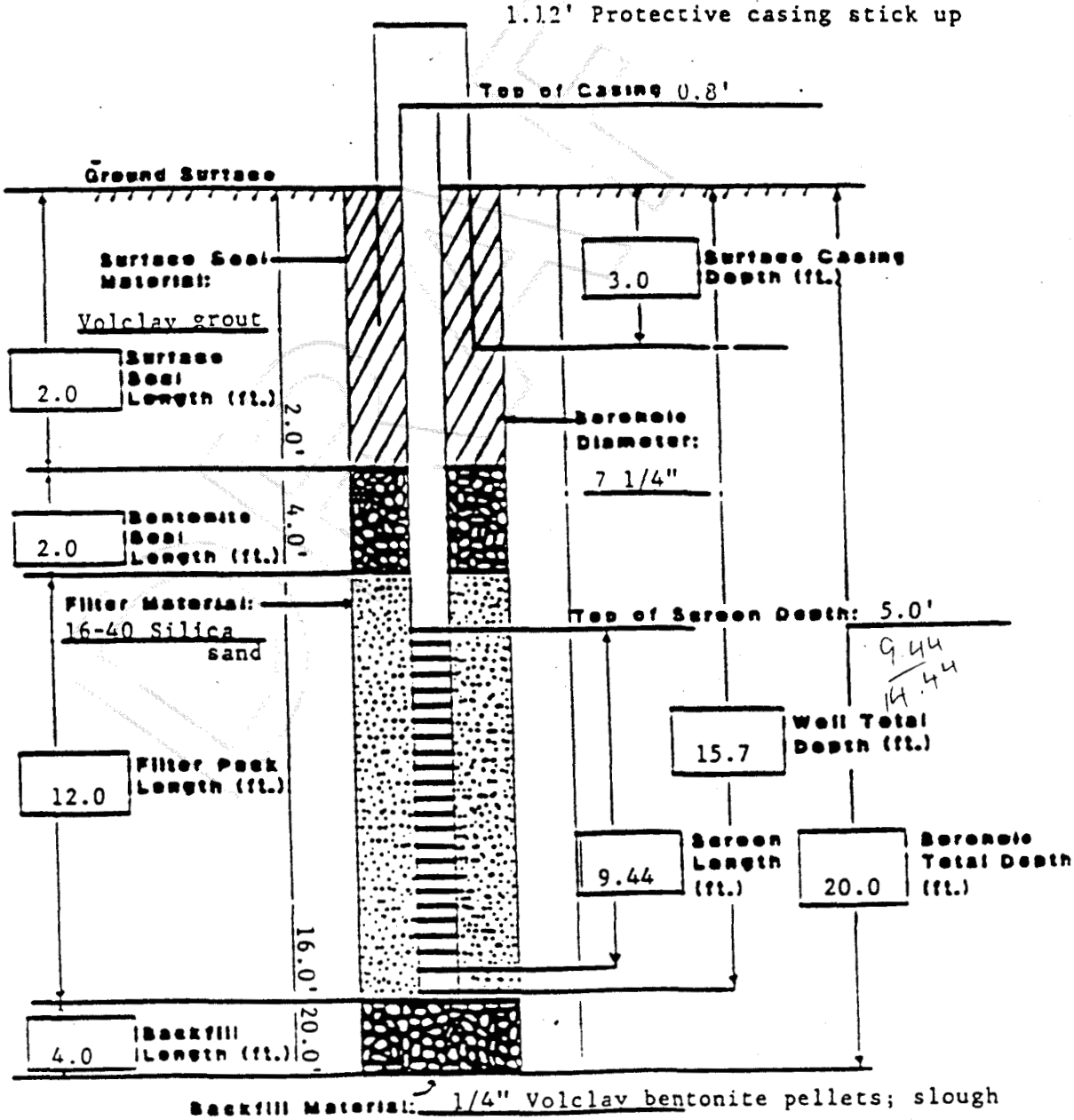
Date Installed 11/29/1989

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	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	P2191890002			1.00 /2.00	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.
	P2191890003				5940	1				
	P2191890204			2.00 /2.00	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
					5938	3				
					5937	4			CL	Silty Clay - same as above, becoming predom. med. gray (N 5/0).
	P2191890307			1.80 /2.00						
	P2191890406				5936	5			CL	Gravelly Clay - dark yellowish brown (10 YR 2/2). Coarse gravel, granitic. High plasticity, no HCl reaction (non-calcareous), damp.
									NO SAMPLE	NO SAMPLE.
	P2191890608			0.60 /2.00	5935	6			CL	Clay - mod. yellowish brown (10 YR 5/4), homogeneous. Trace gravel. Trace silt, soft, high plasticity, no HCl reactions (non-calcareous), damp.
					5934	7				
	P2191890810				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
	P2191890711			0.90 /2.00	5932	9				
						10				

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
	P2191891012			1.00/2.00	5931	10			CL	Disturbed sample (clay) due to rock in sampler
					5930	11			CLAYSTONE	Top of Bedrock Med. gray (N 5/0). Some silt, trace iron staining, high plasticity, no HCl reaction (non-calcareous), damp (Claystone with some Silt) 20% silt
					5929	12			NO SAMPLE	NO SAMPLE.
	P2191891116			0.00/2.00	5928	13				
	P2191891416				5927	14			CLAYSTONE	Same as above (reference interval 11.0' to 12.0')
				0.40/2.00	5926	15				
					5925	16			NO SAMPLE	NO SAMPLE
				0.00/1.00	5924	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	5923	18				
					5922	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:		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	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				

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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.

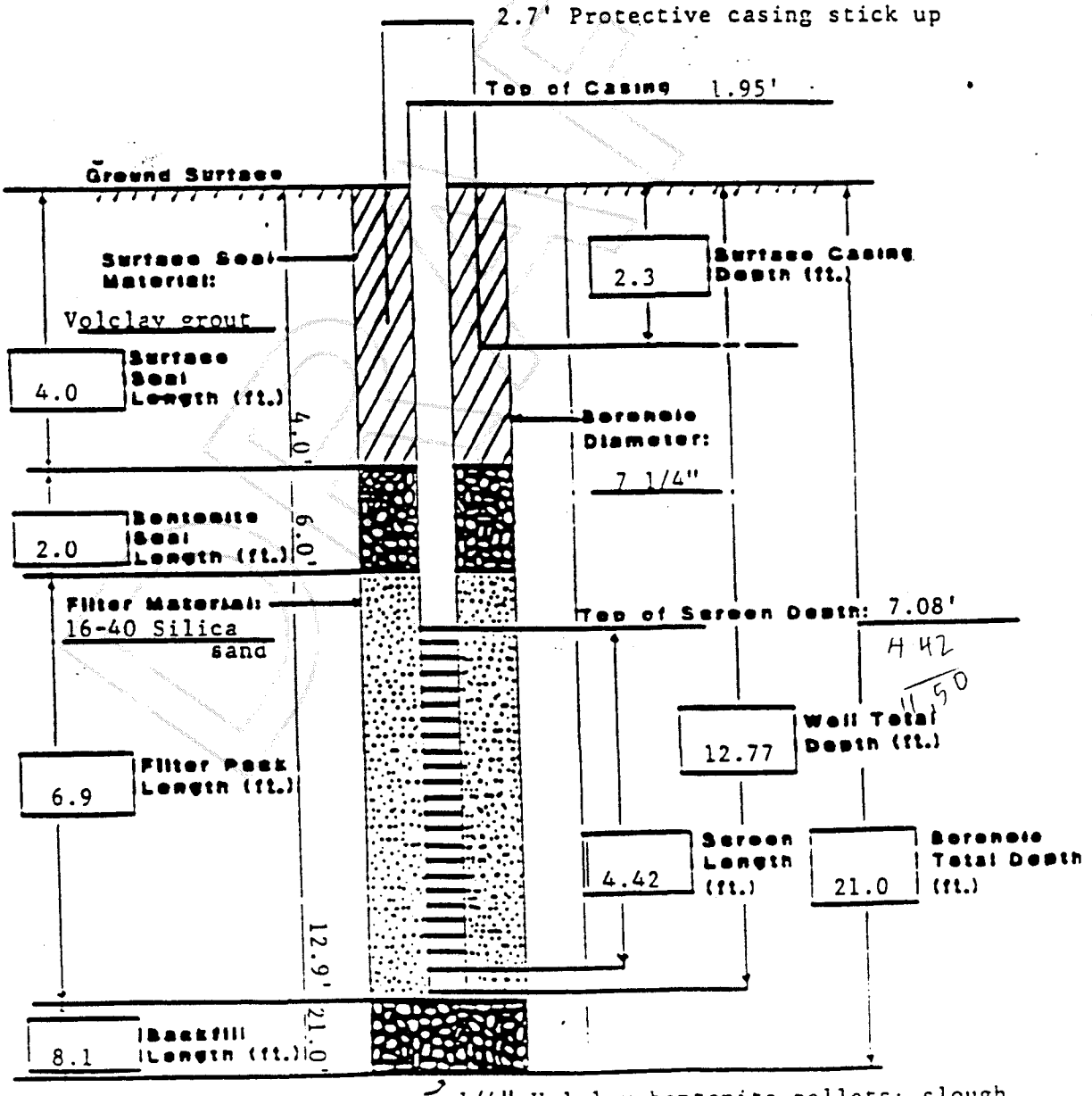
Date Installed 11/30/1989

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			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			CL	Gravelly Silty Clay - same as above. Mod. reddish brown (10 R 4/6) to dark reddish brown (10 R 3/4).
	P219489004			1.90 /2.00	5957	3				
					5956				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			NO SAMPLE	NO SAMPLE.
					5955				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.
	P219489007			2.00 /2.00		5				
	P219489006				5954					
					5953	6			SM	Clayey Silty Sand - same as above. Decreasing clay with depth, gradational to Silty Sand with depth, no HCl reaction (non-calcareous).
	P219489008			1.80 /2.00		7				
					5952				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.
	P219489009				5951	8				
	P219489010			2.00 /2.00		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	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 (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
	P219489011				5959	10			CL	Sandy Silty Clay - same as above, increasing gravel with depth.
	P219489012			2.00 /2.00	5958	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.
	P219489114				5957	12	12/06/89 ▽			
	P219489214			2.00 /2.00	5956	13			SC	Clayey Sand - same as above. No gravel. Trace c.g. sand, increasing clay with depth. 60% iron stained.
	P219489416			2.00 /2.00	5955	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.
	P219489418				5954	15			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.
	P219489618			2.00 /2.00	5953	16			CL	Silty Clay - same as above, trace carbonaceous material.
	P219489820			2.00 /2.00	5952	17			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 micro-crystalline, chalky in part, trace black (N 1/0) dendritic manganese, hard, strong HCl reactions.
	P219489822				5951	18			CL	Silty Clay and Gravel - same as above. Trace c.g., rounded, quartzose sand. (cl-gn)
					5950	19				
						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
	P219489022			1.65 /2.00	5939	20–21			CL	Silty Clay and Gravel - same as above, decreasing size gravel.
	P219489224			0.80 /2.00	5937	22–23			GC	Clay and Gravel - same as above, less silt.
									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.
									NO SAMPLE	NO SAMPLE
	P219489226			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
	P219489426			2.00 /2.00	5933	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
				2.00 /2.00	5931	28–29			CLAYSTONE	Claystone and Silty Claystone - same as above.
									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

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				
					5924	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.

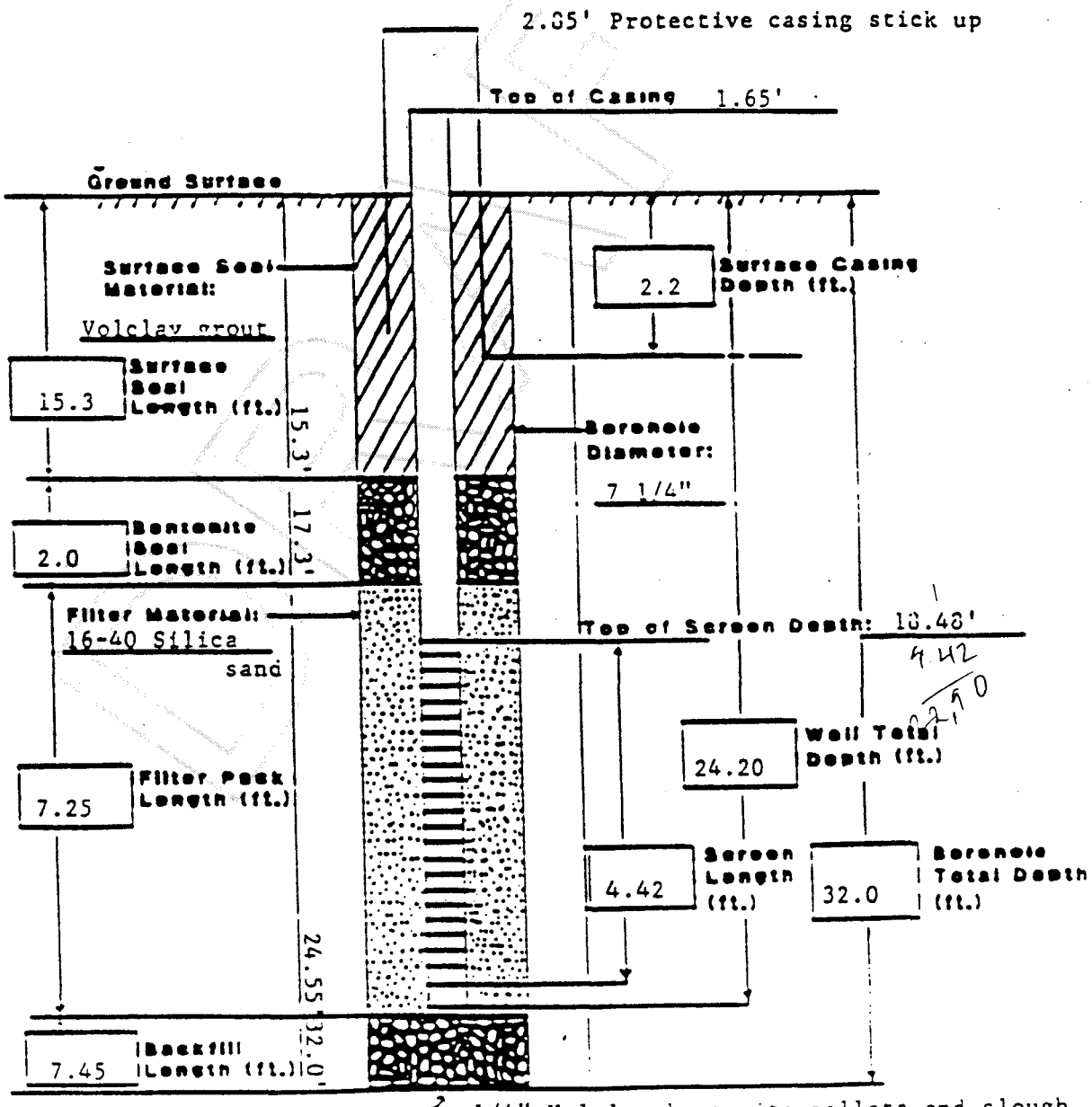
Date Installed 12/06/1989 Approved By JB Burman

Installed By R.D. Morrow Site Manager

Geologist

CEARP Manager

Comments Set stainless steel centralizer from 24.17' to 22.96' below ground surface



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	PERCENT RECOVERY	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.
	P219589005				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.
					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.
	P219589010			2.00/2.00	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
	P219589011				5955	8				
					5954	9				
						10				

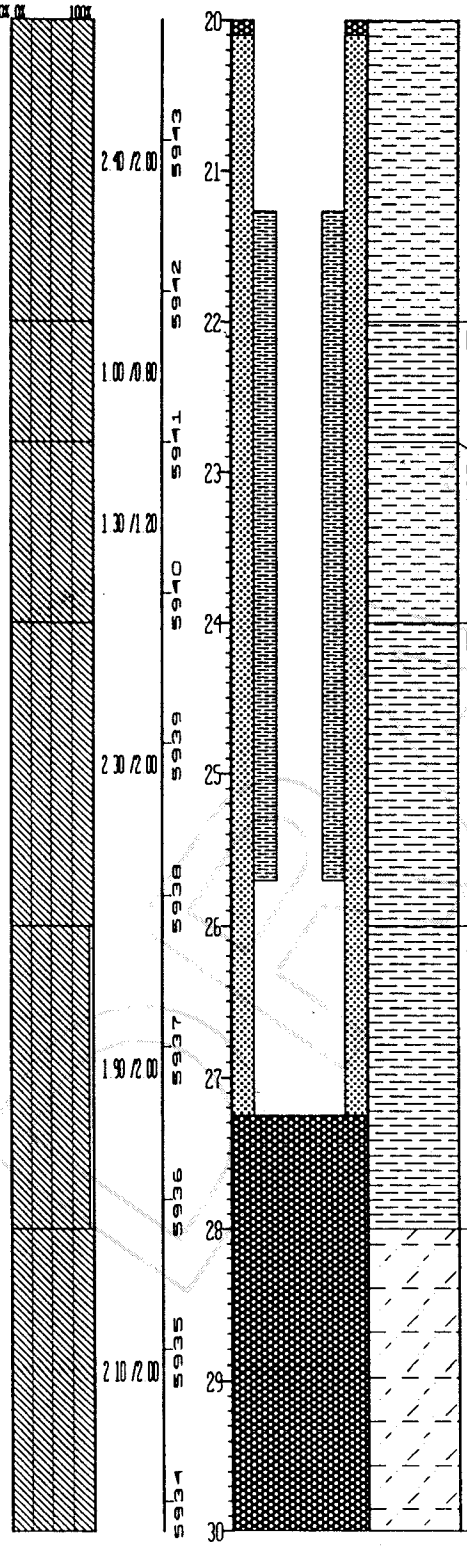
STATE PLANE COORDINATE	TOTAL DEPTH (FT): 35.0	GROUND ELEVATION (FT): 5953.80	PROJECT NUMBER:	LOG OF BORING NUMBER:	
NORTH: 750268	AREA: PLANT	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: RMZ		
EAST: 2085536	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 12/07/89		P219589
REMARKS: Hollow Stem Auger. ASI Log		5946.4			

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
	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%)
PERCENT RECOVERY (100% 0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY



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:	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
				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
						32			SILTY CLAYSTONE	Silty Claystone - yellowish gray (5 Y 7/2), trace Fe. Trace carbonaceous material. >60% clay.
				2.00/2.00	5931	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				

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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.

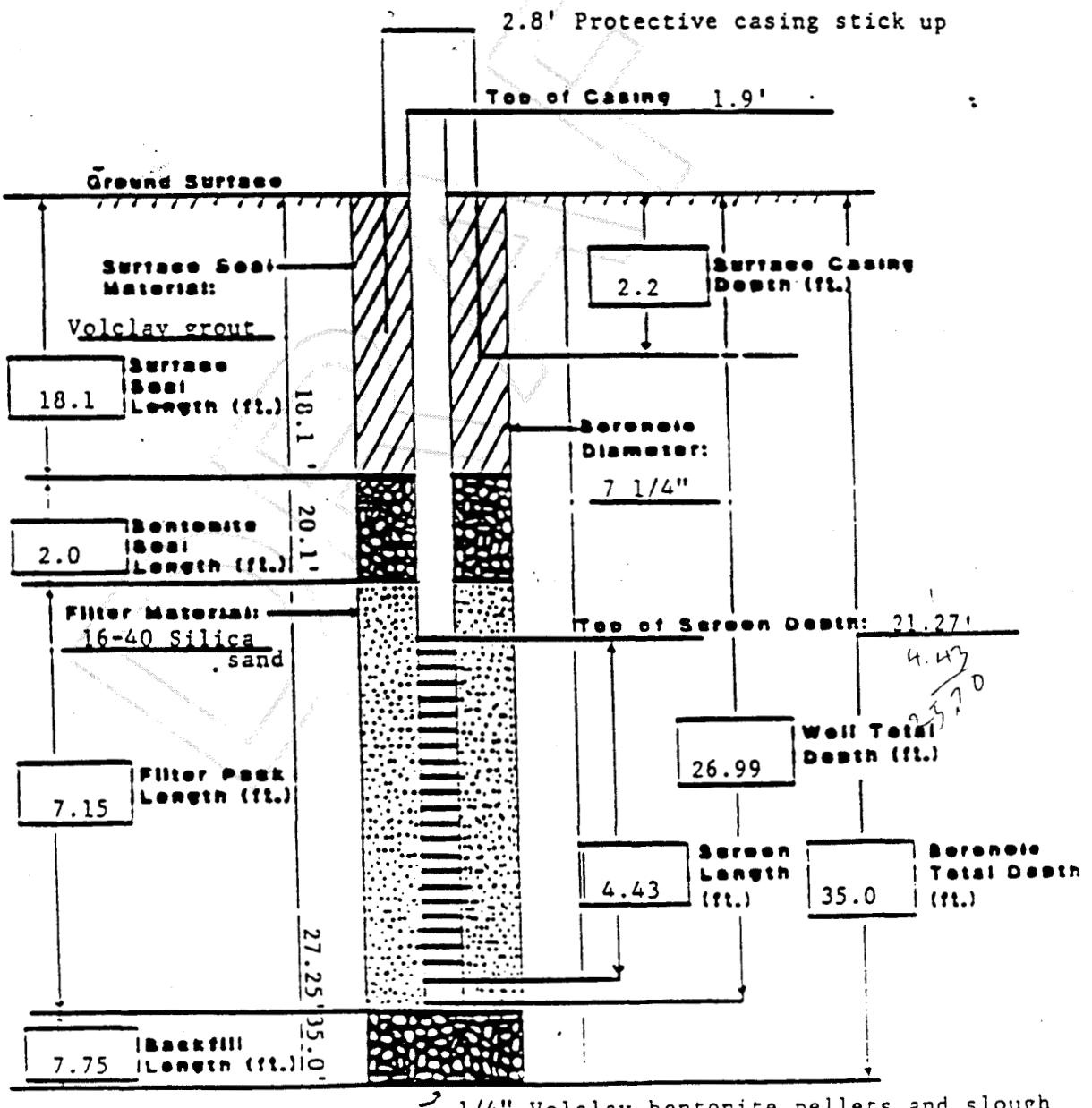
Date Installed 12/07/1989 Approved By J B Burman

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.

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
	P205890102			1.40 /2.00	6011	0–1			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.
	P205890103				6010	1–2			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.
						2			NO SAMPLE	NO SAMPLE.
	P205890204			1.80 /2.00	6009	3			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.
					6008	4				
	P205890406									
	P205890507			1.20 /2.00	6007	5				
					6006	6				
	P205890608								SC	Gravelly Clayey Sand - same as above with color change to light brown (5 YR 5/6).
				0.90 /2.00	6005	7				
					6004	8				
	P205890810								CL	Gravelly Sandy Clay - same as above with low plasticity.
				0.70 /2.00	6003	9				
	P205890812				6002	10				

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.

UNFILLED, SHOWS 6" 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
	PZ05891012			1.40 /2.00	6001	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.
					6000	11–12			NO SAMPLE	NO SAMPLE.
						12			CL	Sandy Clay - same as above (reference interval 10.2' to 11.4').
	PZ05891214			2.00 /2.00	5999	12–13			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.
	PZ05891218				5998	13–14				
				0.20 /2.00	5997	14–15				
					5996	15–16				
	PZ05891618					16			CL	Sandy Clay - same as above (reference interval 12.0' to 12.4').
				0.80 /2.00	5995	16–17			CL	Gravelly Sandy Clay - same as above (reference interval 12.4' to 14.0') with some silt, wet.
					5994	17–18			NO SAMPLE	NO SAMPLE.
	PZ05891820				5993	18–19			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.
	PZ05891821			1.30 /2.00		19			CL	Gravelly Sandy Clay - same as above (reference interval 12.4' to 14.0'), with grayish orange (10 YR 7/4), damp to moist.
					5992	19–20			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:	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.

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
						20			CL:	Gravelly Sandy Clay - same as above (reference interval 18.3' to 19.3')
	PZ05B2022			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.
	PZ05B2124									
	PZ05B2224			2.00 /2.00	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.
					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: 0P02-89	LOG OF BORING NUMBER:
NORTH:	748891	AREA: ORIGINAL PROCESS	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: SPC	P317989
EAST:	2084272	LOCATOR NUMBER: L8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/02/89	

REMARKS: Hollow Stem Auger. Weston Log.

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	2			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.
	P317989004			1.50 /2.00	5988	3				
	P317989006				5987	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	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	6			NO SAMPLE:	NO SAMPLE.
									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			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	11/02/89			
	010			2.00 /2.00	5982	9			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.
					5981	10				

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

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%	2.00 /2.00	5980	10–11			CLAYSTONE:	Same as above - med. light gray (N 6/0). No calcareous deposits. Firm to med. hard.
		0% 100%	2.00 /2.00	5979	11–12			CLAYSTONE:	Same as above - med. gray (N 5/0) to light olive gray (5 Y 6/1). Trace to some silt, trace manganese deposits.
		0% 100%	2.00 /2.00	5978	12–13			CLAYSTONE:	Same as above - light olive gray (5 Y 6/1) to dusky yellow (5 Y 6/4). Trace carbonaceous.
		0% 100%	2.00 /2.00	5977	13–14				Total Drilled Depth = 16.0'.
				5976	14–15				
				5975	15–16				
				5974	16–17				
				5973	17–18				
				5972	18–19				
				5971	19–20				

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STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 20.9	GROUND ELEVATION (FT):	6009.90	OLD WELL NUMBER:	70-89	LOG OF BORING NUMBER:
NORTH:	749799	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.

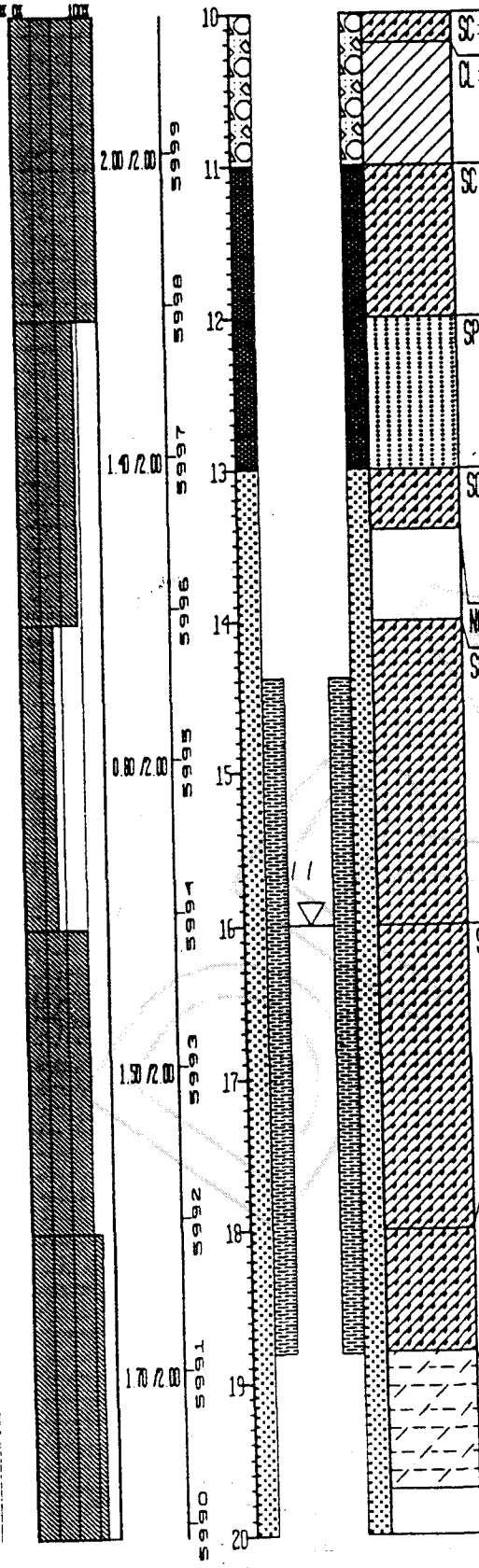
SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 100% 0% 100%	1.70 /2.00	6009	0			CL:	Gravelly Clay - brownish black (5 YR 2/1), non-laminated. Organics (roots). 2 cm. to 4 cm., broken lithic gravels. Some to trace quartzose sand. Trace silt, non to low plasticity, stiff, damp.
				6008	1			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.
					2			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
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.

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
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 (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

Depth (ft)	Recovery/Interval	Datum (ft)	Unified Soils Classification or Rock Type	Description
20	0.90 /0.90	5989	SILTY CLAYSTONE	Pale yellowish brown (10 YR 6/2) to light gray (N 7/0) - same as above.
21		5988		Total Drilled Depth = 20.9'
22		5987		
23		5986		
24		5985		
25		5984		
26		5983		
27		5982		
28		5981		
29		5980		
30				

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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 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
	BH00313EB			1.40/2.00	5982, 5981	0, 1			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.
	BH00315EB								NO SAMPLE:	No recovery.
					5980, 5979	2, 3			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.
				2.00/4.80	5978, 5977	4, 5			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.
					5976	6			NO SAMPLE:	No recovery.
	BH00316EB				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.
				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.
	BH00317EB				5973	9, 10			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	

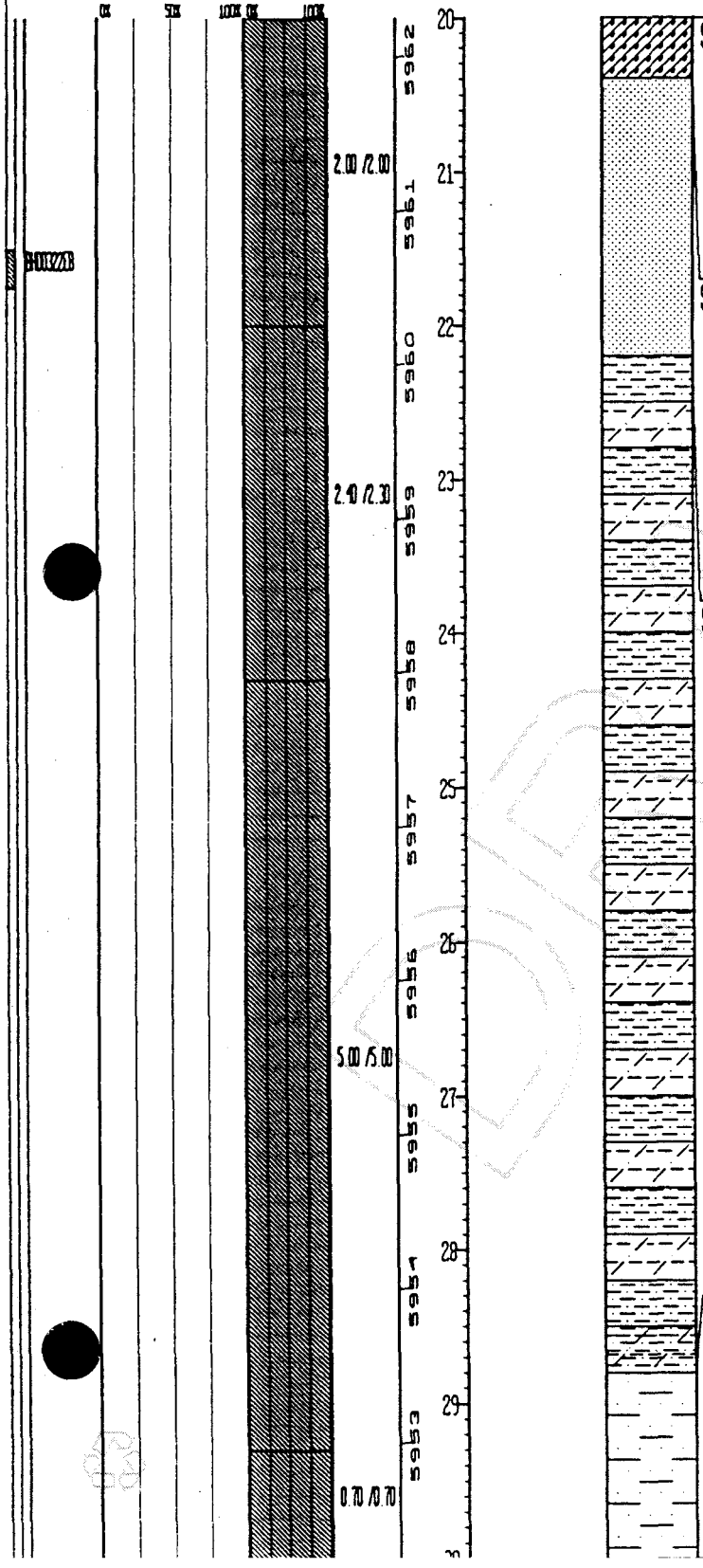
REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan; K. Maley.
Borehole abandoned on 4/7/92.

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
				0.00 /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.
	B0010B			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.
	B0020B								NO SAMPLE:	No recovery.
	B0020B				5968	14				
	B0030B				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: 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 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



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.

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.

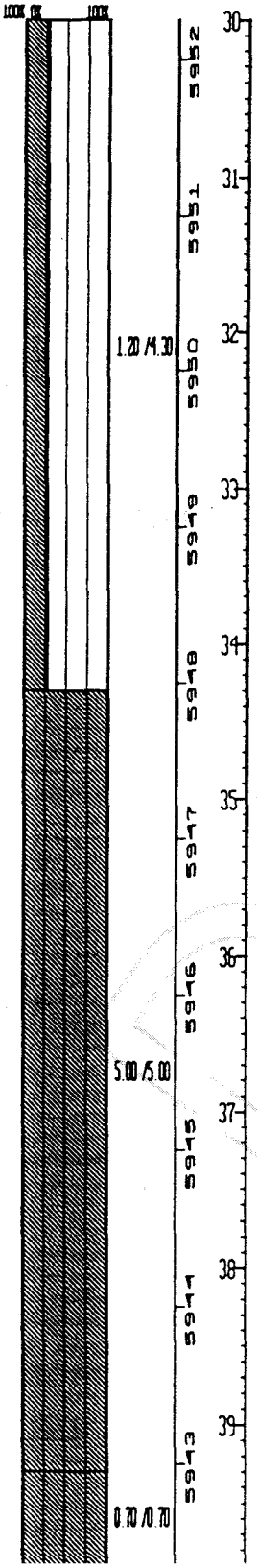
SANDY CLAYSTONE: Sandy Claystone with some Silt. Grayish orange (10 YR 7/4) with yellowish gray (5 Y 7/2) interbedded silty claystone beds. Core mod. well cemented, mod. friable, slightly damp. Apparent inclined bedding at approx. 30 degrees (consistent throughout interval). Heavy Fe staining, some Mn staining. Sand well sorted, f.g., sub-angular quartz. Trace sub-rounded.
33% sand, 10% silt, 57% clay.

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.

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. AGI 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 (100% – 0% – 100%)
RECOVERY/INTERVAL
DATUM (FT) / DEPTH (FT)
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.

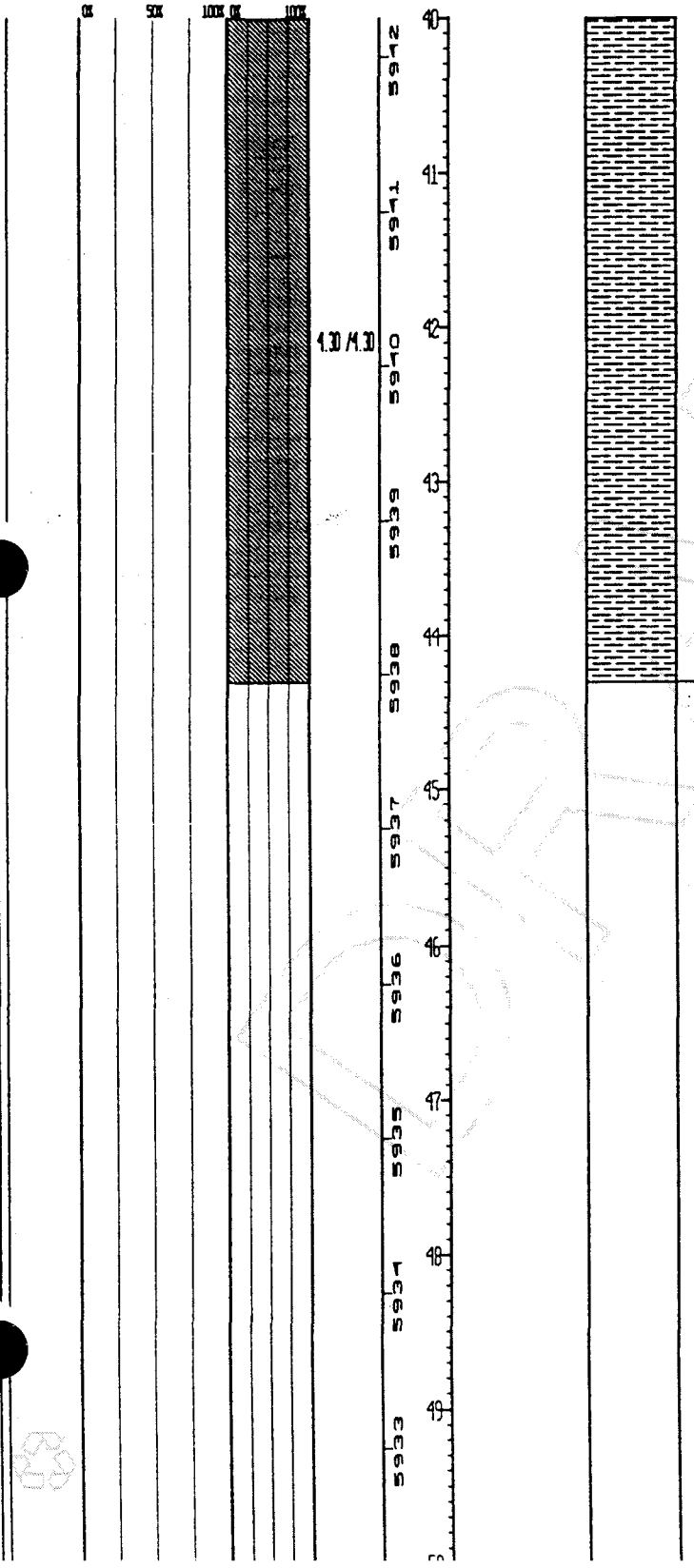
SITLY CLAYSTONE: Silty Claystone with some Sand. Same as above (reference interval 35.6' to 39.3'), except increase in sand percentage. Sand is well sorted, v.f.g., sub-angular quartz. Mod. cemented, friable to mod. friable, slightly damp. Extensively broken and fragmented in some intervals. Indications that inclined bedding is less consistent. Bedding angle 30 (?) degrees.
22% sand, 31% silt, 47% clay.

DRAFT

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: MB	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

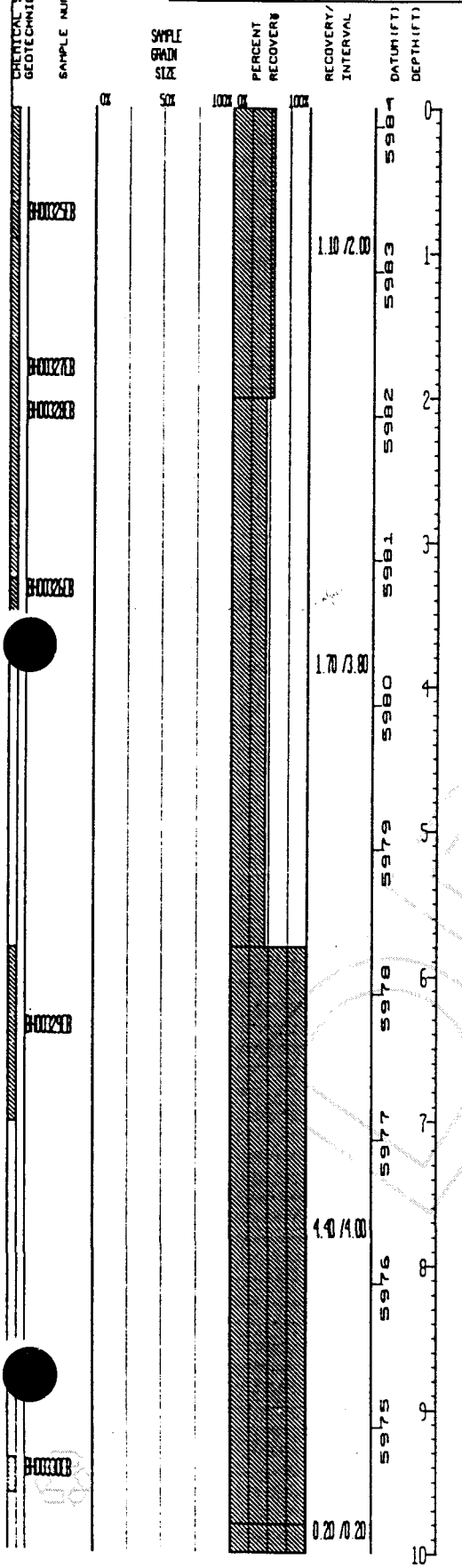


Total Drilled Depth = 44.3'.

DRAFT

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.

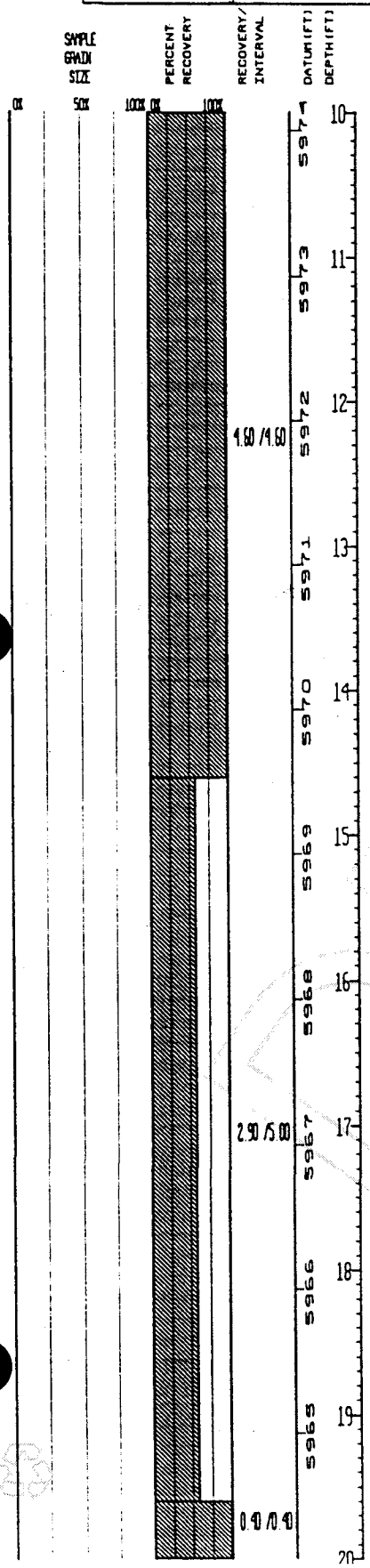


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Gravelly Sand with some Clay and Silt. Grayish brown (5 YR 3/2). Sample dry, low plasticity. Sand well graded, pred. quartz and quartzite in c.g. fraction, and quartz and feldspar in m.g. to f.g. fraction, pred. sub-angular to sub-rounded. Slightly 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): 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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone. Same as lower half of interval from 12.3' to 17.5'. 95% clay.

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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%)	PERCENT RECOVERY (100% 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 /4.60	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 /0.10		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 Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

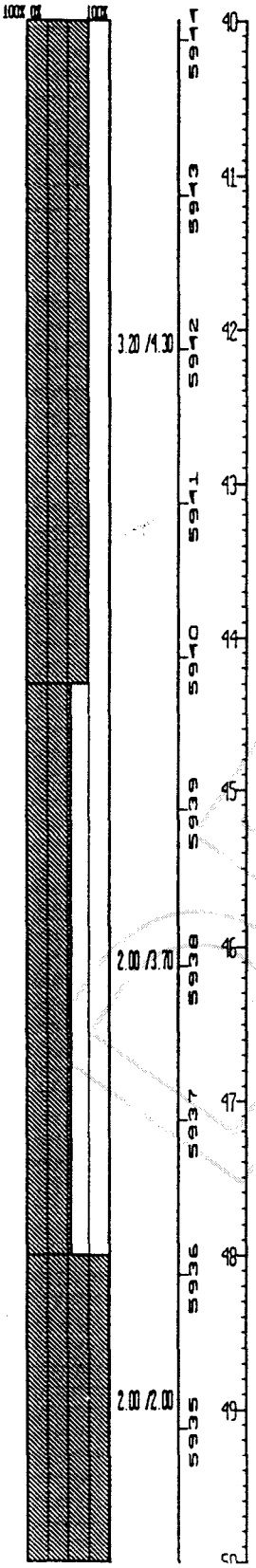
CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5954	30			CLAYSTONE:	Claystone. Light 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				

DRAFT

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
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. 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.

DRAFT

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.

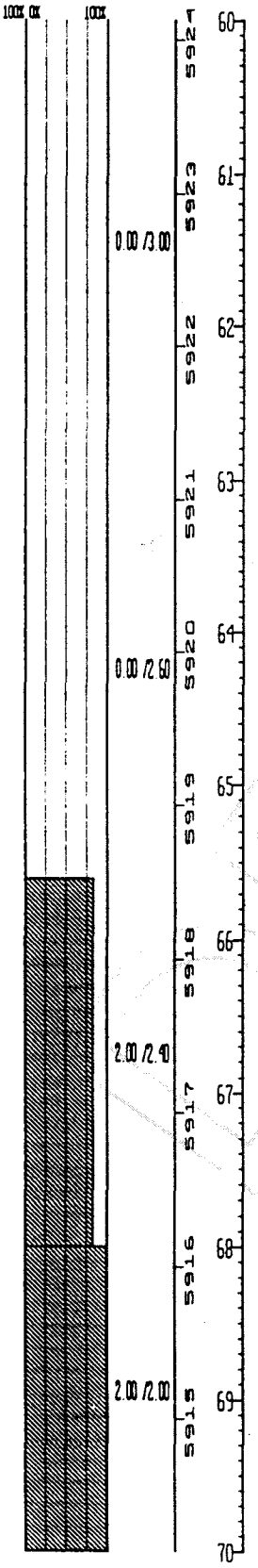
GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5934	50				NO SAMPLE: No recovery.
					5933	51				
					5932	52				
					5931	53				
				0.00/8.00	5930	54				
					5929	55				
					5928	56				
					5927	57				
					5926	58				
				0.00/2.00	5925	59				
						60				

DRAFT

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



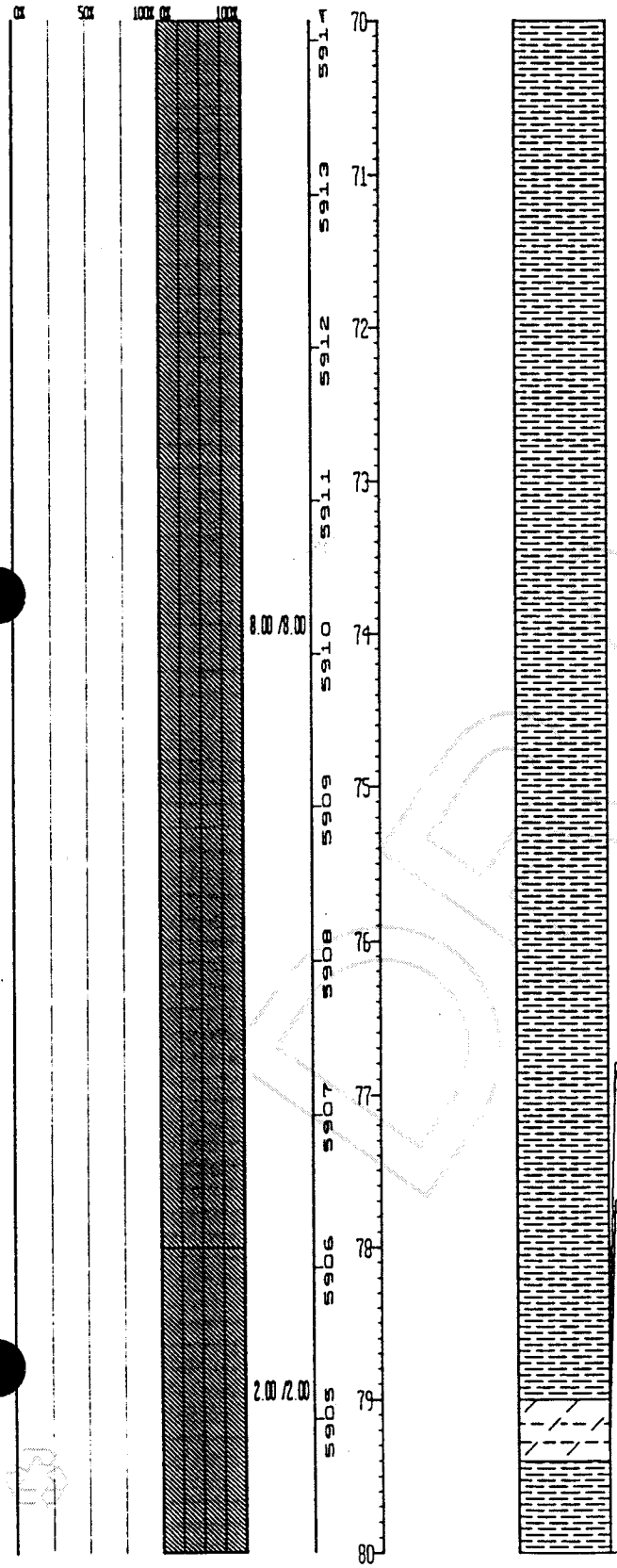
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	No recovery, rotary drilled.
CLAYSTONE	Claystone. Olive gray (5 Y 4/1). Damp, soft and pliable, possibly sluff 95% clay.
SANDY CLAYSTONE	Sandy Claystone with some Silt. Light olive gray (5 Y 6/1) with olive gray (5 Y 4/1) claystone lenses 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
CLAYSTONE	Claystone. Olive gray (5 Y 4/1). Core dry to slightly damp, dense and indurated. Slightly friable. >90% clay
NO SAMPLE	No recovery.
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 coincaidal 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

DRAFT

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.

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

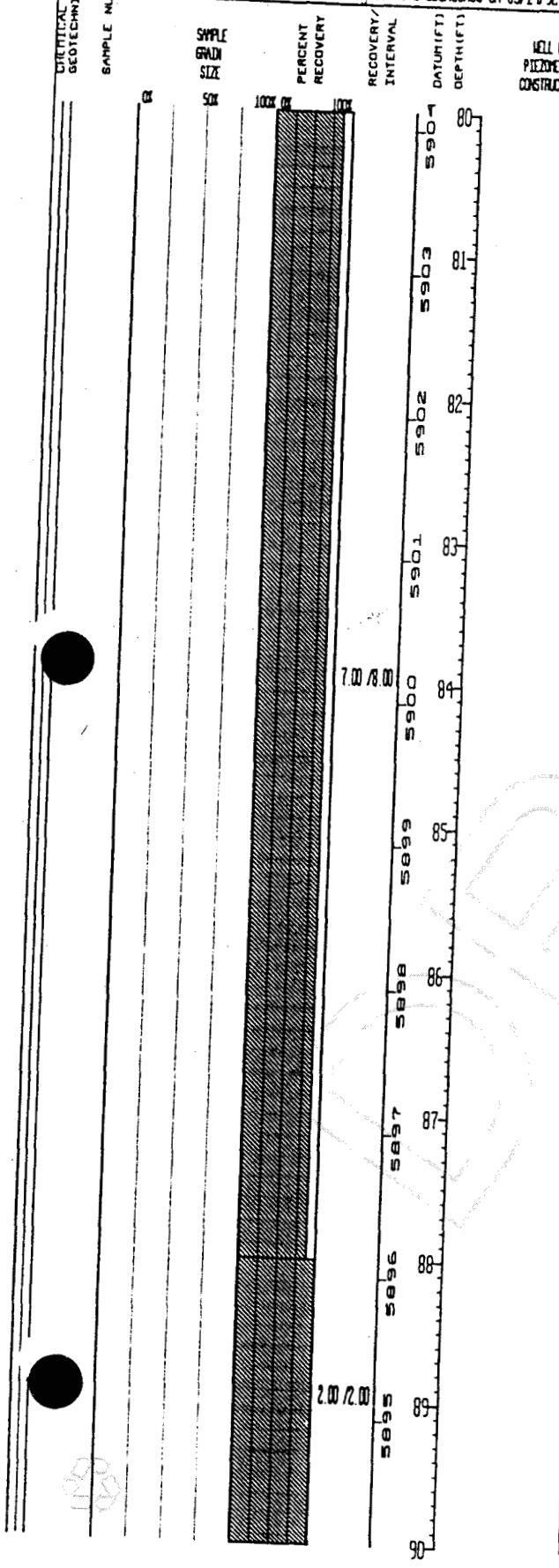


SILTY CLAYSTONE:	Silty Claystone with trace Sand. Light olive gray (5 Y 6/1). Some olive black (5 Y 2/1) mottling. Core dry, well cemented, slightly friable, some carbon. <2% sand, 25% silt, 73% clay.
CLAYSTONE:	Claystone with some Silt. Olive gray (5 Y 4/1) to olive black (5 Y 2/1) in top half of interval. 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

DRAFT

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.



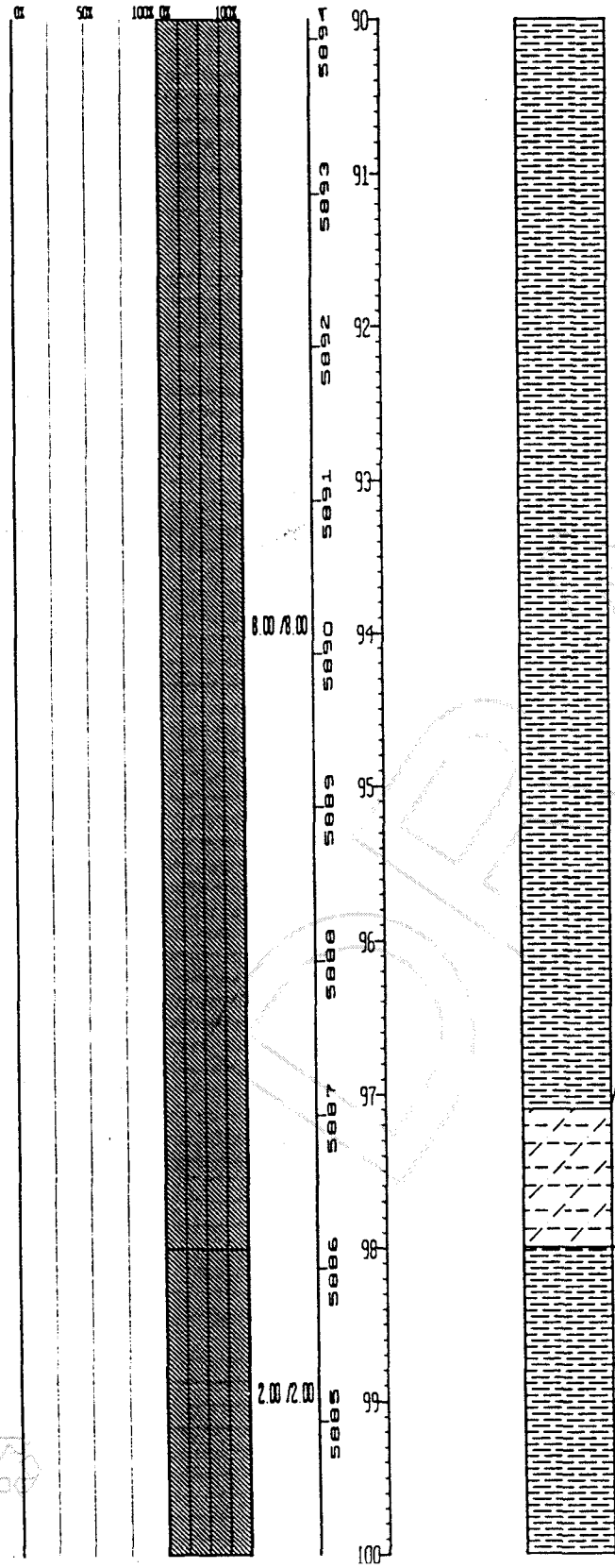
WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		NO SAMPLE:	No recovery.
		CLAYSTONE:	Claystone with some Silt. Dusky yellowish brown (10 YR 2/2) to brownish black (5 YR 2/1). Core consists of damp, unconsol. intervals and slightly damp to dry intact core. 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.

DRAFT

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 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



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.

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.

DRAFT

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.

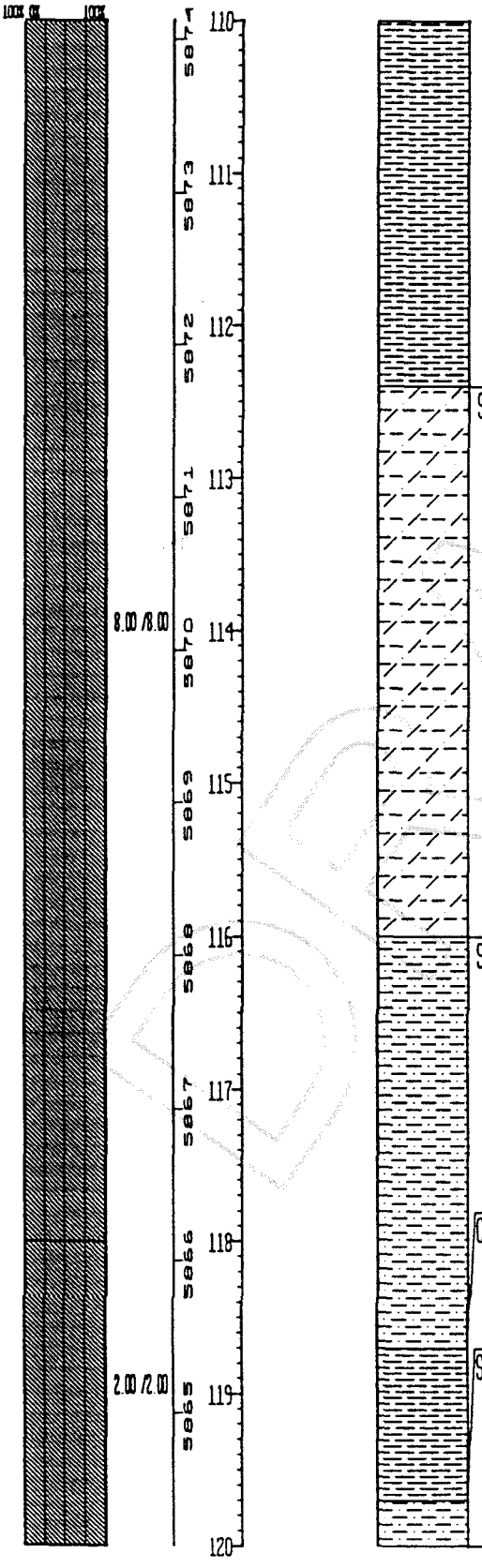
CHEMICAL SAMPLE DET. GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50%)	PERCENT RECOVERY (100% 0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.00 /3.00	5984	100				
					5983	101				
					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				

DRAFT

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 Geolalgist: 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



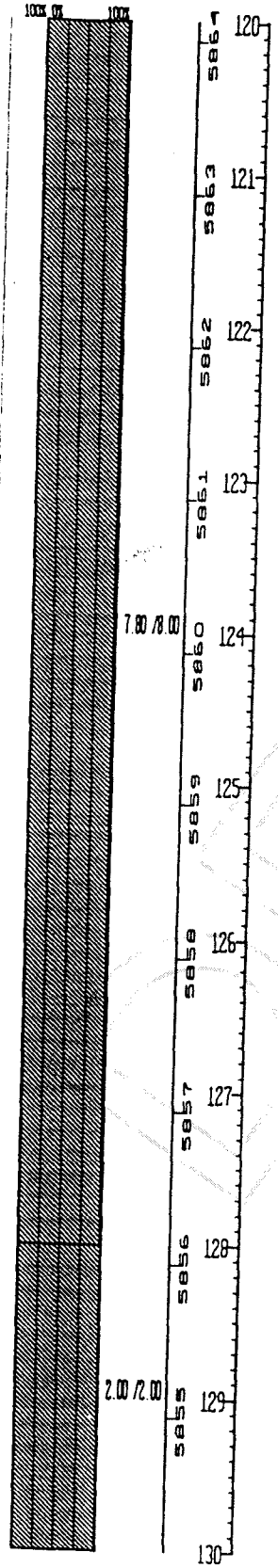
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Silty Claystone with some Sand. Light gray (N7) with some dark gray (N3) claystone lenses and/or laminae. Core dry, well cemented (argillaceous). Slightly friable, some indications of slumping (dipping laminae). Lower foot of interval 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.

DRAFT

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 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



SILTSTONE: Calcareous Siltstone. Med. light gray (N6), some grayish black (N2) laminae and carbonaceous zones. Hard, well cemented (argillaceous), non-friable.
No sieve analysis

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

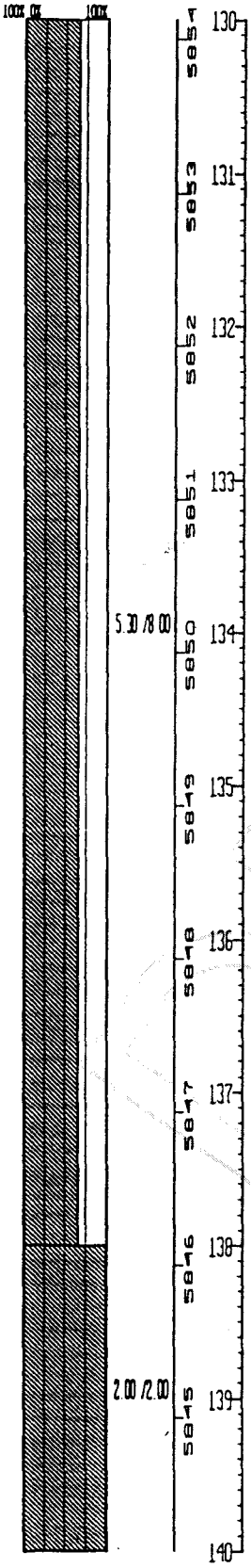
NO SAMPLE: No recovery.

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

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 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
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.
NO SAMPLE:	No recovery.
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

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 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
					5971	140				
				0.30 /2.00	5973	141			NO SAMPLE:	No recovery.
					5972	142			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
					5971	143				
					5970	144				
				6.00 /6.00	5969	145				
					5968	146				
					5967	147				
					5966	148			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
				2.00 /2.00	5965	149				
						150				

DRAFT

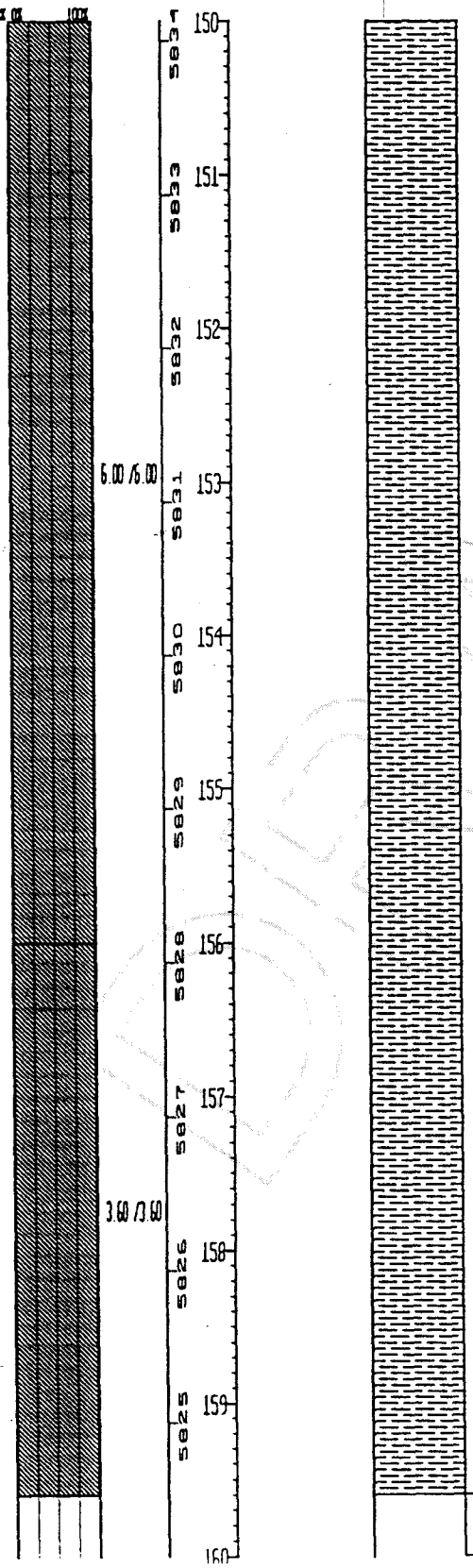
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

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 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% 50% 100% 0% 100%

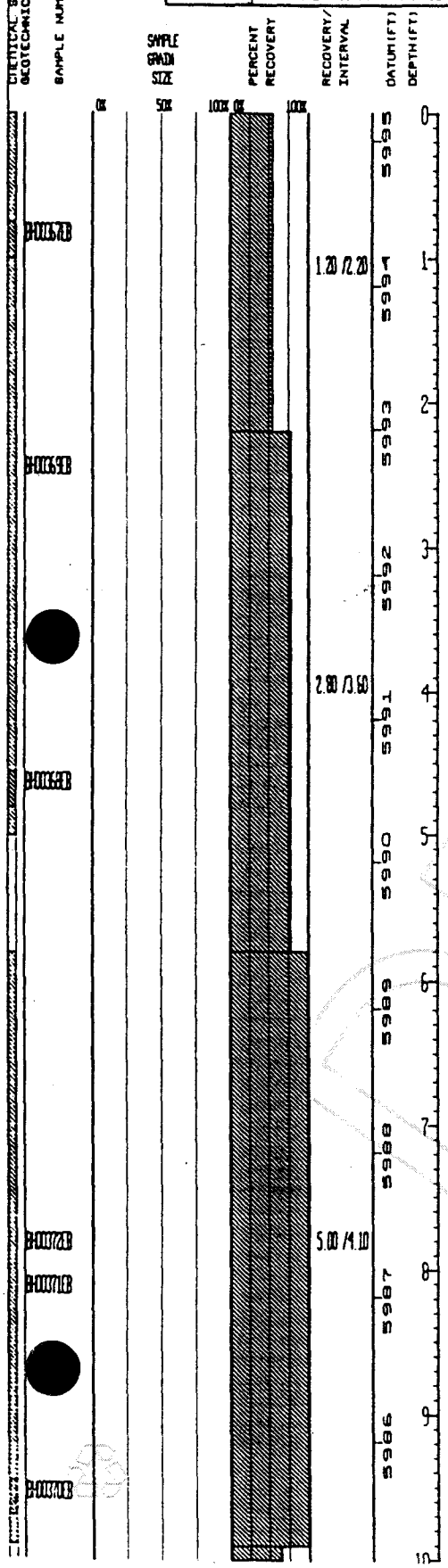


Total Drilled Depth = 159.6'

DRAFT

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.



WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	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.
	NO SAMPLE:	No recovery.
	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.
	NO SAMPLE:	No recovery.
	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. Slightly damp. 30% gravel, 36% sand, 20% silt, 14% clay.
	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.
	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.
	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: Lourie Host. EBASCO Geologist: K. Tegtmeyer. Borehole filled with bentonite grout and abandoned on 4/29/92.

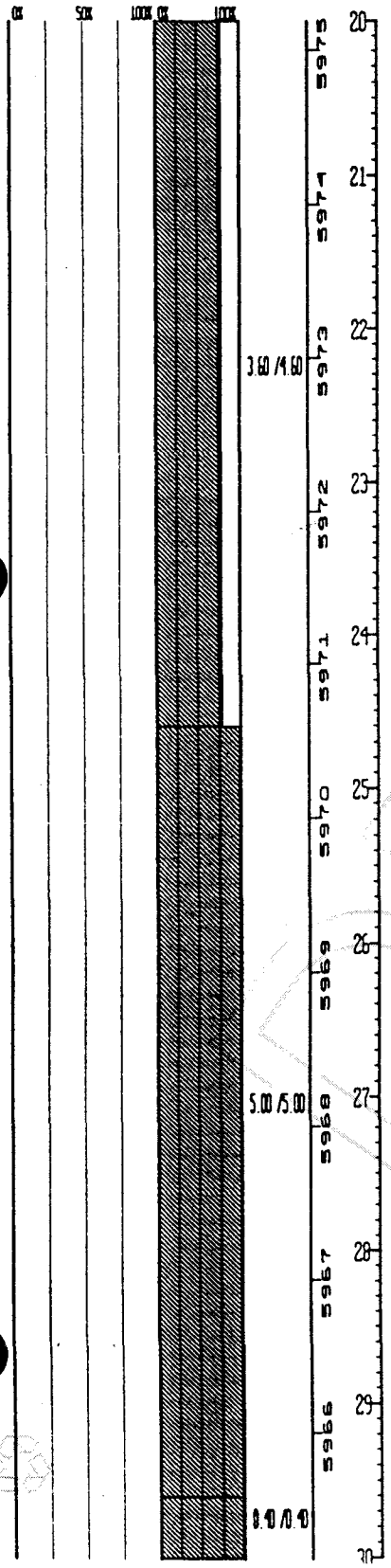
GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION

RECOVERY/INTERVAL	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	10		
2.10/3.70	11–12	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.
		NO SAMPLE	No recovery.
2.10/0.90	13–14	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.
3.90/5.10	15–17		
	18	NO SAMPLE	No recovery
0.40/0.40	19–20	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

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.

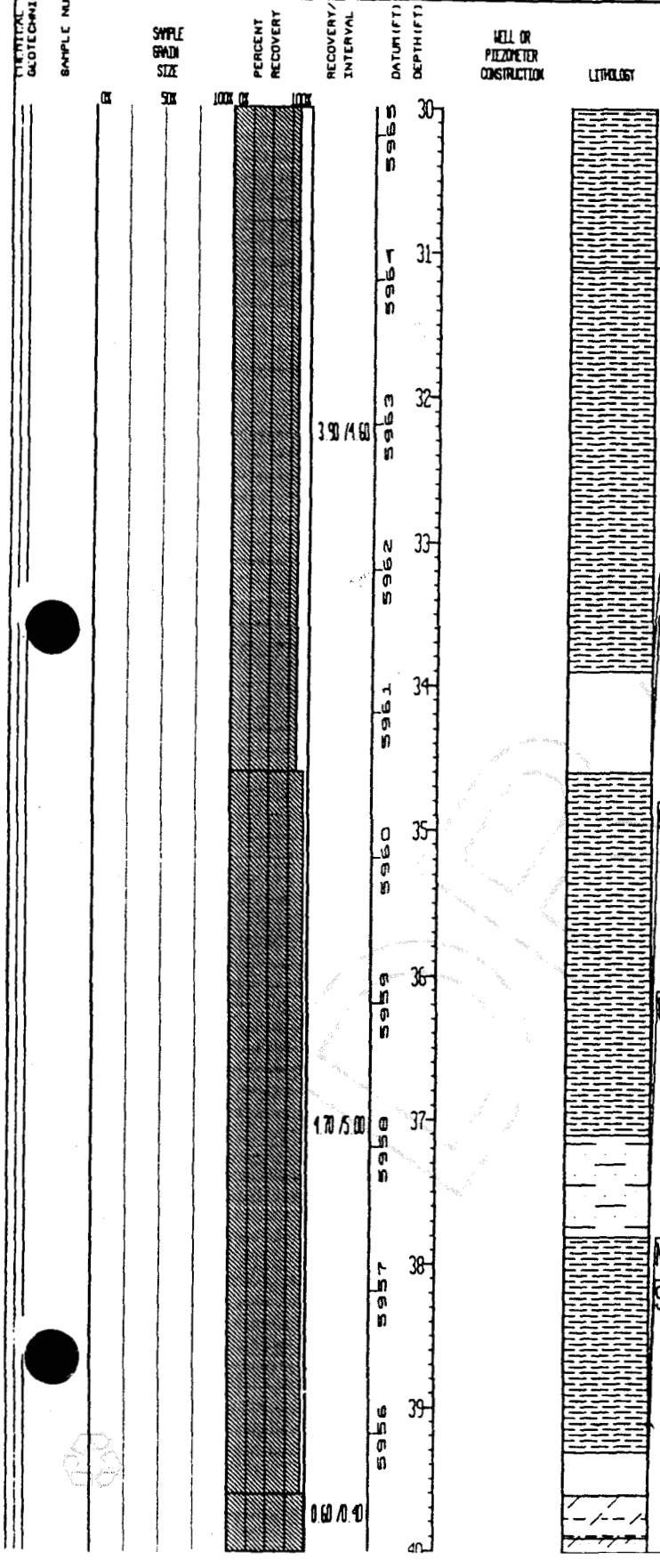
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE
PERCENT RECOVERY
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



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 CaCO3 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.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
NO SAMPLE:	No recovery.
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.
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.
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.
NO SAMPLE:	No recovery.
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'

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. AST 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%	0.70 /0.20	5995	40				
					5994	41				Total Drilled Depth = 40.2'.
					5993	42				
					5992	43				
					5991	44				
					5990	45				
					5989	46				
					5988	47				
					5987	48				
					5986	49				
						50				

DRAFT

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	

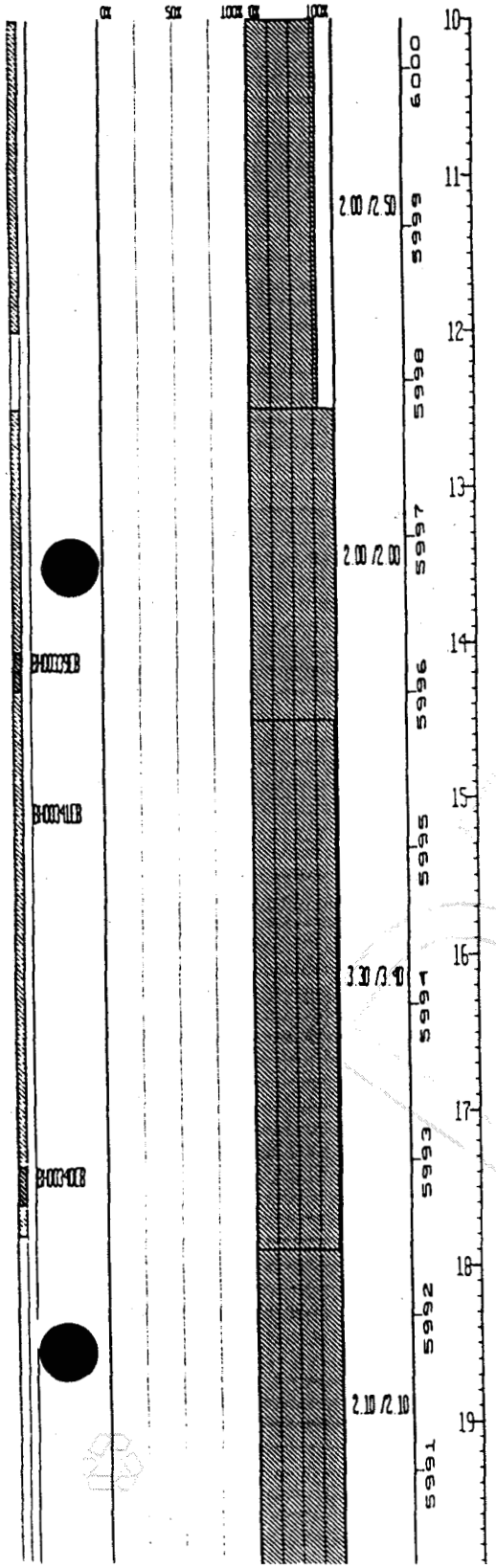
REMARKS: Drilling Equipment: CME 750 ATV. ASI Geologist: FredGrigsby. EBASCO Geologist: J. Boylan. Borehole fill ed with bentonite grout and abandoned on 4/16/92.

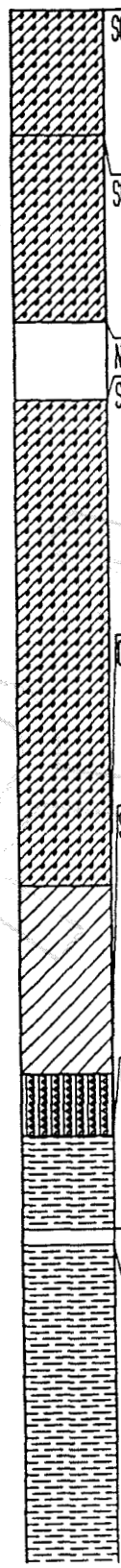
CRITICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					6010	0			SC:	Gravelly Sand with some Clay and 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.
	BH00333EB			1.30 /2.50	6009	1			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.
					6008	2			NO SAMPLE:	No recovery.
	BH00335EB BH00336EB				6007	3			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.
				2.90 /3.30	6006	4				
	BH00334EB				6005	5			GC:	Sandy Gravel with some Clay and trace Silt. Same as below (reference interval 5.8' to 7.75').
									NO SAMPLE:	No recovery.
					6004	6			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.
					6003	7				
	BH00337EB			2.40 /4.20	6002	8			SC:	Gravelly Sand with some Clay and Silt. Same as below (reference interval 10.0' to 10.8').
									NO SAMPLE:	No recovery.
	[illegible]				6001	9				
						10				

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 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



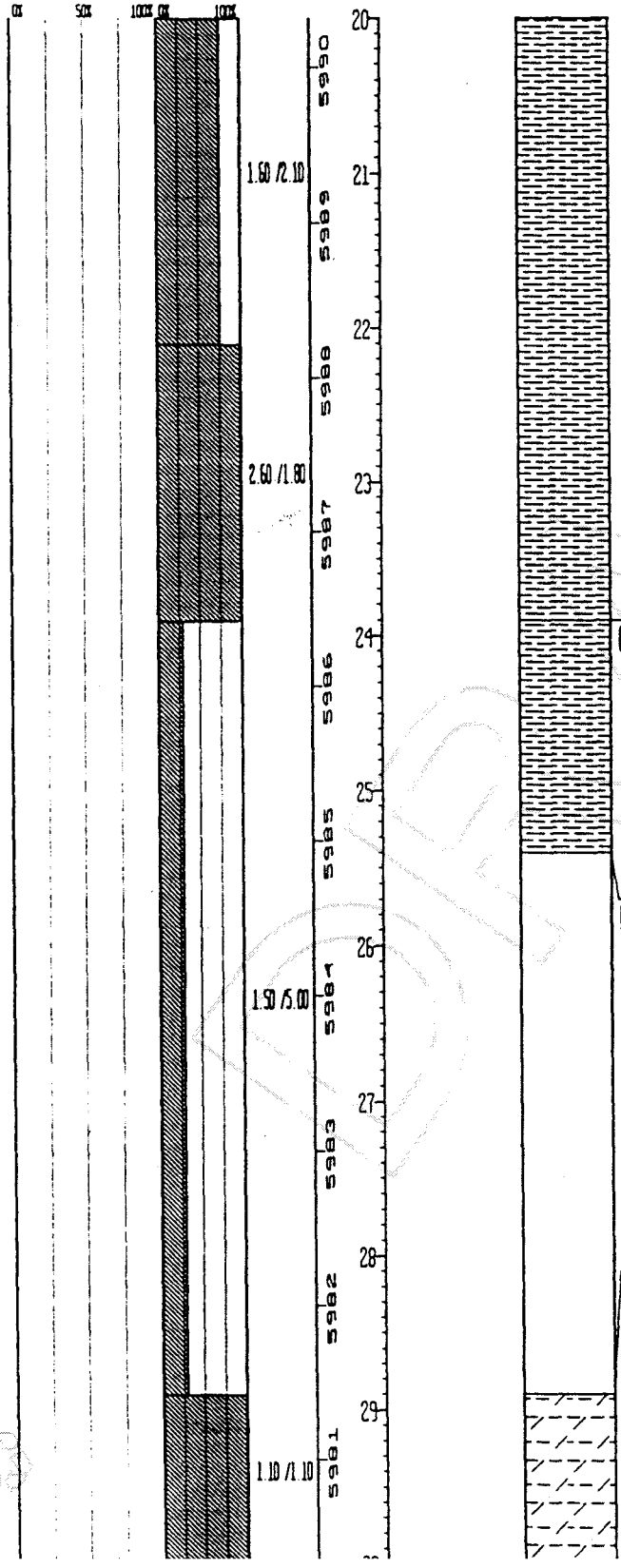


Unified Soils Classification or Rock Type	Description
SC:	Gravelly Sand with some Clay and Silt. Light brown (5 YR 5/6). Slightly damp, low plasticity, weathered. Sand well graded, pred. sub-angular with some sub-rounded quartz. Non-calcareous. 20% gravel, 57% sand, 6% silt, 17% clay.
SC:	Clayey Sand 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: Fred Grigsby. 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 (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

NO SAMPLE: No recovery.

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

DRAFT

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 filled 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
					5980	30				
					5979	31				
				3.10 /3.90	5978	32				
					5977	33			NO SAMPLE	No recovery
					5976	34			SILTY CLAYSTONE	Silty Claystone with trace Sand. Same as above (reference interval 28.9' to 33.1')
					5975	35				
				3.80 /5.00	5974	36				
					5973	37			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.
					5972	38			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
				1.10 /1.10	5971	39				

DRAFT

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: 2063061	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 INTAKE
GEOTECHNICAL SAMPLE D
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 3.90 /3.90; 3.10 /5.00; 1.10 /1.10

DATUM (FT): 5970, 5969, 5968, 5967, 5966, 5965, 5964, 5963, 5962, 5961

DEPTH (FT): 40, 41, 42, 43, 44, 45, 46, 47, 48, 49

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
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 (argillaceous) 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.
NO SAMPLE	No recovery.
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

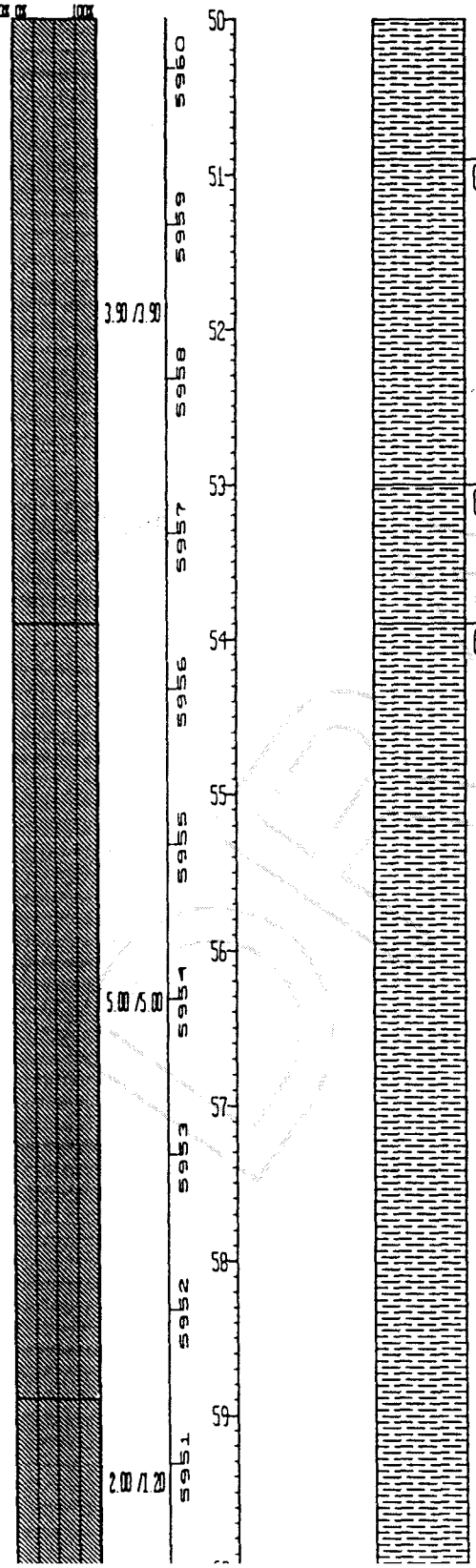
DRAFT

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 D

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	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%

DEPTH (FT): 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70

DATUM (FT): 5960, 5959, 5958, 5957, 5956, 5955, 5954, 5953, 5952, 5951

Total Drilled Depth = 60.1'

DRAFT

STATE PLANE COORDINATE:
NORTH: 750484
EAST: 2085225

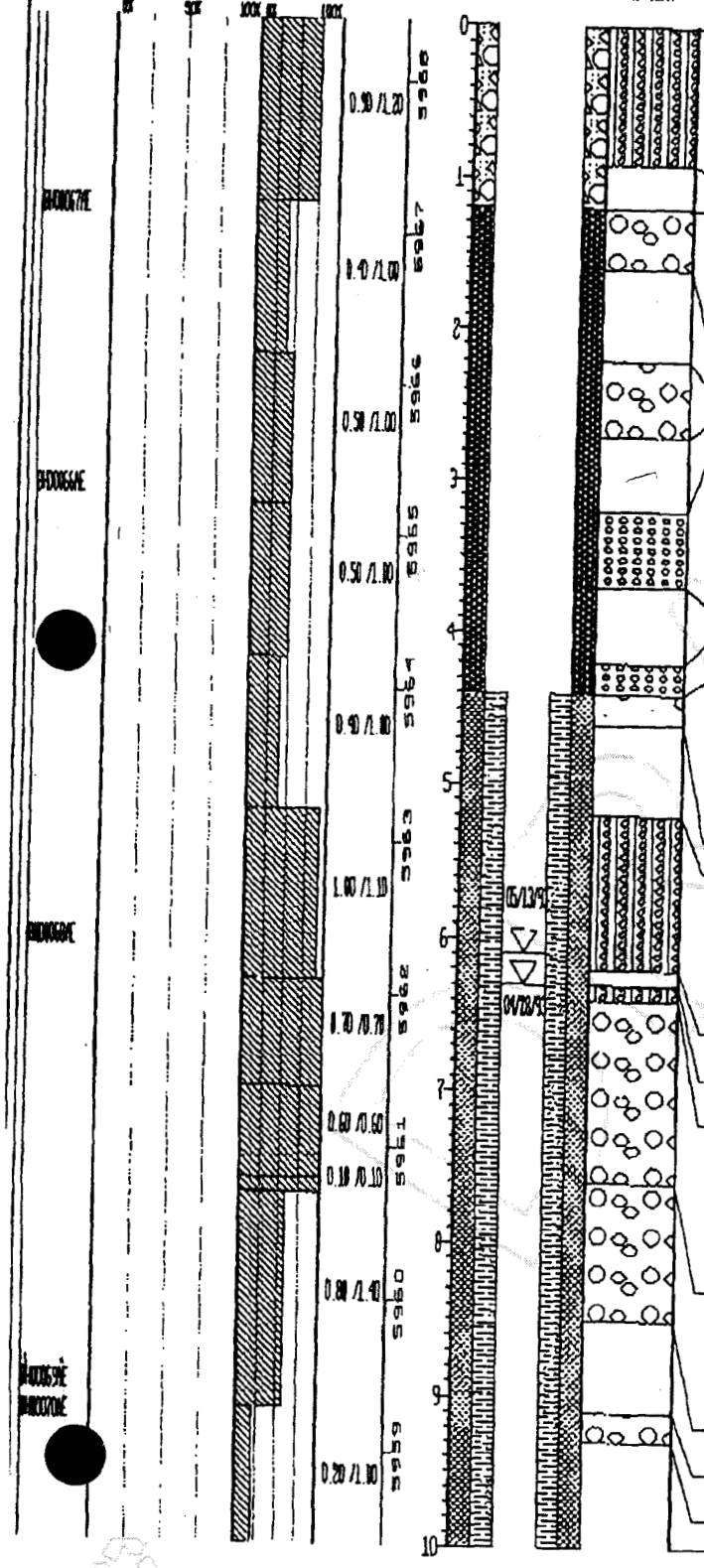
TOTAL DEPTH (FT): 14.1
AREA: PA, B-Pond Area
LOCATOR NUMBER: K10

GROUND ELEVATION (FT): 5968.40
CASING DIAMETER (IN): 2
BOREHOLE DIAMETER (IN): 8

PROJECT NUMBER: 004-WARP
GEOLOGIST: KWP/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.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
:	No recovery (0.9-1.2')
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.
:	No recovery (1.6-2.2')
GW:	Sandy GRAVEL with some silt (2.2-2.7'). Same as above.
:	No recovery (2.7-3.2')
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.
:	No recovery (3.7-4.2').
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.
:	No recovery (4.6-5.2')
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.
:	No recovery (6.2-6.3').
SM:	Silty SAND with some gravel (6.3-6.4'). Same as above.
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.
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.
:	No recovery (8.5-9.1').
GW:	Sandy GRAVEL (9.1-9.3'). Same as above.
:	No recovery (9.3-10.1')

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: M10	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 / SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100% 0% 100%

PERCENT RECOVERY

RECOVERY/INTERVAL: 1.00 /1.00; 0.50 /1.00; 1.00 /1.00; 0.90 /1.00

DATUM (FT): 5958, 5957, 5956, 5955, 5954, 5953, 5952, 5951, 5950, 5949

DEPTH (FT): 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

; No recovery (9.3-10.1').

GW: Sandy Gravel (10.1-10.7'). Same as above.

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.

: No recovery (11.6-12.1').
Top of bedrock at 12.1'

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.

;: No recovery (14.0-14.1').

Total depth drilled 14.1'.
Total depth casing 13.4'.
Base of Filter 11.4'.

R=94% 9668663 02-01-94 05:37PM P006 #27

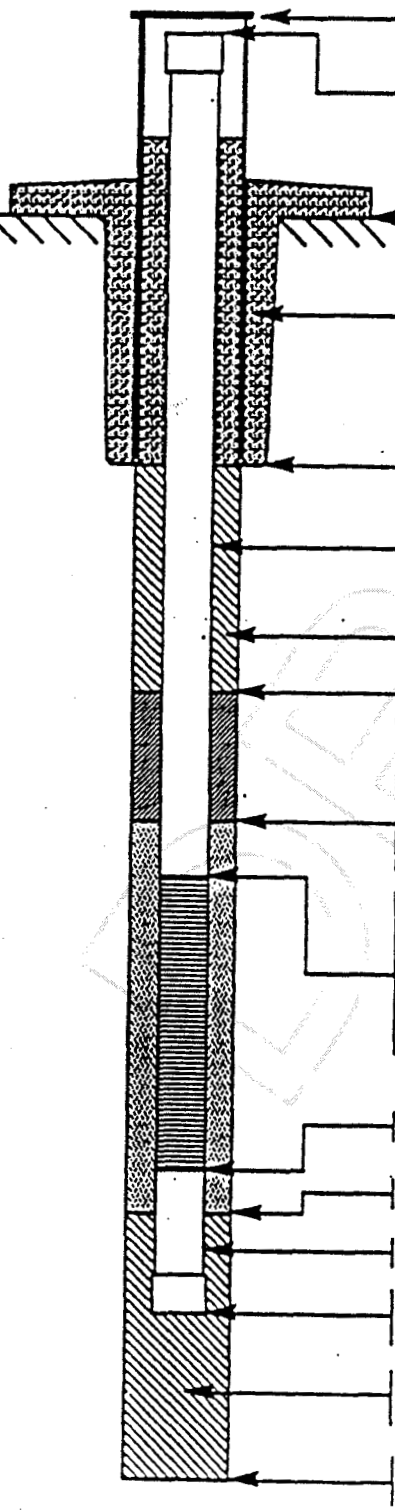
U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.6A (REV. 2)

Groundwater Monitoring Well and Piezometer Report

PROJECT NAME OU4 Phase I. REF/RF	WELL NO. 05193
LOCATION E. of B-Series Ponds	SCREENED INTERVAL
DATE COMPLETED 4-28-93 TOTAL HOLE DEPTH (FT) 13.7 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)



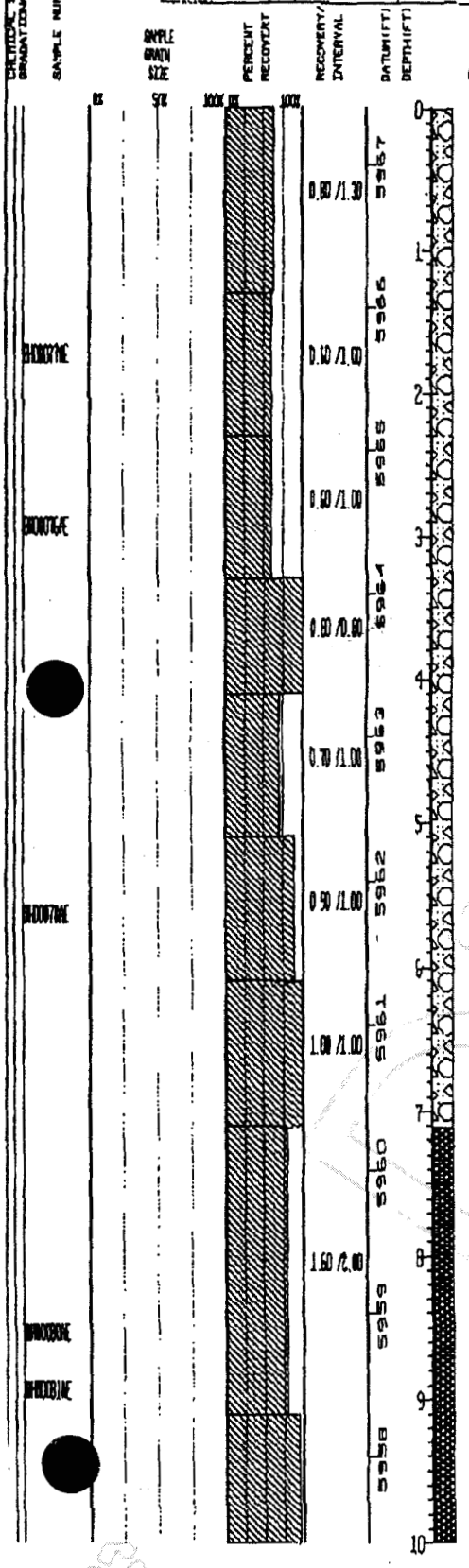
Height of top of protective casing (Ft)	2.5 2.76
Height of top of well casing (Ft)	2.18
Ground Elevation (Ft)	5968.4
I.D. of protective casing (In)	8"
Type of protective casing: steel	
Depth of protective casing (Ft)	1.2'
Depth of surface seal (Ft)	1.2'
Type of surface seal: Cement	
I.D. of well casing (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
Depth of hole (Ft)	

alized Stratigraphy and Water Level Summary (Based on Rig Geologist Notes)

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 24.1	GROUND ELEVATION (FT):	5957.40	PROJECT NUMBER:	0614-WARP
NORTH: 750549	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

LOG OF BORING NUMBER: 05393

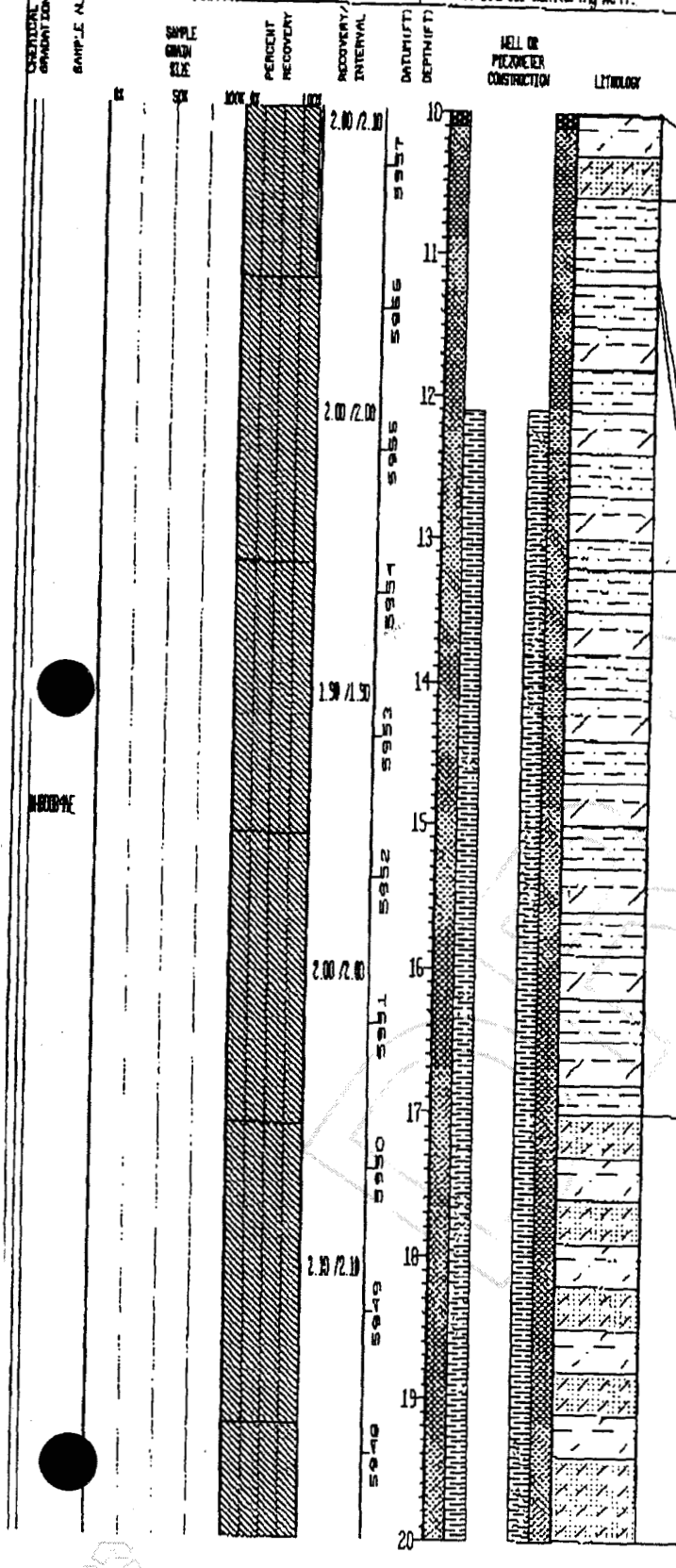
REMARKS: Replacement for old well no. P210289. Hollow stem auger and conventional coring. Rig geology by Kerry Miyoshi and core logging by Kerry Miyoshi. Well completed as bedrock monitoring well.



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.
GM:	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').
GM:	Sandy GRAVEL with some silt (1.3-1.9'). Same as above.
:	No recovery (1.9-2.3').
GM:	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, 52% Sand, 9% silt, 11% 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): 5967.40	PROJECT NUMBER: OU4-WARP	LOG OF BORING NUMBER:
NORTH: 750549	AREA: PA, Around Ponds	CASING DIAMETER (IN): 2	GEOLOGIST: KRM/KRM	05393
EAST: 2085223	LOCATOR NUMBER: M10	BOREHOLE DIAMETER (IN): 8	DATE DRILLED: 05/04/93	

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
SANDY SILTSTONE	Clayey Sandy Siltstone (9.1-10.6'). Same as above.
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.
	No recovery (11.1-11.2').
SANDY CLAYSTONE	Silty Sandy Claystone (11.2-13.2'). Same as above.
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.
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, 19% Clay.

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-WAP
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	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				

DRAFT

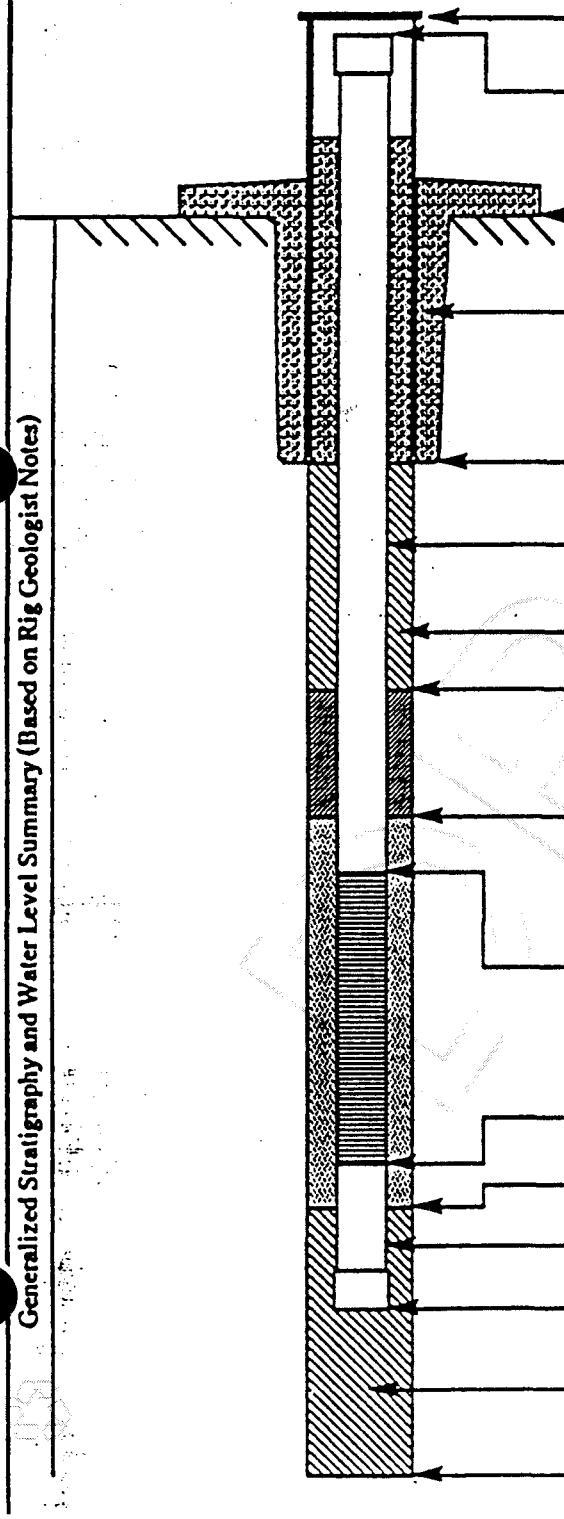
U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.6A (REV. 2)

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

BOREHOLE LOG

BOREHOLE NO.: TH0046392 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	~~4~~ 14 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 IN 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	~~FIT~~ CAL	FILL		X			20	5	5	10	30	50				BROWN					X							BLACK	.3
																														0
7.9	53/30	CAL	FILL																											0
11	—	ST	FILL																											0
14	10/10	CAL	FILL																											.3
14.7	4/8	CAL	FILL		X			20					80				BROWN													2.0
14-16	—	BAG	FILL		X								100				BROWN													2.0
206-226	—	ST	FILL		X								100				BROWN GREY												OLIVE	.3
23.7	11/19	CAL	FILL		X			10	10				90				BROWN GREY												ROOTS	.3
28.1	12/14	CAL	FILL		X								100				BLACK												WATER	.3
32.5	10/13	CAL	FILL		X								100				BROWN BLACK													.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 47.7	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.: THOA6692 PROJECT NAME: B1, B3, 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	NATIVE FILL 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	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~~ ~~90~~ 90				DARK GREY													.3
12-14	–	ST	FILL				X						100				DARK GREY													2
14.74	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					~~60~~ 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.: TH04669 2 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.: T1/Ø46692 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	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													1

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: 1Ø-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			4Ø	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 BR 14-15		X			1Ø	X				9Ø				Brown													NA
16	27/5Ø2"	Cal	CS and SS		X			1Ø	X				9Ø			X	Brown Gray					X								.3
19	4Ø/5Ø(3")	Cal	CS and SS		X			8Ø 1Ø 8Ø	X				2Ø 9Ø 2Ø	X		X	Brown D. Gray					X							Fe Oxide 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

(4015-210-542) (W-C Log Form) (9/4/92 10:59 AM)

U5

BOREHOLE LOG

BOREHOLE NO.: TH046892 PROJECT NAME: B1, B3, A3, and Landfill Dams Analysis PAGE 1 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
0	1	FILL	GRAVEL, FINE TO COARSE, ANGULAR TO SUBANGULAR, DRY, BLUE
1	10	FILL	CLAY, STIFF, LOW TO MEDIUM PLASTICITY, SANDY, FINE TO
			MEDIUM, ANGULAR, SLIGHTLY MOIST, BROWN TO DARK BROWN
10	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				40	20	20			60				BROWN													.3
4-6	—	ST	FILL	X				60	20	20	20	10	30				BROWN													0
6	6/7	CAL	FILL																											0
7	5/6	CAL	FILL		X			25	20		5		75				BROWN													.3
0-5	—	BKT	FILL	X				20	←	20	→		80				BROWN													1
11	4/5	CAL	FILL			X							100				DARK GREY													.3
12-14	—	ST	FILL		X								100				DK GREY BLACK													1
5-10	—	BKT	FILL		X			5	5				95				DK BROWN GREY													1
14-15	—	ST	FILL		X								100				GREY													1
15	4/7	CAL	FILL		X	X		15	15				85				GREY BLACK													.3
10-15	—	BKT	FILL		X	X							100				DARK BROWN													1
15-17	—	ST	FILL		X								100				GREY													4"
17	7/11	CAL	FILL		X	X		20	20				80				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

(4005-210-542) (W-C Log Form) (9/4/92 10:59 AM)

BOREHOLE LOG

BOREHOLE NO.: THD46892 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													1.3
15-20	–	BKT	FILL		X	X					5		95				DARK GREY													0
20-21	–	ST	FILL																		X	X								
21	25/30	CAL	SS	X									25	X															IRON	1.3
25.5	26/50	CAL	SS	X									25	X							X	X								
	(6"/1")																													

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 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													0"
10-15	—	BKT	FILL		X			10	10				90				BROWN													—
17-19	—	ST	FILL		X	X							100				GREEN LIGHT BLACK													0"
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						15	85				VERY 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								
													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 4"	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 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: SD 60000 WC Site ID: IHSS 142.1
LOCATION SED 60092 RAI Al POND
CORE NUMBER 1 Liner Decontaminated Scal / 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 ft (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: SED60002 A1 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	SD60000WC	VOA BNA Metals Tkad's Rad Screen	

Sampler: KBT / MAC

Prepared By: Kent Trimbach (Print Name) 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 Al Pond RA1

CORE NUMBER 1 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: 10-29-92 QUARTER: 1 2 3 (4)

COLLECTION TIME: 1450 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 9S6492

COMPOSITE: YES / NO COMPOSITE DESCRIPTION Distilled H2O over Sampling equipment

QC TYPE: REAL MS MSD LR DUP (RNS) QC PARTNER SD60092WC

COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER

TYPE OF SAMPLE: (METALS) (RADIONUCLIDES) (VOLATILES) (SEMI-VOLATILES) DESCRIPTION

OTHER: Rad 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 (ie. 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 A1 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

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: 1H55142.1
LOCATION Sed 60192 Alpond RAC
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: 11-02-92 QUARTER: 1 2 3 4
COLLECTION TIME: 830 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: Pad 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 [signature] 11-02-92
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: SD60001WC Site ID: 1HSS142.1
LOCATION: Sed 60192 At 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 REEDS By:
Print Name Signature Date

REEDS 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: SD60121WC Site ID: 1HSS142.1
LOCATION Sed 60192 A1 pond RA2
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: NLT
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 equipt
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 (eg. Vegetation, Roots, Organisms, Objects)

Sampler: KBT/MAC
Prepared By: Lawrence A Caperton [signature] 11-02-92
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: SD60002WC Site ID: IHSS 142.1
LOCATION SED60292 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)
0.0" to 9.8"	Black (7.5YR 3/0)	OL Organic clay with abundant silt	Plant roots. Strong organic odor Organics abundant
9.8" to 19.3"	~~Black~~ 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
~~SD60002WC~~			
1	SD60002WC	VOA BNA Metals TRU's Rad Screen	

Sampler: KBT/MAC/SAM/MGG
Prepared By: Kent Trombach Kent Trombach 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: SD60003WC Site ID: IHSS 142.1

LOCATION SD60392 Deepest

CORE NUMBER 1 Laser Decontaminated YES / NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINER: 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 holes 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: 1.25 (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 / MGC

Prepared By Kent Trimbach (Print Name) (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: [illegible] NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-29-92 QUARTER: 1 2 3 4
COLLECTION TIME: [illegible] 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: SD6000 3wx MS/MSD Site ID: IHSS 142.1
LOCATION: SED 60 392
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 3wx 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

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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: SD60003WCLR Site ID: IHSS 142.1
LOCATION SSD60392
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: 1400 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple Cores Composited
QC TYPE: REAL MS MSD DUP RNS QC PARTNER SD60003WX
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, Rocks, 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: SSD6003a7
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 3WCLR	Trads	

Sampler: KBT
Prepared By: Kent Trambach (Print Name) Kent Trambach (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: SD60120WC Site ID: IHSS 142.1
LOCATION SED60392
CORE NUMBER 1 Liner Decontaminated YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics-Stainless Steel / Non-Organics-Polyhalterine~~ 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 DUB PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores taken & composited
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER SD60003WC
COLLECTION METHOD: GRAVITY CORER ~~HANDSHELD CORER~~
TYPE OF SAMPLE: ~~METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION~~ KBT 10-29-92
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)

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 (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	SD60120wc	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: SD6W004 WC Site ID: MSS 142.1

LOCATION SED604 WC Alpark intake

CORP 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: 11-2-92 QUARTER: 1 2 3 4

COLLECTION TIME: 915 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492

COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple cores composite

QC TYPE: REA 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: Pail sorter

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: cool cloudy windy

COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. 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: Laurence A Carpenter (Print Name) Signature: Laurence A Carpenter Date: 11-02-92

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: SD60004WC Site ID: PHSS142.1
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	
		Rads	
		Radscreen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpenter [signature] 11-02-92
Print Name Signature Date

Transmitted to REEDS By:
Print Name Signature Date

REEDS Data Verified By:
Print Name Signature Date

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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: SD6000SUK Site ID: IHSS 142.2
LOCATION: Sed 6059 C RA1
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-Polyburyrate~~ 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)
0.0" 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 log book			

Sampler: KBT/CRIT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-12-95 (Date)
Transmitted to RFEDS By: (Print Name) (Signature) (Date)
RFEDS Data Verified By: NA (Print Name) (Signature) (Date)

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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	
		Rads	
		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: M55142.2

LOCATION: Pond 60 Area A2 pond Rt 2

CORE NUMBER: 1 Liner Decontaminated: Yes / NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINER: 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: OU6 PROJECT CHARGE NUMBER: 906492

COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple Cores composited

QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: SD60006WC

COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: Vac 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 to breeze

COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Objects)
0.0" to 8.5"	Black (5Y 2.5/2) to Dark olive gray (5Y 3/2)	Silty clay with fine sand and 1" gravel (CL) to Sandy Clay with silt (CL) f-c sand	Low plasticity. Extensive plant roots. 1-1" gravel at top of interval

Sampler: CMC

Prepared By: Lawrence A Crapsey (Print Name) Signature: [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: SD60006WC Site ID: 1HSS142.2
LOCATION: Sed 60692 A2 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	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

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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: 1H56142.2

LOCATION SED 60/92 A2 RA3

CORE NUMBER 1 Laser Determinated (YES / NO)

REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA

CORE LINER: ~~Organic Bonded Resin / Non Organic Polyethylene~~ 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 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: Tacksteen

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 (or Vermiform, Roots, Organisms, Odors)
0.0"-3.5"	Black (2.5Y 2.5/0)	Organic Clay with silt (OL) NAH 3-16-93 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 3-16-93 per logbook	Extensive plant roots Low plasticity Fe OX Staining

Logger: CAC / CRL+

Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-12-92 (Date)

Transmitted to RFEDS By: (Print Name) (Signature) (Date)

RFEDS Data Verified By: N/A (Print Name) (Signature) (Date)

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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: 1HSS142.2
LOCATION: Sed 60792 A2 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	
		RNA	
		Metals	
		TPeds	
		Rd screen	

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: SD60008WC Site ID: 1HSS 1422
LOCATION: See 60892 A2 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-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: REAL MS MSD LR DUP RNS QC PARTNER: Same
COLLECTION METHOD: ~~GRAVITY CORER~~ ~~HAND-HELD CORER~~ dredge
TYPE OF SAMPLE: ~~METALS~~ ~~RADIONUCLIDES~~ ~~VOLATILES~~ ~~SEMI-VOLAT~~ ~~RF DESCRIPTION~~
OTHER: radscreen, gamma, Acetate box in vaccy
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 Gusty
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. Vegetation, Roots, Organisms, Objects)
0.0" to 2.5"	Black (2.5YR 2.5/0)	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: 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 (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 60892 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

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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: Sand
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	
		Tracks	
		Radscreen	

Sampler: KBT

Prepared By: Lawrence A Carpenter [signature] 11-12-92
Print Name Signature Date

Transmitted to REEDS By:
Print Name Signature Date

REEDS 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 6 T1S R71W RA3 and RA3

CORE NUMBER: 1 Laser Decontaminated: YES / NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINER: ~~Stainless Steel / Polycarbonate~~ 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: rock 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 (or 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 / Samuel Pratt 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: SD60010WC Site ID: IHSS 142.3
LOCATION: Sed 61092 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	SD60010WC	VOA	
		BNA	
		Metals	
		Rads	
		Radscreen	

Sampler: LAC/~~BT~~ LAC KBT

Prepared By: Lawrence A Campety [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 1A3 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: N/A EAST OR X: N/A

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: Sed 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:
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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: 11HS142.3
LOCATION 3ed 61292 A3 pond 12A3
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: 10-22-92 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: rad screen
DEPTH OF WATER: 2.8 (FEET) TOTAL LENGTH OF CORE: 1.0 (FEET)
SECTIONED CORE: YES / NO: IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: cloudy 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 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 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: SD0012WC 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:
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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 6 1292 A3 and B43
CORE NUMBER 8 LAKE ENVIRONMENTAL (YES) / NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: [redacted] / [redacted] 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 equip
QC TYPE: REAL MS MSD LR DUP (NA) QC PARTNER SD60012WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER stainless d. pipe
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 (ex. Vegetation, Roots, Organisms, Odors)
RINSATE			

Sampler: LAC / KBT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-22-92 (Date)
Transmitted to RFEDS By: NA (Print Name) (Signature) (Date)
RFEDS Data Verified By: (Print Name) (Signature) (Date)

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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: 11SS142.3
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~~ / ~~Non-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 dredges 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 Organics~~ SPG ~~Clay with some~~ PS 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: SD60013WC Site ID: IHSS-142.3
LOCATION: Sec 6 1392 A3 2nd deep RST
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	SD60013WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscan	
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

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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: 1H35 142.3
LOCATION SD861492 A3 pond in Ehrent
CORE NUMBER 1 Laser Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organic Stainless Steel~~ Non-Organic Polyethylene NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-22-92 QUARTER: 1 2 X 4
COLLECTION TIME: 1000 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores taken & composited
QC TYPE: REAL MS MSD LR DUP RNS OG/BARDNER same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER: Vector Screen
DEPTH OF WATER: 0.3 (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 (or 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 odor 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 Campbell (Print Name) Signature: [signature] Date: 10-22-92
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: 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	
		Radsorean	

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: IHSS 142.4 Seq 61592 RLR
LOCATION A4 pond Random Site 1 OU6 RFI
Logger: Jon Pierre Giod (GPA)
CORE NUMBER 1
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: 986492
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 with medium grained sand (sub-angular) Arapahoe Formation	Plant roots with plant root ~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: WCFD

DRAFT

APPENDIX 3 (Continued)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 2/2
Core Sample Data Form (CSDF)
Form SW.17A

SEQ 61692

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 7. A4 POND - 15 feet from dam
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: 10/15/92 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 (ex. 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 10"
1.2" to 1.8"	Brownish-yellow (10YR 5/2) (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 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: WCPS

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 1HSS142.4
LOCATION: Random site 2 A4 pond 15 ft est from diam
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 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

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD6001BWX Site ID: IH155142.4
LOCATION Seq 61892, deepest part of A4 pond

CORE NUMBER 1
NORTH OR Y: NA EAST OR X: NA
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.to5 inches and composited
QC TYPE: (REA) 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~~ 1.0" to 1.5"

Sampler: CAC/SAM
Prepared By: Laurence A Carpenter (Print Name) [signature] (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

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: SD60105WC Site ID: IHSS 142.4

LOCATION Afrond deepest sed 61892

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: 10-19-92 QUARTER: 1 2 3 4

COLLECTION TIME: 0900 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492

COMPOSITE: (YES) NO COMPOSITE DESCRIPTION distilled H_2O 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 5 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] 10.1492
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: SD6QX20WC Site ID: 1HSS142.5
LOCATION 3.0 62042 Blpond 51 RA1
CORE NUMBER ____ Lab Decontaminated (YES / NO)
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Stainless Steel / Teflon / 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 0U6 PROJECT CHARGE NUMBER: 986492
COMPOSITE (YES / NO) COMPOSITE DESCRIPTION Multiple cores composited
QC TYPE: (REAP) 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 too warm P/C
COMMENTS ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or 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 odor 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~~ Strong organic odor 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 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: SD60020WC Site ID: IHSS1425
LOCATION: Sec 62092
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	VOA	
		BNA	
		Metals	
		TRads	
		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: 3126 0125 WX Site ID: IHSS 142.5
LOCATION: 3 & 6 POND
CORE NUMBER: 1 Lower Uncontaminated YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE TUBE: Glass / Stainless Steel / Non-Organic-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A
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 Cores Composited
QC TYPE: (FA) 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: 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 REEDS By: _____ Print Name _____ Signature _____ Date _____
REEDS Data Verified By: _____ Print Name _____ Signature _____ Date _____

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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: See 62092 B1 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	SD60125WC	BNA Metals TRADS Rad Screen	

Sampler: CRH/LAC
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
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: 11/25 142.5
LOCATION: SCC 62192 B1 RAZ
CORE NUMBER: _____ Laser Decontaminated: YES / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LENGTH: ~~Organic Stainless Steel~~ ~~Clear Organic Polycarbonate~~ 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 core composite
QC TYPE: (PA) 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: 1.5 (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 2-3", Low plasticity

Sampler: LAC/KJT
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-16-92 (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: 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 REEDS By:
Print Name Signature Date

REEDS 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: SD60022WC Site ID: 1HSS142.5
LOCATION: Sed 62292 B1 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: 11-16-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1045 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple cores composite
QC TYPE: READ 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: 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: P/C, 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~~ IPG 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] (Signature) 11-16-92 (Date)
Transmitted to REEDS By: (Print Name) (Signature) (Date)
REEDS Data Verified By: (Print Name) (Signature) (Date)

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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 Ol 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	SD60022WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: KBT/KRH

Prepared By: Lawrence A Carpenter [signature] 11-16-92
Print Name Signature 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: SD60126WC Site ID: 1HSS1425
LOCATION: Sed 62292
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/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

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: SD6002 3WK Site ID: 1A55 142.5

LOCATION See 6239) B1 pond deep

CORE NUMBER _____ Liner Decontaminated (YES) NO

REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____

CORE LINER: ~~Organic Free Glass~~ ~~Stainless Steel~~ ~~Organic Free Polyethylene~~ 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 cores composite same

QC TYPE: (FAL) MS MSD LR DUP RNS QC PARTNER _____

COLLECTION METHOD: GRAVITY CORER ~~HAND HELD CORER~~

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: red/green clay/tox microtox pulma

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 lt 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 (2.5Y 2.5/0)	Organic Silty Clay w/ trace sand (OL)	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/sand gravel (1").	Extensive plant roots One 1" gravel at top of interval Low plasticity

Sampler: LAC / CRLT

Prepared By: Lawrence 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: CAC / CRH

Prepared By: Lawrence A Carpenter [signature] 11-16-91
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: SD600 24WK Site ID: 11HSS142.5

LOCATION Sed 62492 B1 pond Influent

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: 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: 1145142.5
LOCATION: SD 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 TRuds Rad Screen	

Sampler: LAC

Prepared By: Laurence 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: IASS 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-FIELD 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/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 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 REEDS By:
Print Name Signature Date
REEDS Data Verified By:
Print Name Signature Date

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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	
		TRads	
		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: SD60026WC Site ID: 1HSS142.6
LOCATION: Sed 62692 32 pond RA2
CORE NUMBER: 1 Later 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 4
COLLECTION TIME: 1045 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE YES / NO COMPOSITE DESCRIPTION: multiple cores composited
QC TYPE: FEAL MS MSD LR DUP RHS 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 tbreeze, 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 (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) JP6 (CL)~~ JP6 and trace coarse sand (CL)	Moderate to High plasticity Plant roots abundant

Sampler: KBT/MAC
Prepared By: Lawrence A Carpenter (Print Name) [signature] (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 62793 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-Polyethylene 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
2.5 OTHER: rad screen
DEPTH OF WATER: 0.5 (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	
		T Rads	
		Rad Screen	

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

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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: ~~Organic Stainless Steel / Non-Organic Polyethylene~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 7-18-92 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, lt breeze, 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/2.5/0)	Organic clay with silt and fine sand	Plant roots abundant
2.0" to 14.0"	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 B2 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:
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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 McLuent
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: 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: 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 REEDS By: [signature]
Print Name Signature Date
REEDS Data Verified By: [signature]
Print Name Signature Date

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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: Scd63092 B3 pond RAI
CORE NUMBER: 1 Liner Decontaminated: No / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyburrene NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-27-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0530 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: Foul 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: Pic, 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 (7.5 YR 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: 11HSS142.7
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	
		Rads	
		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

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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: SD60145WC Site ID: 1455 142.7
LOCATION Seal Creek Bed Pond RFI
CORE NUMBER 0 Laser 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: 145 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986493
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H2O over sampling equipt
QC TYPE: REAL MS MSD LR DUP (RNS) QC PARTNER 3SD60143WC
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 FORM ON PAGE 2/2.
WEATHER P/C, lt breeze warm
COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Odors)

Sampler: LAC/KBT
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)

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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: [illegible] / [illegible] 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 H 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 6319 B3 pond RH2
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: SD60032WX Site ID: IHSS 142.7

LOCATION: SED63293 Pond B-5

CORE NUMBER: 1 Lab Decontaminated (Yes) NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINE: Organic Sediment / Non-Organic Sediment / Pulverized NORTH OR Y: NA EAST OR X: NA

COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 4

COLLECTION TIME: 0115 PURPOSE/PROJECT: OU 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: 4.2 (FEET) TOTAL LENGTH OF CORE: 0.50 (FEET)

SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.

WEATHER: Cloudy, Calm, (50)

COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. 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 / KJT

Prepared By: Lawrence A Carpenter (Print Name) Signature: [signature] Date: 10-28-92

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: SD60032 WC 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	SD60032 WC	VOA	
		BNA	
		Metals	
		TRads	
		Radscreen	

Sampler: LAC / KBT

Prepared By: Laurence 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 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-Polybutyrate~~ 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: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION distilled H_2O 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: Rad Sum
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 (eg. Vegetation, Roots, Organisms, Objects)

Sampler LAC

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: SD60118WX Site ID: 1HSS142.7
LOCATION Seq 63292 B3 Pond RMS
CORE NUMBER 1 Liner Discontinuous (YES) NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Quiniman Stainless Steel Plastic Polycarbonate NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 4
COLLECTION TIME: 815 PURPOSE/PROJECT 886 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple grab 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 23.24 (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 (ex. Vegetation, Roots, Organisms, Objects)

Sampler: LAC/KCBT
Prepared By: Lawrence A Carpenter Lawrence A Carpenter 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

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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: 1455 1427

LOCATION Sec 16 33 2 B3 2nd deeper

CORE NUMBER ___ Library Use ___ Log NO ___

REQUEST FOR ANALYSIS NUMBER ___ CHAIN OF CUSTODY NUMBER ___ SHIP DATE ___

CORE LENGTH ___ NORTH OR Y: NA EAST OR X: NA

COLLECTION DATE: 10-27-92 QUARTER: 1230

COLLECTION TIME: 0930 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: PCBs/Gen microbiology tox TO/RMA

DEPTH OF WATER: 2.3 (FEET) TOTAL LENGTH OF CORE: 0 to 2 (FEET)

SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.

WEATHER: P/C, Horeere, 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 3/1)~~	~~CL Silty clay GPS with vegetation JPG to the start 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 [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: SD60033WC Site ID: 1HSS1427
LOCATION: Sed 63392 133 Pond Cleaners
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	
		Trads	
		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: 1HSS1427

LOCATION 5486 3342 N3 Pond deeper!

CORE NUMBER / Laser Documented Yes / NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINED: ~~Polycarbonate Liner~~ ~~Plastic Polycarbonate 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-HELD CORER

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES ~~SEMI-VOLATILES~~ DESCRIPTION

OTHER mud 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 (ie Vegetation, Roots, Organisms, Objects)

Sampler: LAC / CRIT

Prepared By: Lawrence H Campbell [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

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: SD600034WC Site ID: 1HS1427

LOCATION Sal 60592 B3 Pond Inflow

CORE NUMBER 1 Laser Undisturbed (Y or) NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINED: Organic Blocking Teflon Film Organic Polyethylene NORTH OR Y: NIT EAST OR X: NIT

COLLECTION DATE: 10-28-92 QUARTER: 1 2 3 4

COLLECTION TIME: 920 PURPOSE/PROJECT: Ouo PROJECT CHARGE NUMBER: 9004492

COMPOSITE: YES NO COMPOSITE DESCRIPTION: Multiple Cores Composite

QC TYPE: PAI MS MSD LR DUP RNS QC PARTNER: Same

COLLECTION METHOD: GRAVITY CORER SAND-HEAD CORER

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: Pesticides

DEPTH OF WATER: 2.2 (FEET) TOTAL LENGTH OF CORE: 6.8 (FEET)

SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.

WEATHER: Cloudy Cool + Breeze

COMMENTS

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or 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 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	SD60034WC	VOA	
		BNA	
		Metals	
		Rads	
		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 Sed 63592 B4 pond RA1
CORE NUMBER 1 Limit Uncontaminated Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Organics-Stainless Steel Non-Organics-Polyvinyl~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4
COLLECTION TIME: 530 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: multiple cores 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
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 1+breeze Warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (eg. 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 [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: SD60035 WC Site ID: 1 HSS 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: 5J60111WX Site ID: IASS 142.8

LOCATION: SCL 63592 BY Pond RM

CORE NUMBER: 1 Laser Decontaminated (YES) / NO

REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____

CORE LINER: (Stainless Steel) Acrylic-Cryomacro-Polybutyrate NORTH OR Y: N/A EAST OR X: N/A

COLLECTION DATE: 10-22-92 QUARTER: 1 2 (3) 4

COLLECTION TIME: 1530 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492

COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple core strokes / 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: mud screen

DEPTH OF WATER: 0.3 (FEET) TOTAL LENGTH OF CORE: 2+2.3 (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 (ex. Vegetation, Roots, Organisms, Objects)

Sampler: LAC/KJ37

Lawrence A Carpenter, Jaime Quint 10-22-92

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: ~~6~~ LAC SD6011WC Site ID: 1HSS142.8
LOCATION: Sed 63592 B4 2nd 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	SD6011WC	VOA	
		BNA	
		Metals	
		Trads	
		Radscreen	

Sampler: LAC/KBT

Prepared By: Lawrence A Carpeter [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: SD60036WX Site ID: 1A55 142.9
LOCATION: Sedimentation Pond RFE
CORE NUMBER: 1 Liner Decontaminated (Y/N): NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: ~~Stainless Steel~~ ~~Non-Oxygenated 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, Odors)
0.0" to 3.9"	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"
3.9" to 15.9"	Very dark gray (5Y 3/1)	CL Silty clay with some sand	Plant roots and pockets of organic matter

Summary: KBT/LAC
Prepared by: Lawrence A Cuppett (Print Name) Signature: [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: IA55 142.8
LOCATION: Sec 6 T3S R69W Big Dry Creek
CORE NUMBER: 1 Laser Uncontaminated (Yes / NO)
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: (Aluminum Stainless Steel / Non-Metallic Polycarbonate) 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: ~~[illegible]~~ distilled H_2O rinse equipt.
QC TYPE: REAL MS MSD LR DUP (EB) QC PARTNER: SD60036WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER Stainless diaper
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION
OTHER:
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: Calm clear warm
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Organisms, Odors)

Samples: KBT / LMC

Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 10-26-92 (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: SD60037WC Site ID: HSS 147.8
LOCATION: Sec 63 192 ~~D4 RA3~~ B4 RA3
CORE NUMBER: 1 Laser Unacceptable: 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: 10-26-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1300 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple core collected 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 (ex. 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: LMC / CRH
Prepared By: Laurence H Carpenter (Print Name) Signature: [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: SD60037WC Site ID: 1HSS142.9
LOCATION: Sed 63792 B9 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	
		Rads	
		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

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: SD60114WC Site ID: 1145142.8
LOCATION: Sec 63 M-2 Ski Pond RFS
CORE NUMBER 1 Liner Decontaminated Yes / NO
REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:
CORE LINER: Cellulose Butyrate Steel / Plastic Polyethylene 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 OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION multiple cores taken & composited
QC TYPE: REA MS MSD LR DUP RNS QC PARTNER: same
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER
TYPE OF SAMPLE: METALS RADIONUCLIDES PESTICIDES/PCBS SEMI-VOLATILES DESCRIPTION
OTHER: rad screen
DEPTH OF WATER: 2.0 (FEET) TOTAL LENGTH OF CORE 2 ft 2.5 (FEET)
SECTIONED CORE: YES / NO; IF YES, COMPLETE CORE SECTIONING PORTION ON PAGE 2/2.
WEATHER: sun warm clear
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ex. Vegetation, Roots, Debris, Odors)

Sampler: CRH/LMC
Prepared By: Lawrence H Campetti (Print Name) Lawrence H Campetti (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 B4 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	~~LOA~~ LAC	
		Bnrf	
		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 63897 134 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-Polyimetrics) NORTH OR Y: N/A EAST OR X: N/A
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 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: 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: PC warm lt breeze
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (ie 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 / SAM
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: 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: (Organic-Stainless Steel) (Non-Organic-Polybutyrate) NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-22-92 QUARTER: 1 2 (3)
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: IHSS 142.8
LOCATION: Sed 63892 B4 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

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APPENDIX 3
Core Sample Data Form (CSDF)

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Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD60039 WC Site ID: HSS 142.8
LOCATION Sec 6 3 9 W BH Pond inlet
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 Polyethylene~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-26-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1030 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: multiple cores taken and composited
QC TYPE: (REA) 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: (7.5) 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 (or Vegetation, Roots, Organisms, Odors)
0.0" to 10.2"	Very dark gray (5Y 3/1)	Silty Sand (Very fine to fine grained) (SM) NAH 3-16-95	Abundant plant roots and organic matter Black (7.5Y 2/0) from 4.1" to 6.0"
10.2" to 12.9"		Sandy Silt with some clay and trace gravel (up to ¼") (Very fine to fine grained) (ML) NAH 3-16-95	Plant roots are abundant

Sampler: LAC
Prepared By: Lawrence A Carpenti (Print Name) Signature: [signature] Date: 10 26 92
Transmitted to RFEDS By: NA (Print Name) Signature: Date:
RFEDS Data Verified By: (Print Name) Signature: Date:

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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: 1HSS142.8
LOCATION: Sed 63992 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	SD60039WX	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

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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: 5D60113WC Site ID: 1H551H2-8

LOCATION Seep 63492 By Pond Inlet

CORE NUMBER 1 Liner Used YES / NO

REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____

CORE LINER: Cellulose Acetate Butyrate / Non-Cellulose Polymer NORTH OR Y: NA EAST OR X: NA

COLLECTION DATE: 10-26-92 QUARTER: 1 2 X4

COLLECTION TIME: 10:30 PURPOSE/PROJECT 006 PROJECT CHARGE NUMBER: 986492

COMPOSITE: YES / NO COMPOSITE DESCRIPTION Multiple cores taken & composited

QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER 5D60123WC

COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: Pick Screen

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, Odors)

Sampler LAC

Prepared By Lawrence A Carpenter (Print Name) Lawrence A Carpenter (Signature) 10-26-92 (Date)

Transmitted to RFEDS By LAC (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: SD60113WC Site ID: 1HSS1428
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 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: SD60240 WL Site ID: IHISS 142.9

LOCATION: SEQ 64092 D5 Pond RAI

CORE NUMBER: Laser Determinated (Yes / NO)

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINER: (Organic Stainless Steel Other Organic Polycarbonate) NORTH OR Y: N/A EAST OR X: N/A

COLLECTION DATE: 10-19-92 QUARTER: 1 2 3 4

COLLECTION TIME: 1540 PURPOSE/PROJECT: QA/QC PROJECT CHARGE NUMBER: 986492

COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: 4 cores taken from 0 to 10 inches

QC TYPE: (RAI) MS MSD LR DUP RNS QC PARTNER: SAME

COLLECTION METHOD: GRAVITY CORER (GOND-PIERCE 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 (Gr, Veneer, Roots, Organics, Odors)
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 (Print Name) [signature] (Signature) 10-19-92 (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: SD660040WC Site ID: IHISS 142.9
LOCATION: Seal 640243 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	SD660040WX	VOA	
		SVA	
		Metals	
		Pesticides	
		Radiscan	

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

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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: SD60X041 WC Site ID: JI4SS 142.9
LOCATION Pond 6 41.92 BS Pond PA2
CORE NUMBER 1 Laser Decontaminated (Yes) NO
REQUEST FOR ANALYSIS NUMBER: NA CHAIN OF CUSTODY NUMBER: NA SHIP DATE: NA
CORE LINER: ~~Organics Sandstone Steel~~ ~~Glass Organics Polybutyrate~~ NORTH OR Y: NA EAST OR X: NA
COLLECTION DATE: 10-19-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1400 PURPOSE/PROJECT 026 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) NO COMPOSITE DESCRIPTION dredge spills 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: 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: PC, warm light breeze
COMMENTS:

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Odors)
0.0" to 1.0"	Very dark olive gray (5Y 3/2)	OL Organic clay with ~~soil~~ silt and very fine sand	Plant matter present
1.0" to 3.6" NAA 3-16-95	Olive (5Y 4/4) to olive (5Y 4/3)	CL Silty clay with very fine to medium sandy silt	Mottled with a white inhomogeneous zone from 3.0" to 3.6"

Sampler: CAC/SAMM
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

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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: SD00106WC Site ID: IHSS142.9

LOCATION 92-06-292 B5 and R43

CORE NUMBER: 1 Laser Dimensionless (d) NO

REQUEST FOR ANALYSIS NUMBER: CHAIN OF CUSTODY NUMBER: SHIP DATE:

CORE LINER: 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: SD00112WC

COLLECTION METHOD: GRAVITY CORER HAND HELD CORER dredge

TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION

OTHER: Mat 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 (or Vegetation, Roots, Organisms, Odors)
0.0" to 2.9"	Olive (5Y 4/3)	Sandy clay with some silt and fine to medium sand	No plant roots
2.9" to 6.4"	Olive (5Y 4/3) to Black (5Y 2.5/1)	OL Organic clay with silt and some very fine sand to coarse sand some gravel (up to 1/4")	Strong organic odor

Sampler: CRH / LAC

Prepared By: Lawrence A Carpenter (Print Name) James A Smith (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: SD60106WC Site ID: IHSS 142.9
LOCATION: BS pond RA-3 sed 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	
		Trad	
		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

SD6xx42EGE Sample Data Form (CSDF)

Form SW.17A

SAMPLE ID: SD004WECK Site ID: IHISS1429

LOCATION Sed 69292 BS RA3

CORE NUMBER: ____ Laser Unnumbered (Y/NO)

REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____

CORE LINTD: ____ / ____ 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 points taken and composite

QC TYPE: REAB 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: 0.3 (FEET) TOTAL LENGTH OF CORE: 0.4 (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 (ex. Vegetation, Roots, Organism, Objects)

Sampler: LAC KBT

Prepared By: Laurence Carpenter (Print Name) James O'Hyatt (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

SD60042WC

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: 1A55 1429
LOCATION: Sec 6 42 A2 B5-R43
CORE NUMBER: 1 Laser Documented: YES / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: [illegible] NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 10-20 QUARTER: 1 2 3 (4)
COLLECTION TIME: 0945 PURPOSE/PROJECT: 006 PROJECT CHARGE NUMBER: 486492
COMPOSITE: (YES) / NO COMPOSITE DESCRIPTION: dredge pulls taken and composited
QC TYPE: REAL (PROJ) LR DUP RNS QC PARTNER: SD60044WC Real
COLLECTION METHOD: GRAVITY CORER NON-INERT 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/LMC
Prepared By: Laurence A Carpenter (Print Name) James L Smith (Signature) 10-20-92 (Date)
Transmitted to RFEDS By: ____ (Print Name) ____ (Signature) ____ (Date)
RFEDS Data Verified By: ____ (Print Name) ____ (Signature) ____ (Date)

APPENDIX 3
Core Sample Data Form (CSDF)

Sed 6/2/92

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT Page 1/2
Core Sample Data Form (CSDF)
Form SW.17A

SAMPLE ID: SD2407 WC Site ID: 1/4155/42.9
LOCATION: ~~SEDIMENT BASIN~~ Pond B-3
CORE NUMBER: 0 Laser Decontaminated (YES / NO)
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Organics-Stainless Steel / Non-Organics-Polyethylene NORTH OR Y: _____ EAST OR X: _____
COLLECTION DATE: 10-20-92 QUARTER: 1 2 3 4
COLLECTION TIME: 0845 PURPOSE/PROJECT: CSS PROJECT CHARGE NUMBER: 986492
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Distilled H2O over sampling equip
QC TYPE: REAL MS MSD LR DUP RNS QC PARTNER: SD2042 WC
COLLECTION METHOD: GRAVITY CORER HAND-HELD CORER N/A
TYPE OF SAMPLE: METALS RADIONUCLIDES VOLATILES SEMI-VOLATILES DESCRIPTION LAC
OTHER: _____
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: Calm warm clear
COMMENTS: _____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (or Vegetation, Roots, Organisms, Odors)

Summary: KBT/CRLT
Prepared By: Lawrence A Crapesto (Print Name) [signature] (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 140.9
LOCATION Sed 64292 05-RA3
CORE NUMBER 1 Lines Decontaminated (Yes) / NO
REQUEST FOR ANALYSIS NUMBER _____ CHAIN OF CUSTODY NUMBER _____ SHIP DATE _____
CORE LINER: ~~Organics-Stainless Steel / Non-Organics-Polyvinyl~~ 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 & 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 _____
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: 1H155 1429
LOCATION Sed 64392 B5 pond dep
CORE NUMBER 1 Laser 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: 10-20-92 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: 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: 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 (eg Vegetation, Roots, Organisms, Objects)
0.0" to 6.7"	Black (2.5YR 2/0) to very dark gray (5YR 3/1)	OL Organic clayey silts with very fine sand	very small plant roots strong organic odor
6.9" to 8.8"	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/~~KBT~~ LAC CRH
Prepared By: Lawrence 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: SD60043WC Site ID: IH155142.9
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: 1H155 1429

LOCATION Sec 6 4492 135 pond in West

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: 1500 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 906492

COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Average pulls taken and composited

QC TYPE: NEAT 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: Pad 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 (ex. Vegetation, Roots, Organisms, Odors)
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 2.5/1)	OL Organic clay with silt	Abundant roots

Sampler: KBT / CRIT

Prepared By: Lawrence A Carpenter (Print Name) Signature: [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: 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	OVA	
		BNA	
		Metals	
		Trads	
		Rdscreen	

Sampler: KBT/CRH

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

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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: 1HSS 142.12
LOCATION: WIPond RA1 Sed 64592
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: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 915 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: 2.5 (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 (eg. 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 oder 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/CRH
Prepared By: Lawrence A Carpenter (Print Name) [signature] (Signature) 11-19-92 (Date)
Transmitted to REEDS By: NA (Print Name) (Signature) (Date)
REEDS Data Verified By: (Print Name) (Signature) (Date)

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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: IHSS142.12
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: SD60046WC Site ID: IHSS 142.12
LOCATION Sed64692 W1 pond RAC
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: 1000 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: Tad 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: 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 9.5"	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) [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: 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: 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

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POND AND RESERVOIR BOTTOM SEDIMENT SAMPLING

OPERATIONS PROCEEDURE MANUAL	Procedure No:	SW.17, Revision 0
	Page:	37 OF 53
	Effective:	9/25/92
Category 2	Organization:	Enviromental Restoration

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 W Ipond 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	WCU6DT0023
		Trads	
		Radscreen	

Sampler: CRH/LAC

Prepared By: Laurence 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

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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: SD60047WC SITE ID: 1HSS 142.12
LOCATION: SED 64792 W1 Pond RA3
CORE NUMBER: 1 Liner Uncontaminated: Yes / NO
REQUEST FOR ANALYSIS NUMBER: ____ CHAIN OF CUSTODY NUMBER: ____ SHIP DATE: ____
CORE LINER: ~~Stainless Steel / Plastic Liner / Plastic Bag~~ NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1030 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 98649 2
COMPOSITE: YES / NO COMPOSITE DESCRIPTION: Multiple cores Composited
QC TYPE: FIELD 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: Pc, lt breeze, cool
COMMENTS: ____

CORE DESCRIPTION

DEPTH FROM TOP (cm or inches)	COLOR	TEXTURE	OTHER FEATURES / OBSERVATIONS (Gr. 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 (2.5Y/R 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 (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: SD60047WC Site ID: IHSS 142.12
LOCATION: Sed64792 WI 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	SD60047WC	VOA	
		BNA	
		Metals	
		Trads	
		Radsorter	

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: SD6X0048WX Site ID: 1143 142.12
LOCATION SE 1/4 SE 1/4 W7 pond deep
CORE NUMBER: 1 Liner Decontaminated (Y) / NO
REQUEST FOR ANALYSIS NUMBER: _____ CHAIN OF CUSTODY NUMBER: _____ SHIP DATE: _____
CORE LINER: Stainless Steel / Plastic Polycarbonate NORTH OR Y: N/A EAST OR X: N/A
COLLECTION DATE: 11-19-92 QUARTER: 1 2 3 (4)
COLLECTION TIME: 1300 PURPOSE/PROJECT OU6 PROJECT CHARGE NUMBER: 986492
COMPOSITE: (YES) NO COMPOSITE DESCRIPTION multiple cores / diverlyes composite
QC TYPE: (PAL) 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, mineralogy, cation exc. 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 (ex. Vegetation, Roots, Organisms, Odors)
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~~ fragment of leaf plant roots

Sampler: KBT / CRH
Prepared By: Lawrence A Carpenter (Print Name) Signature: [signature] Date: 11-19-92
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: SD60048WC Site ID: IHSS 142.12
LOCATION: Sed648WC WI 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	SD60048WC	VOA	
		BNA	
		Metals	
		TRads	
		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	

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

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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: SD6X49WC Site ID: 11SS 142.12
LOCATION: Sed 64492 W7 pond inflow
CORE NUMBER: ____ Laser 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: 11-19-92 QUARTER: 1 2 3 4
COLLECTION TIME: 1115 PURPOSE/PROJECT: OU6 PROJECT CHARGE NUMBER: 98649 2
COMPOSITE: YES NO COMPOSITE DESCRIPTION: Multiple Core composite
QC TYPE: FIELD MS MSD LR DUP RNS QC PARTNER: Silvie
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 (or Vegetation, Roots, 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 odor 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) 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: IHSS142.12
LOCATION: Sed 64992 WI 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	
		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 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

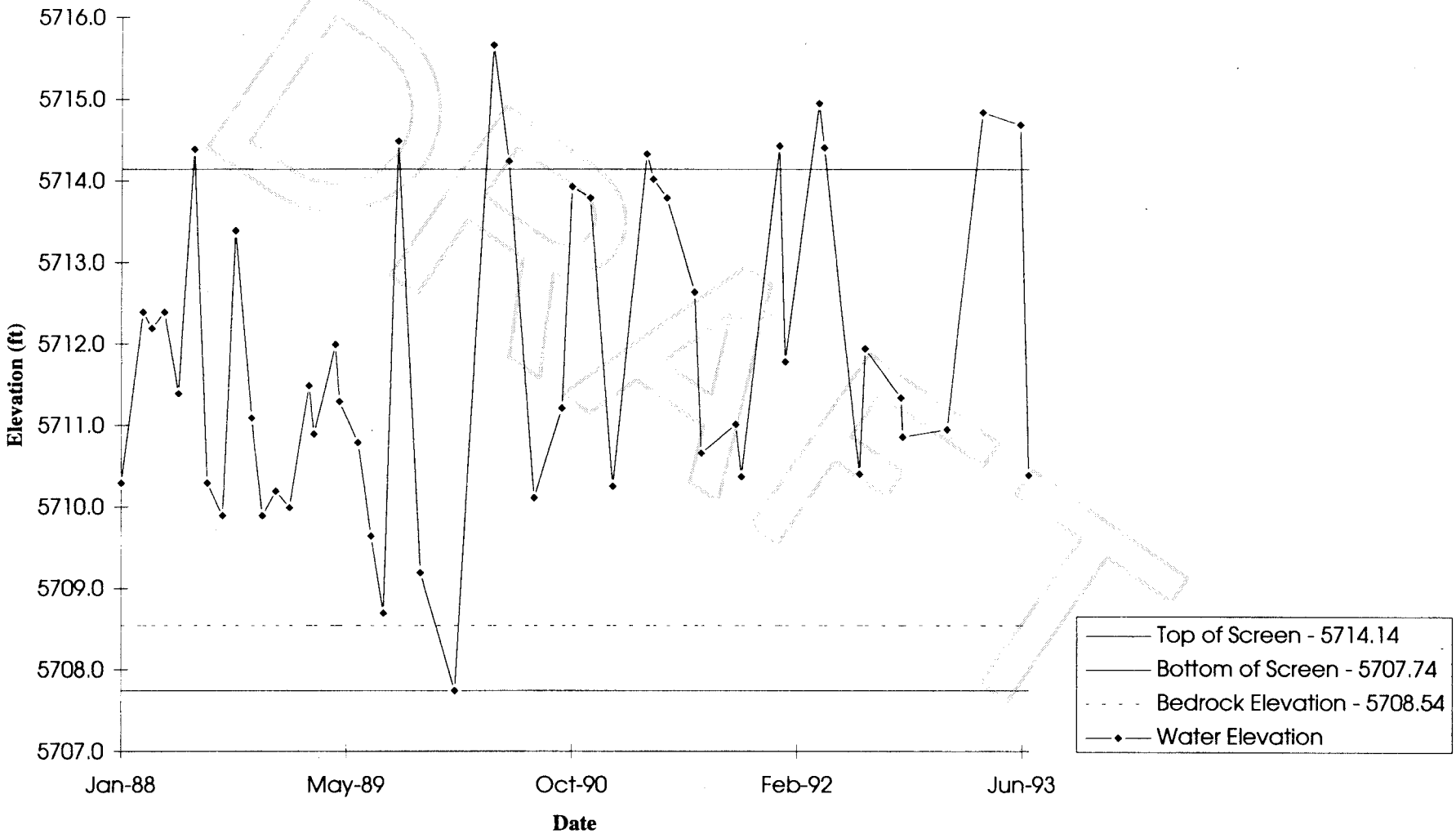
Well Name	Top of Casing Elevation (ft-MSL)	Groundwater Elevation (ft-MSL)	Depth to Groundwater (ft BTOC)	Sample Date
P218389	5958.5	5944.1	14.43	4-Nov-91
P218389	5958.5	5946.0	12.48	3-Dec-91
P218389	5958.5	5944.3	14.18	7-Jan-92
P218389	5958.5	5944.0	14.52	6-Feb-92
P218389	5958.5	5943.7	14.76	2-Mar-92
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

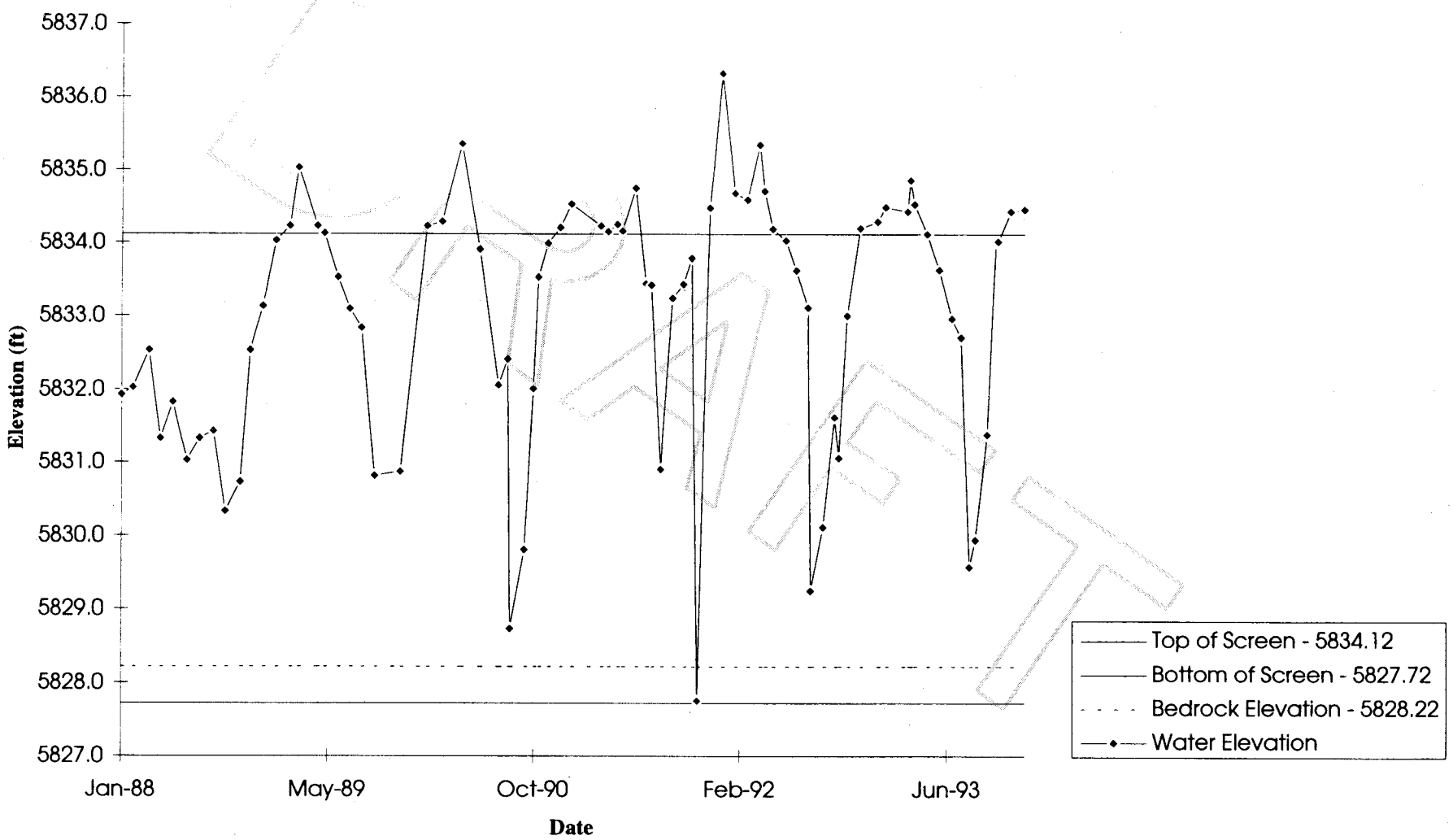
ft - feet
MSL - Mean Sea Level
BTOC - Below Top of Casing
-1 - well was dry
NA - Not Available

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



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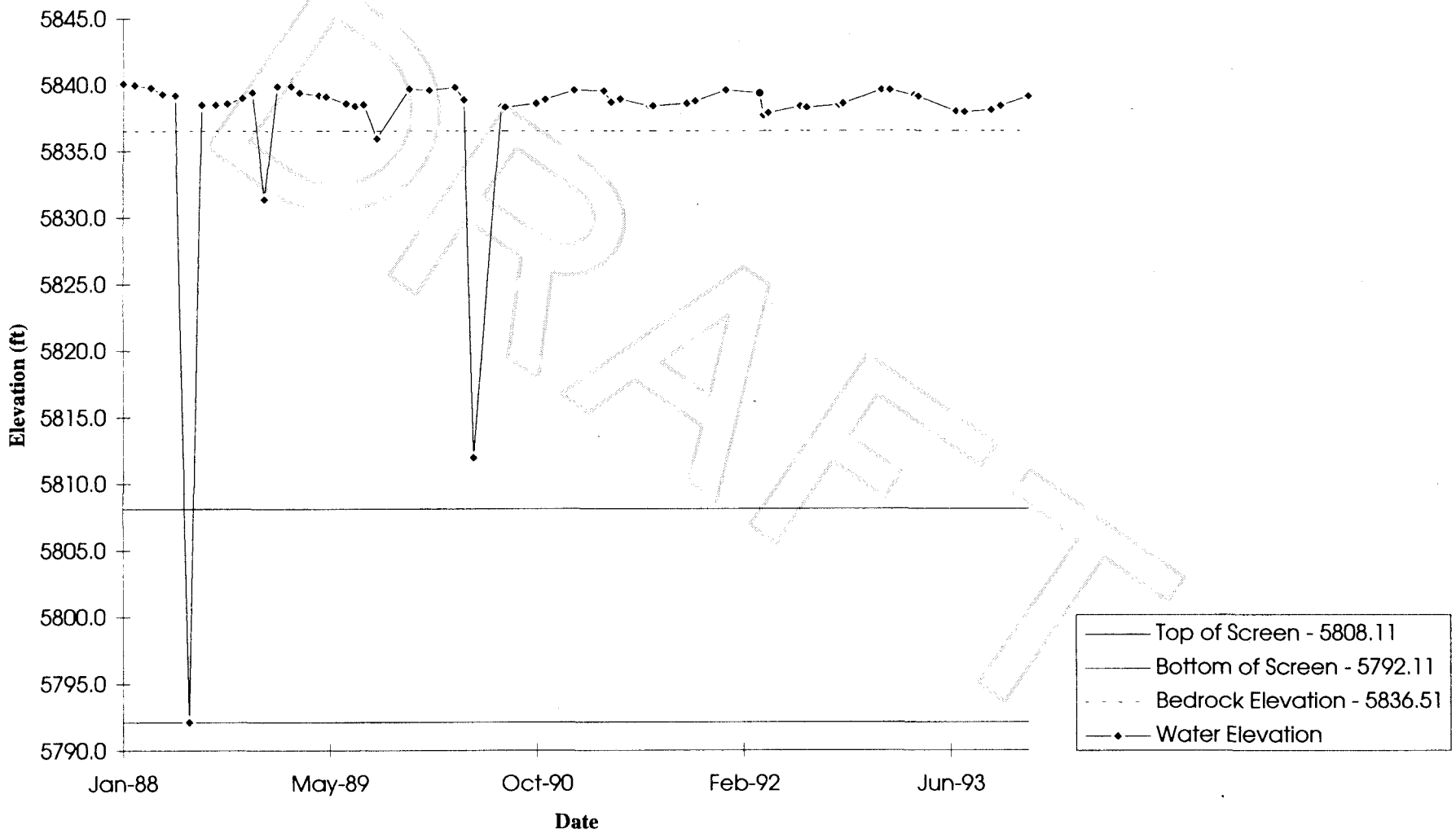
(4047-910-0[illegible])(3/10/95 7:31 AM)(1386 Chart 1)

Well 1486 Hydrograph
Bedrock



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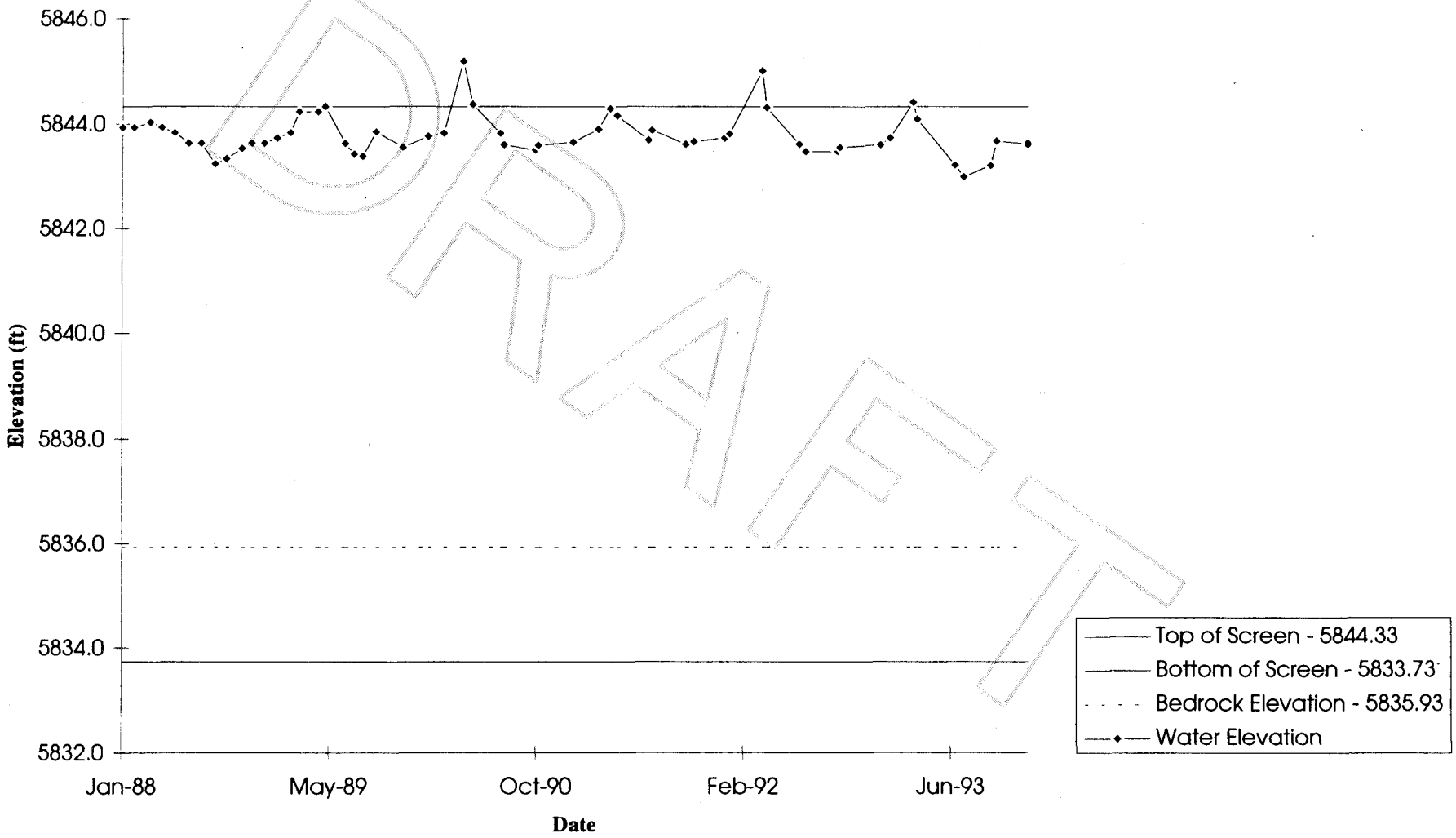
(4047-910-0025-521)(3/10/95 7:24 AM)(1486 Chart 1)

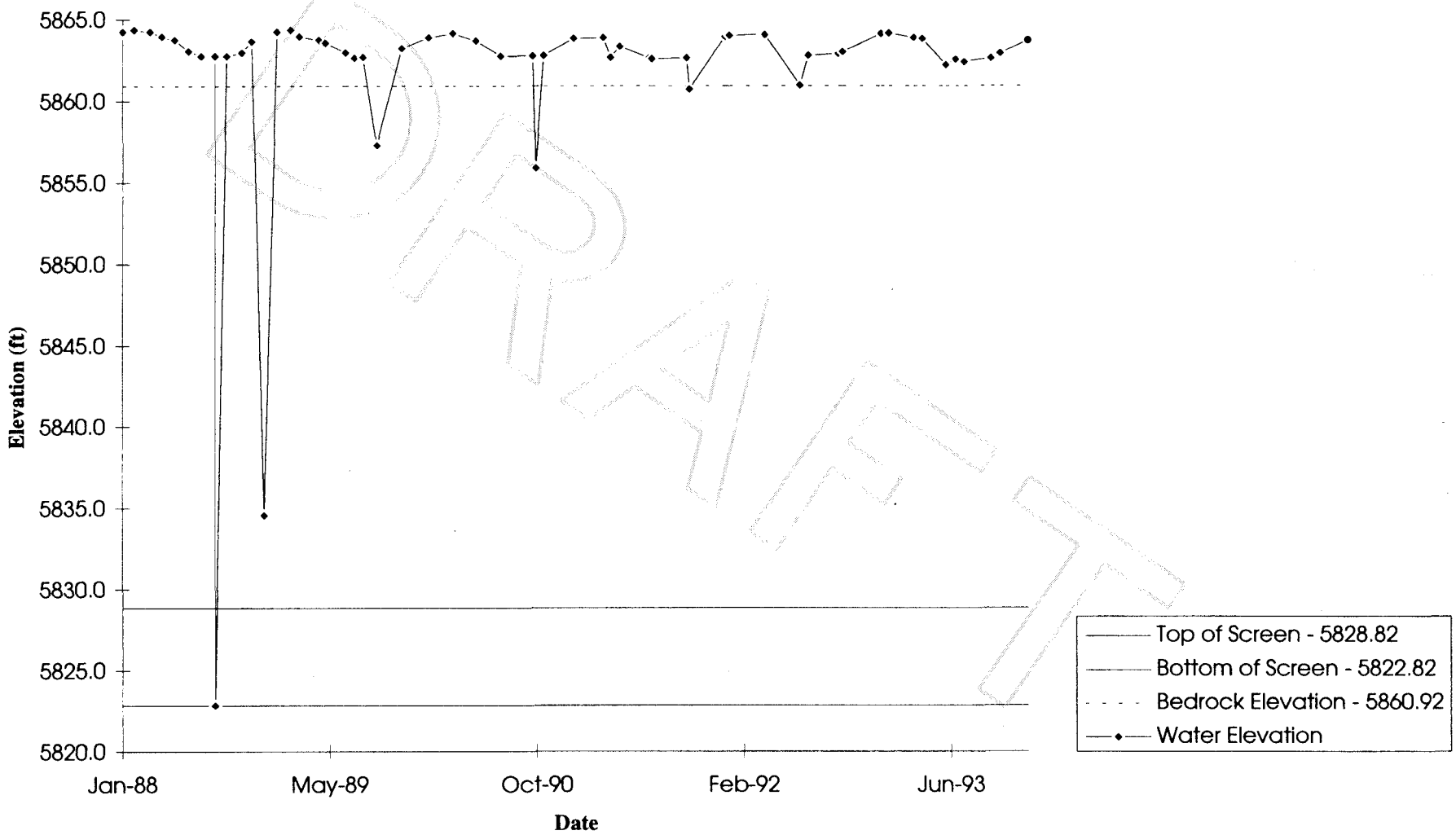
Well 1586 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-0[illegible])(3/10/95 7:24 AM)(1586 Chart 1)

Well 1686 Hydrograph
Bedrock



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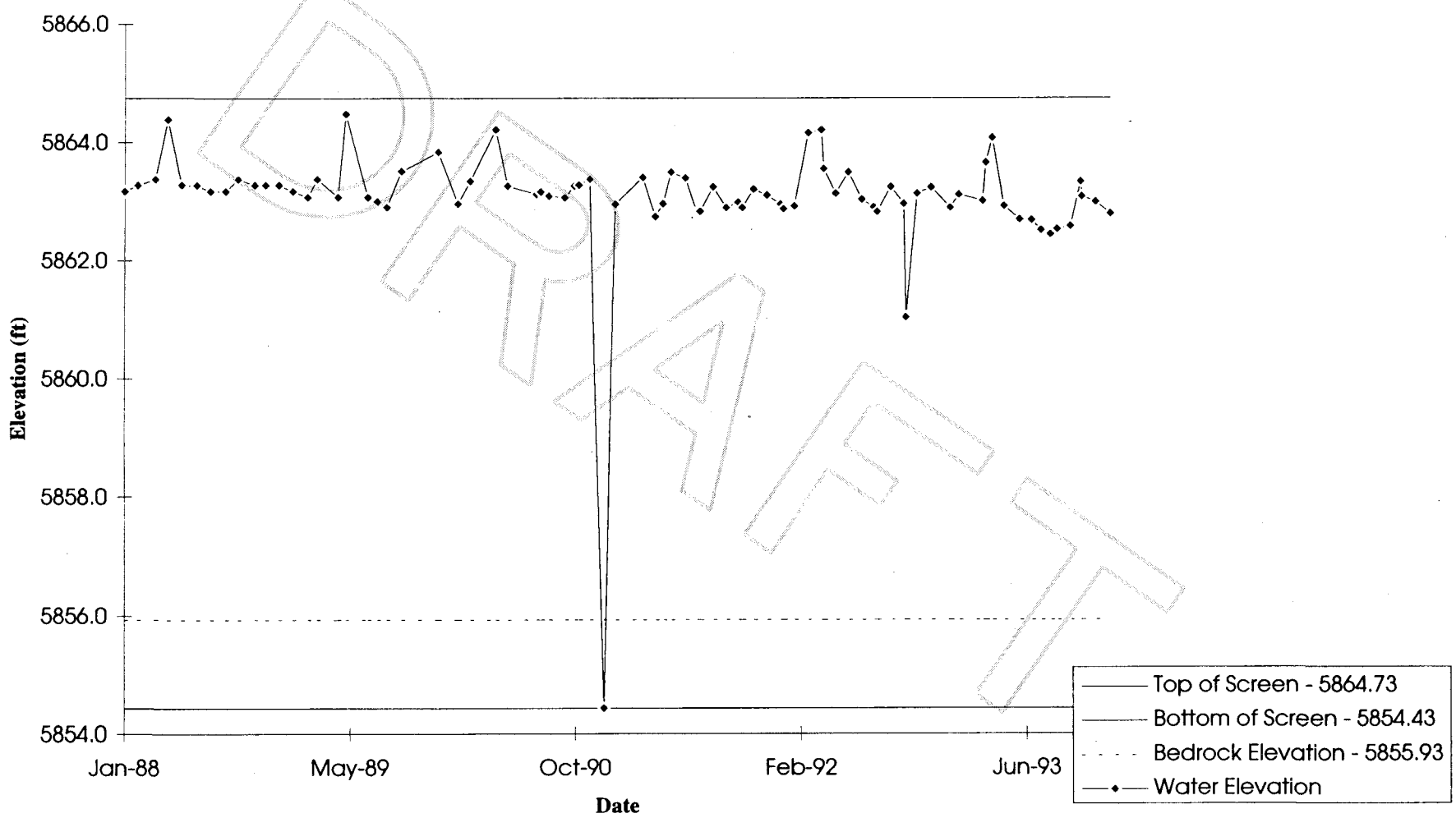
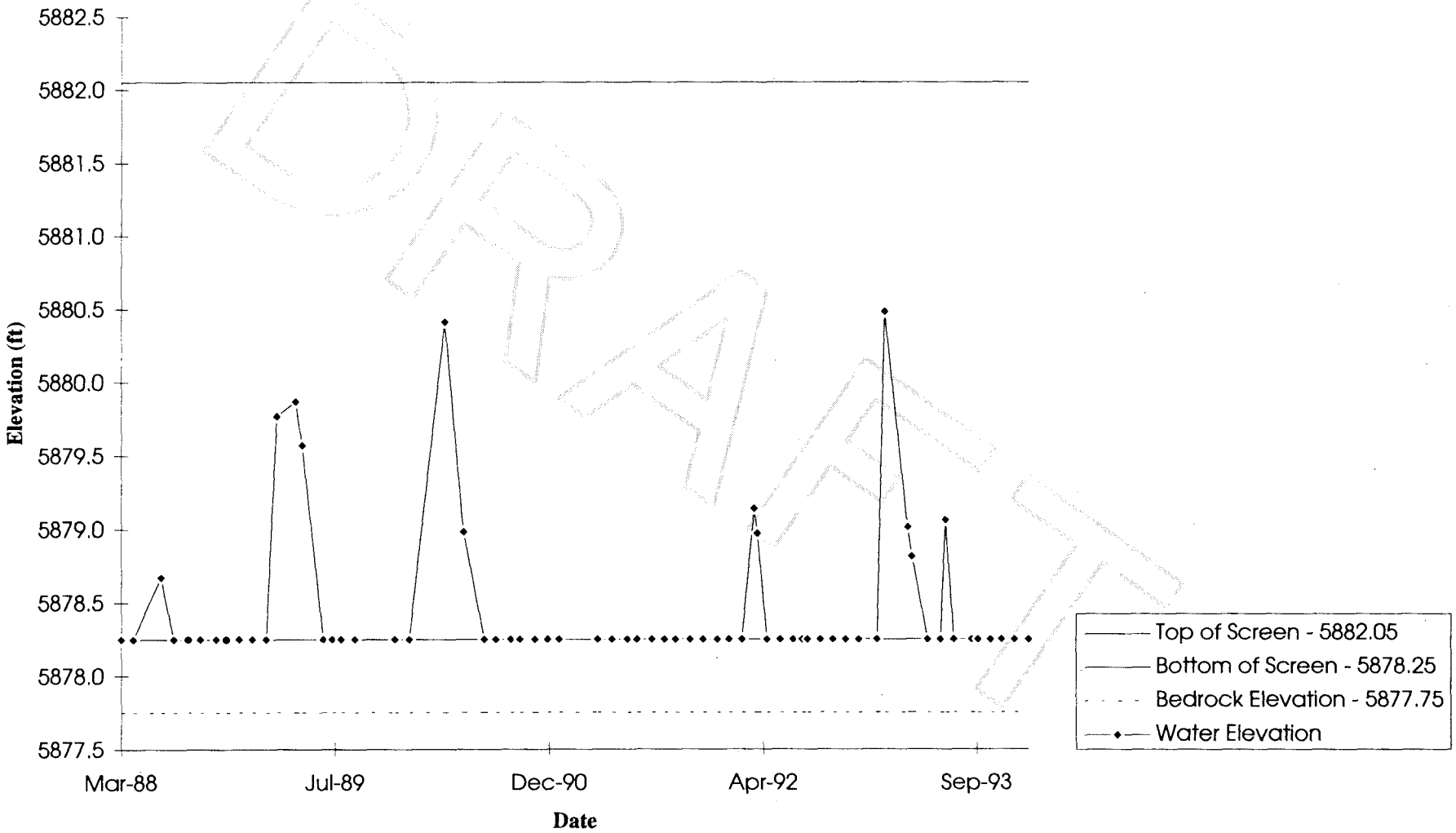
(4047-910-0025-521)(3/10/95 7:24 AM)(1686 Chart 1)

Well 1786 Hydrograph
Valley Fill Alluvium



DRAFT

Well 1886 Hydrograph
Valley Fill Alluvium



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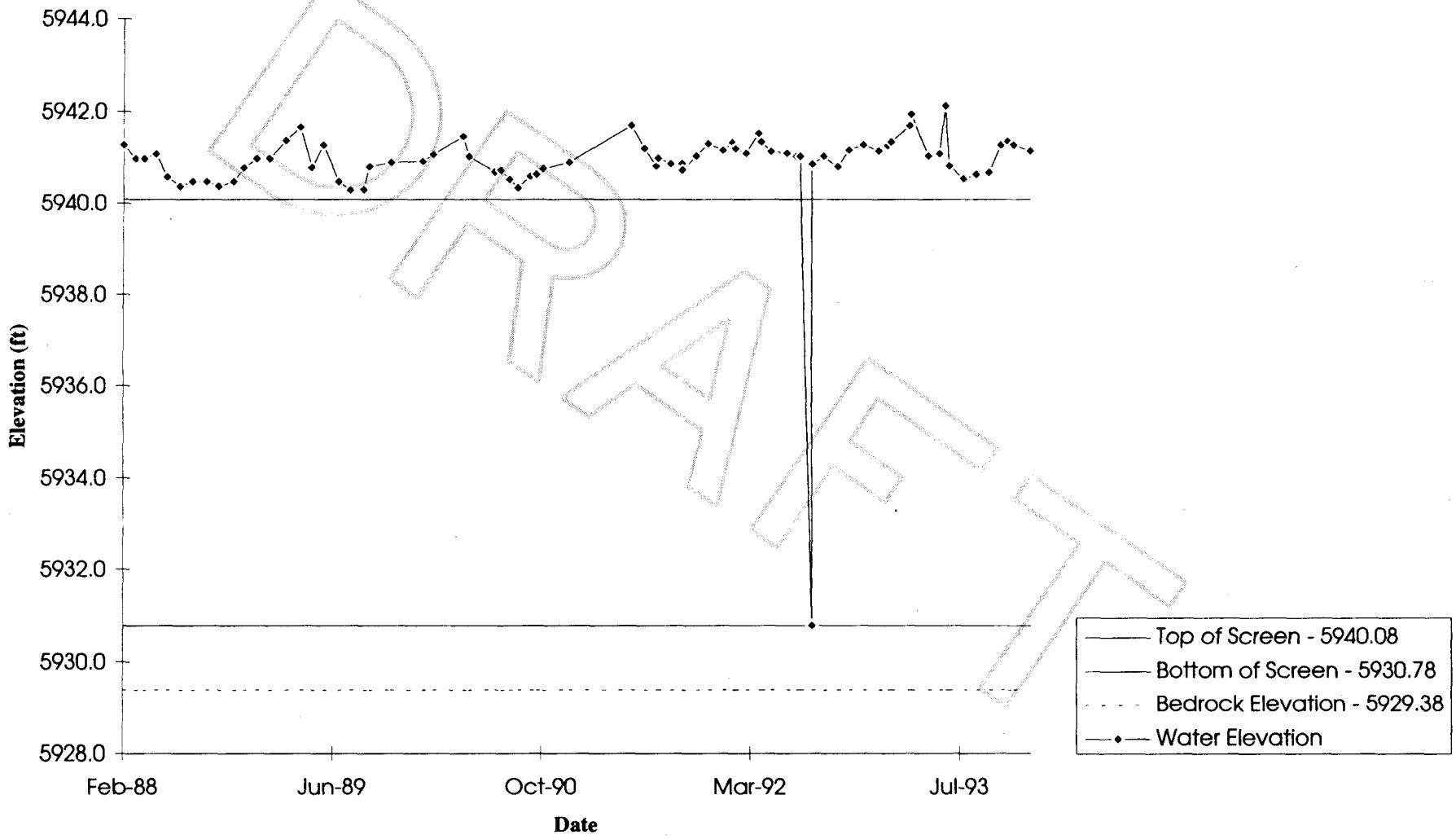
(4047-910-0025-521)(3/10/95 7:24 AM)(1886 Chart 1)

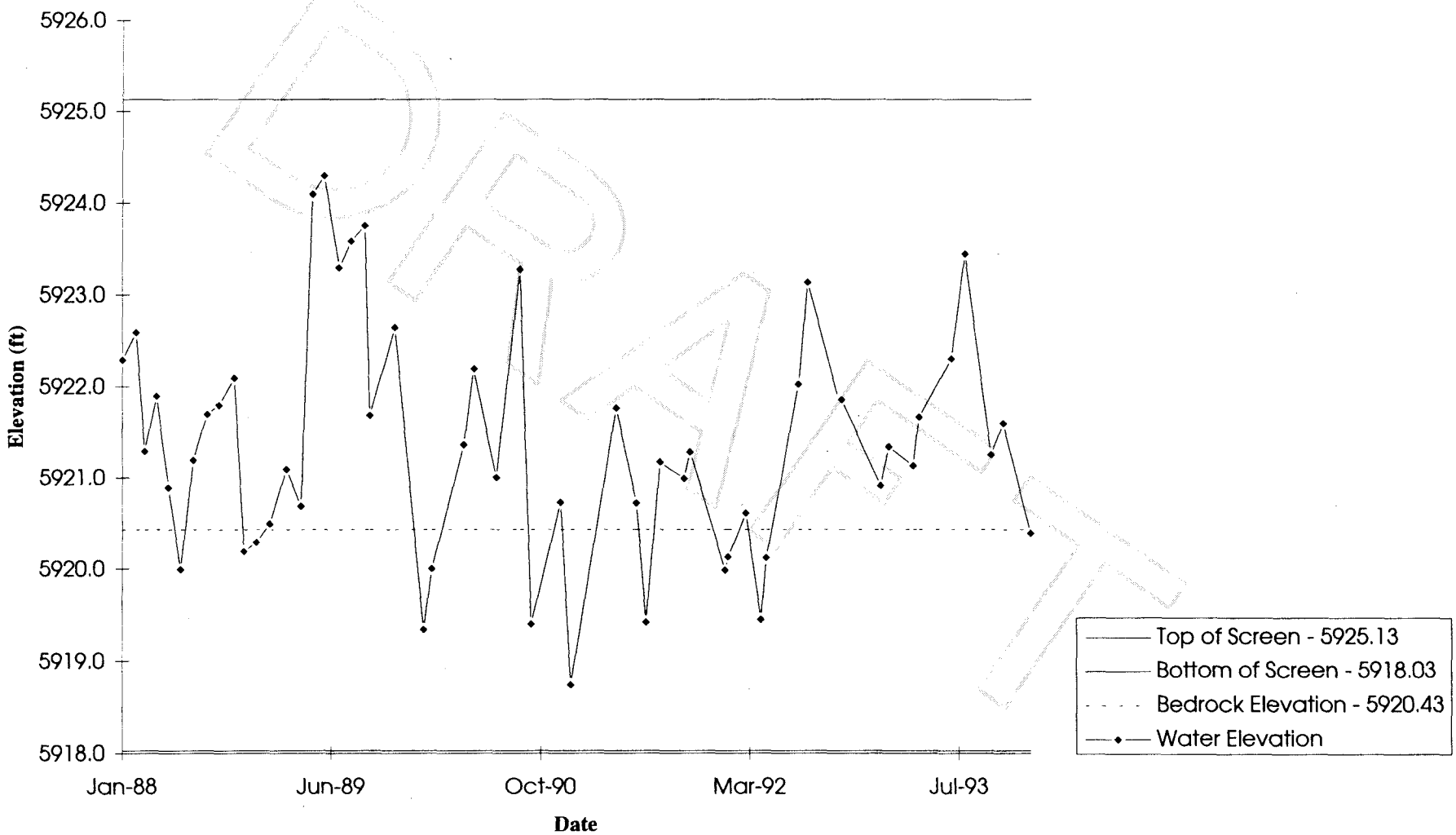
Well 1986 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-00)(3/10/95 7:27 AM)(1986 Chart 1)

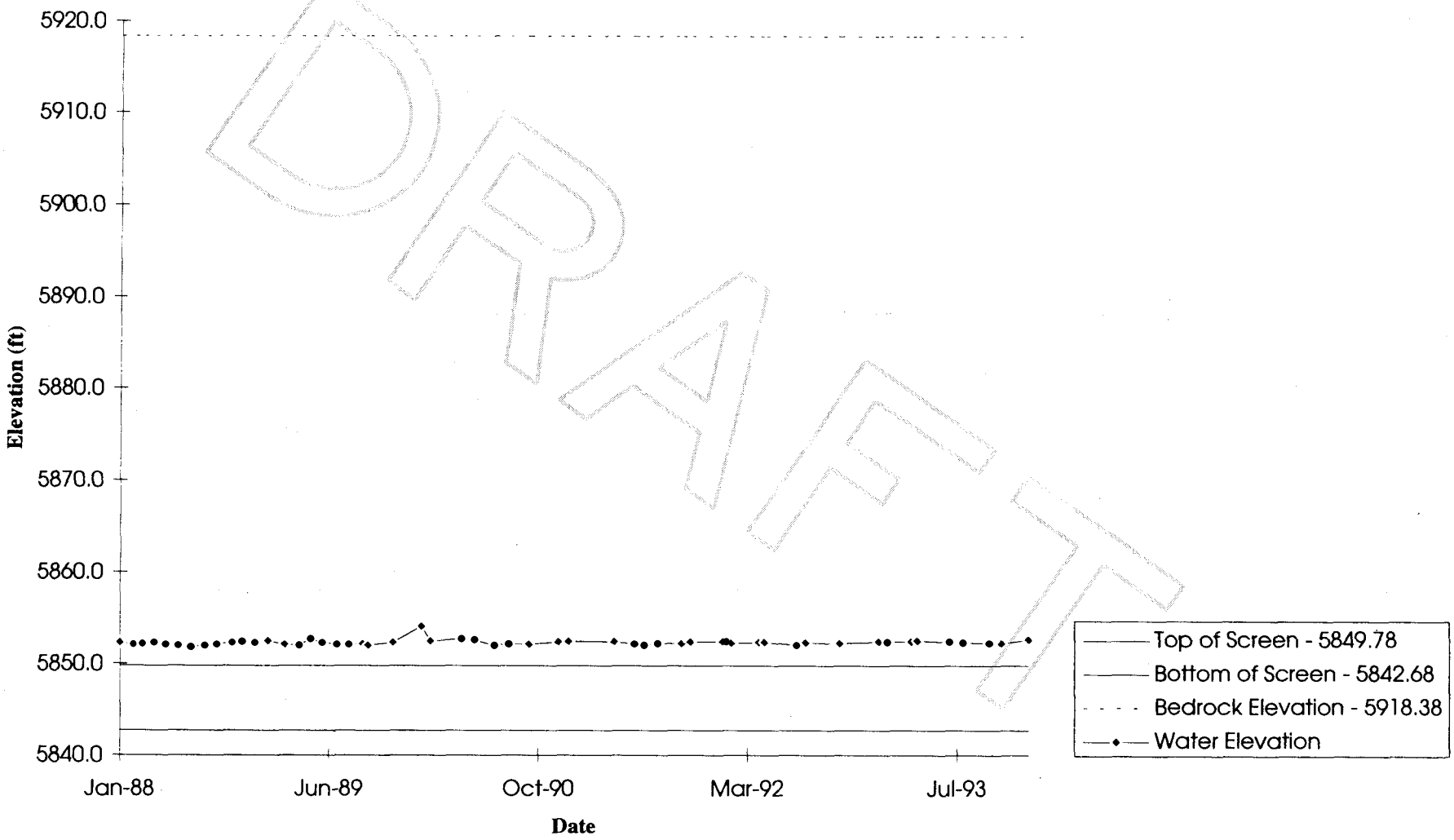
Well 2187 Hydrograph
Valley Fill Alluvium/Bedrock



DRAFT

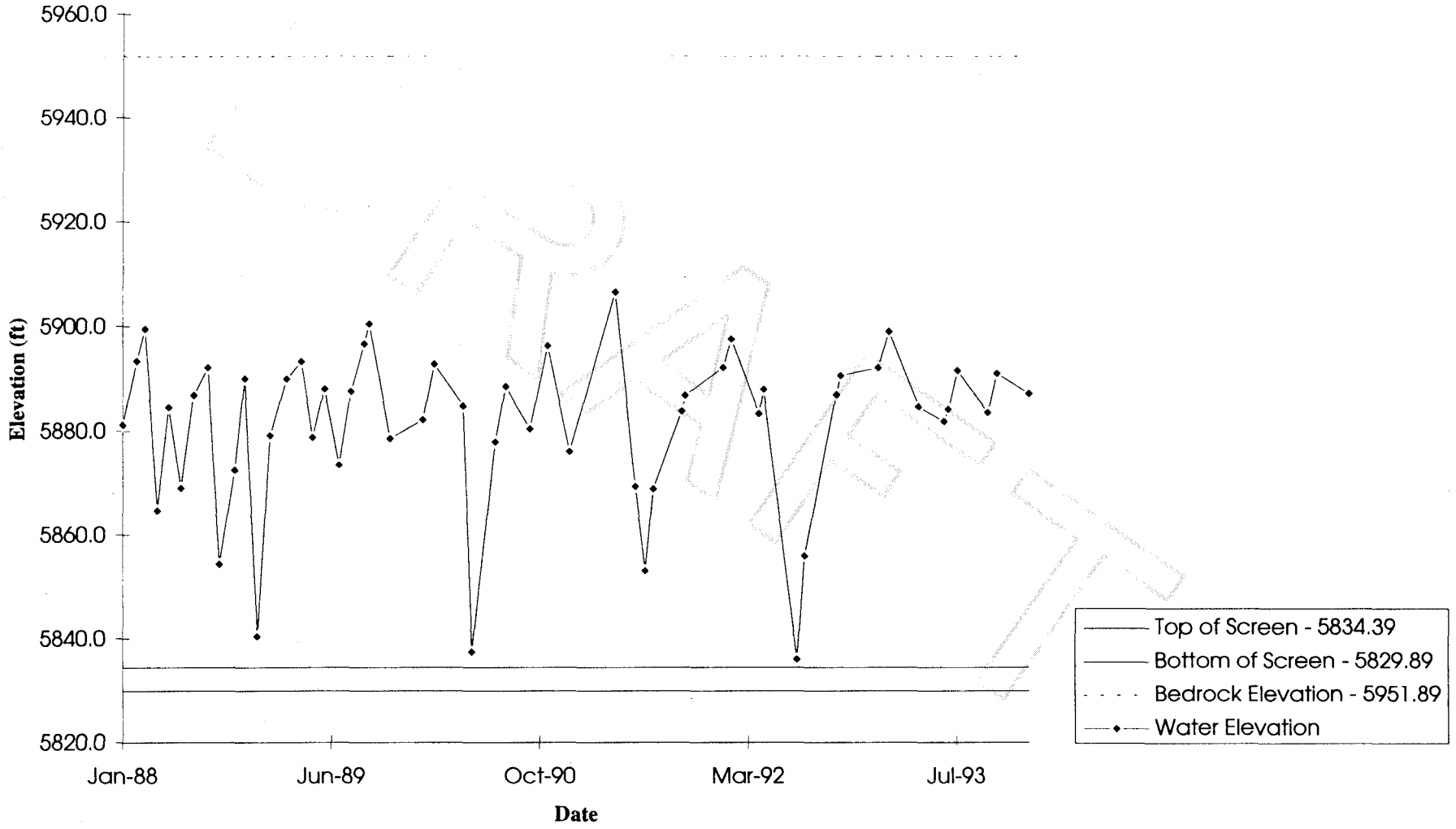
(4047-910-0025-521)(3/10/95 7:27 AM)(2187 Chart 1)

Well 2287 Hydrograph
Bedrock



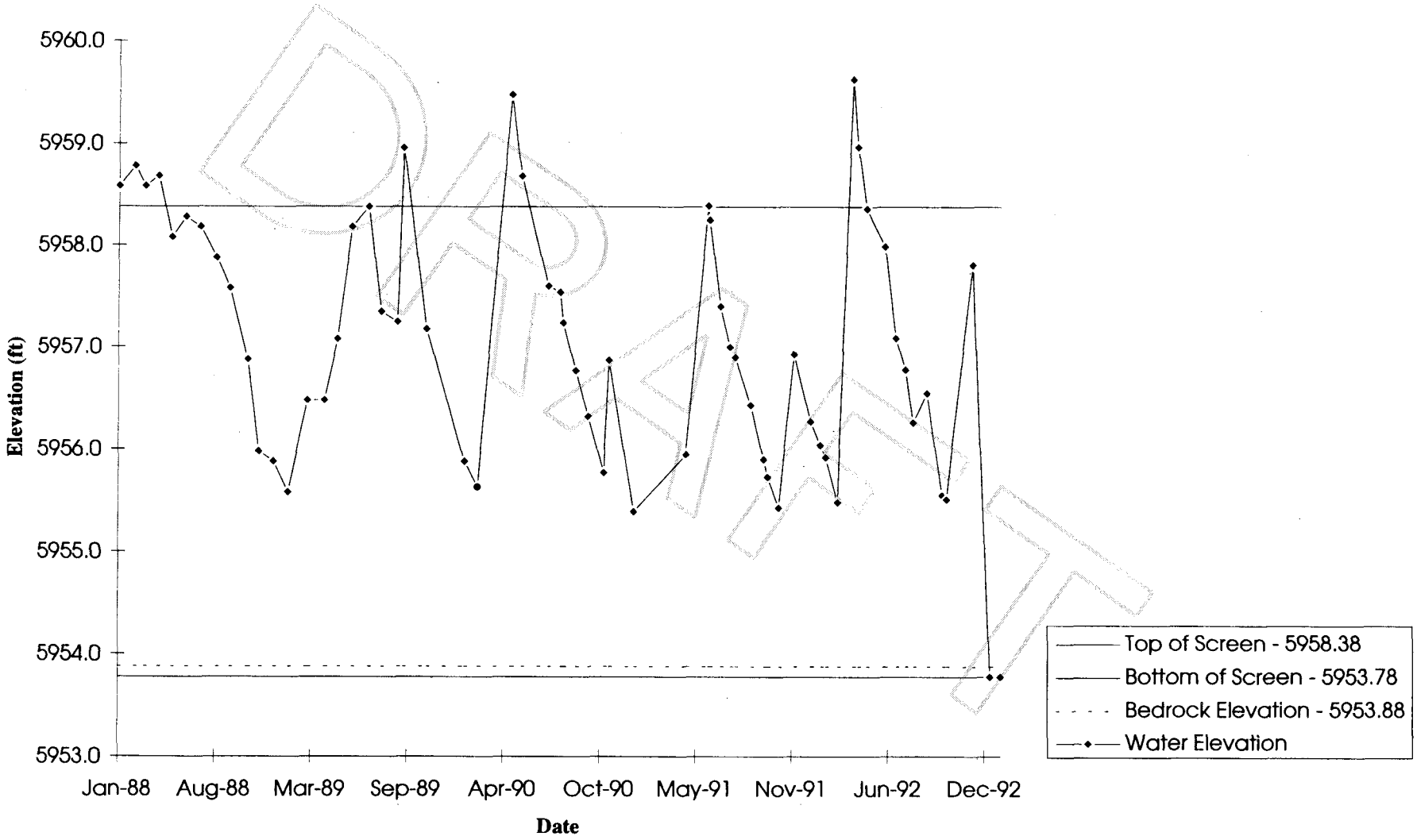
DRAFT

Well 2786 Hydrograph
Bedrock



(4047-910-0025-521)(3/10/95 7:27 AM)(2786 Chart 1)

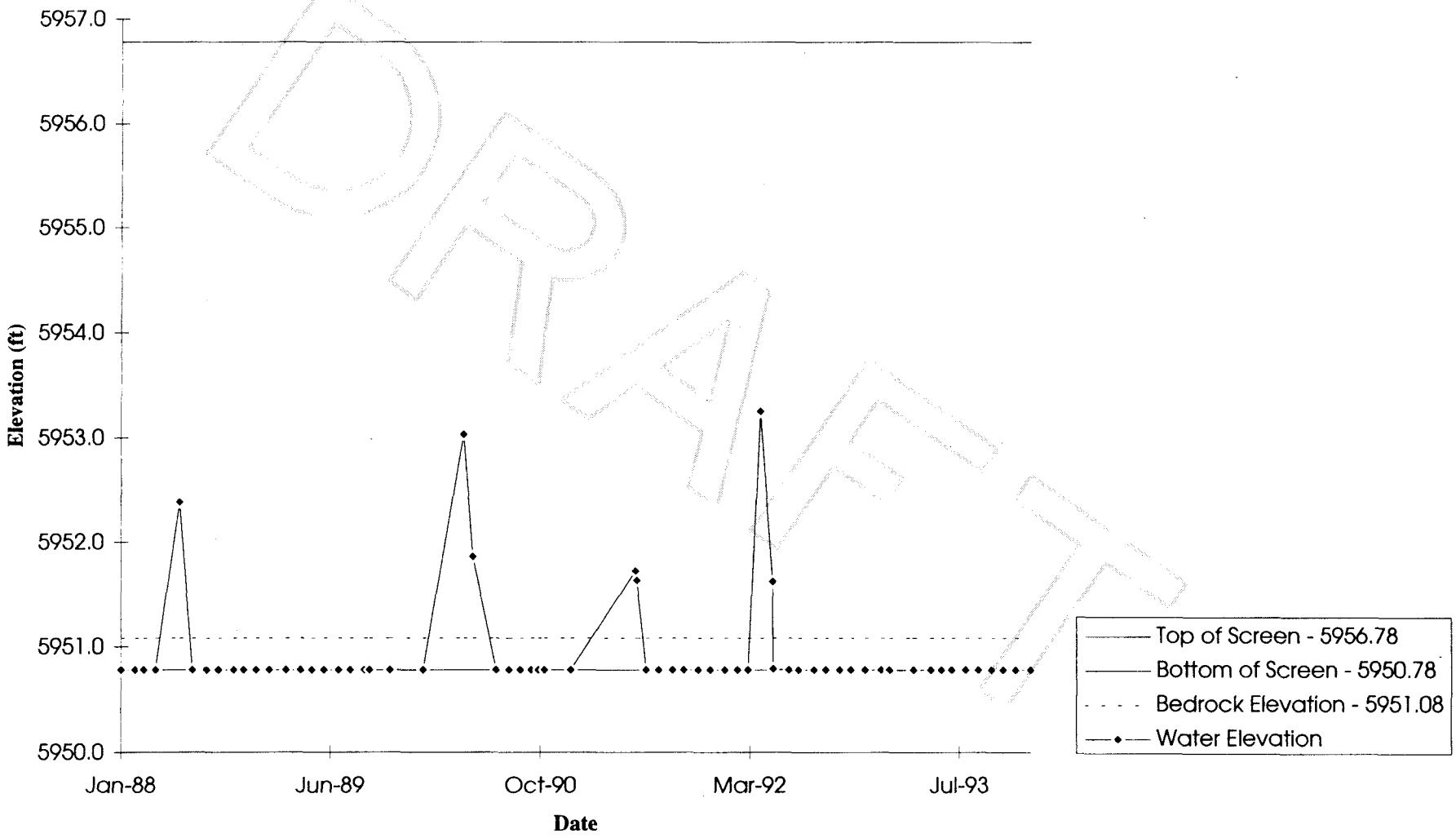
Well 2886 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0[illegible])(3/10/95 7:27 AM)(2886 Chart 1)

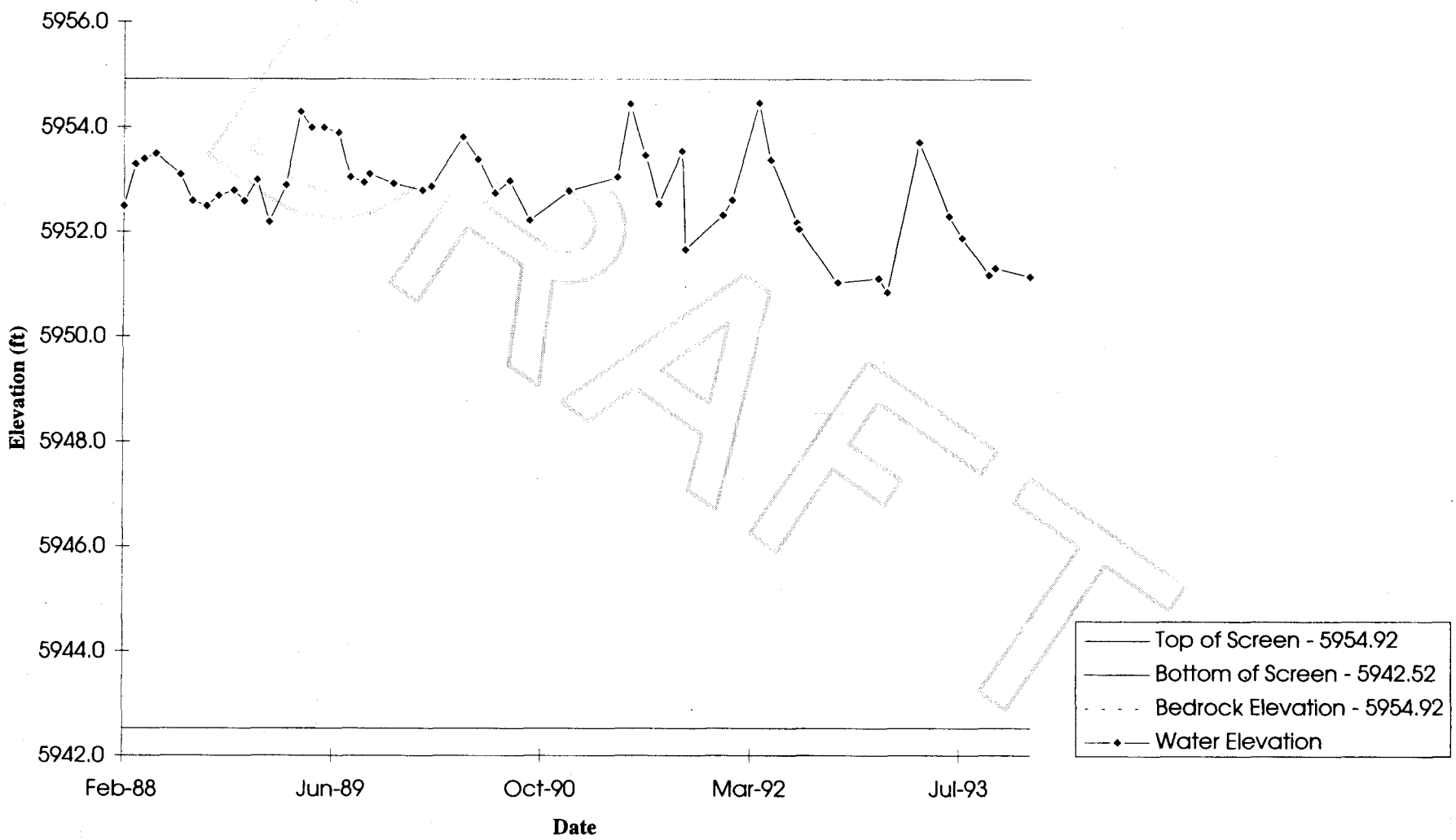
Well 2986 Hydrograph
Colluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:27 AM)(2986 Chart 1)

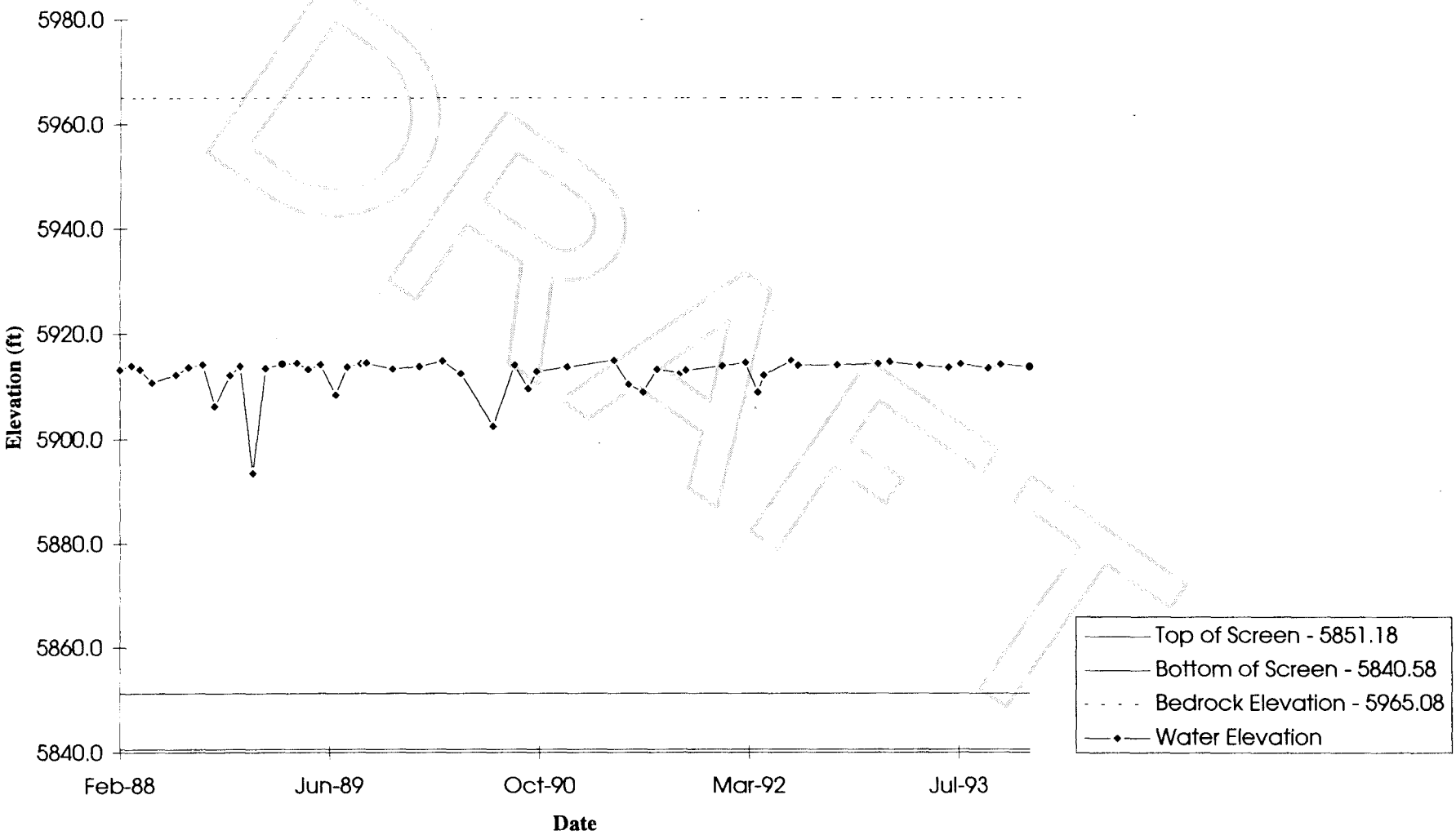
Well 3086 Hydrograph
Bedrock



DRAFT

(4047-910-0[illegible](3/10/95 7:27 AM)(3086 Chart 1)

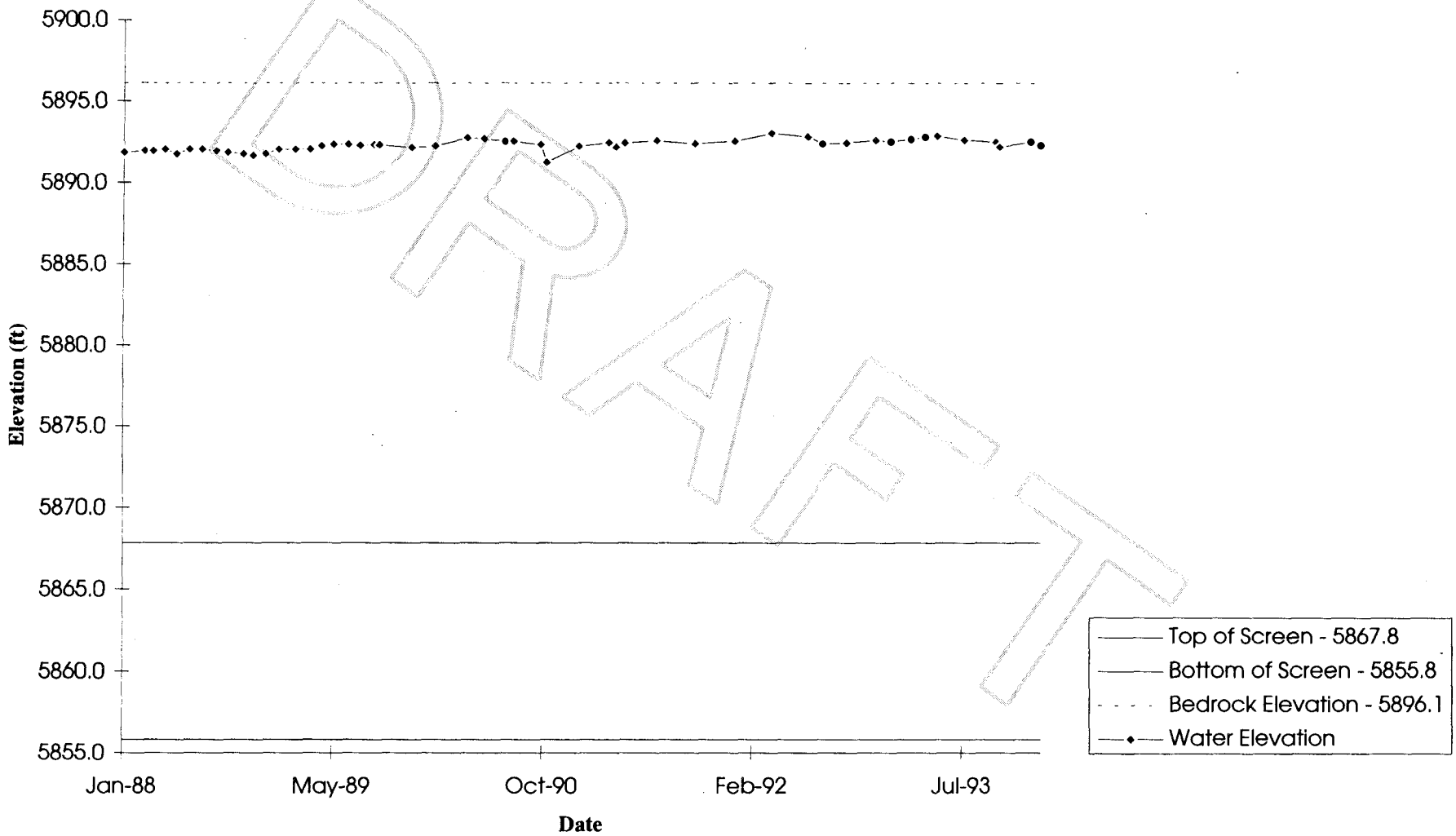
Well 3286 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:27 AM)(3286 Chart 1)

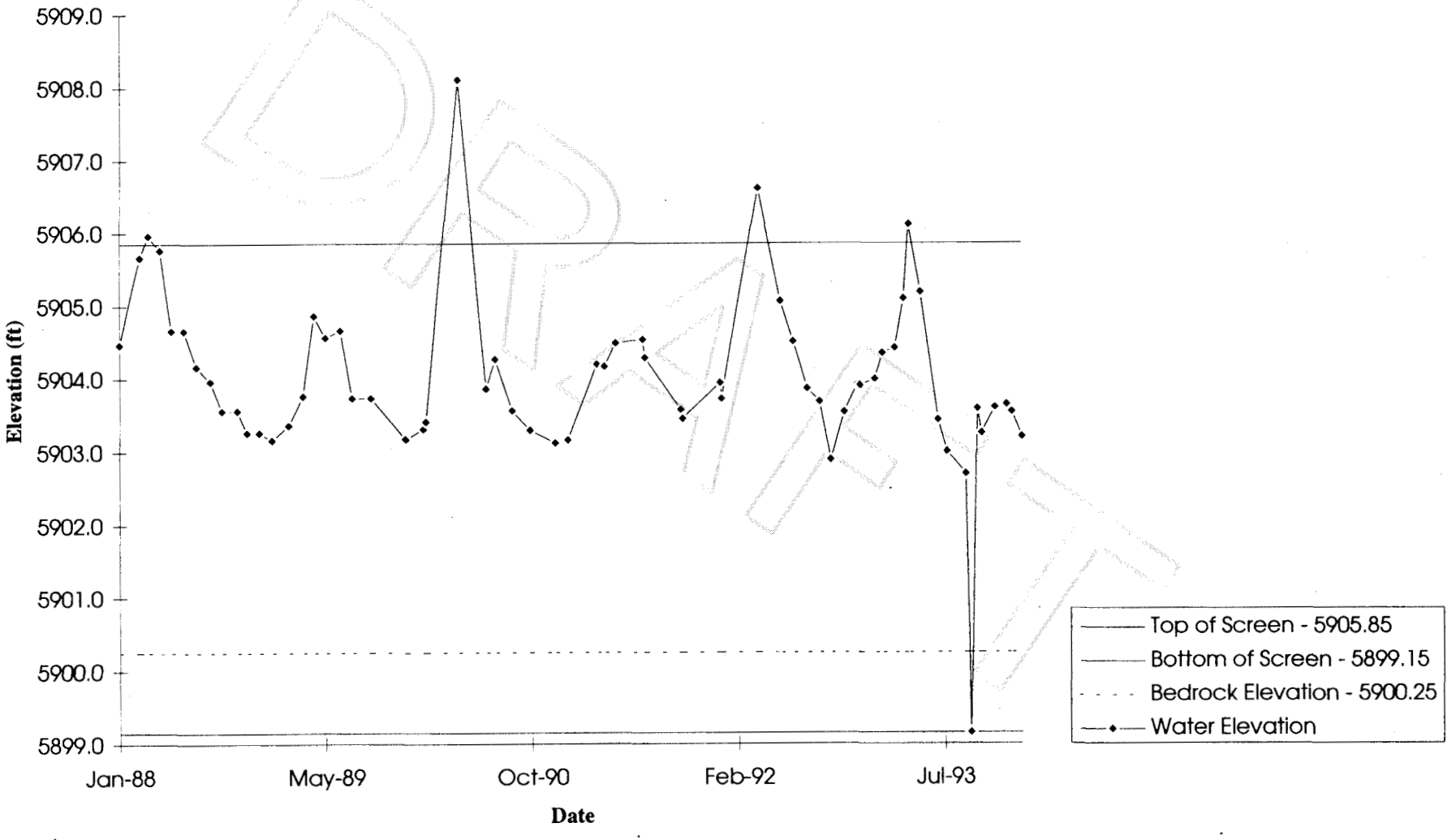
Well 3486 Hydrograph
Bedrock



DRAFT

(4047-910-00)(3/10/95 7:27 AM)(3486 Chart 1)

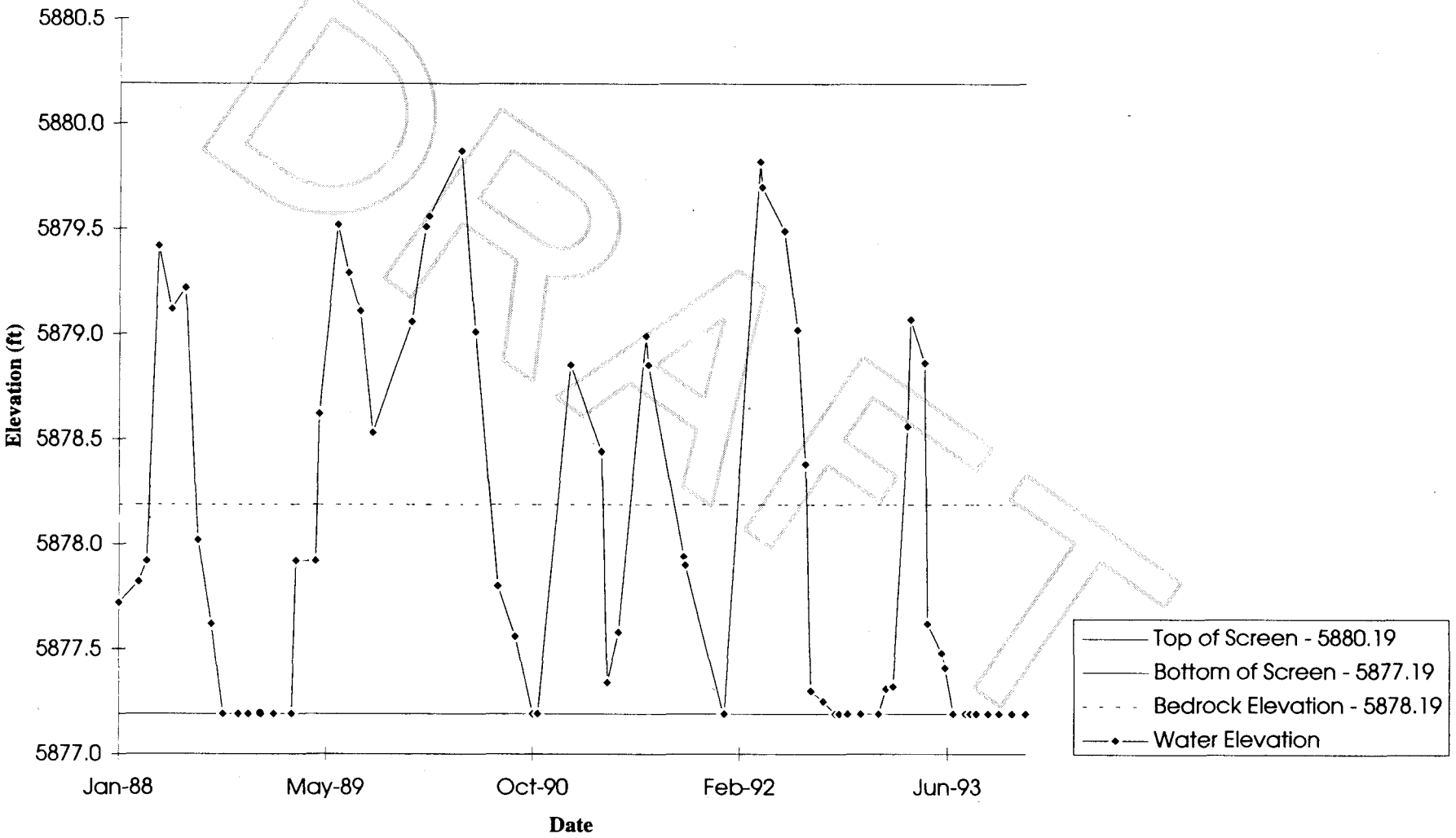
Well 3586 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:27 AM)(3586 Chart 1)

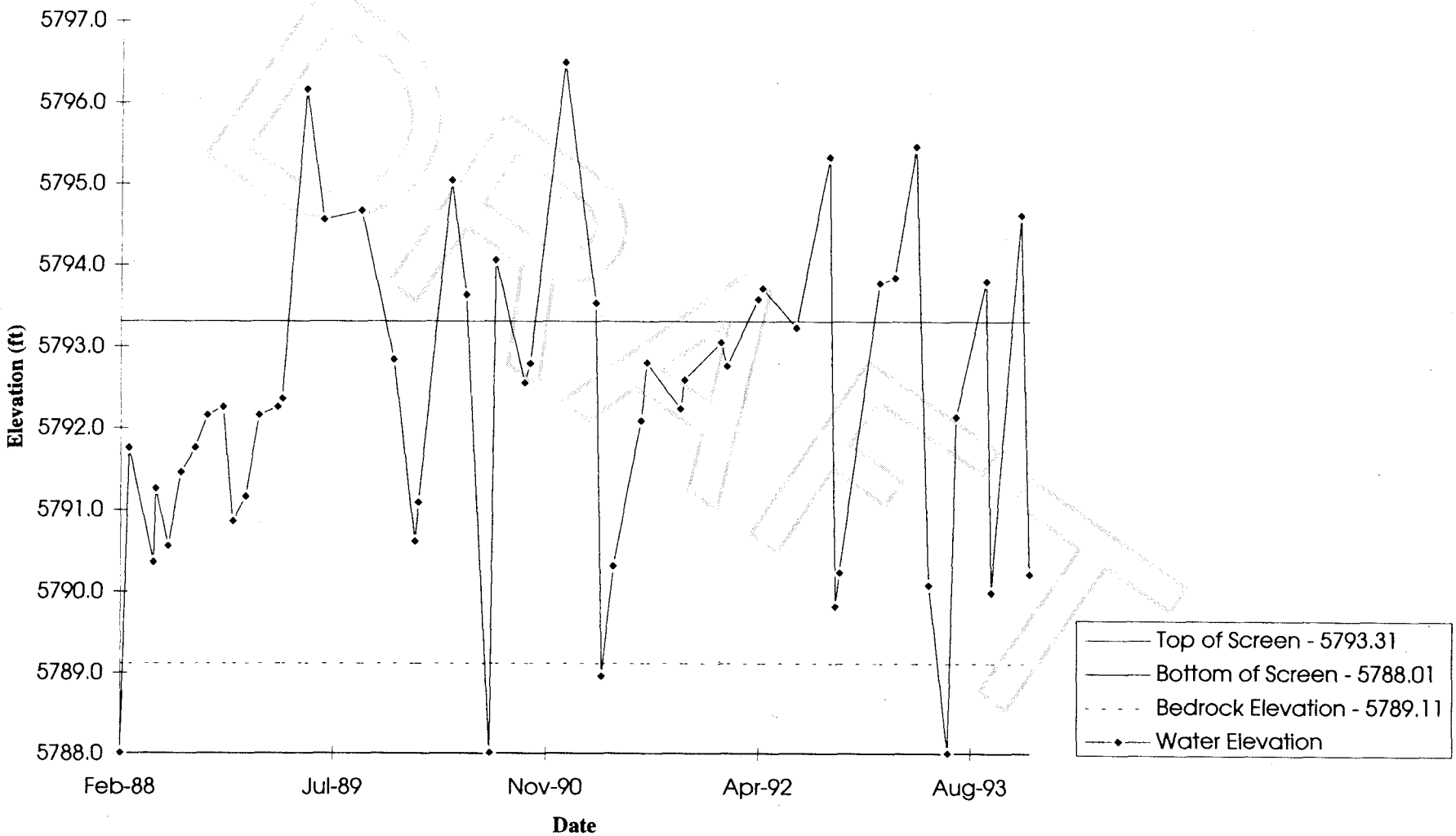
Well 3686 Hydrograph
Valley Fill Alluvium



DRAFT

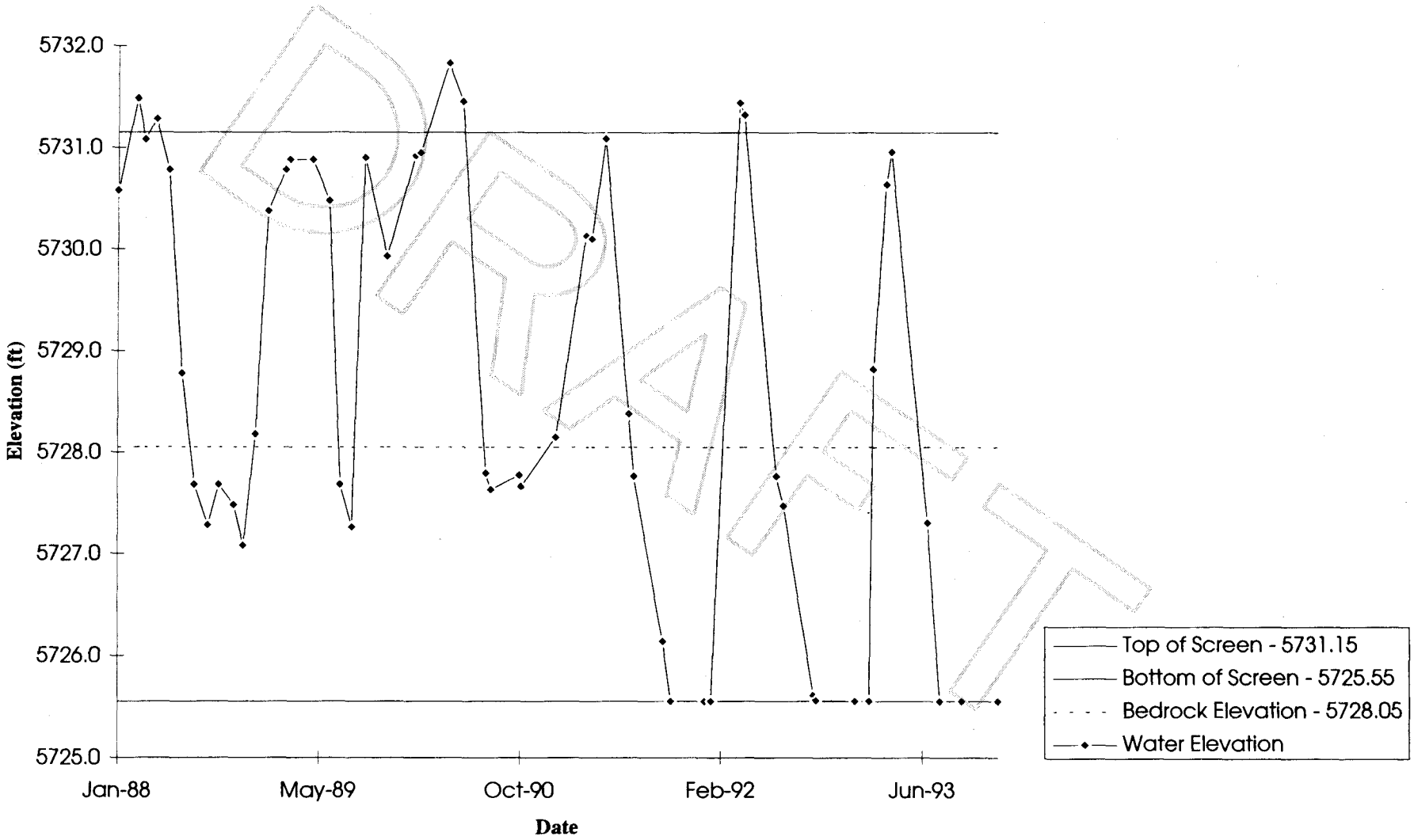
(4047-910-0[illegible])(3/10/95 7:27 AM)(3686 Chart 1)

Well 3786 Hydrograph
Valley Fill Alluvium



(4047-910-0025-521)(3/10/95 7:27 AM)(3786 Chart 1)

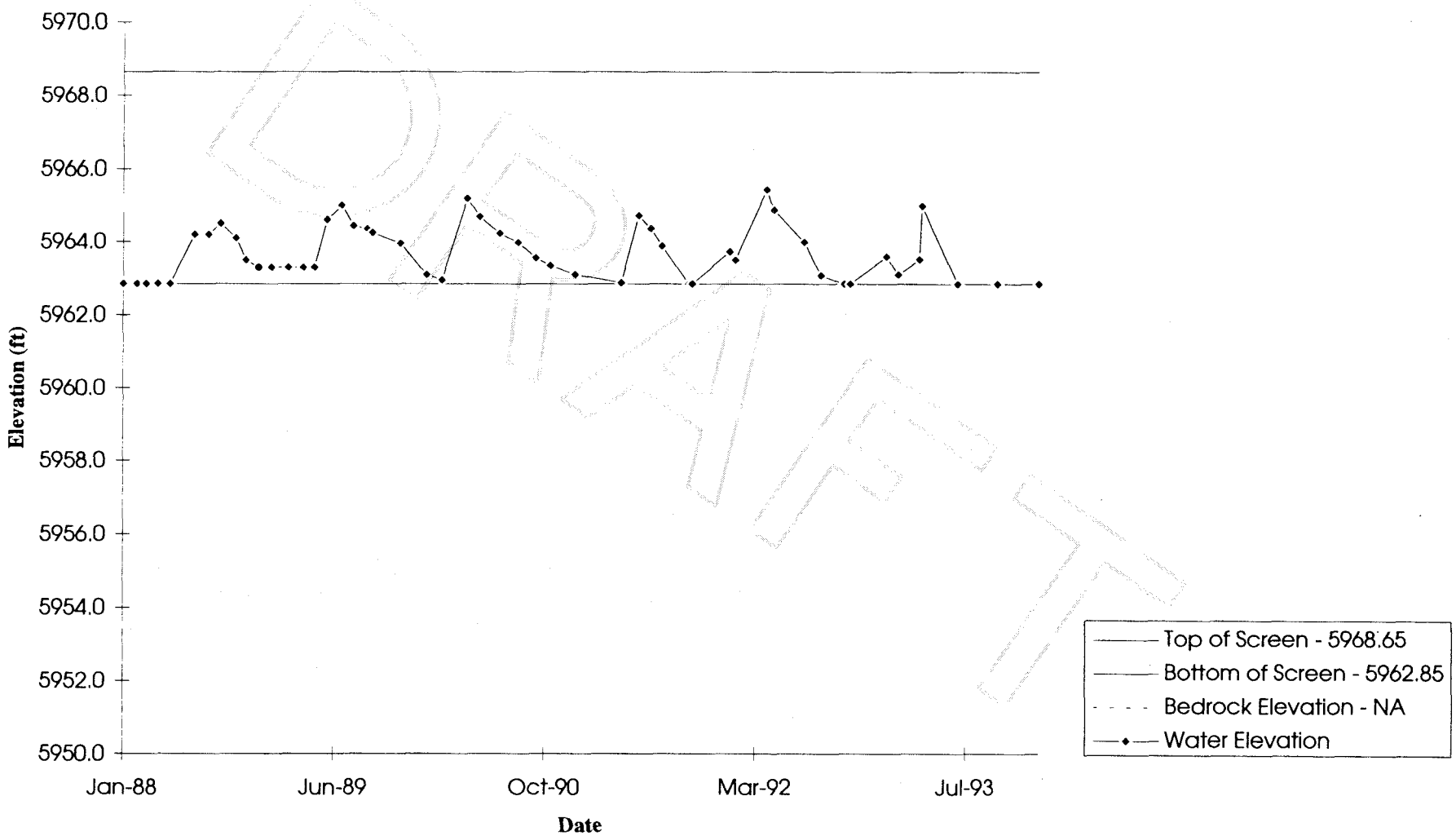
Well 3886 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-0[illegible])(3/10/95 7:27 AM)(3886 Chart 1)

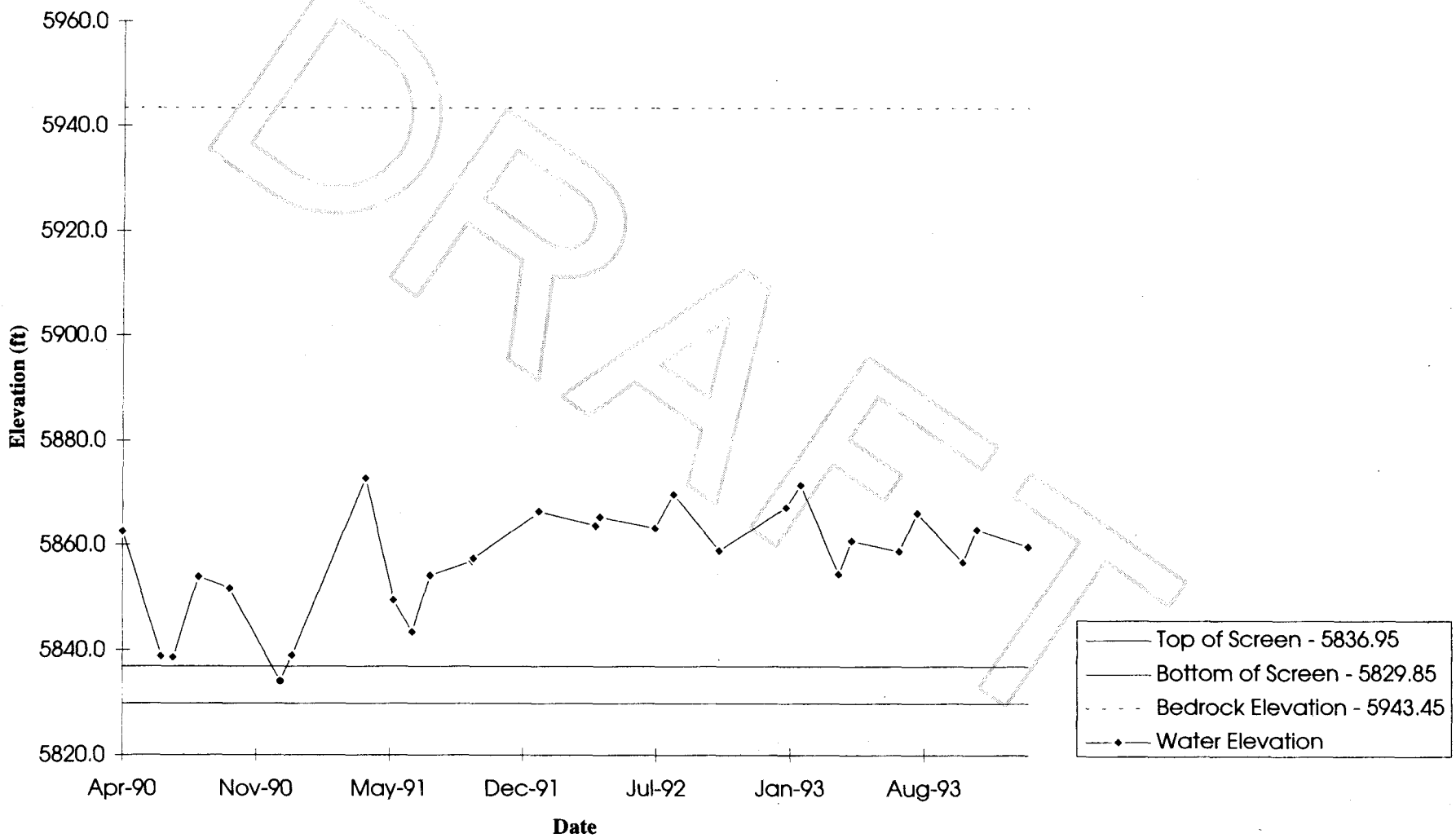
Well 3887 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:28 AM)(3887 Chart 1)

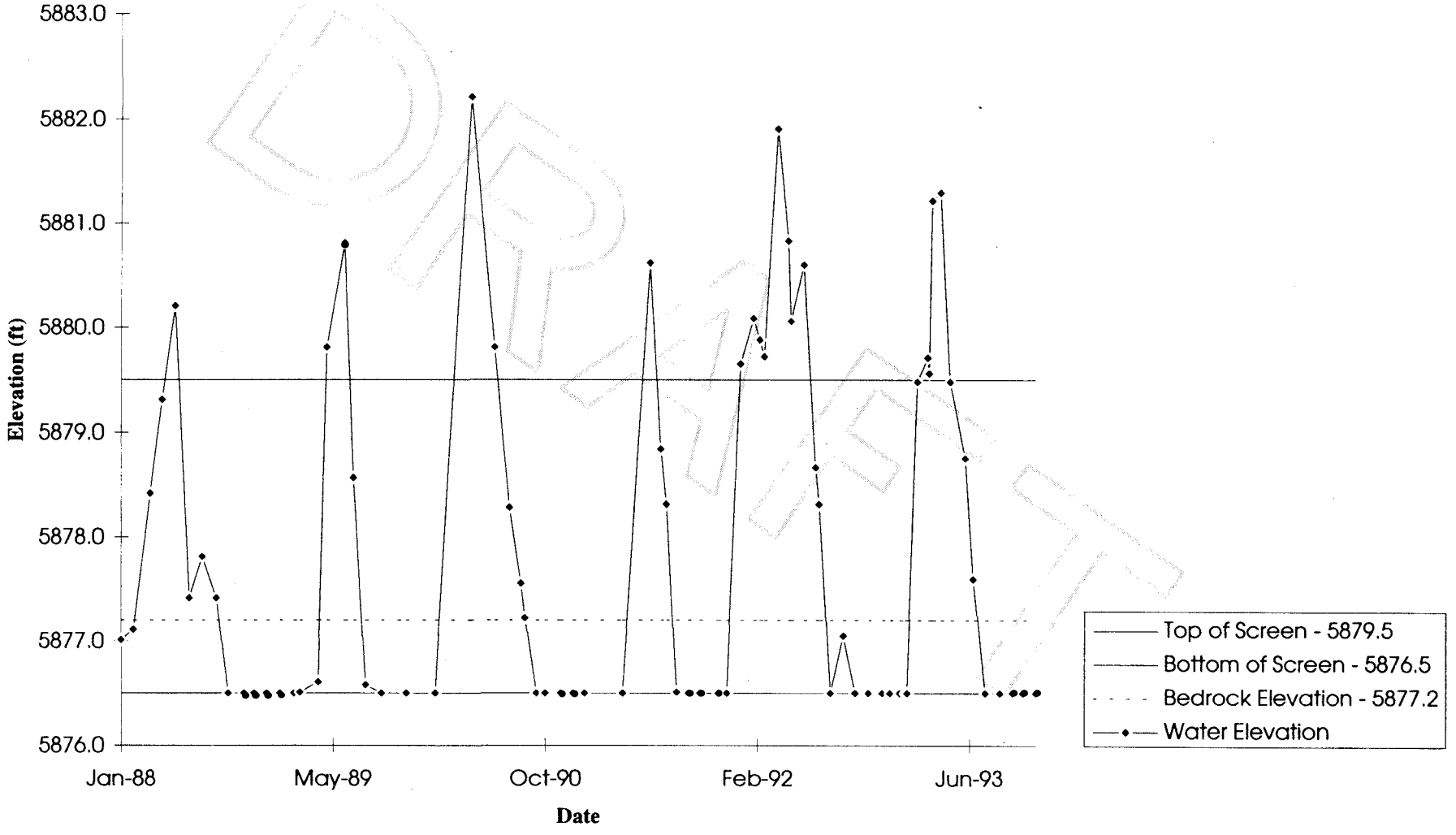
Well 3987 Hydrograph
Bedrock



DRAFT

(4047-910-0[illegible])(3/10/95 7:28 AM)(3987 Chart 1)

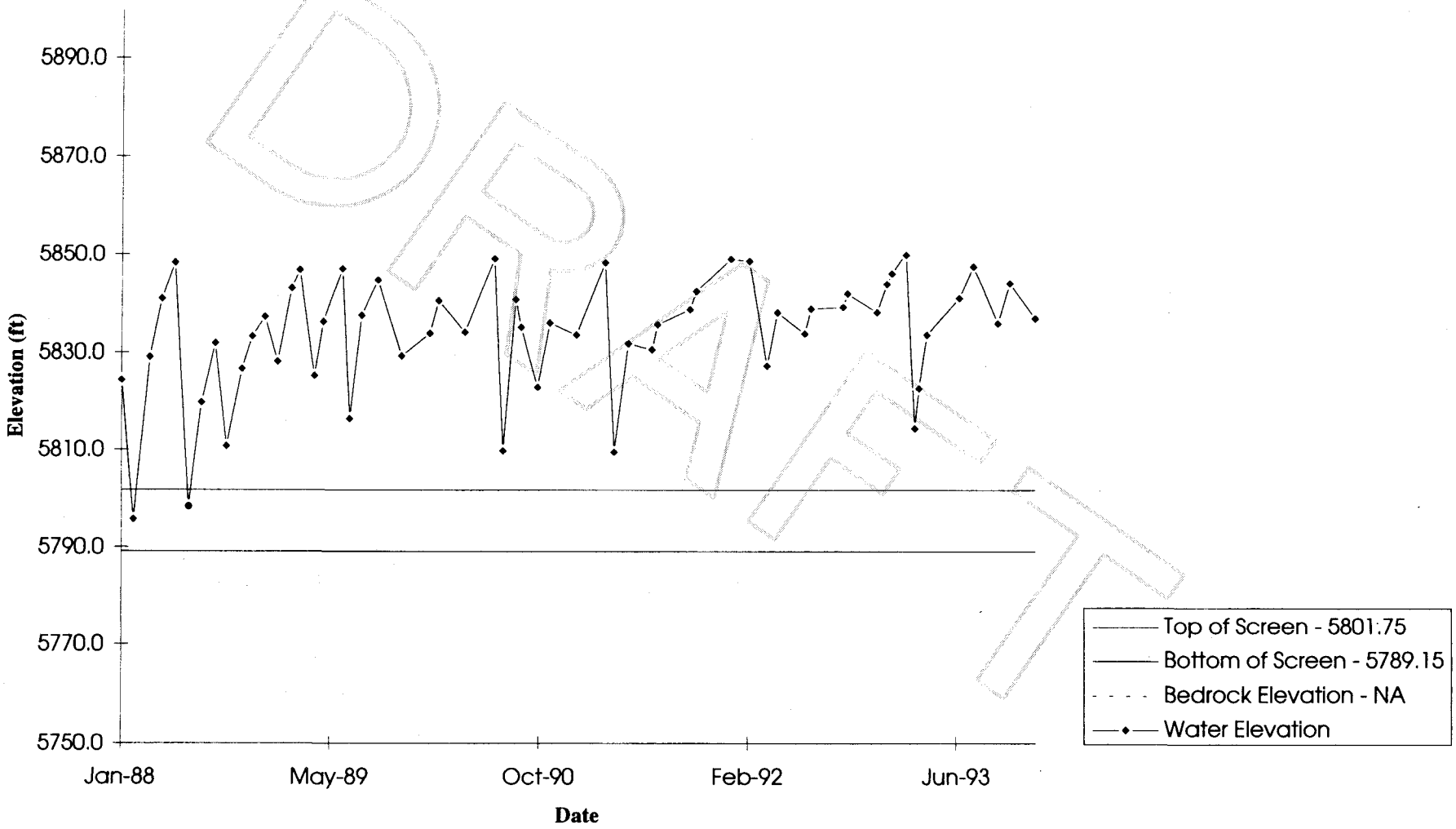
Well 4087 Hydrograph
Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:28 AM)(4087 Chart 1)

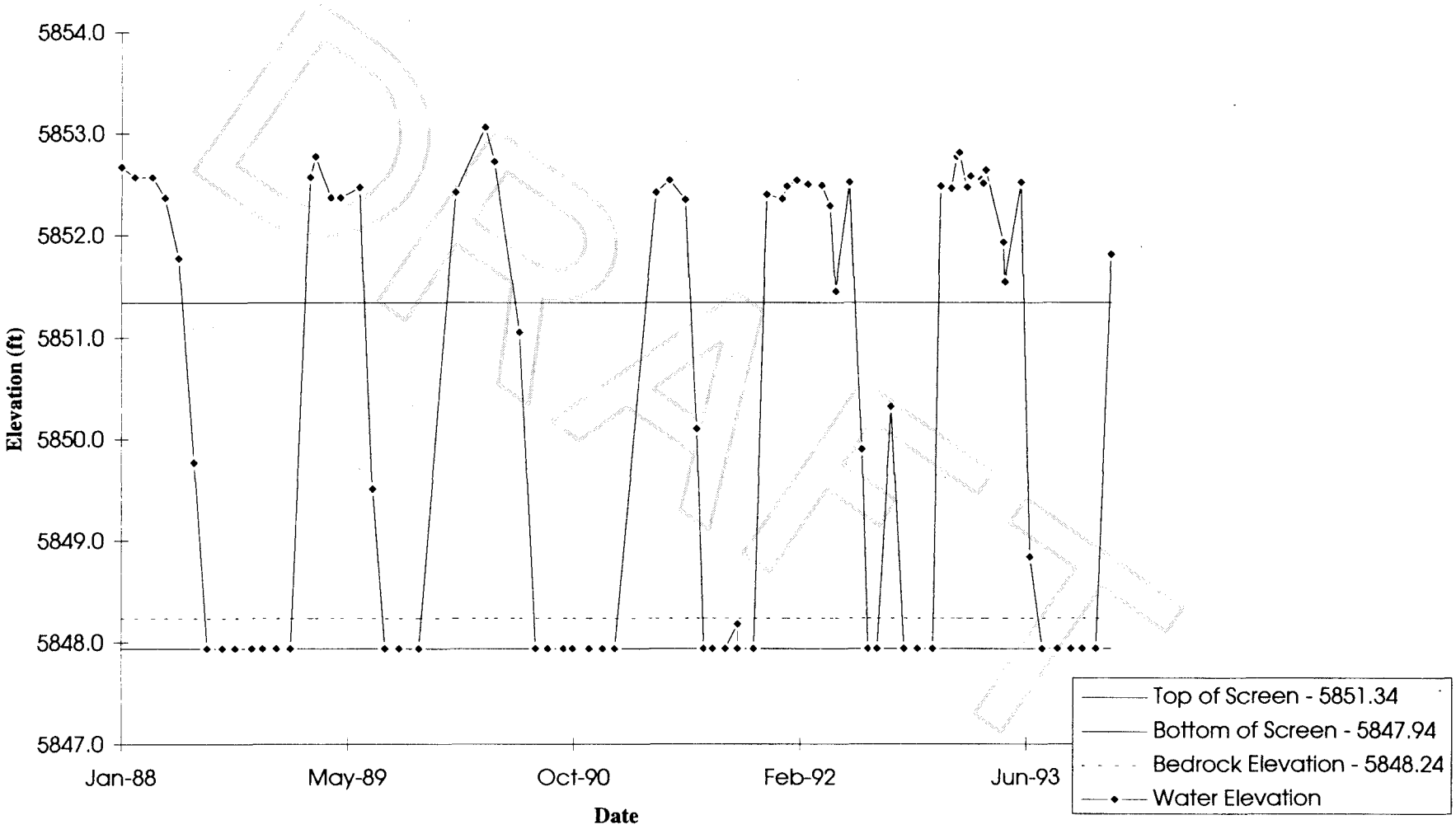
Well 4187 Hydrograph
Bedrock



DRAFT

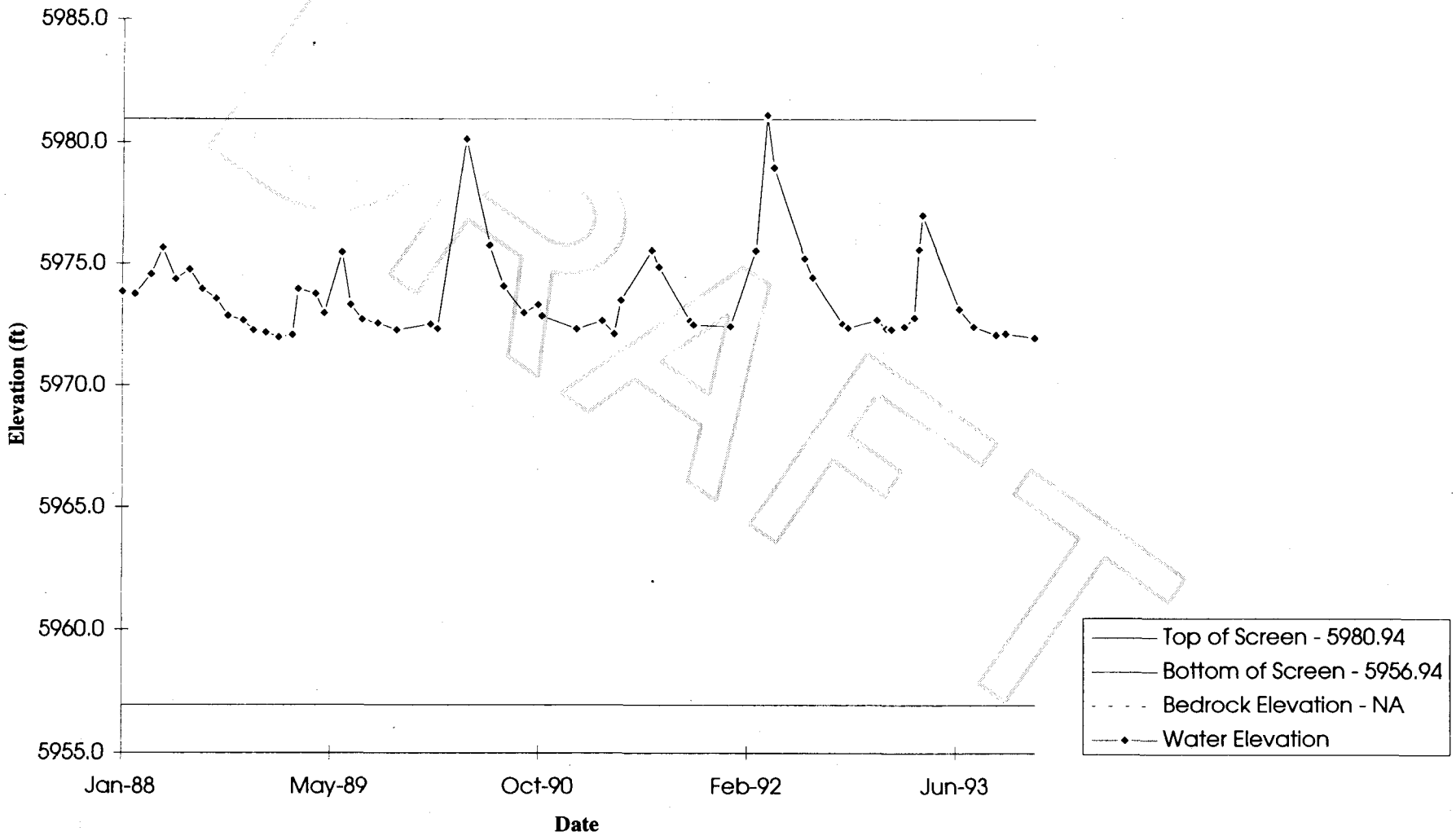
(4047-910-00[illegible])(3/10/95 7:28 AM)(4187 Chart 1)

Well 4287 Hydrograph
Valley Fill Alluvium



(4047-910-0025-521)(3/10/95 7:28 AM)(4287 Chart 1)

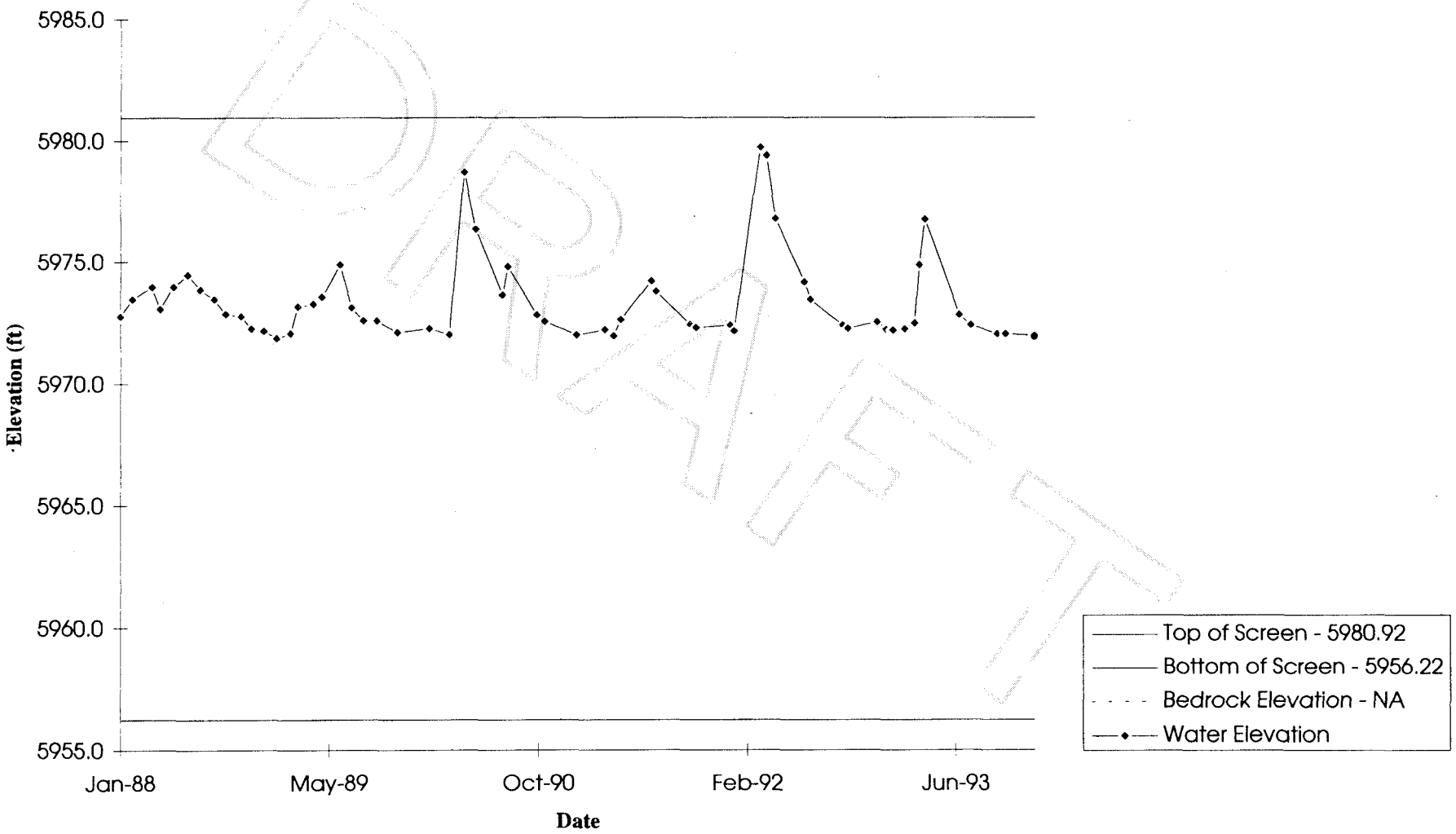
Well 6087 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0[illegible] (3/10/95 7:28 AM)(6087 Chart 1)

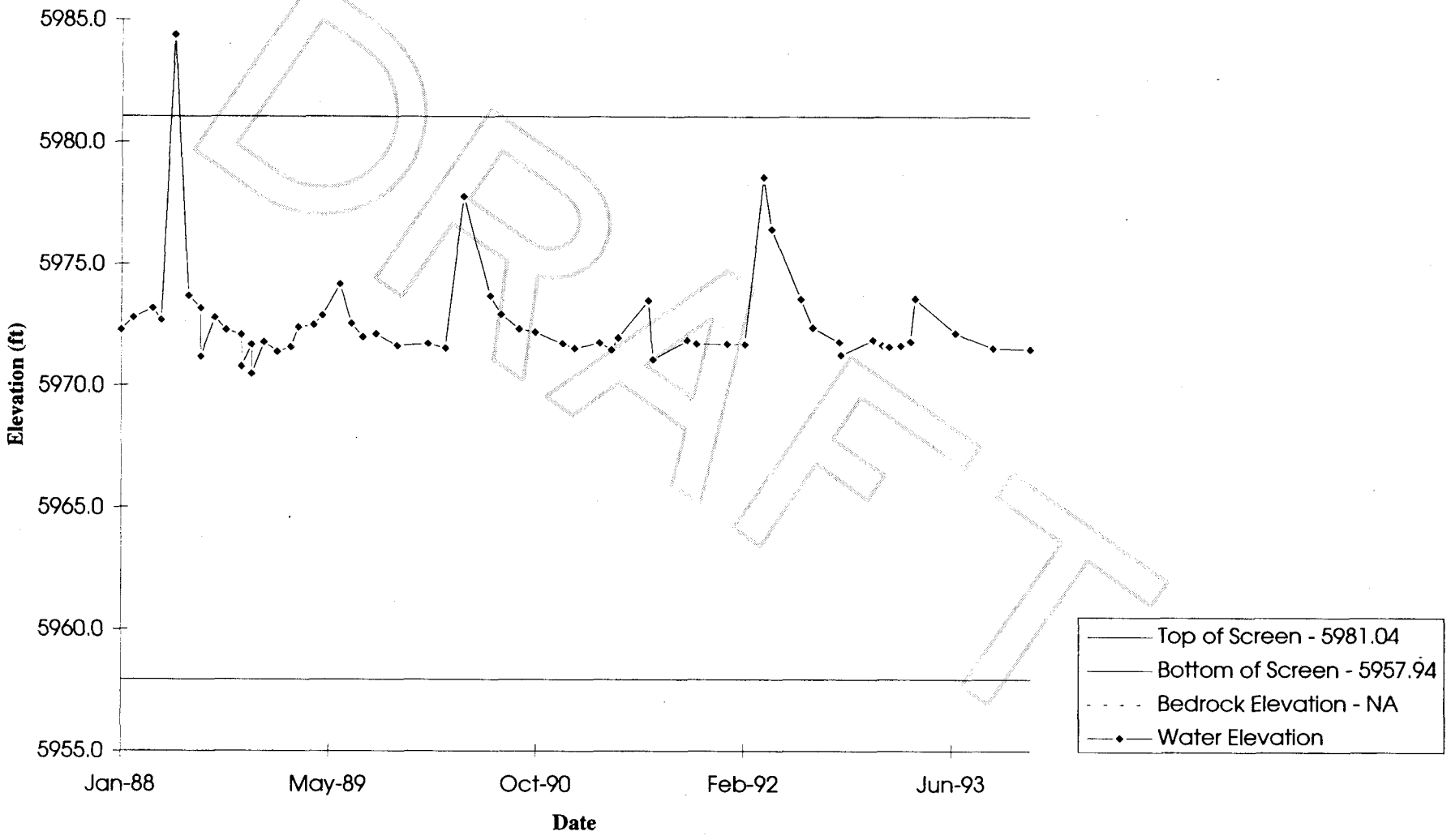
Well 6187 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:28 AM)(6187 Chart 1)

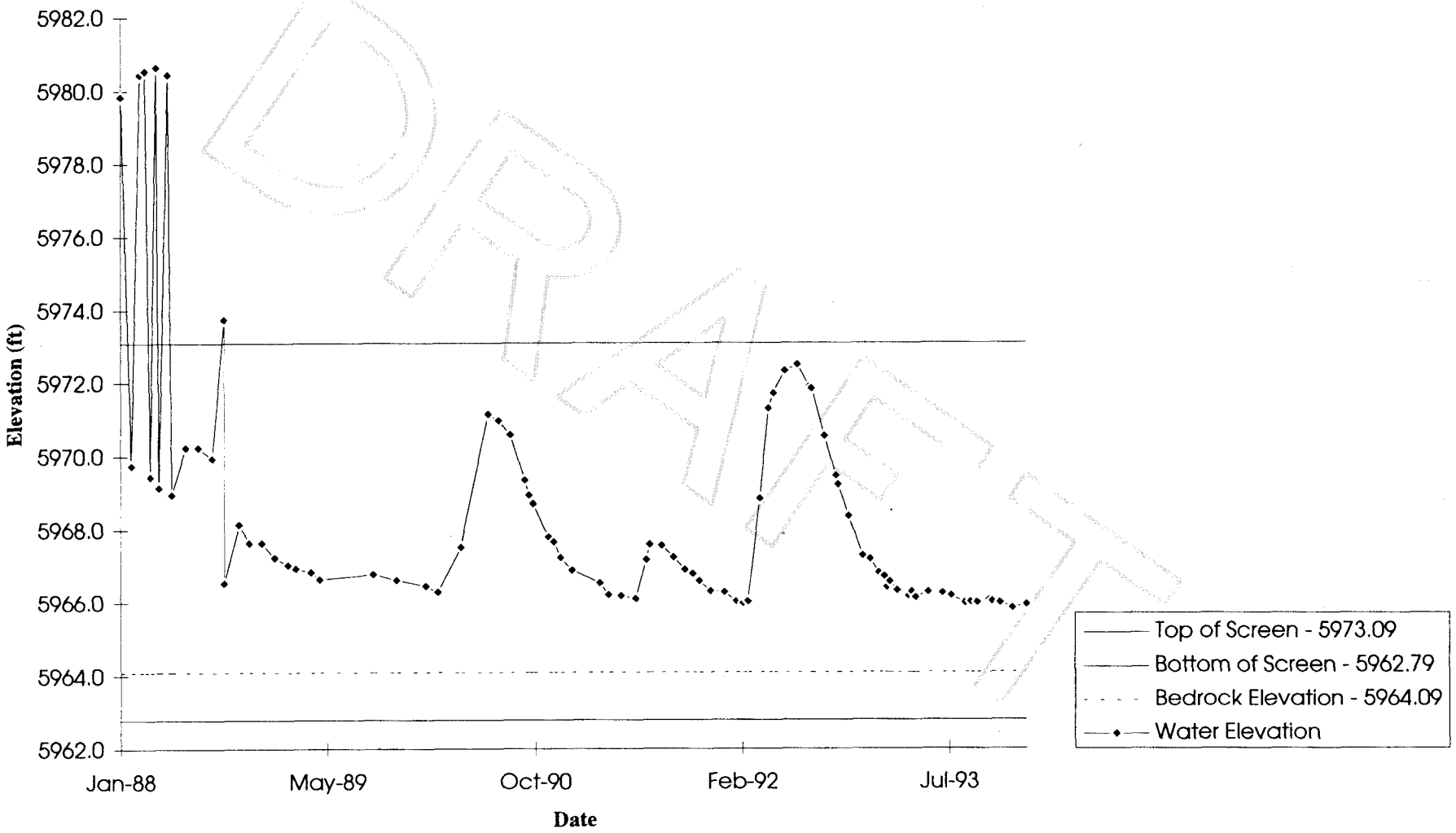
Well 6287 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910 21)(3/10/95 7:28 AM)(6287 Chart 1)

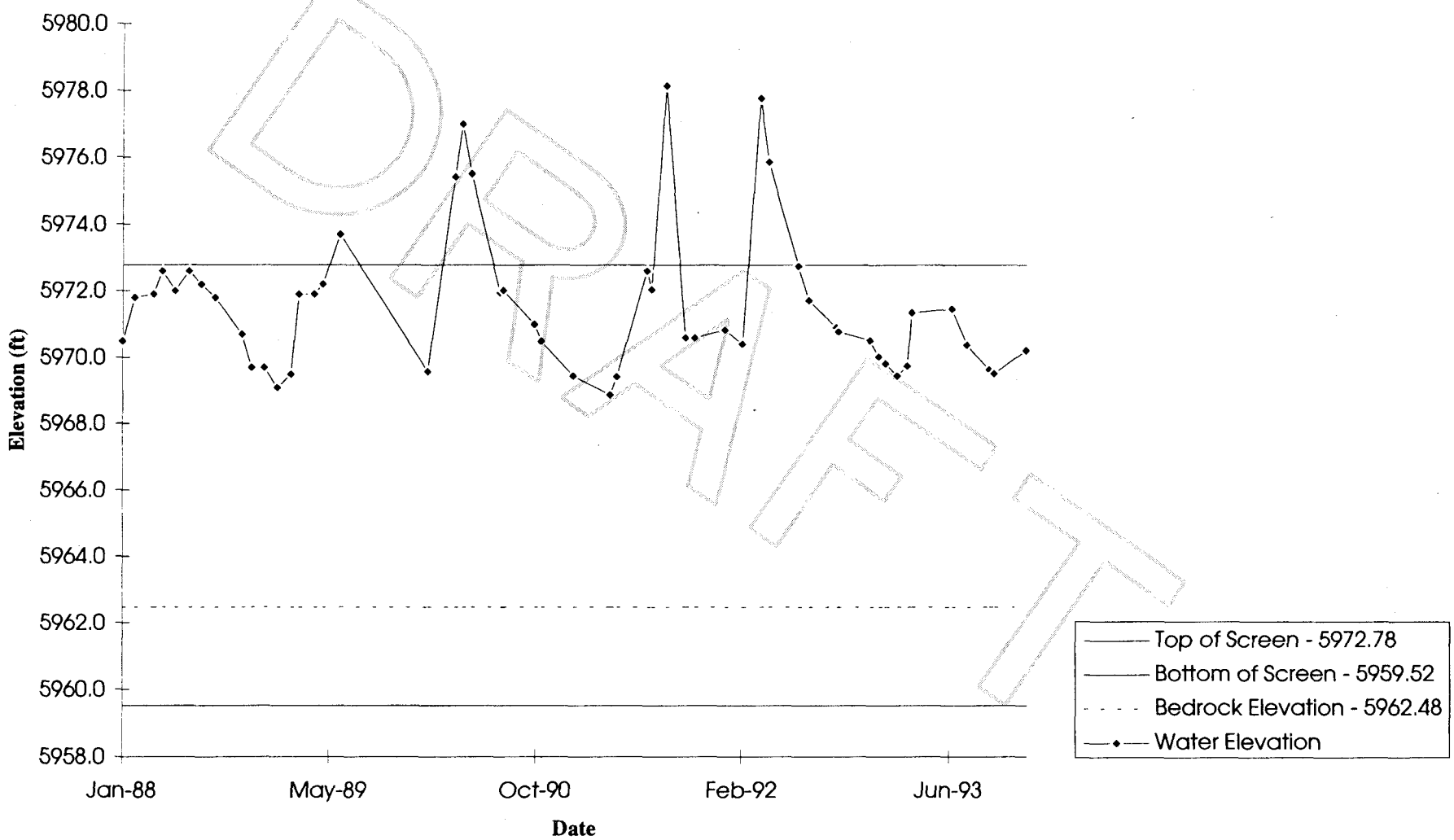
Well 6487 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:28 AM)(6487 Chart 1)

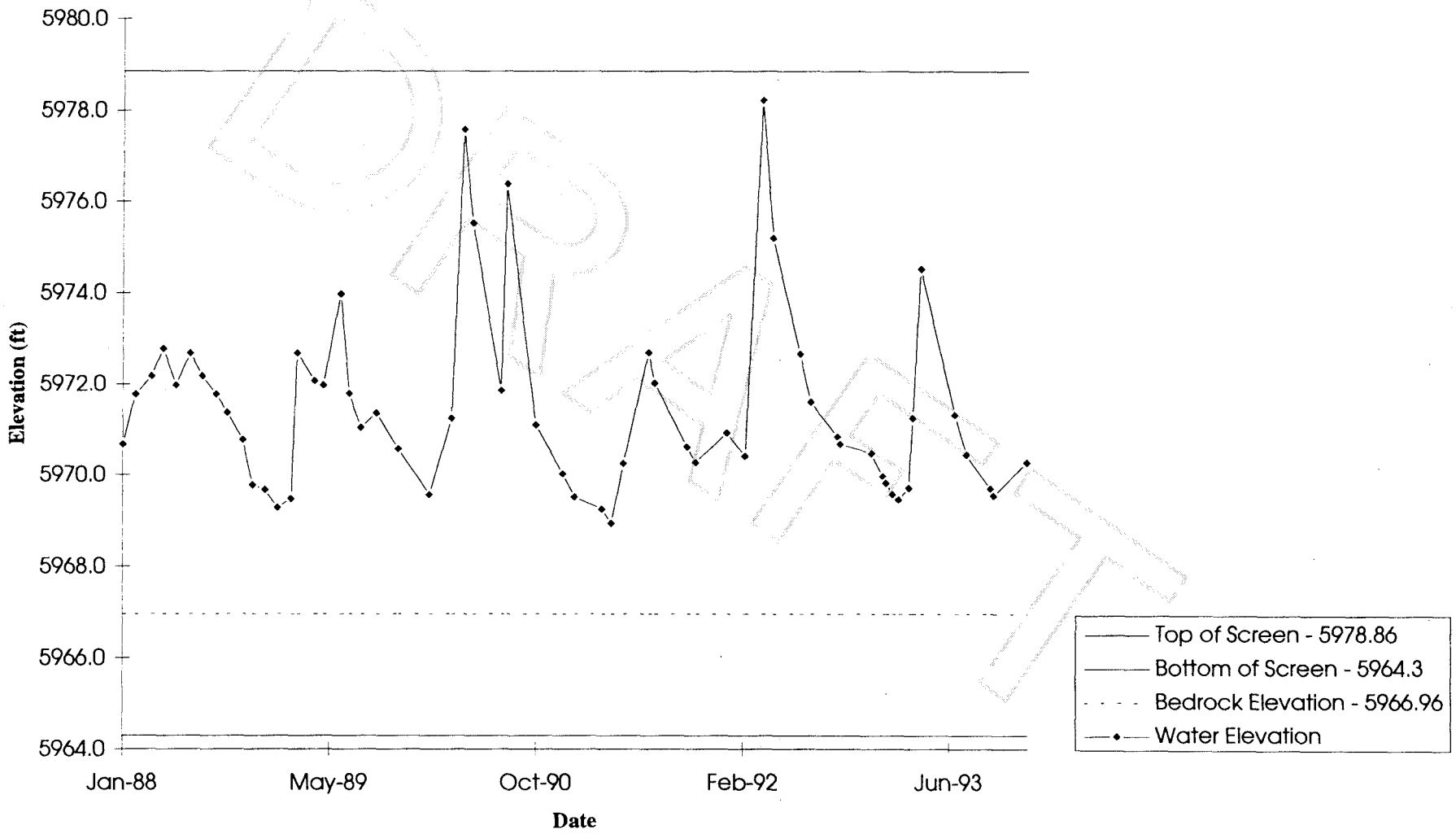
Well 6587 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0 (3/10/95 7:28 AM)(6587 Chart 1)

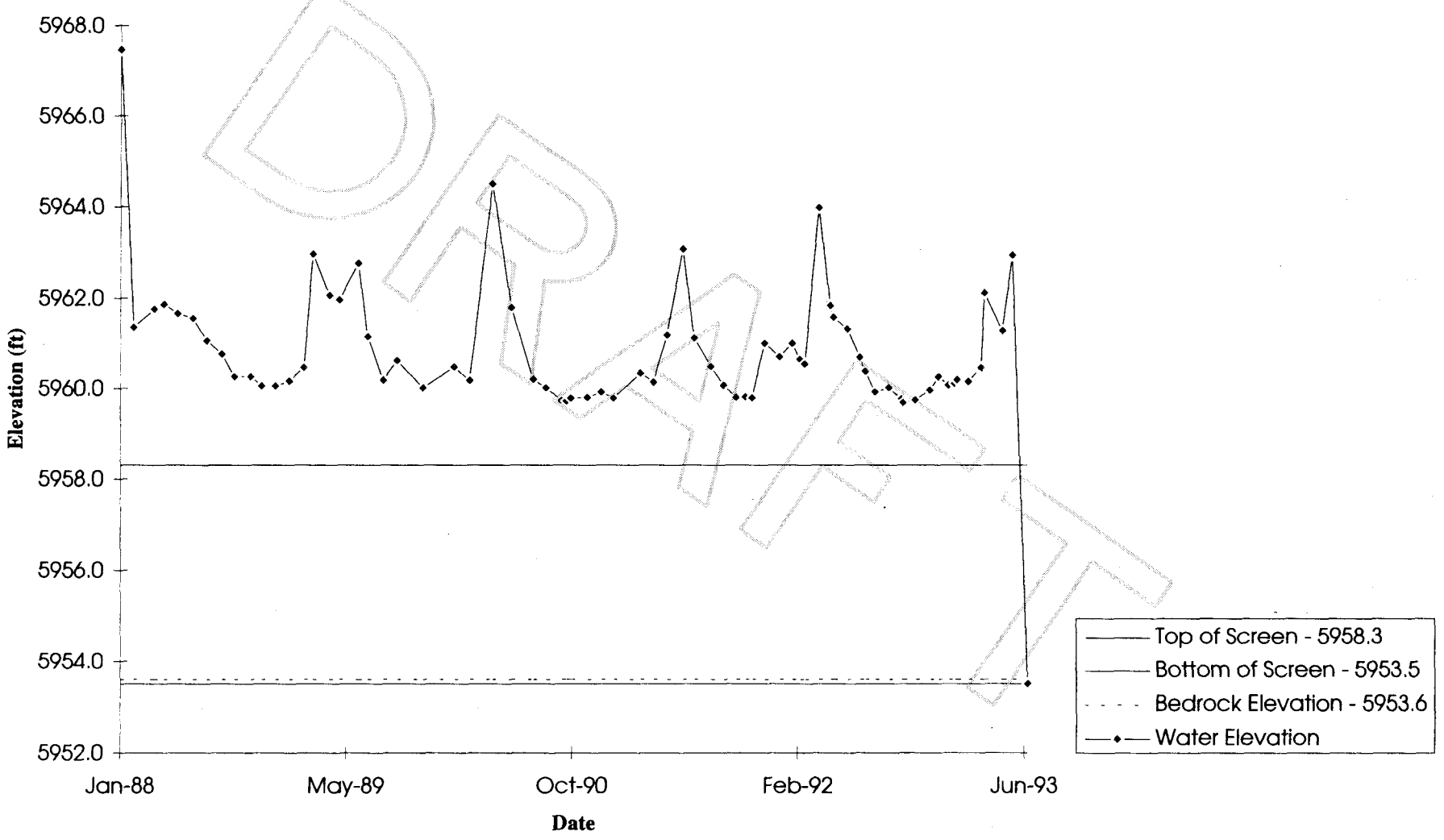
Well 6687 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:29 AM)(6687 Chart 1)

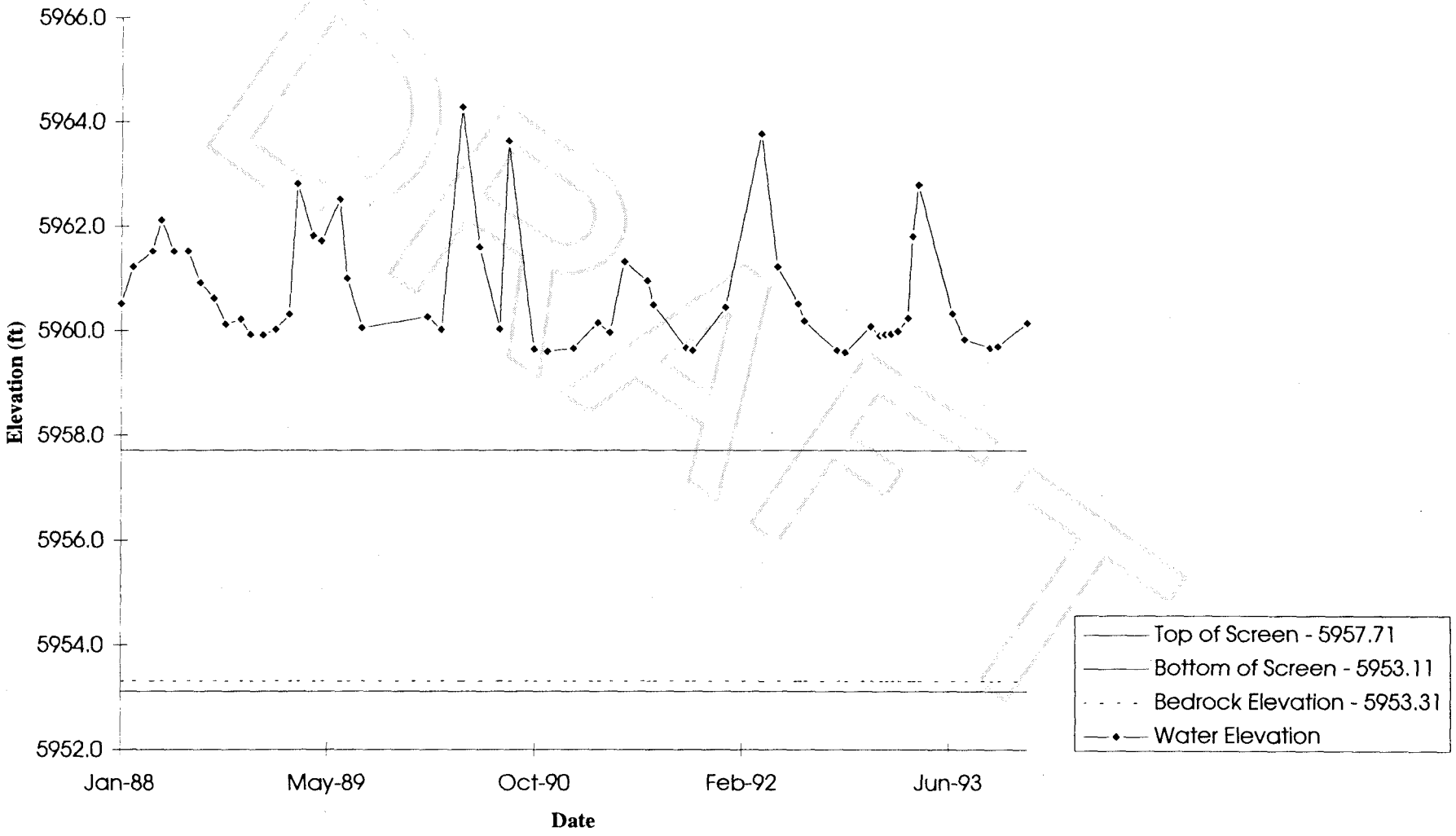
Well 6787 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0[redacted])(3/10/95 7:29 AM)(6787 Chart 1)

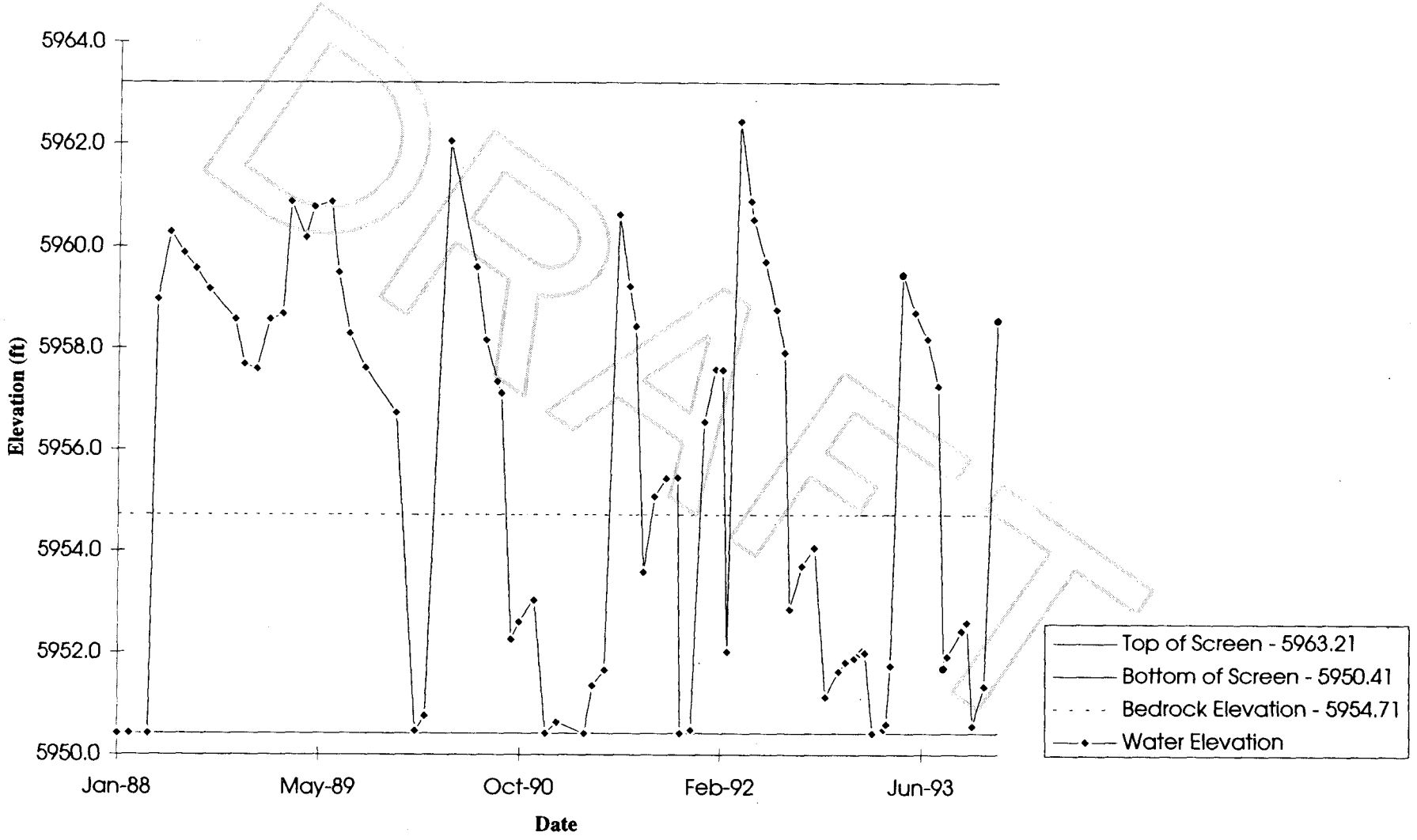
Well 6887 Hydrograph
Rocky Flats Alluvium



PRELIMINARY

(4047-910-0025-521)(3/10/95 7:29 AM)(6887 Chart 1)

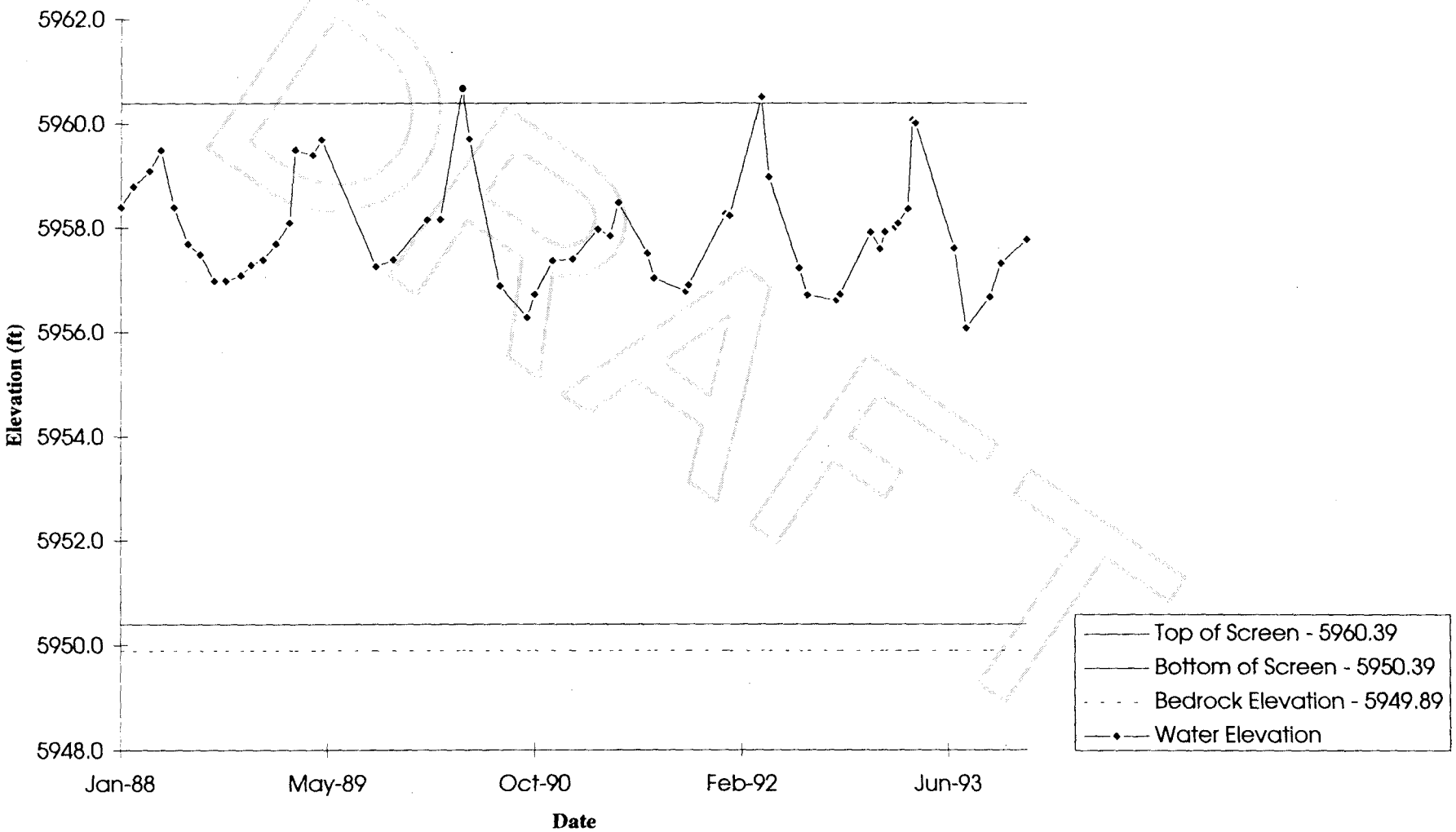
Well 7087 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-00 /3/10/95 7:29 AM)(7087 Chart 1)

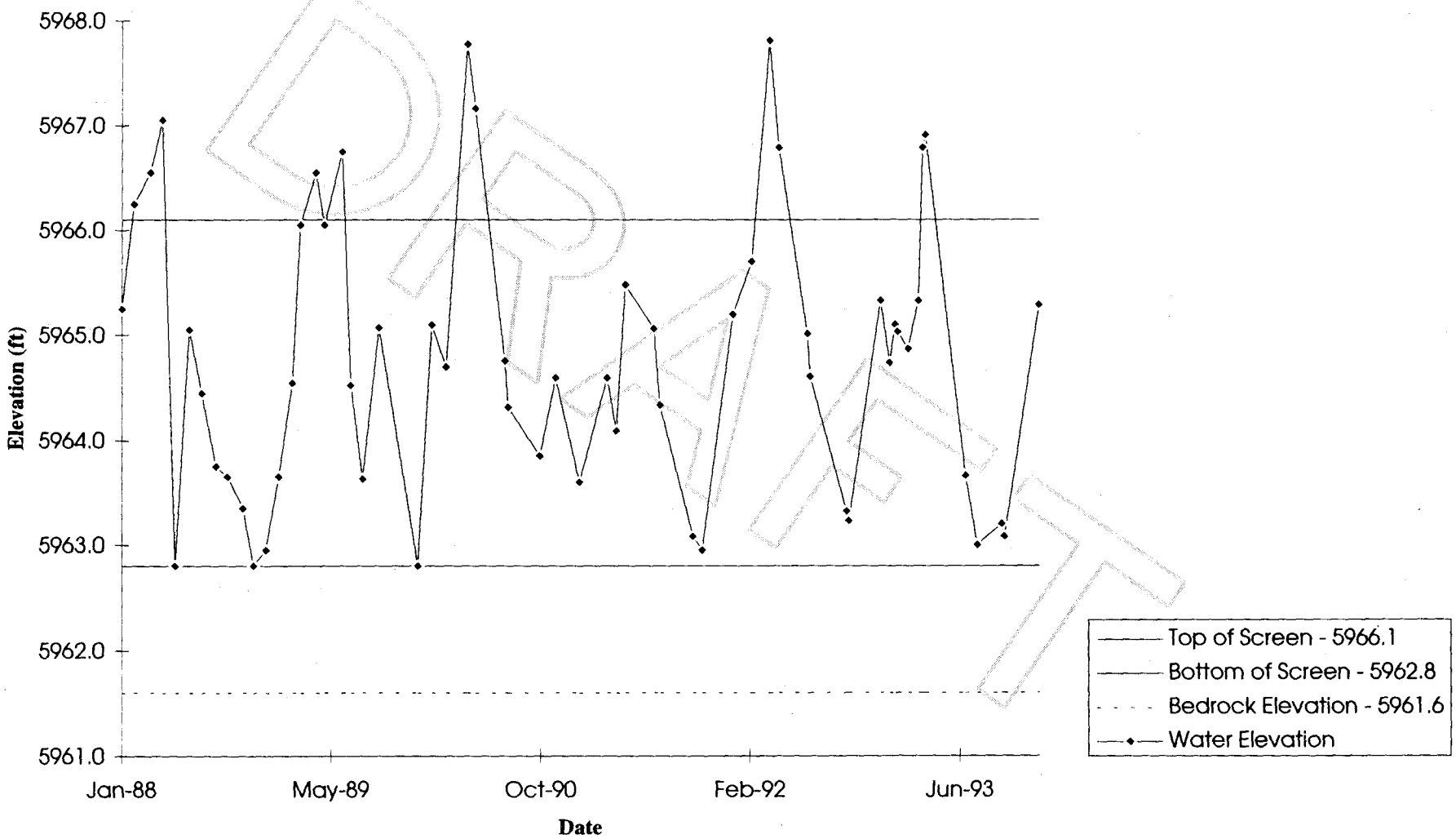
Well 7187 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:29 AM)(7187 Chart 1)

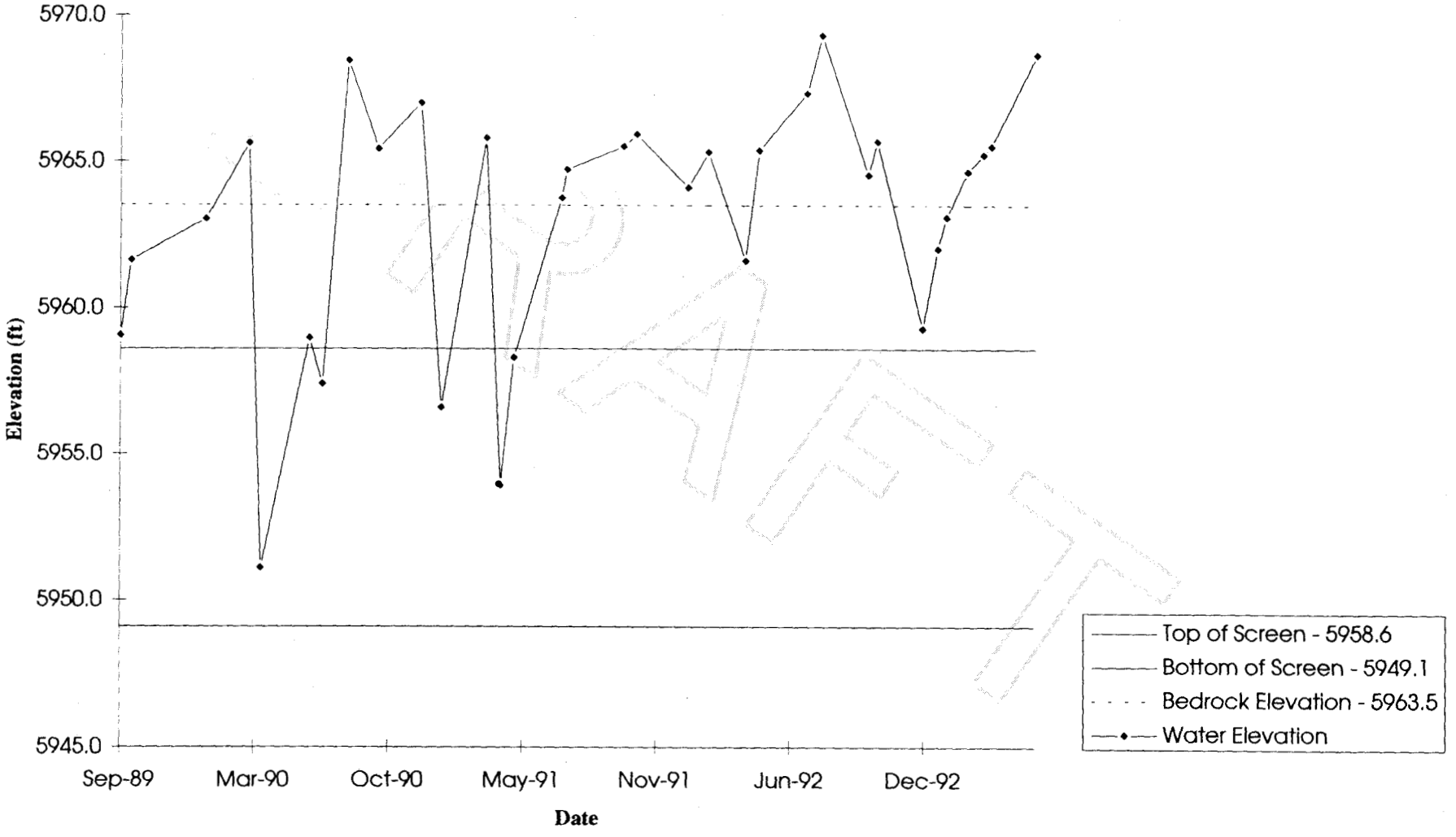
Well 7287 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-6)(3/10/95 7:29 AM)(7287 Chart 1)

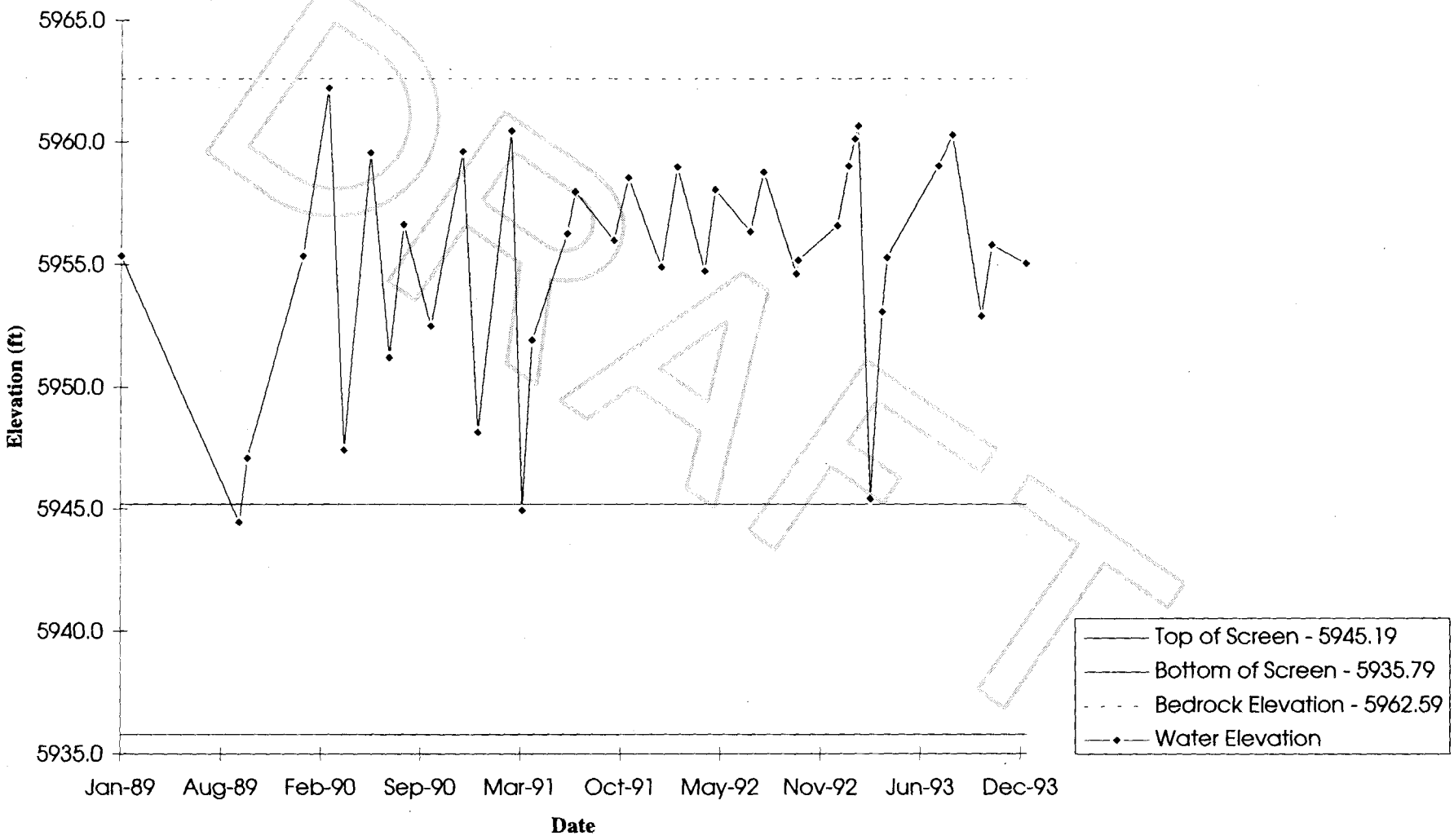
Well B206189 Hydrograph
Bedrock



DRAFT

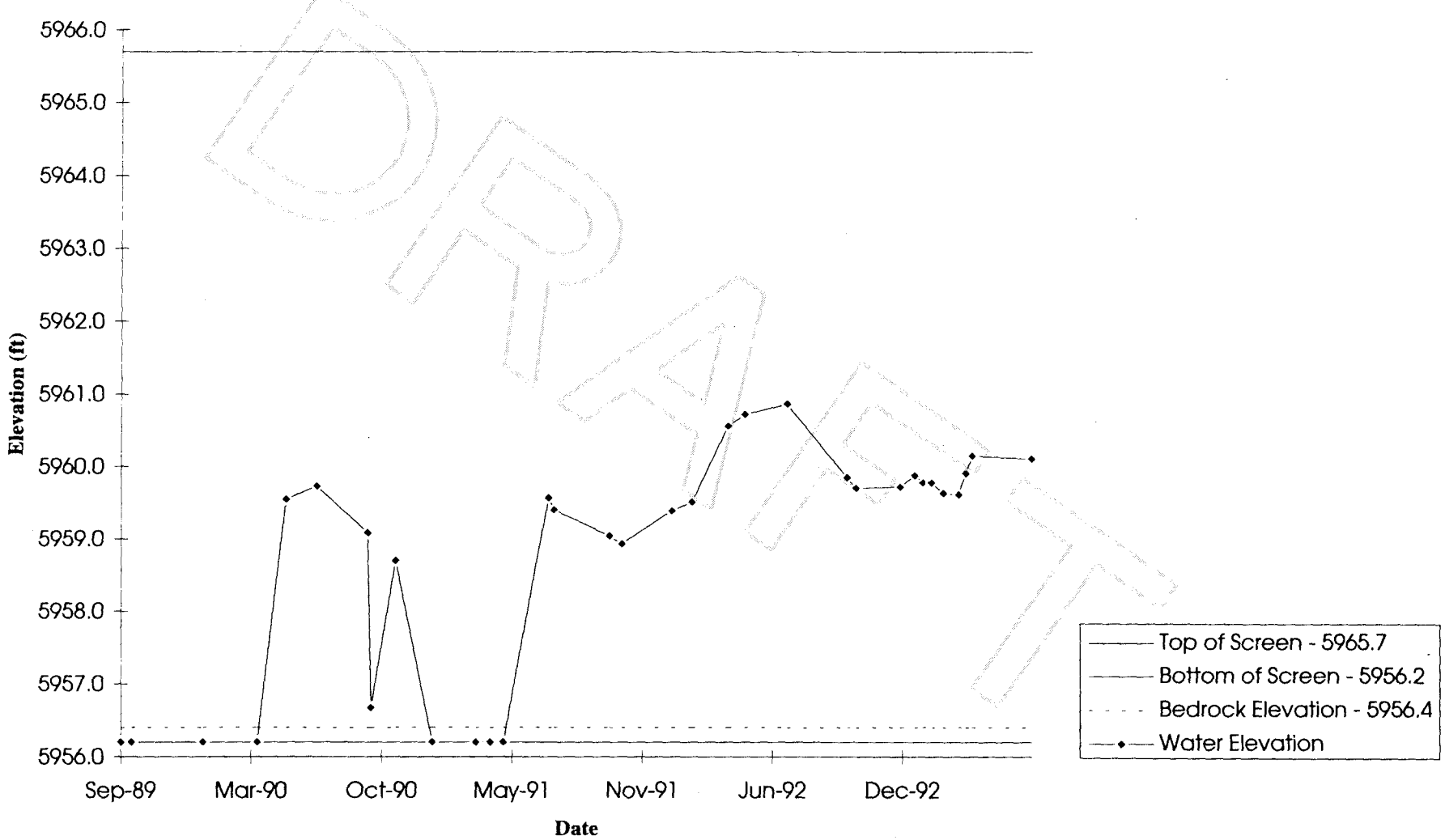
(4047-910-0025-521)(3/10/95 7:30 AM)(B206189 Chart 1)

Well B206289 Hydrograph
Bedrock



DRAFT

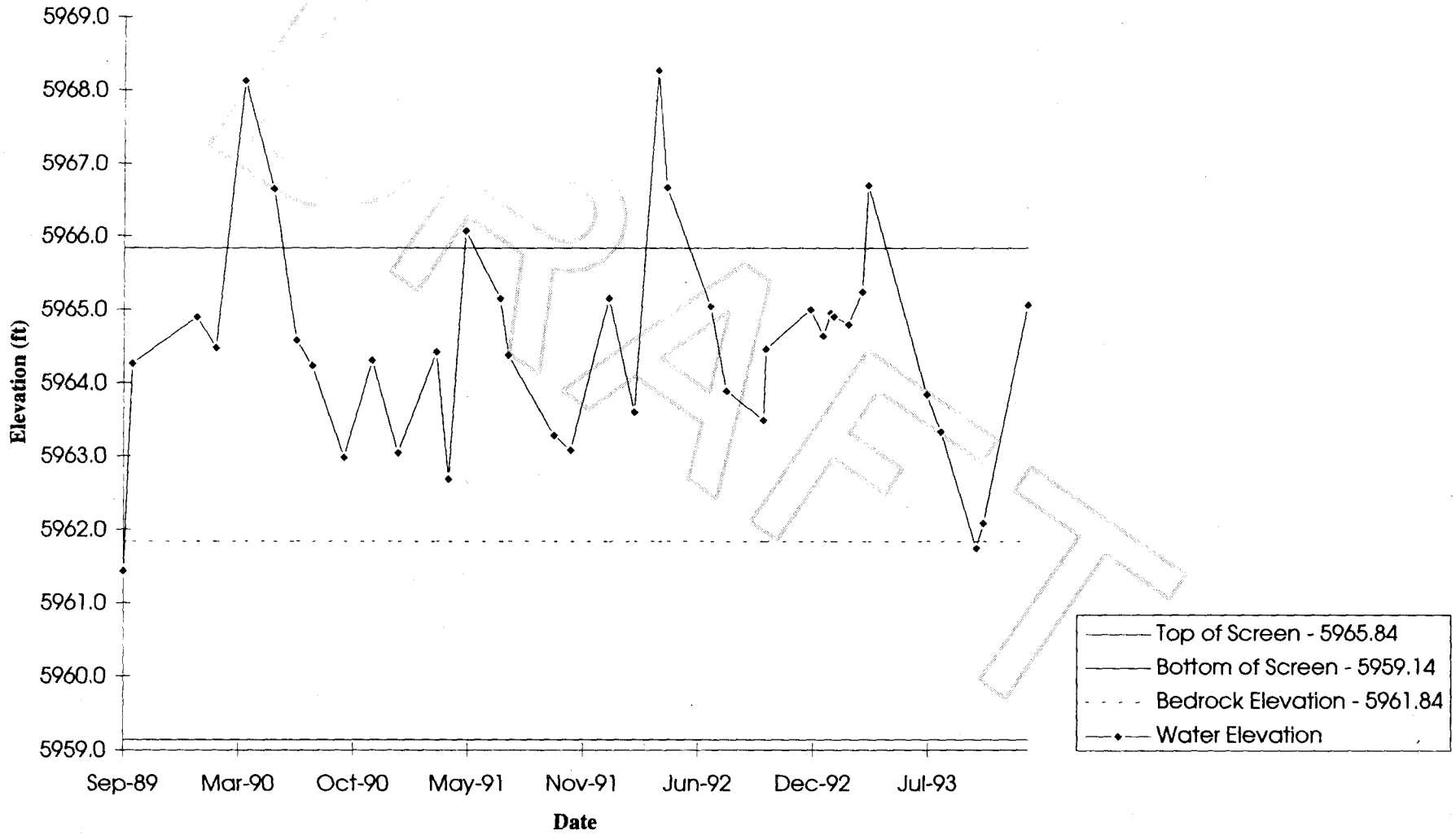
Well B206389 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:30 AM)(B206389 Chart 1)

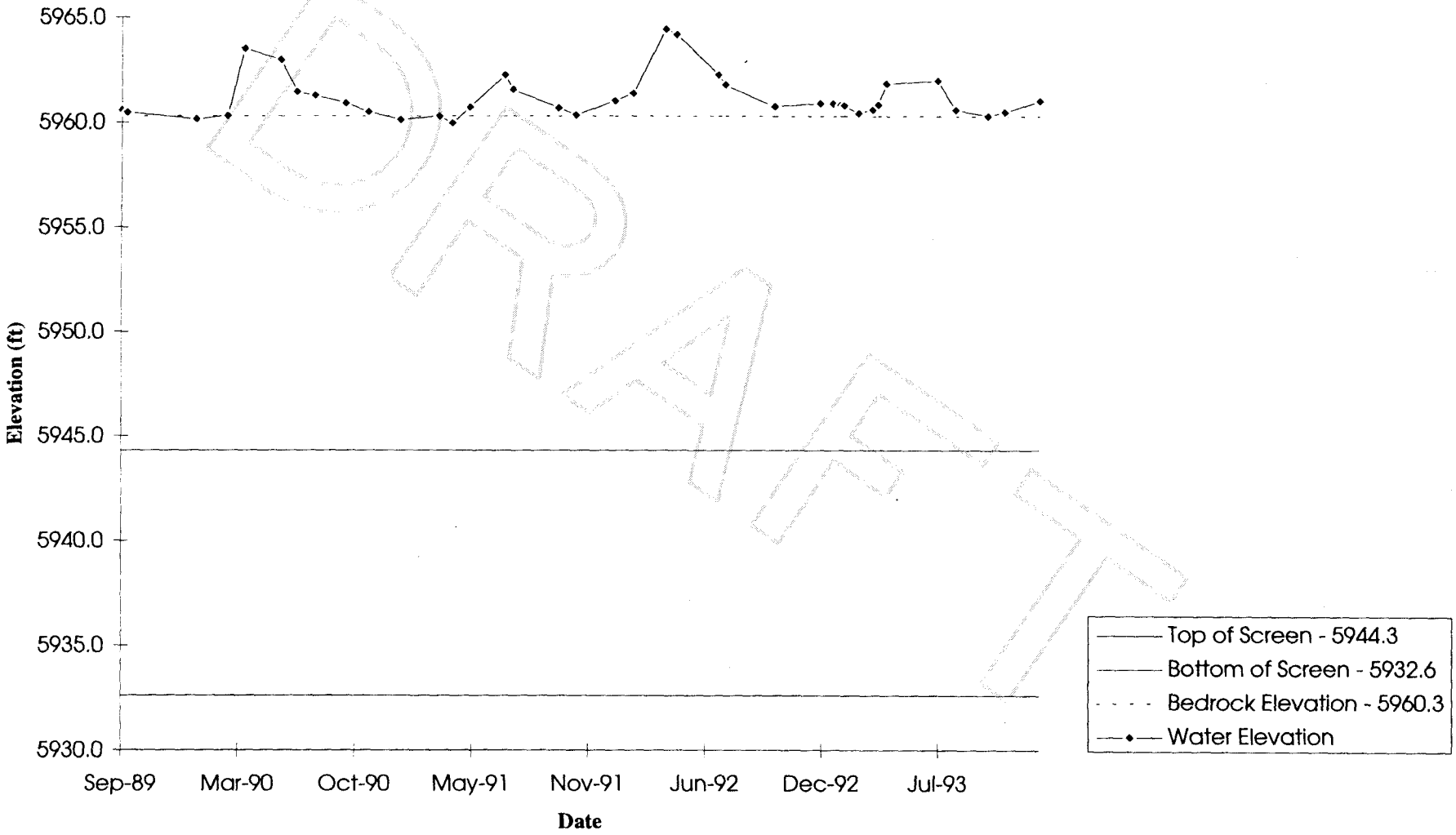
Well B206489 Hydrograph
Rocky Flats Alluvium/Bedrock



DRAFT

(4047-910-0 (3/10/95 7:30 AM)(B206489 Chart 1)

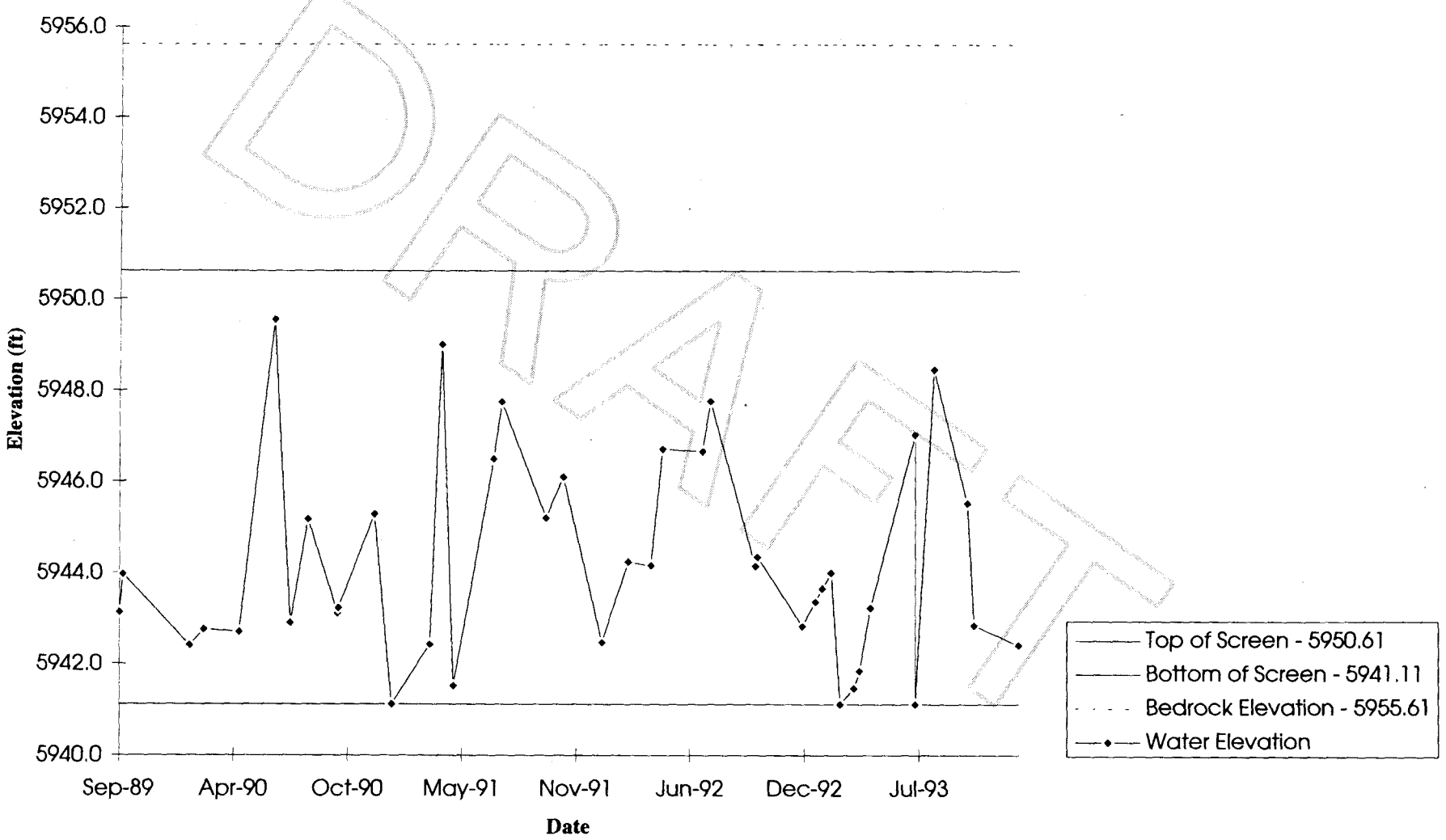
Well B206589 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:30 AM)(B206589 Chart 1)

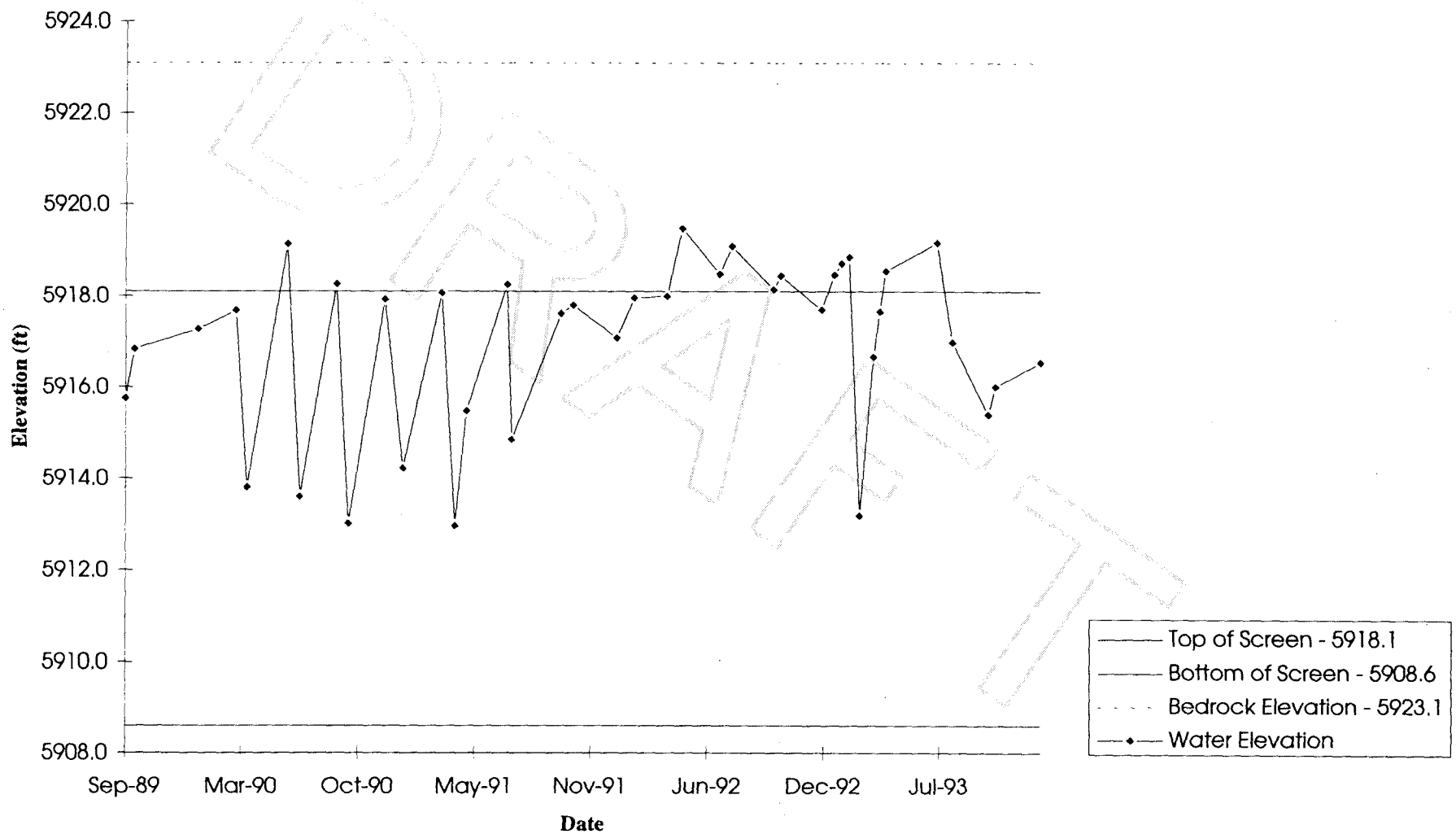
Well B206689 Hydrograph
Bedrock



DRAFT

(4047-910-0)(3/10/95 7:30 AM)(B206689 Chart 1)

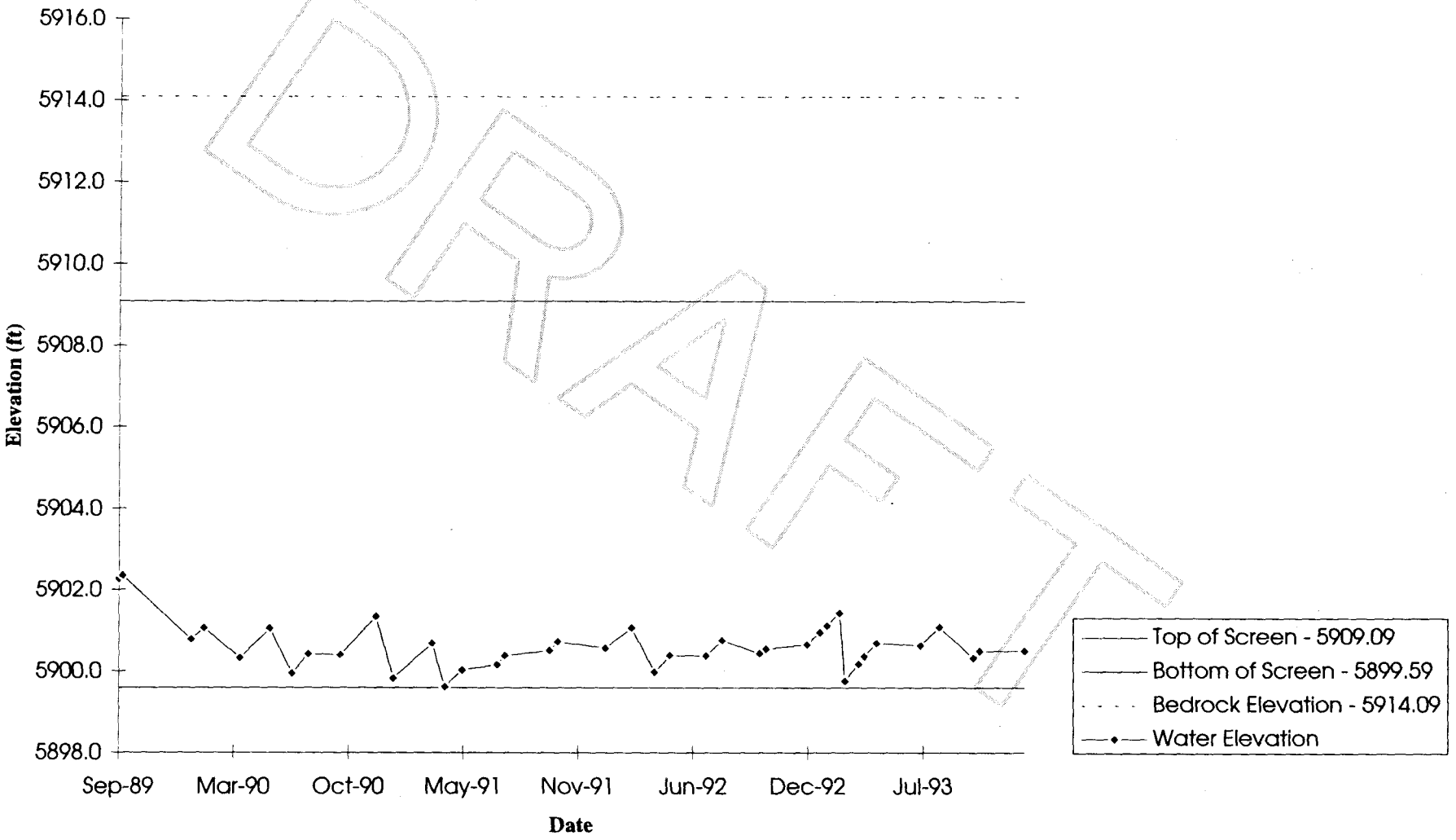
Well B206789 Hydrograph
Bedrock



DRAFT

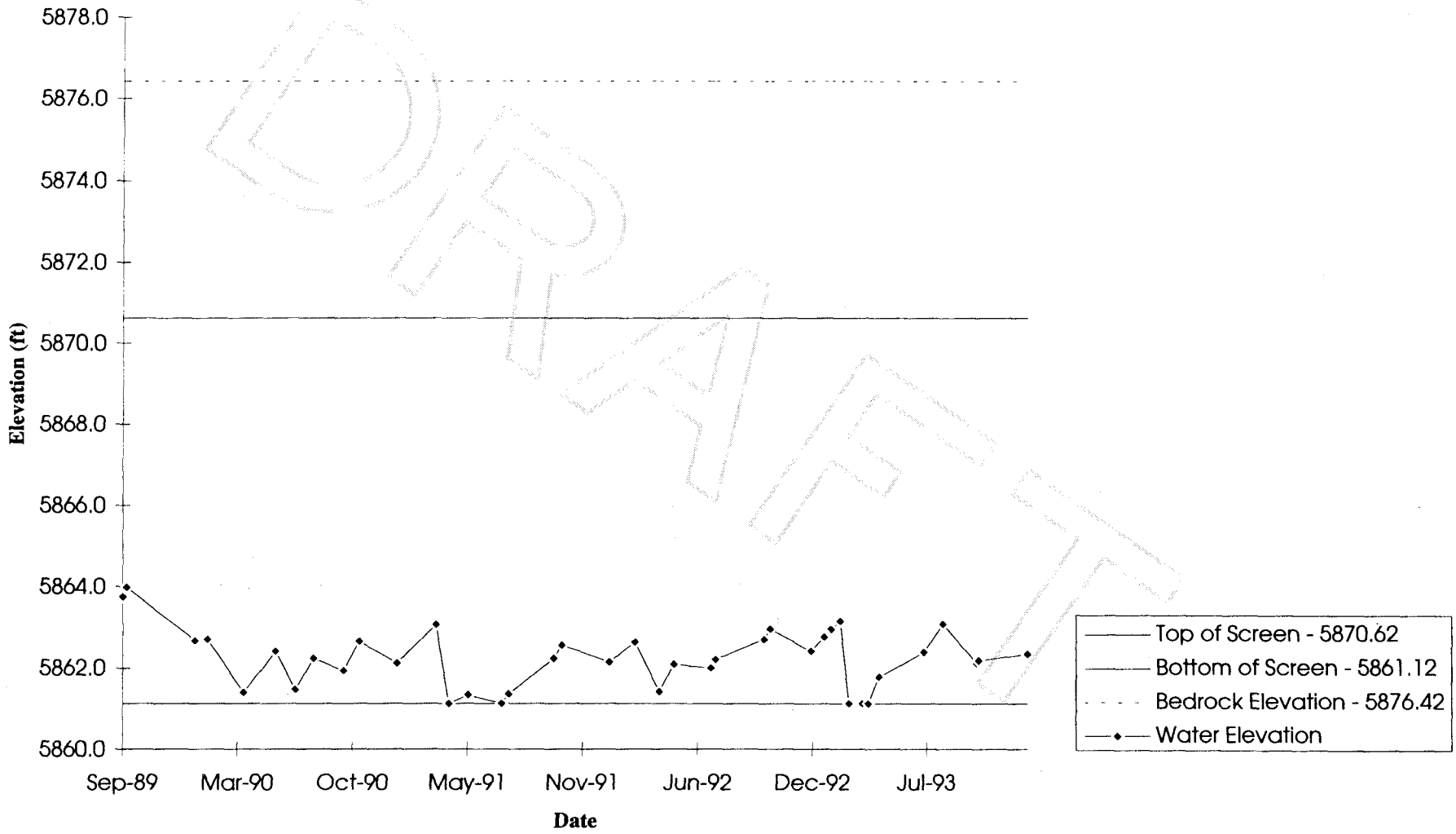
(4047-910-0025-521)(3/10/95 7:30 AM)(B206789 Chart 1)

Well B206889 Hydrograph
Bedrock



DRAFT

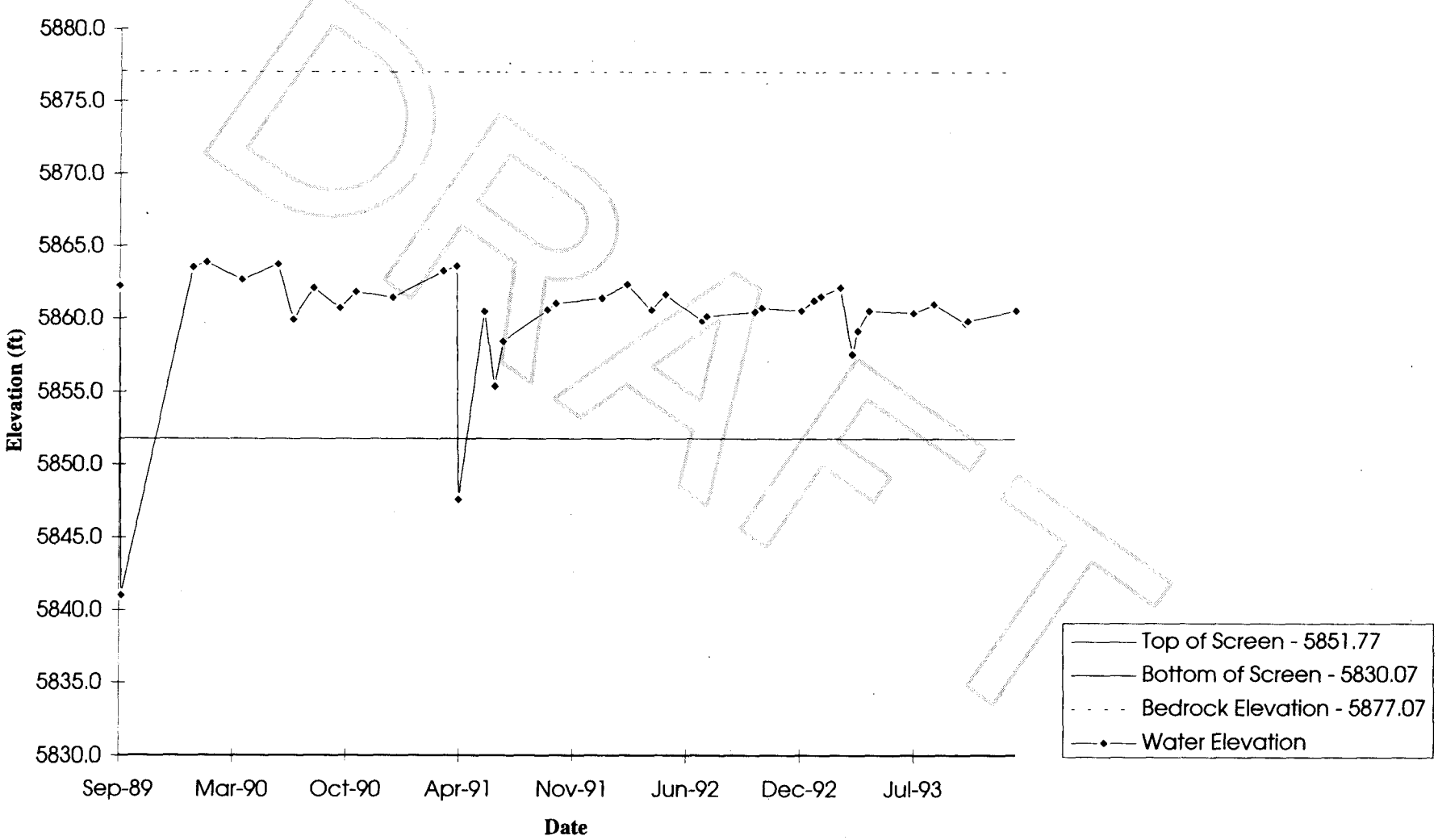
Well B206989 Hydrograph
Bedrock



DRAFT

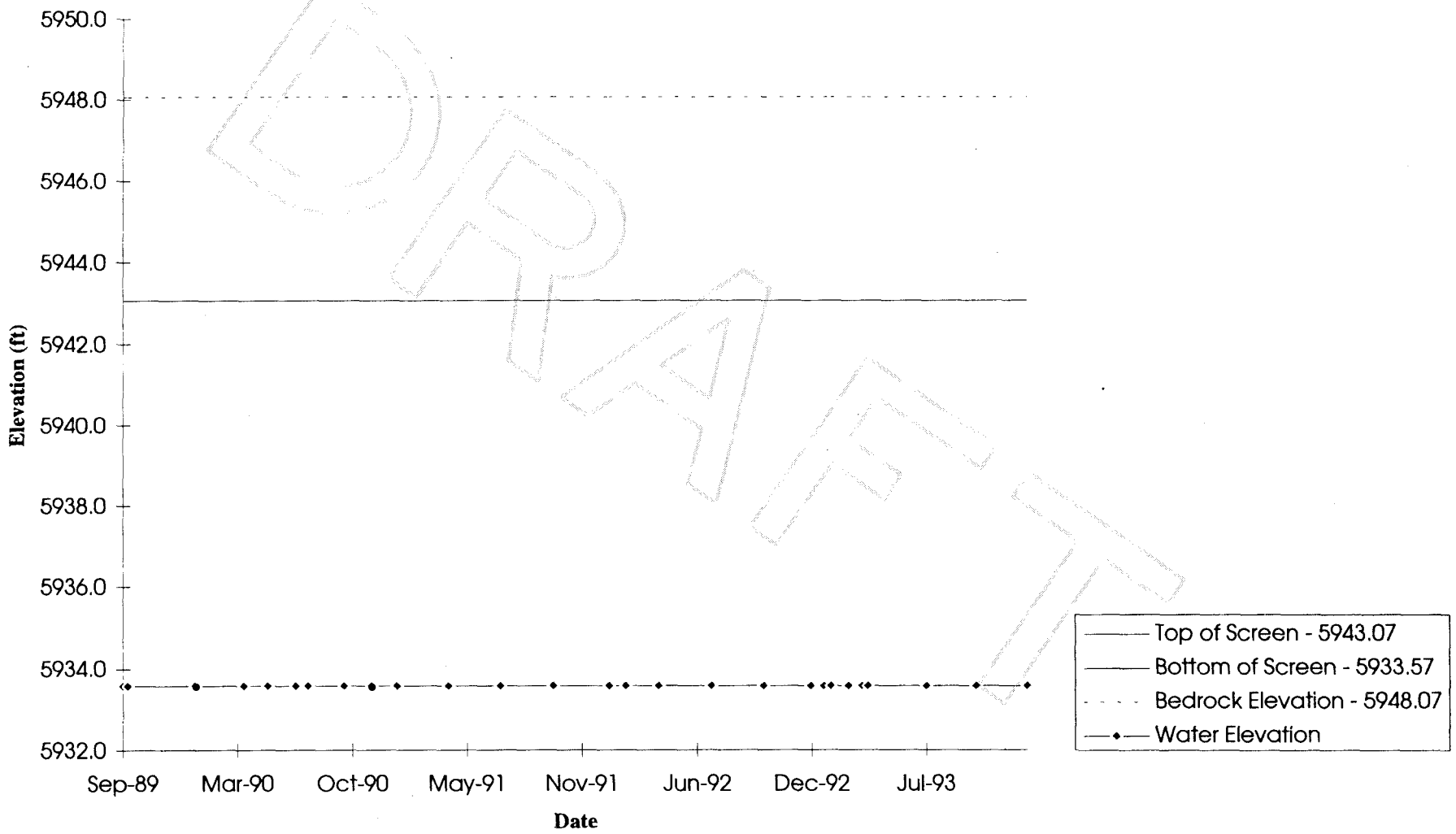
(4047-910-0025-521)(3/10/95 7:30 AM)(B206989 Chart 1)

Well B207089 Hydrograph
Bedrock



DRAFT

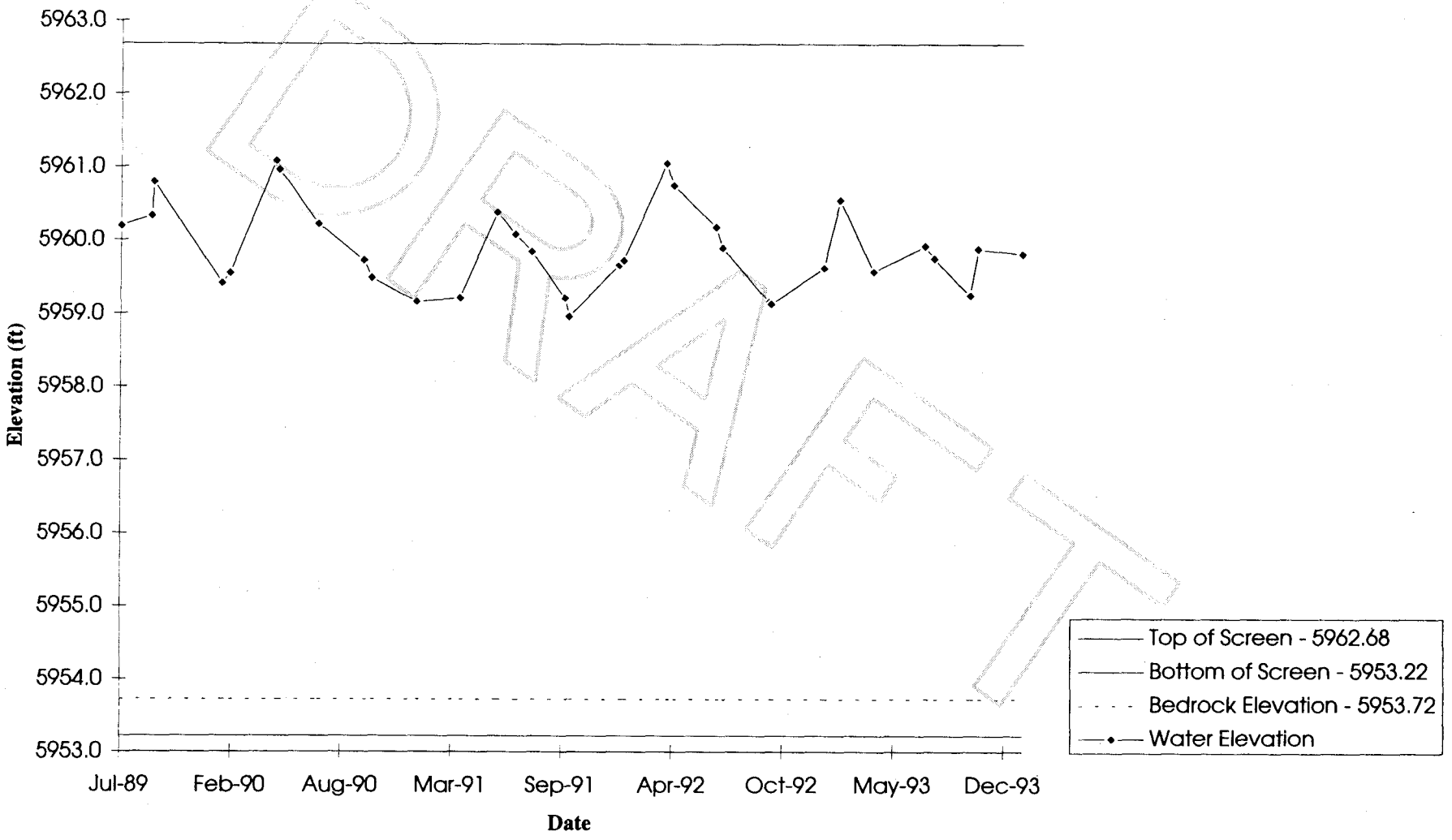
Well B207289 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:30 AM)(B207289 Chart 1)

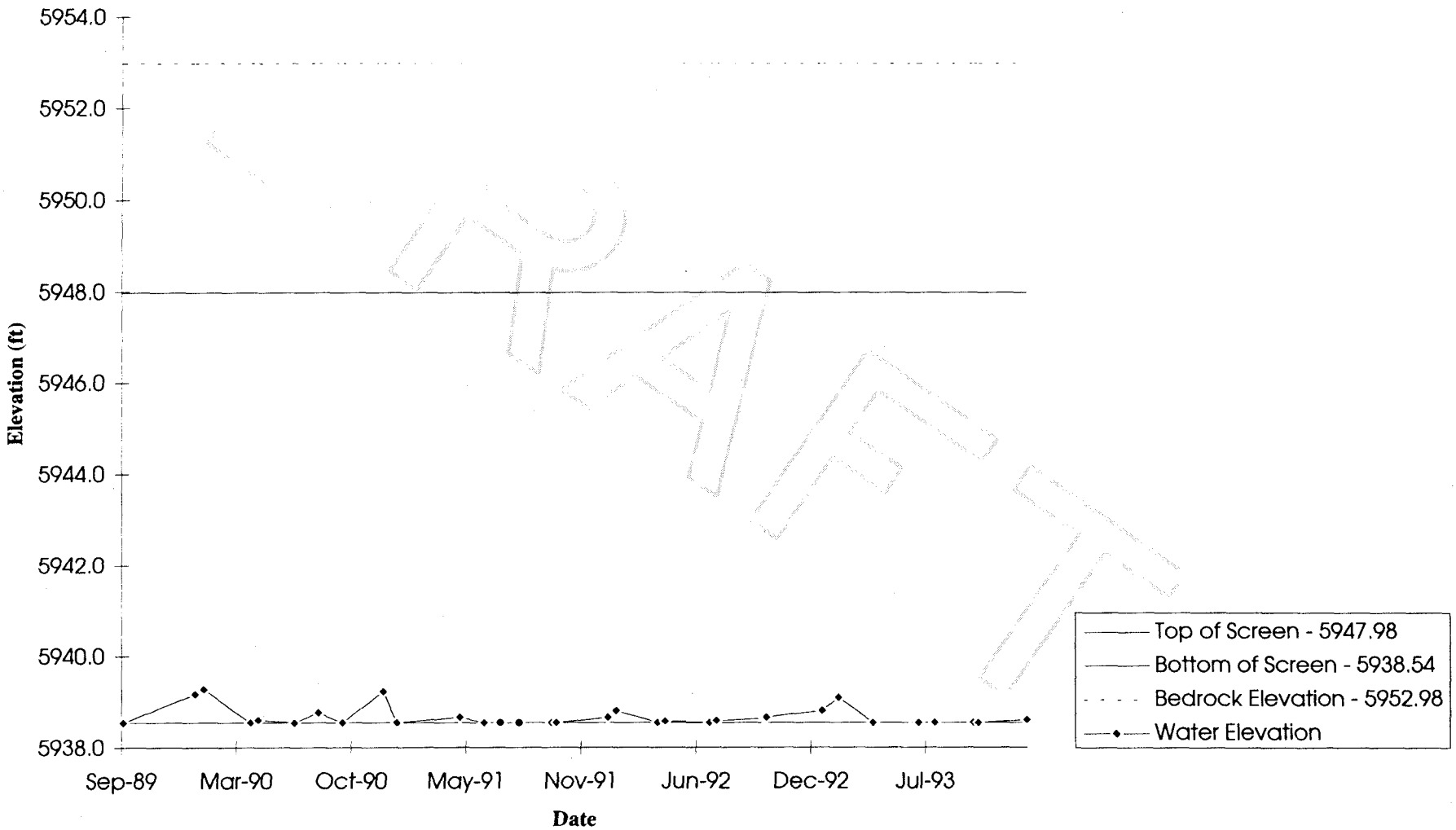
Well P207689 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0 (3/10/95 7:31 AM)(P207689 Chart 1)

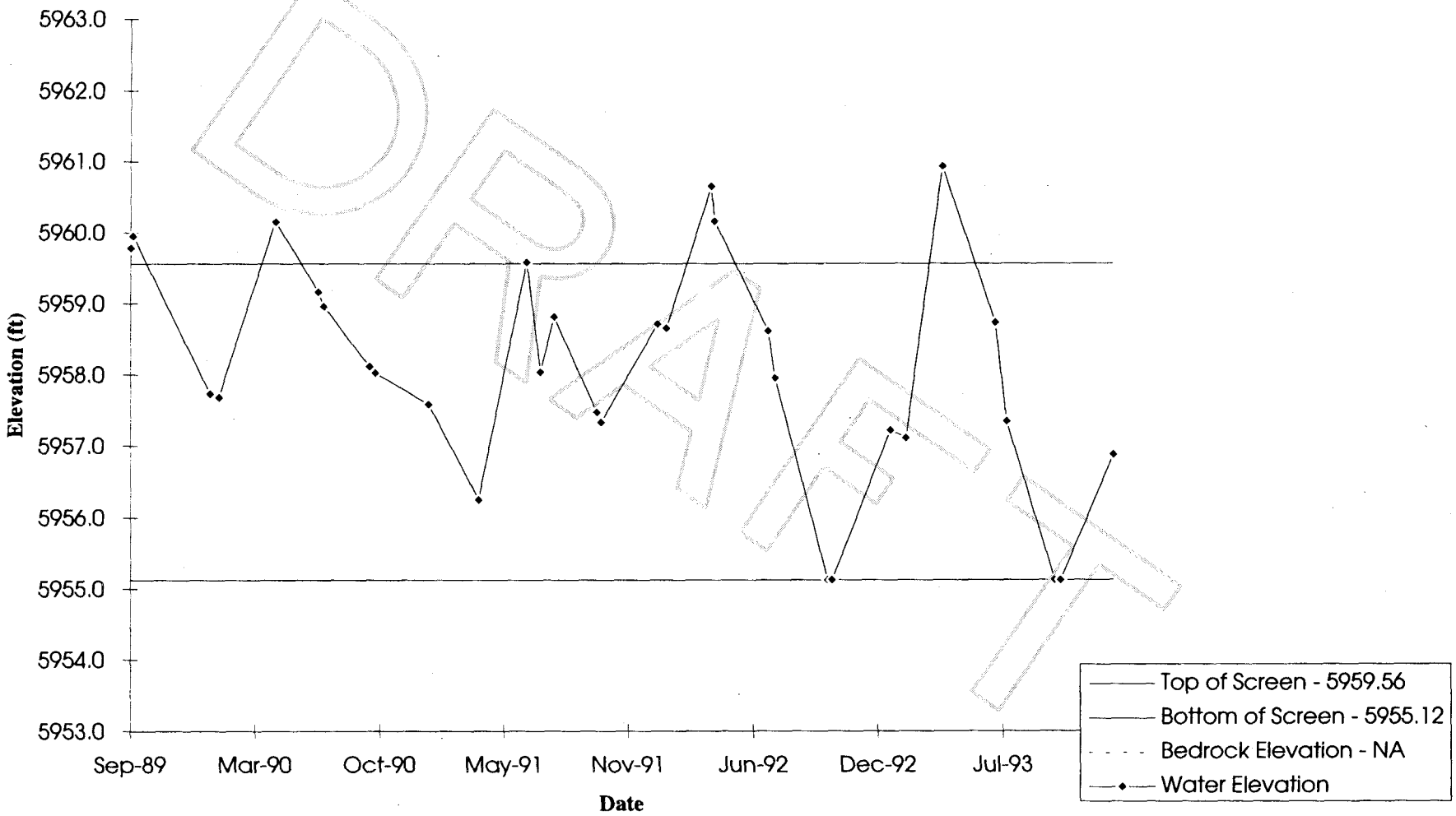
Well P207789 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:31 AM)(P207789 Chart 1)

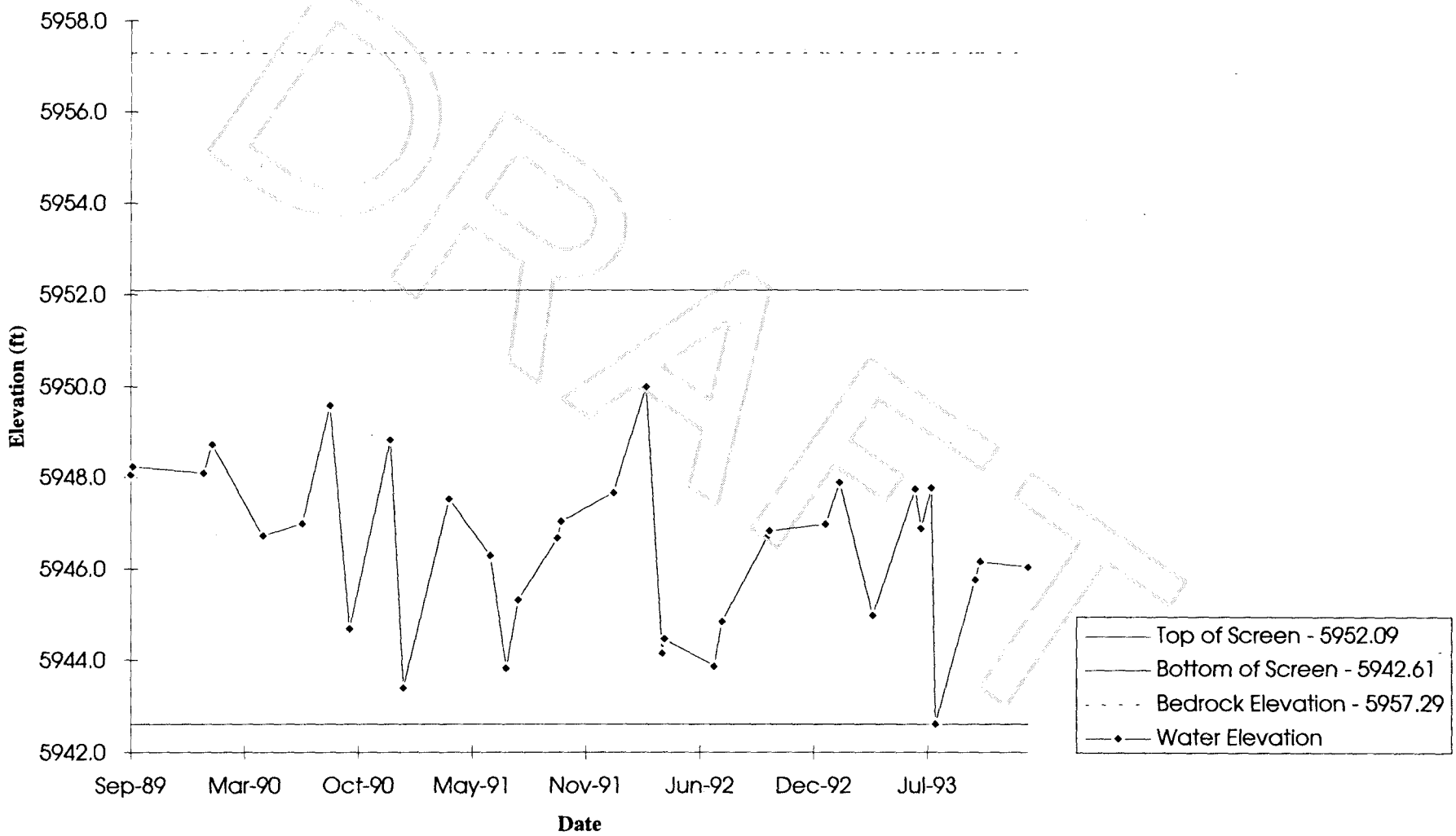
Well P207889 Hydrograph
Artificial Fill / Rocky Flats Alluvium



DRAFT

(4047-910-[illegible])(3/10/95 7:31 AM)(P207889 Chart 1)

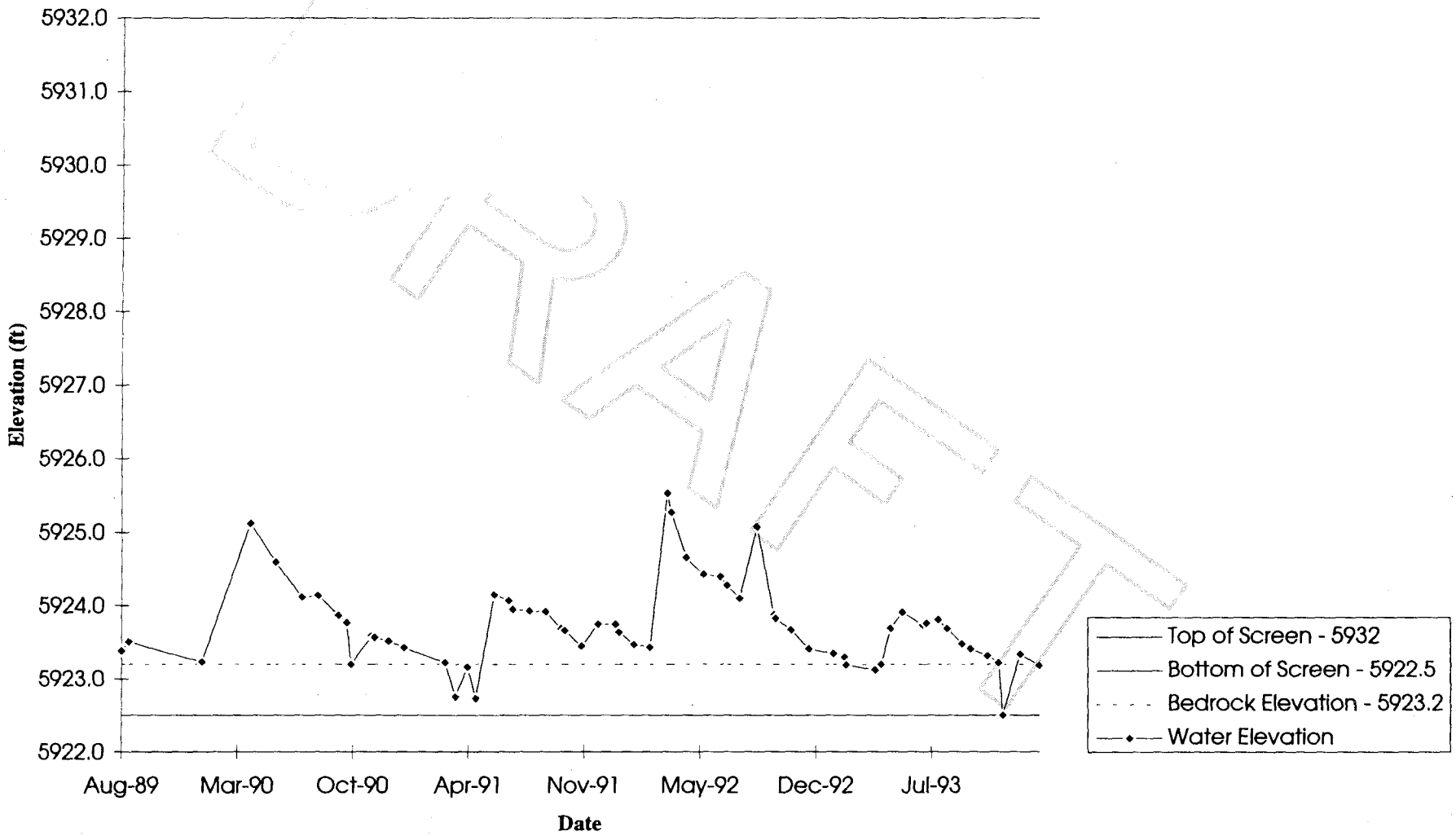
Well P207989 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:31 AM)(P207989 Chart 1)

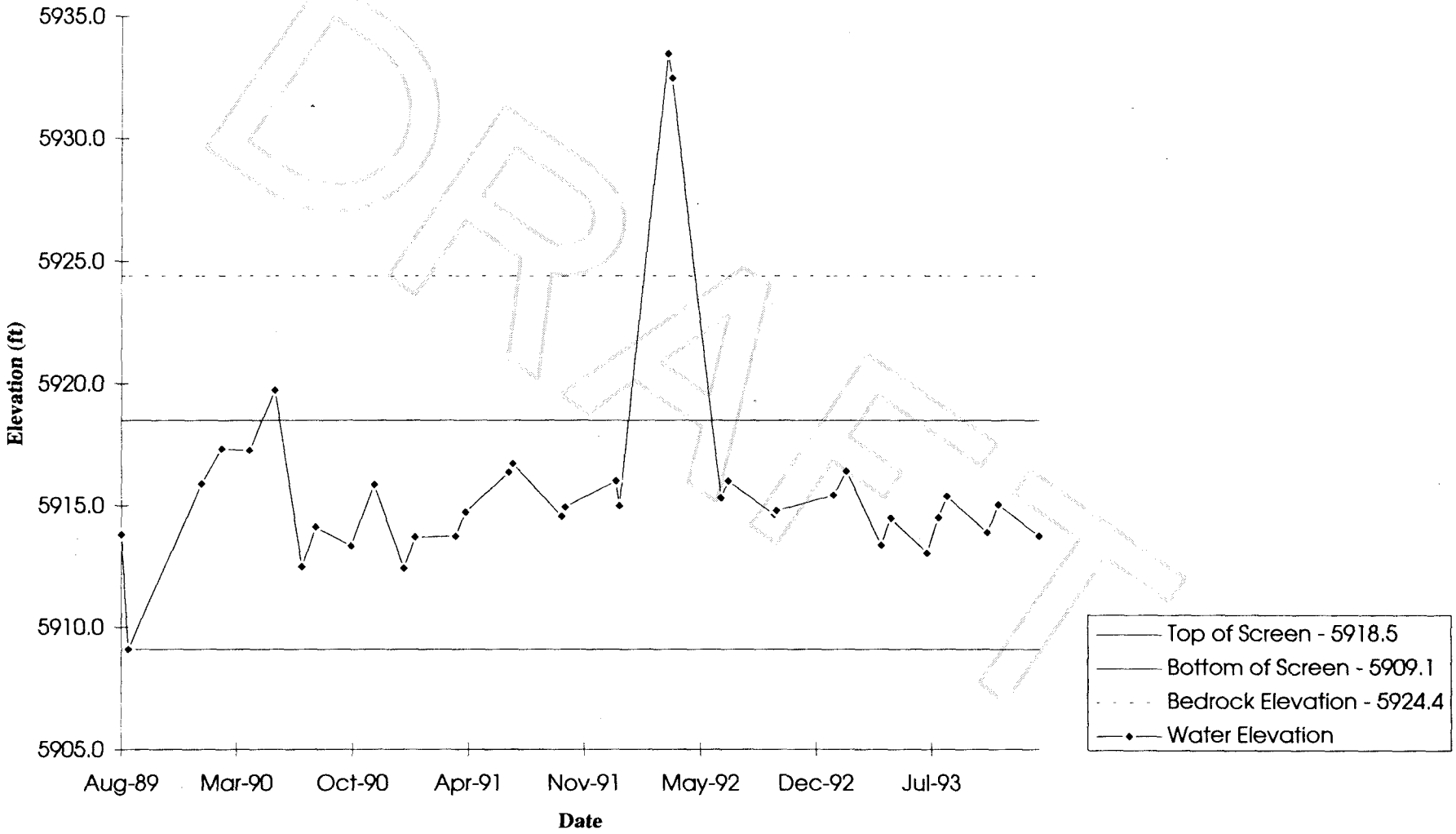
Well B208089 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-00 (3/10/95 7:30 AM)(B208089 Chart 1)

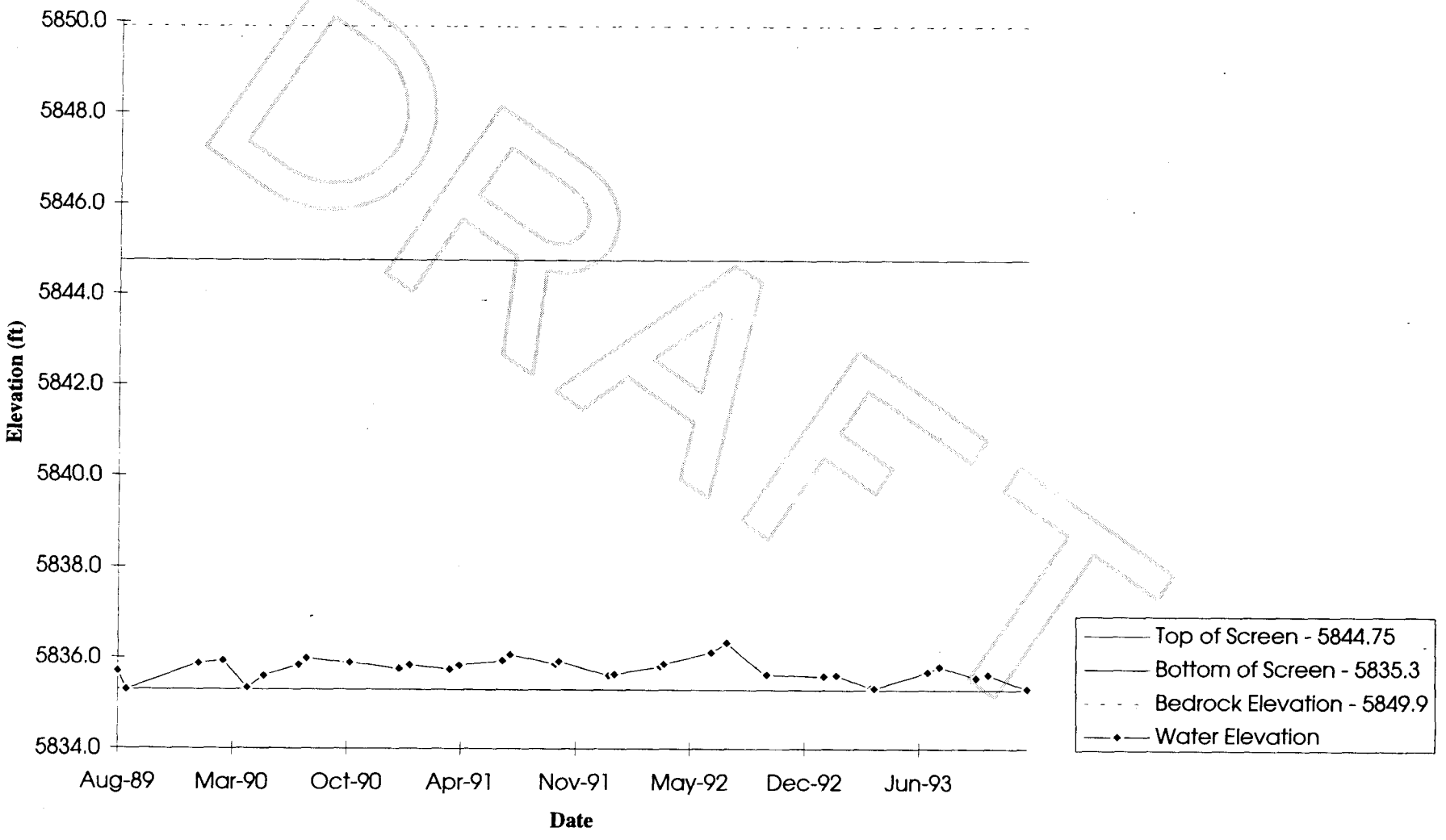
Well B208189 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:31 AM)(B208189 Chart 1)

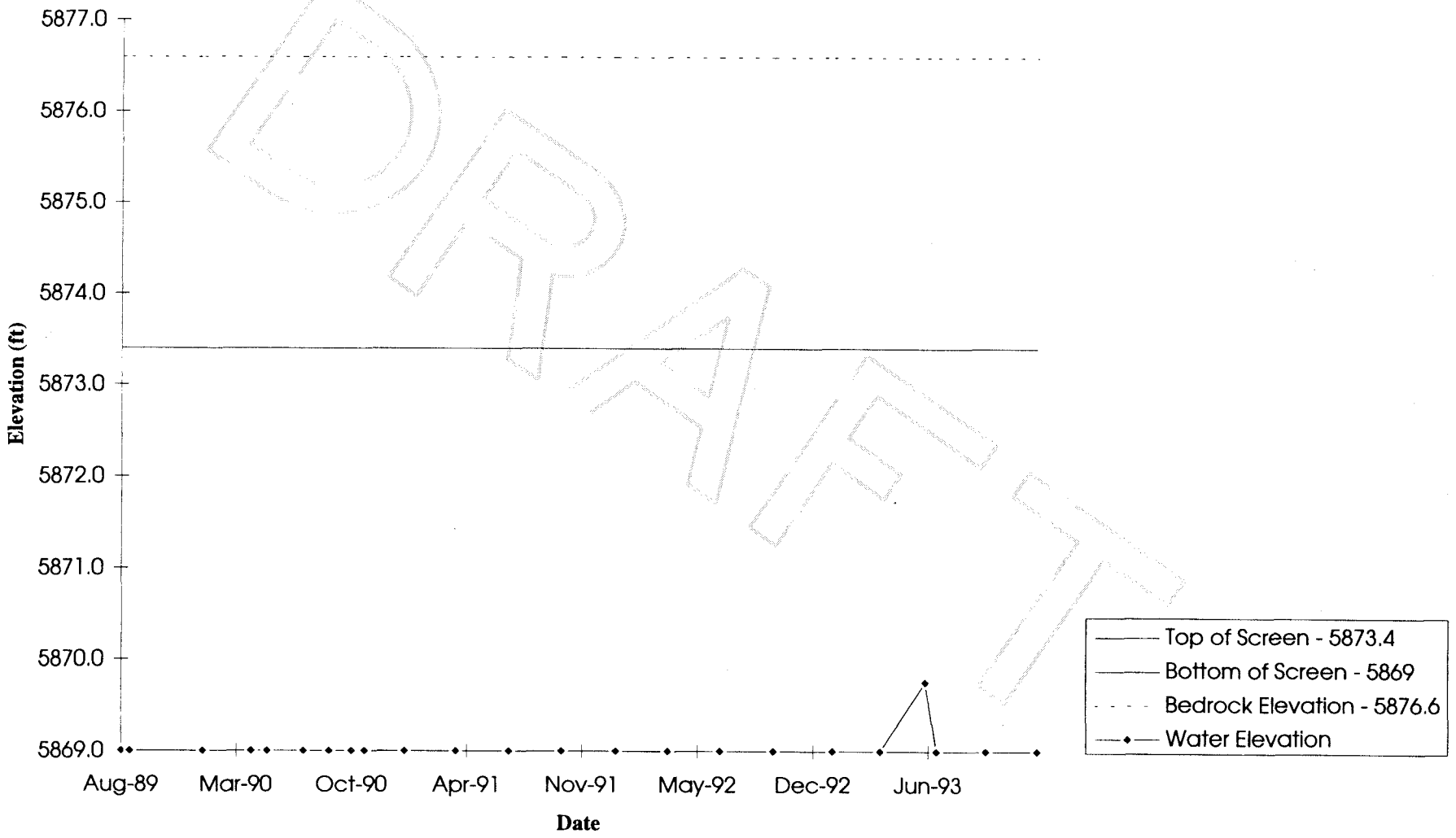
Well B208289 Hydrograph
Bedrock



DRAFT

(4047-910-0[illegible] 3/10/95 7:31 AM)(B208289 Chart 1)

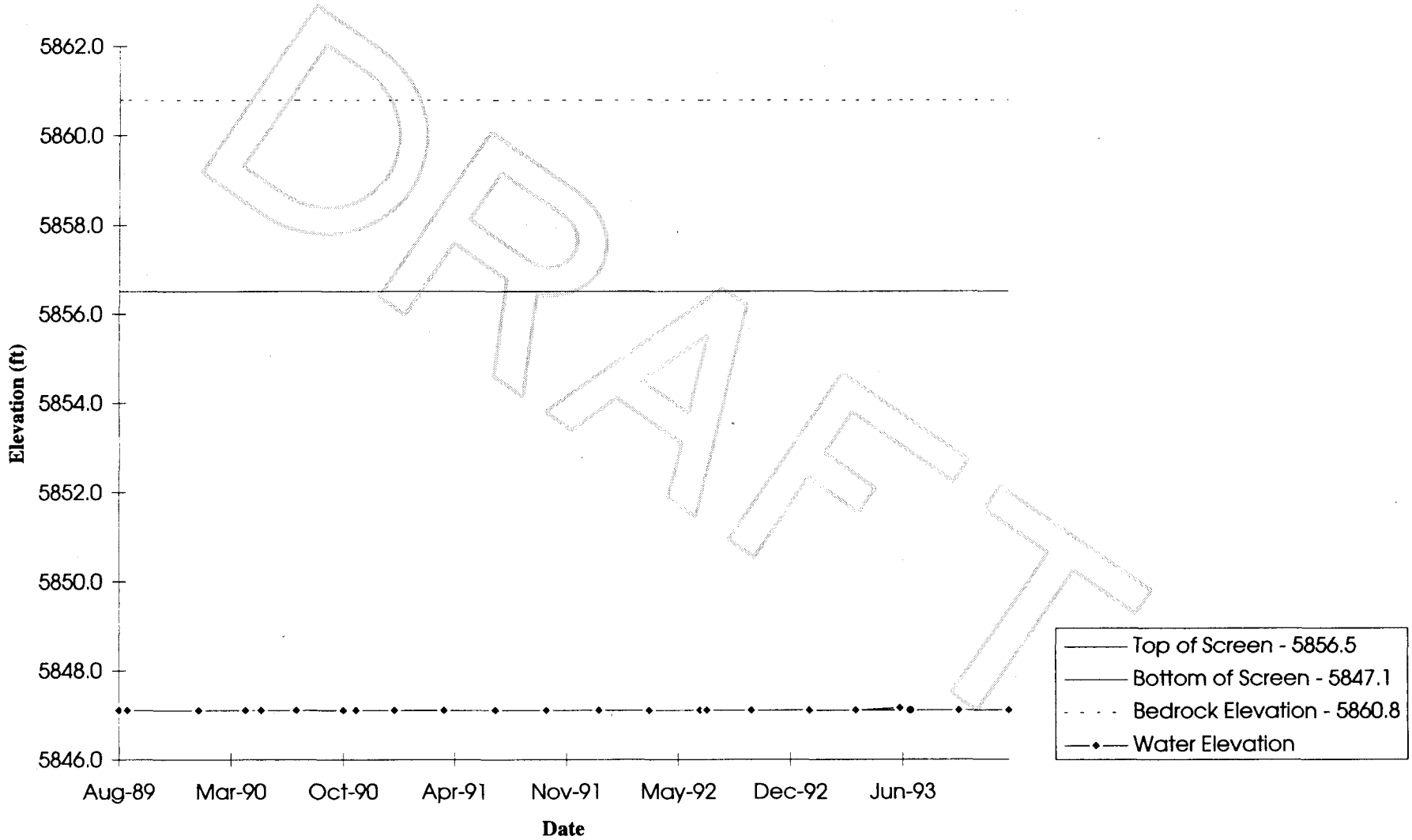
Well B208389 Hydrograph
Bedrock



DRAFT

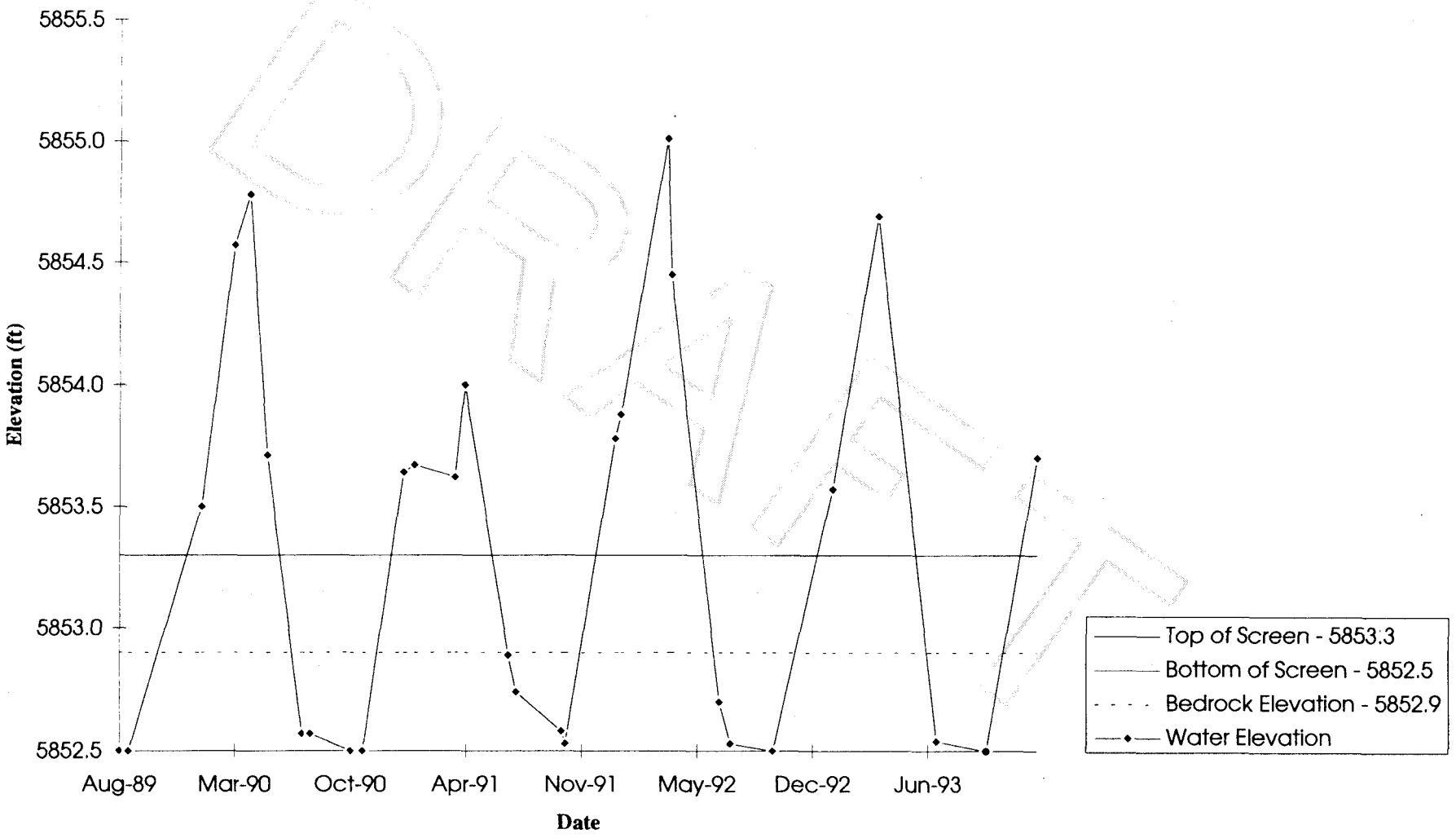
(4047-910-0025-521)(3/10/95 7:31 AM)(B208389 Chart 1)

Well B208489 Hydrograph
Bedrock



DRAFT

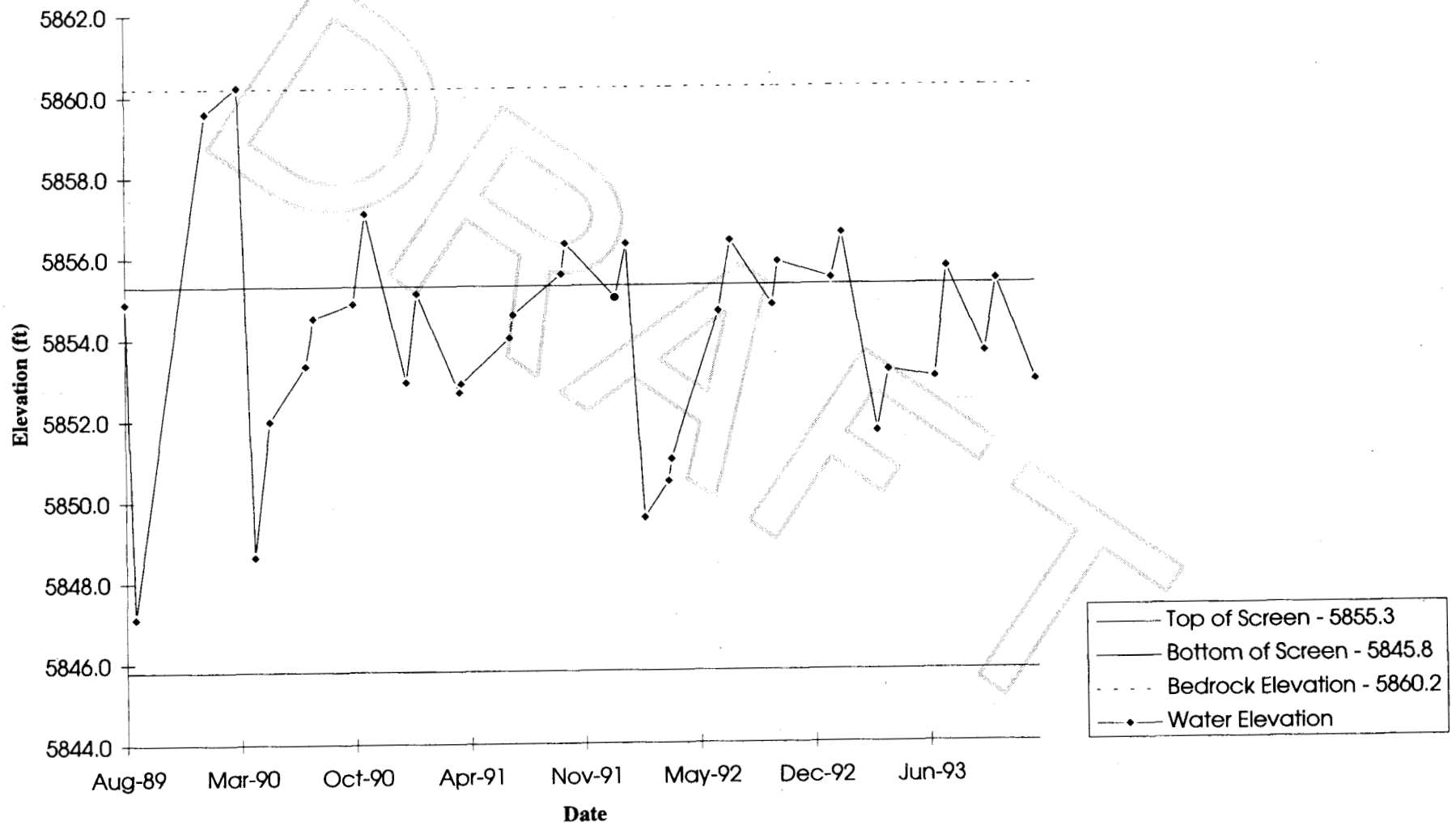
Well B208589 Hydrograph
Colluvium/Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:31 AM)(B208589 Chart 1)

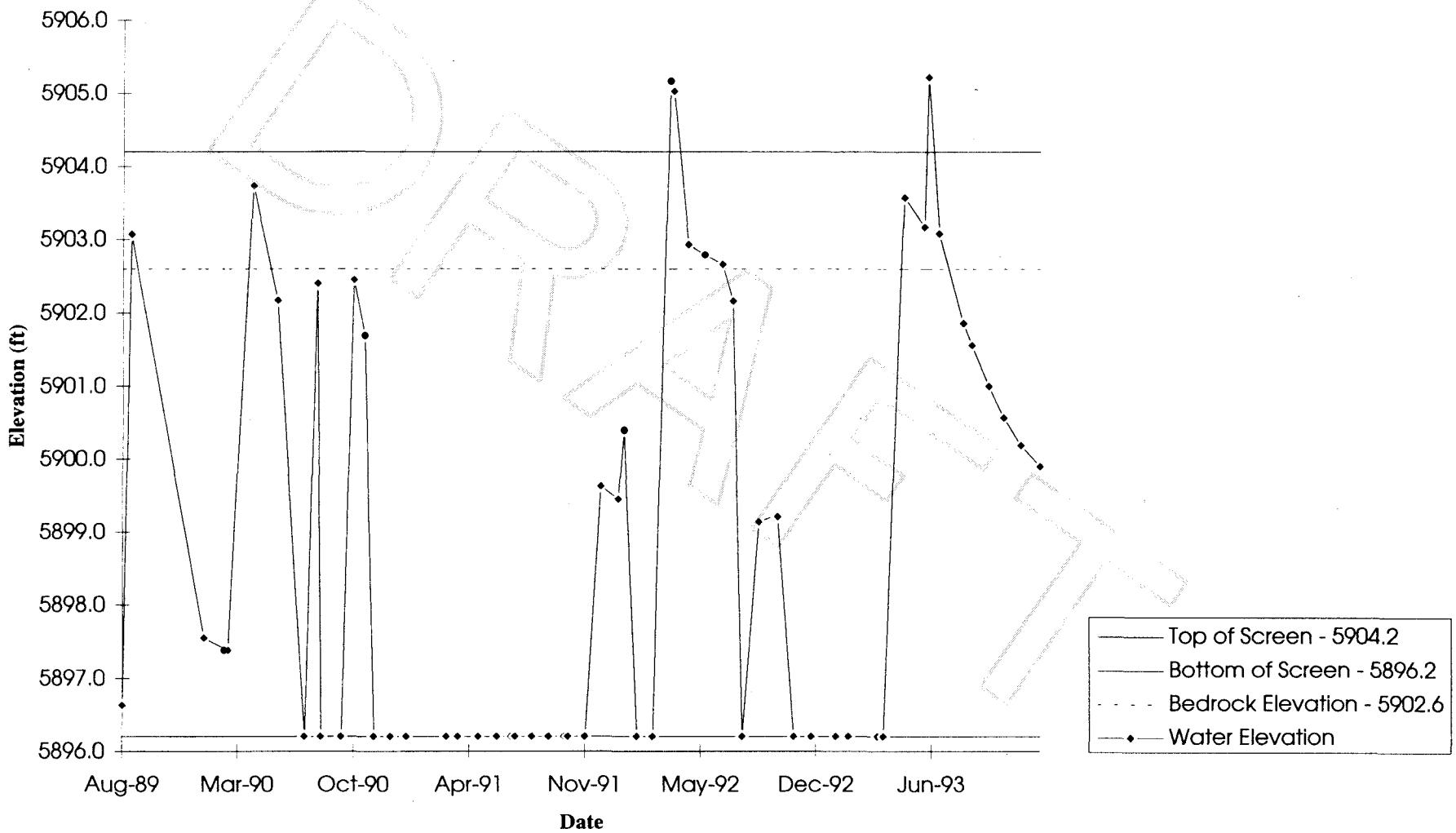
Well B208689 Hydrograph
Bedrock



DRAFT

(4047-910-00[illegible])(3/10/95 7:31 AM)(B208689 Chart 1)

Well B208789 Hydrograph
Bedrock



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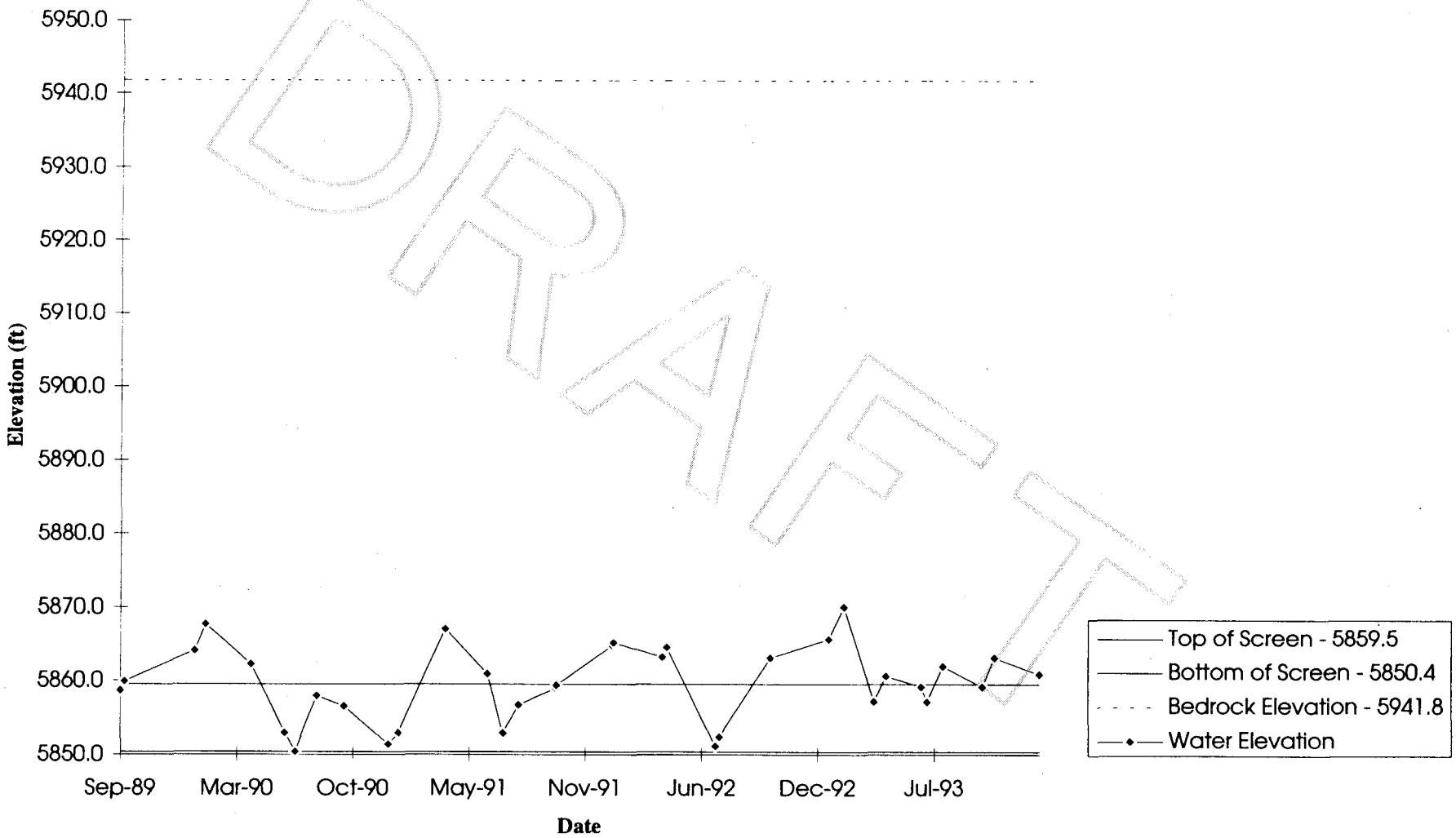
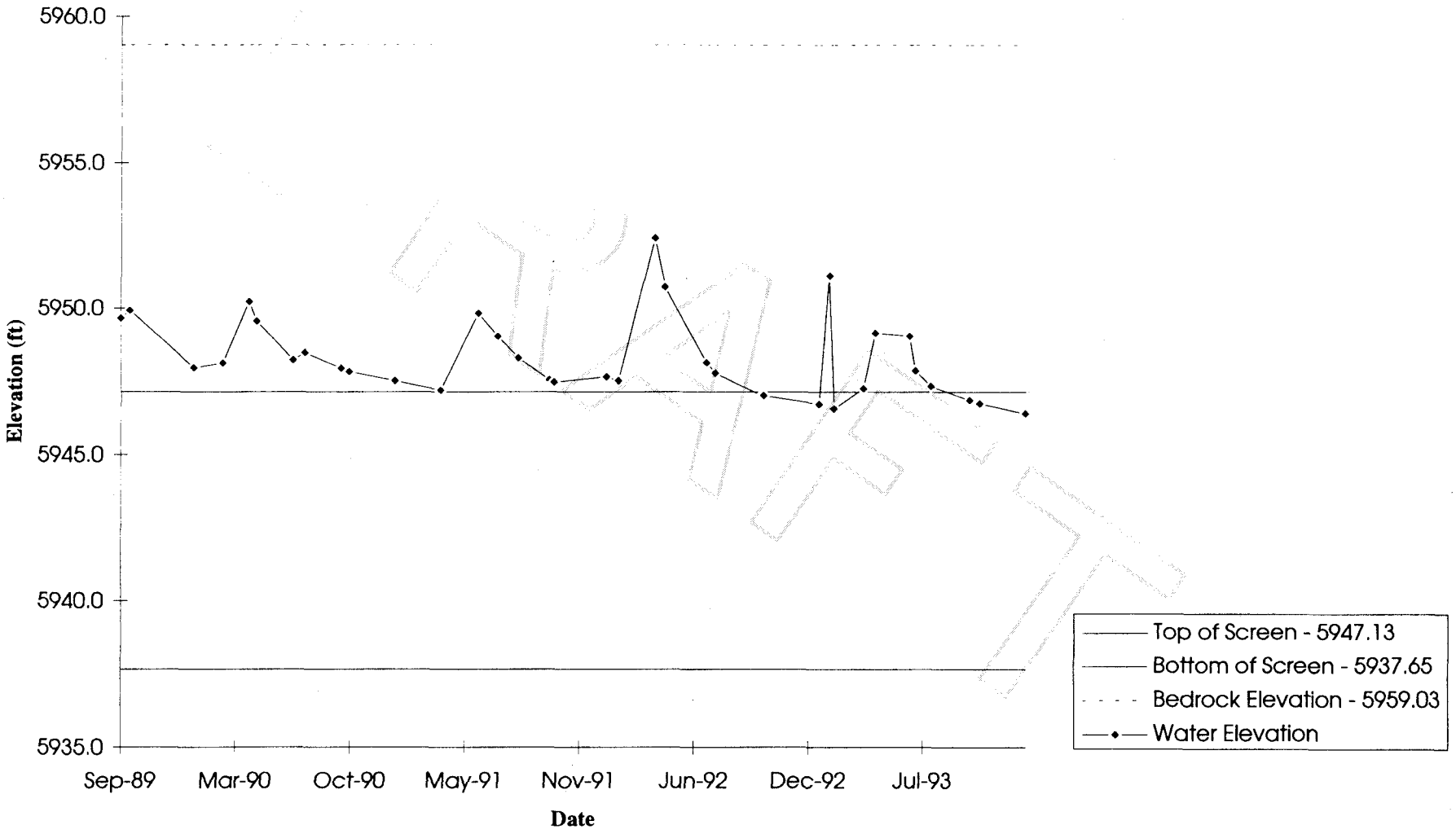
(4047-910-0025-521)(3/10/95 7:31 AM)(B208789 Chart 1)

Well P208889 Hydrograph
Bedrock



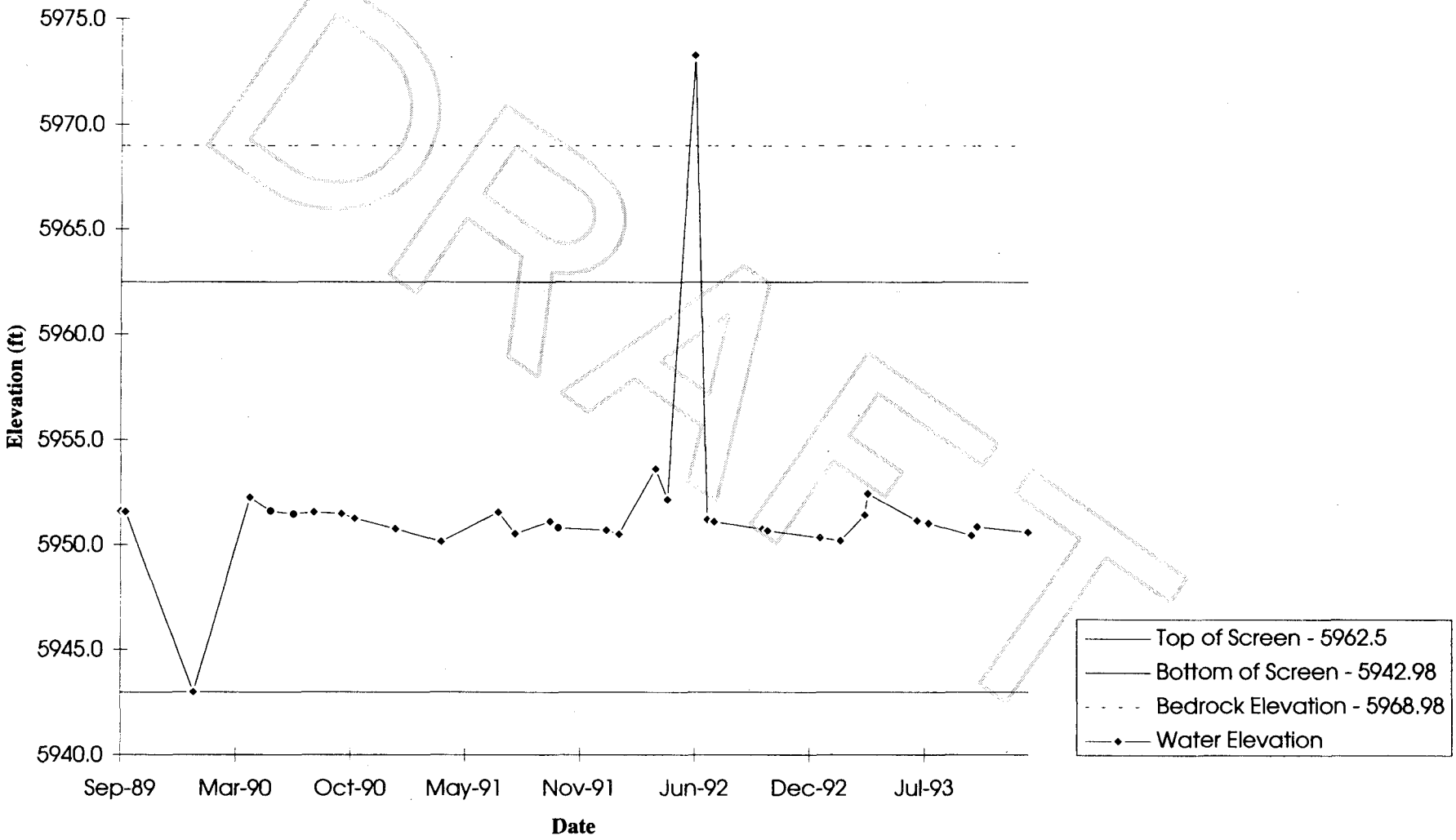
DRAFT

Well P208989 Hydrograph
Bedrock



(4047-910-0025-521)(3/10/95 7:32 AM)(P208989 Chart 1)

Well P209489 Hydrograph
Bedrock



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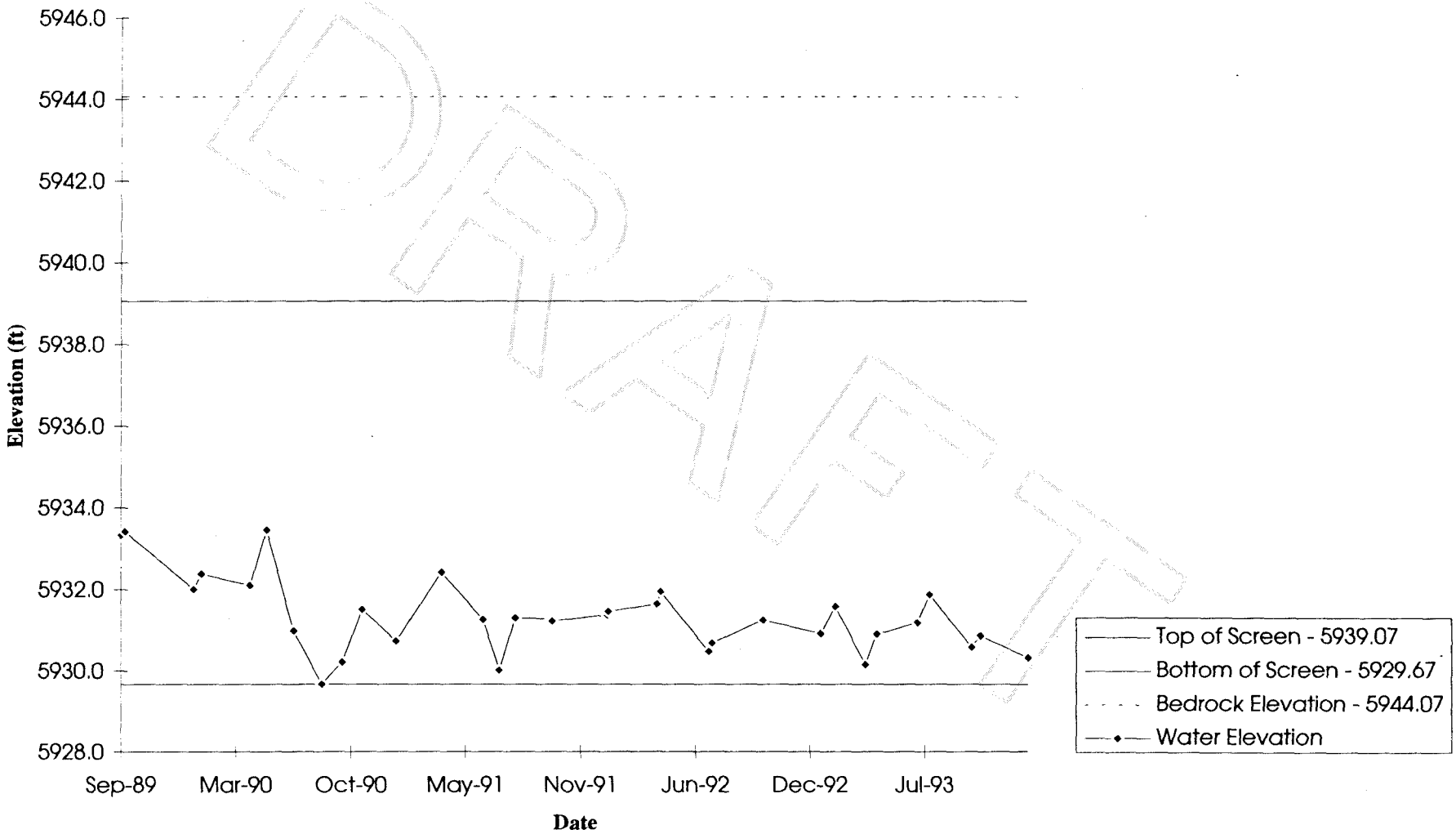
(4047-910-0 (3/10/95 7:32 AM)(P209489 Chart 1)

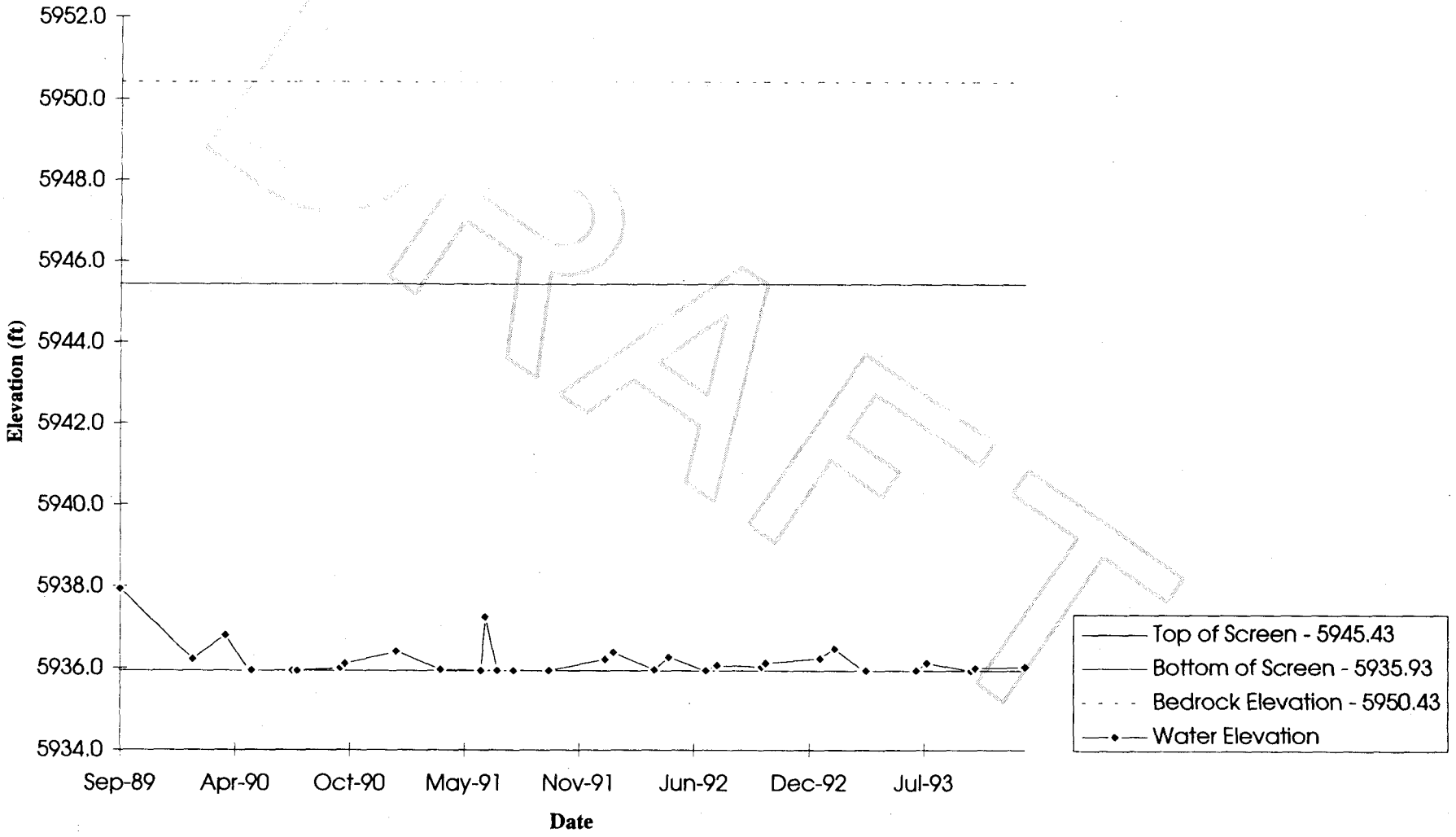
Well P209589 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:32 AM)(P209589 Chart 1)

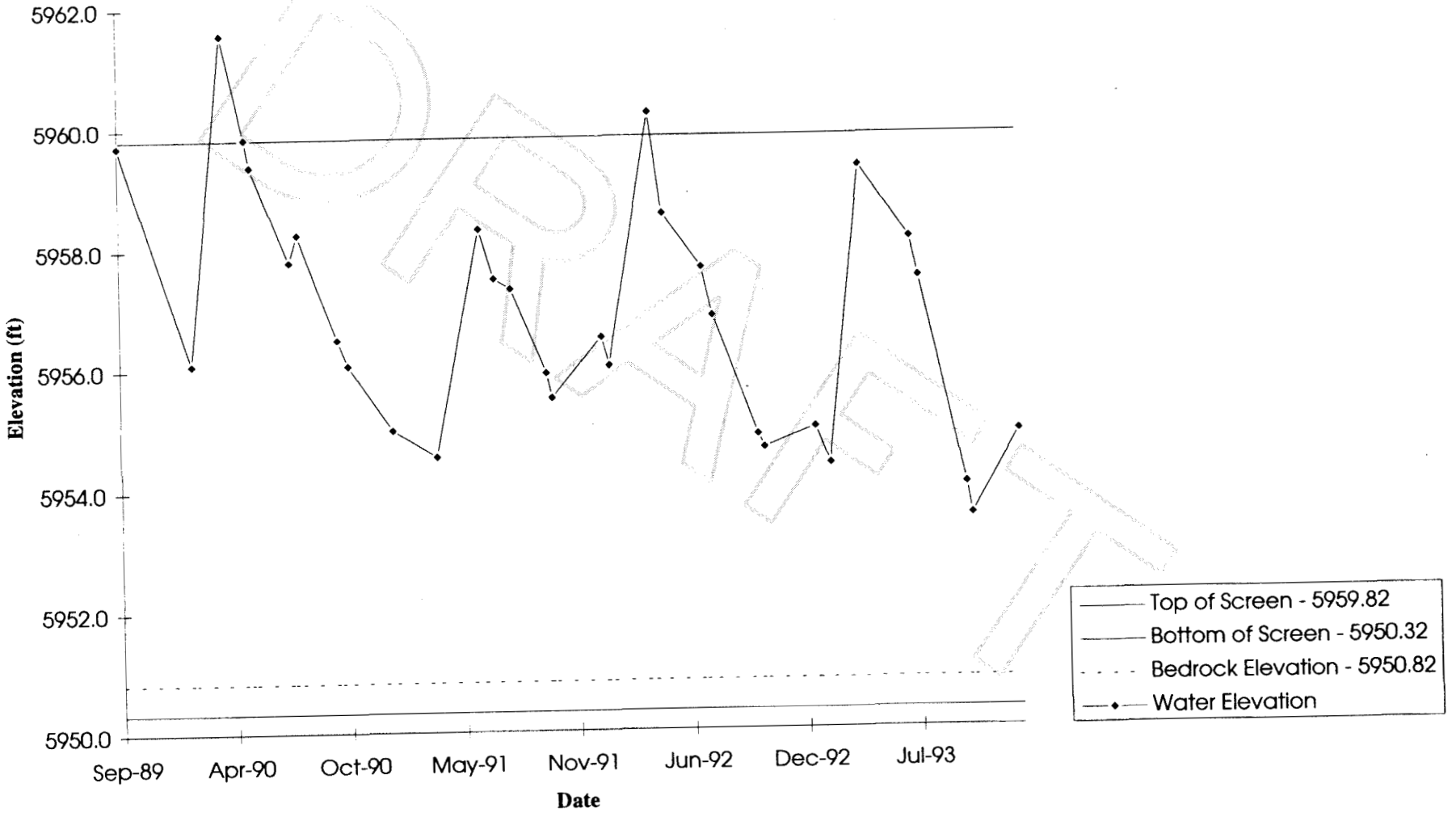
Well P209689 Hydrograph
Bedrock



DRAFT

(4047-910-[illegible] (3/10/95 7:32 AM)(P209689 Chart 1)

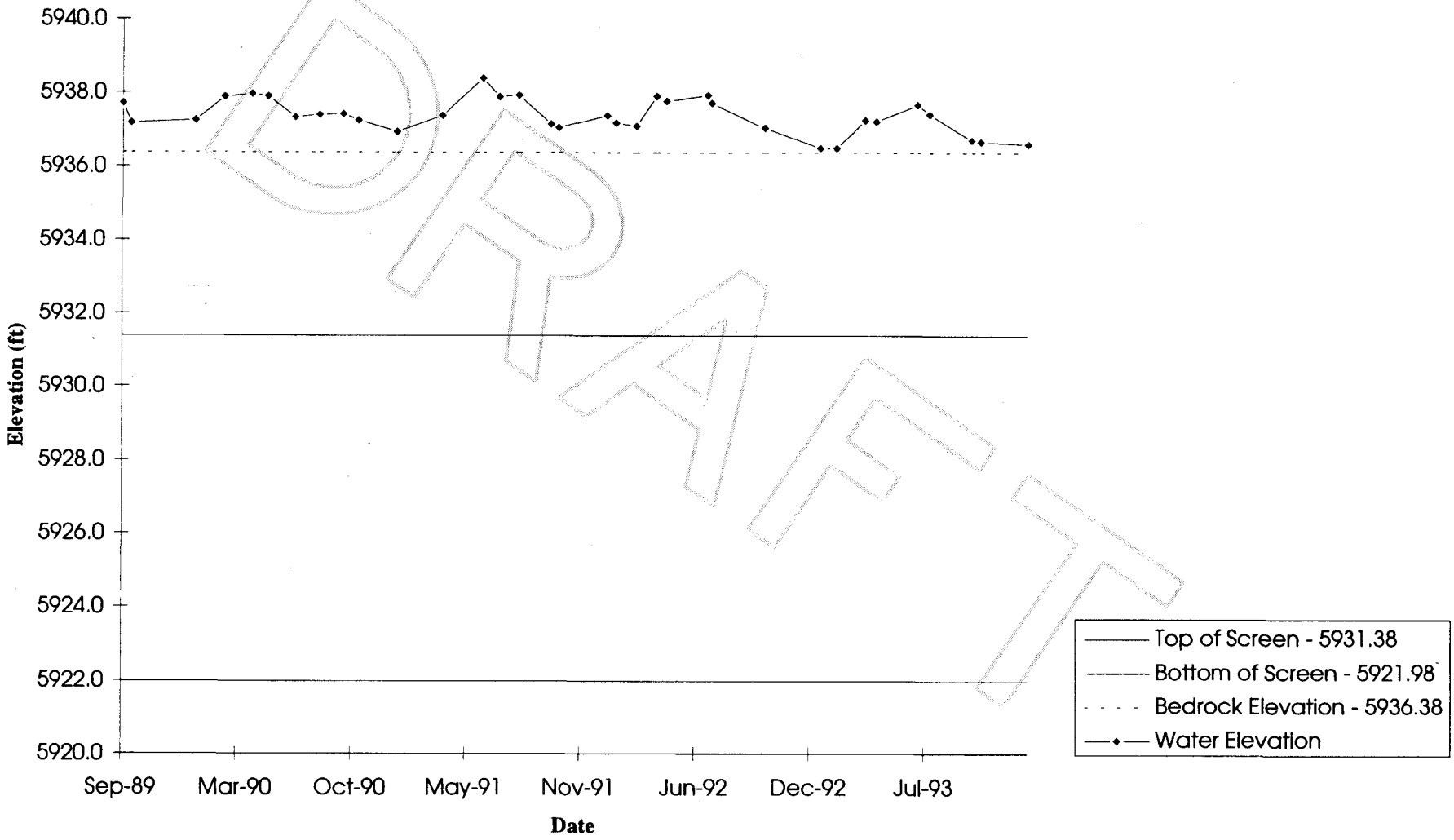
Well P209789 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:32 AM)(P209789 Chart 1)

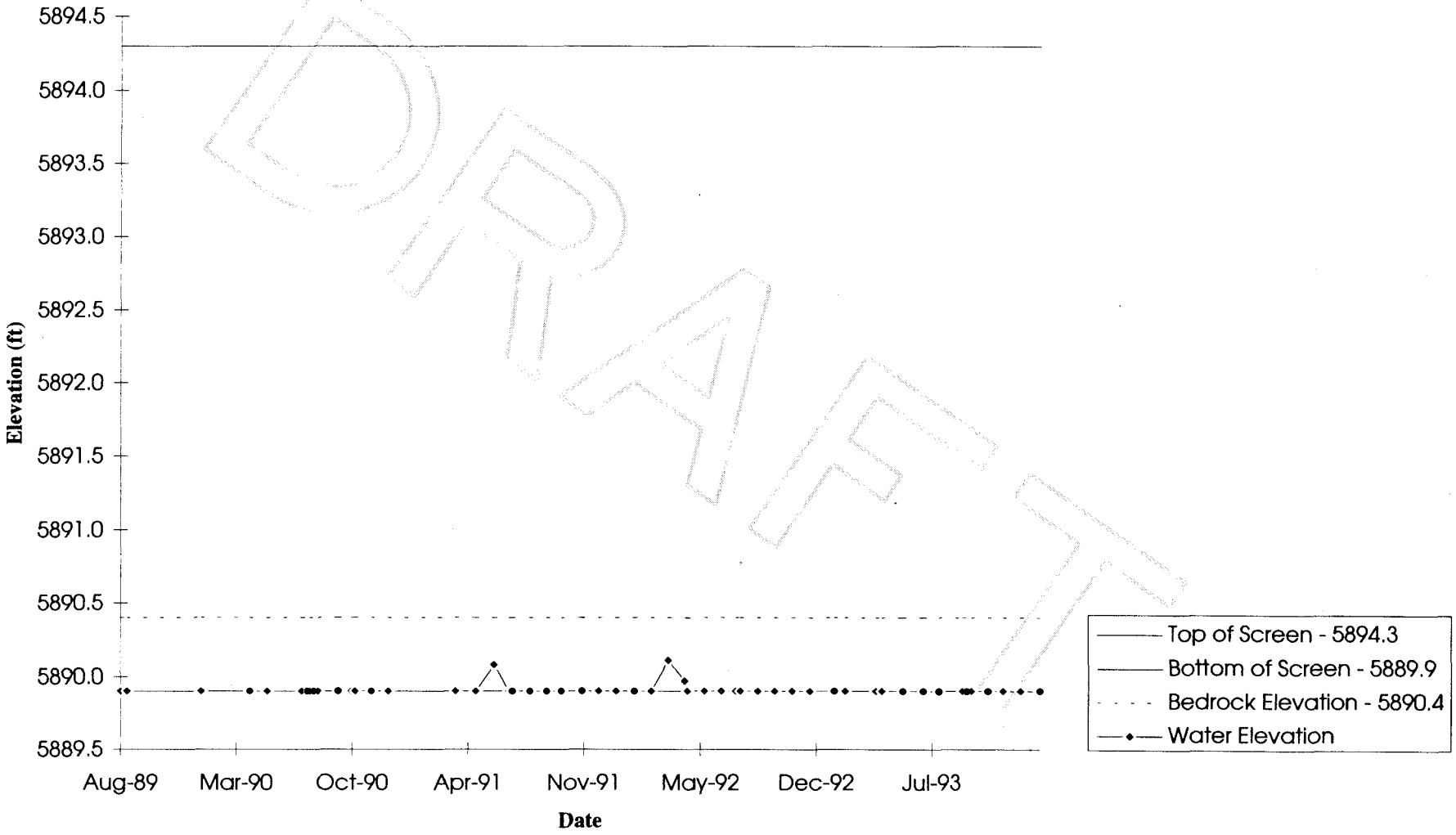
Well P209889 Hydrograph
Bedrock



DRAFT

(4047-910-[illegible])(3/10/95 7:32 AM)(P209889 Chart 1)

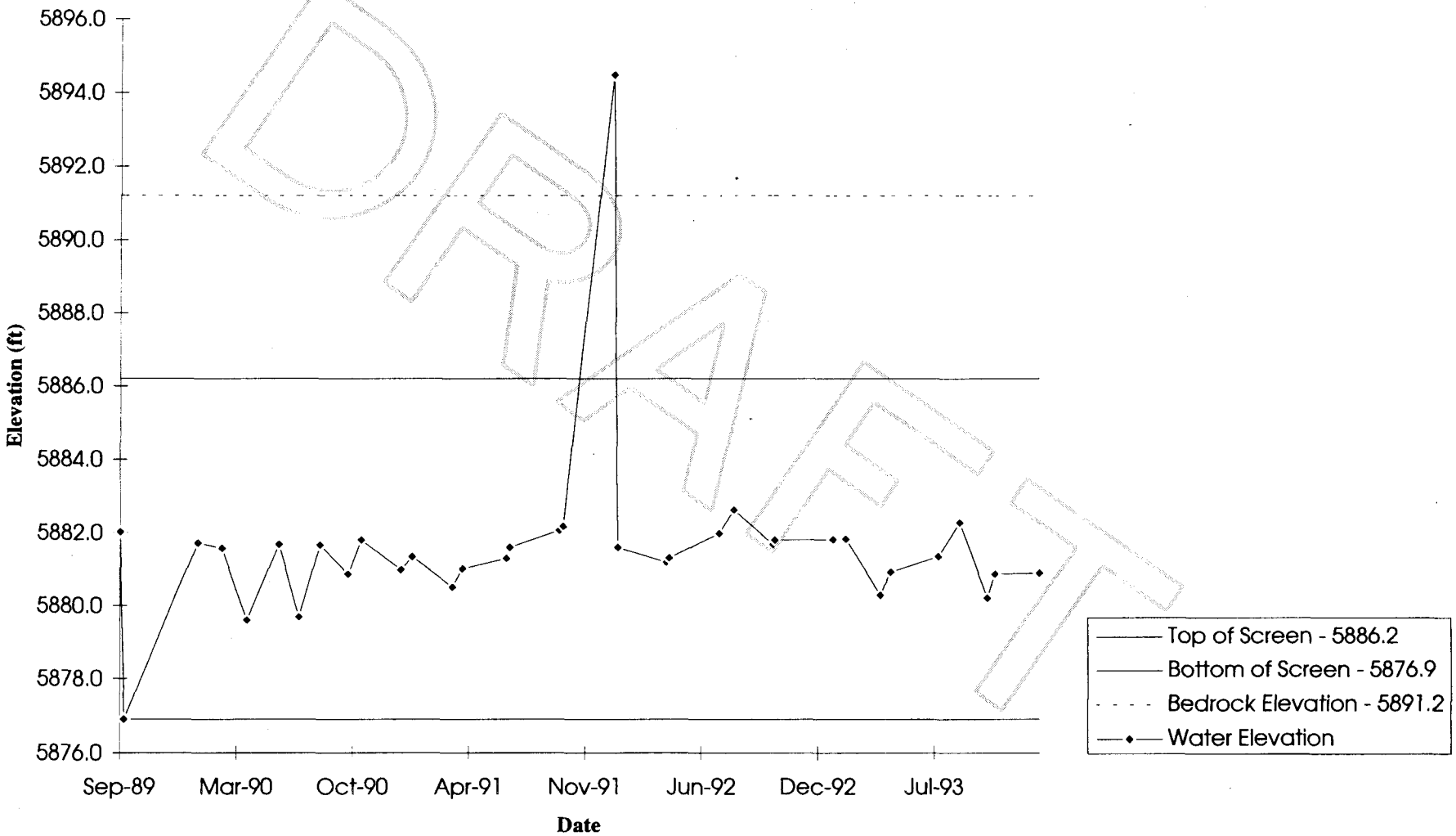
Well P209989 Hydrograph
Colluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:32 AM)(P209989 Chart 1)

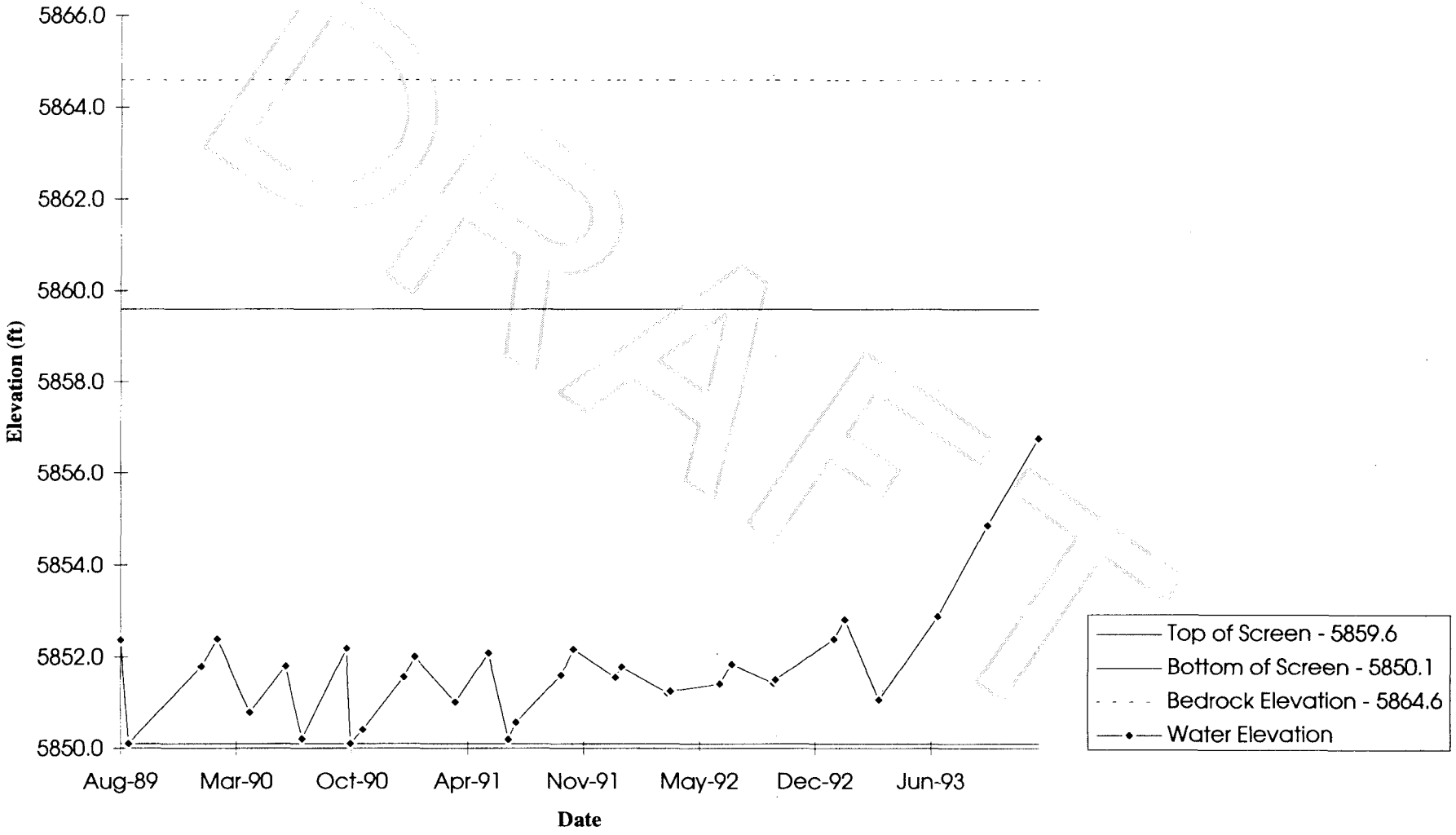
Well P210089 Hydrograph
Bedrock



DRAFT

(4047-910-02[illegible])(3/10/95 7:32 AM)(P210089 Chart 1)

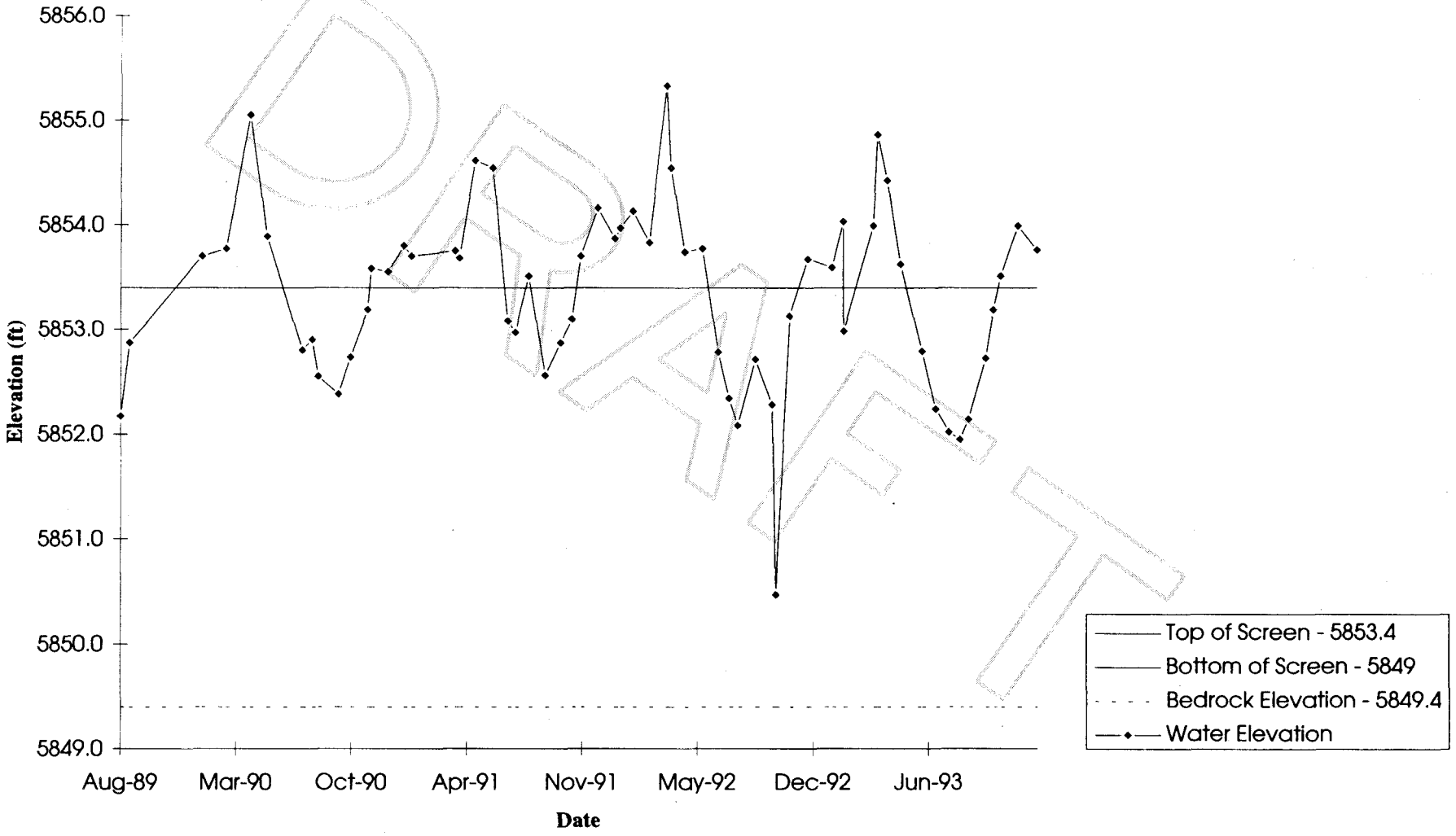
Well B210389 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:31 AM)(B210389 Chart 1)

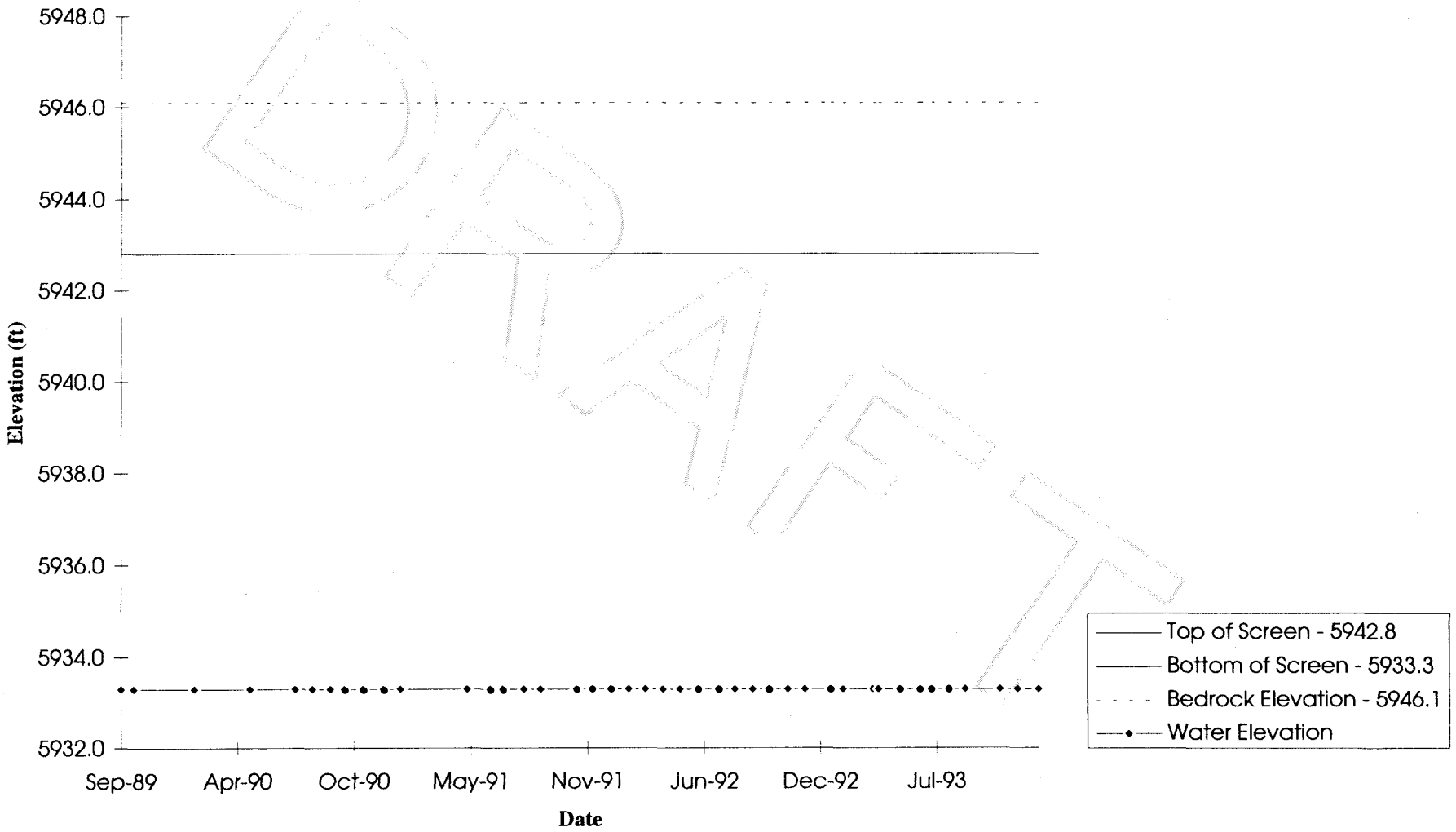
Well B210489 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-91u [redacted] 3/10/95 7:31 AM)(B210489 Chart 1)

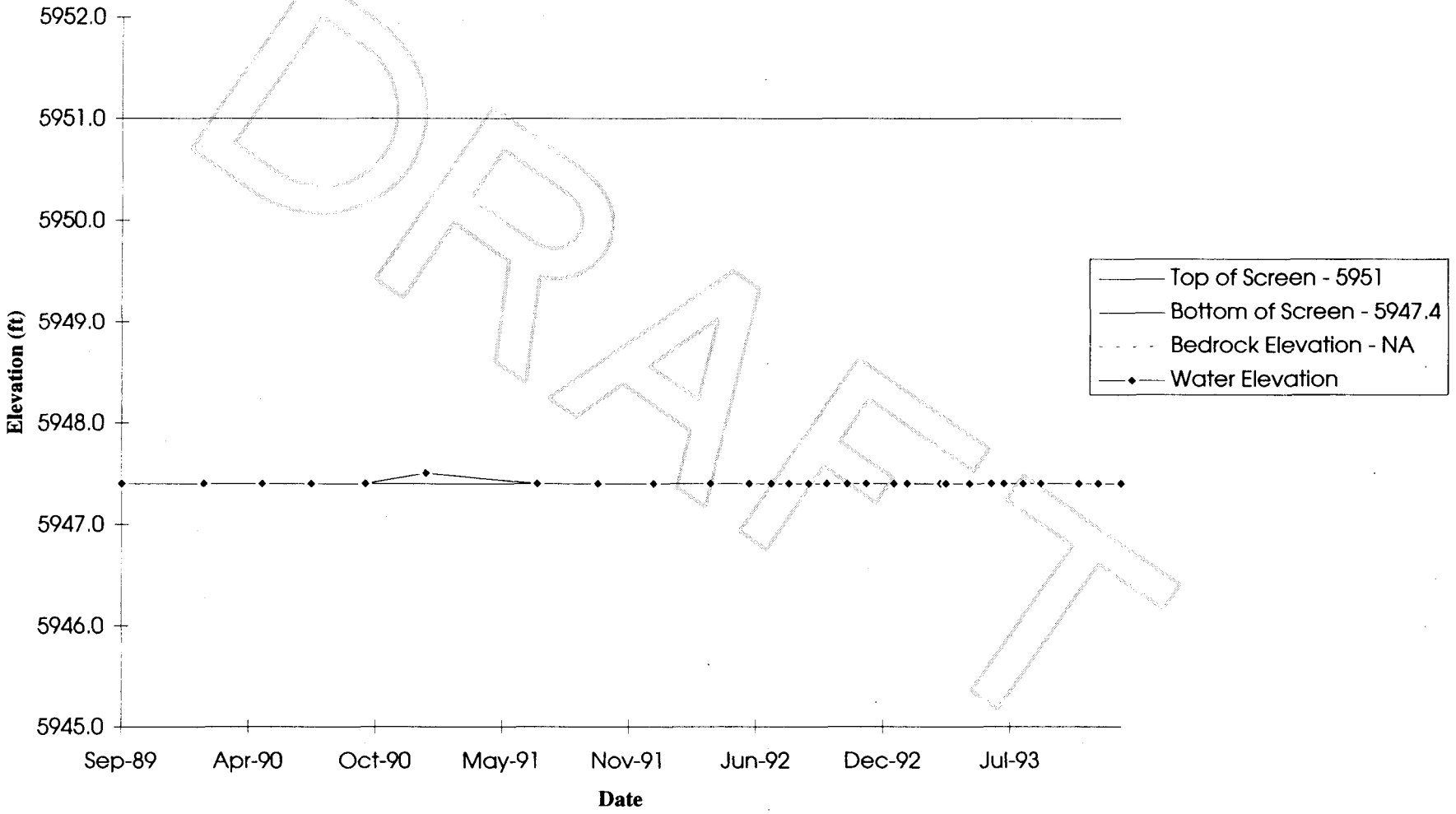
Well P213889 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:32 AM)(P213889 Chart 1)

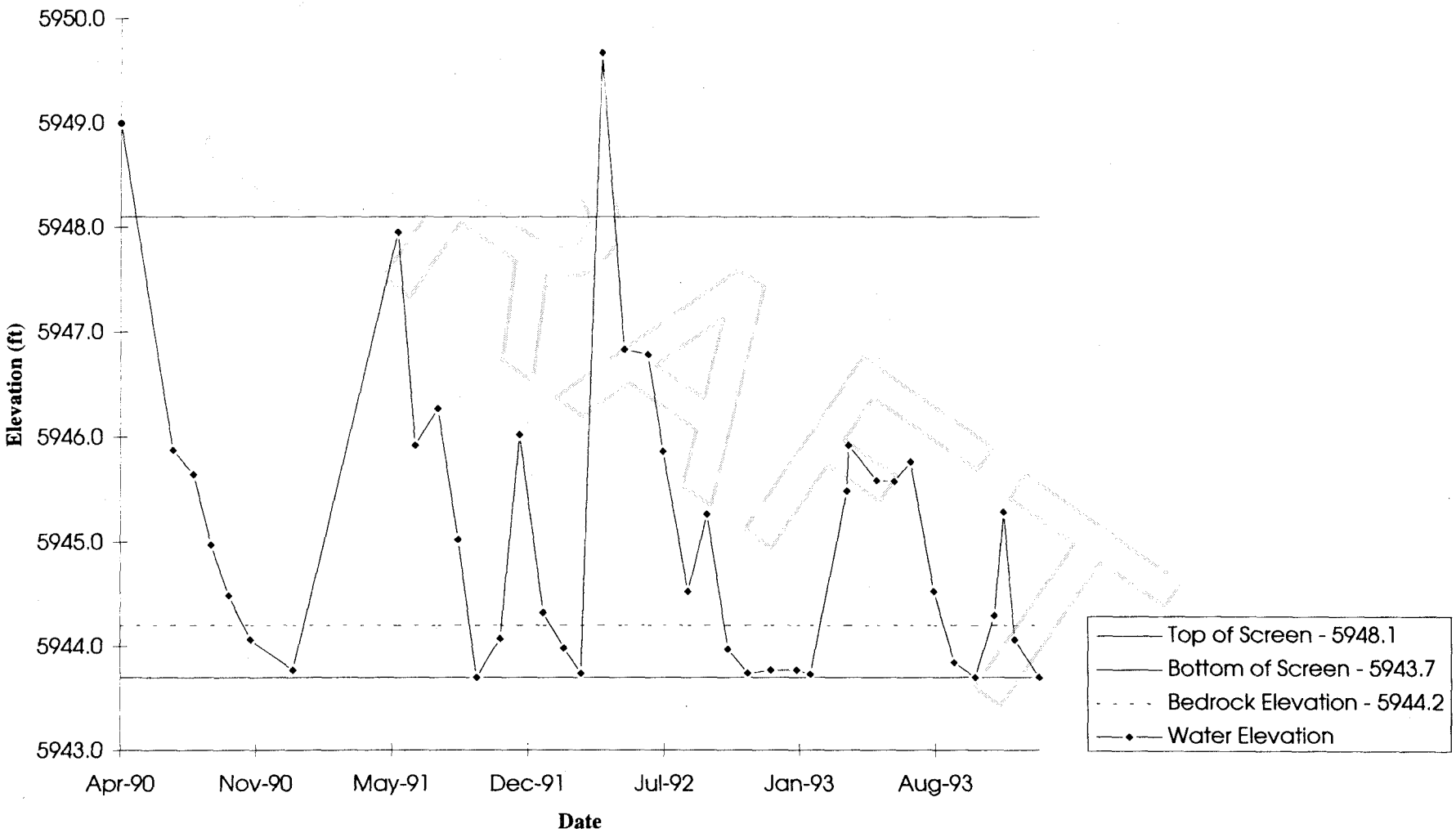
Well P213989 Hydrograph
Artificial Fill / Rocky Flats Alluvium



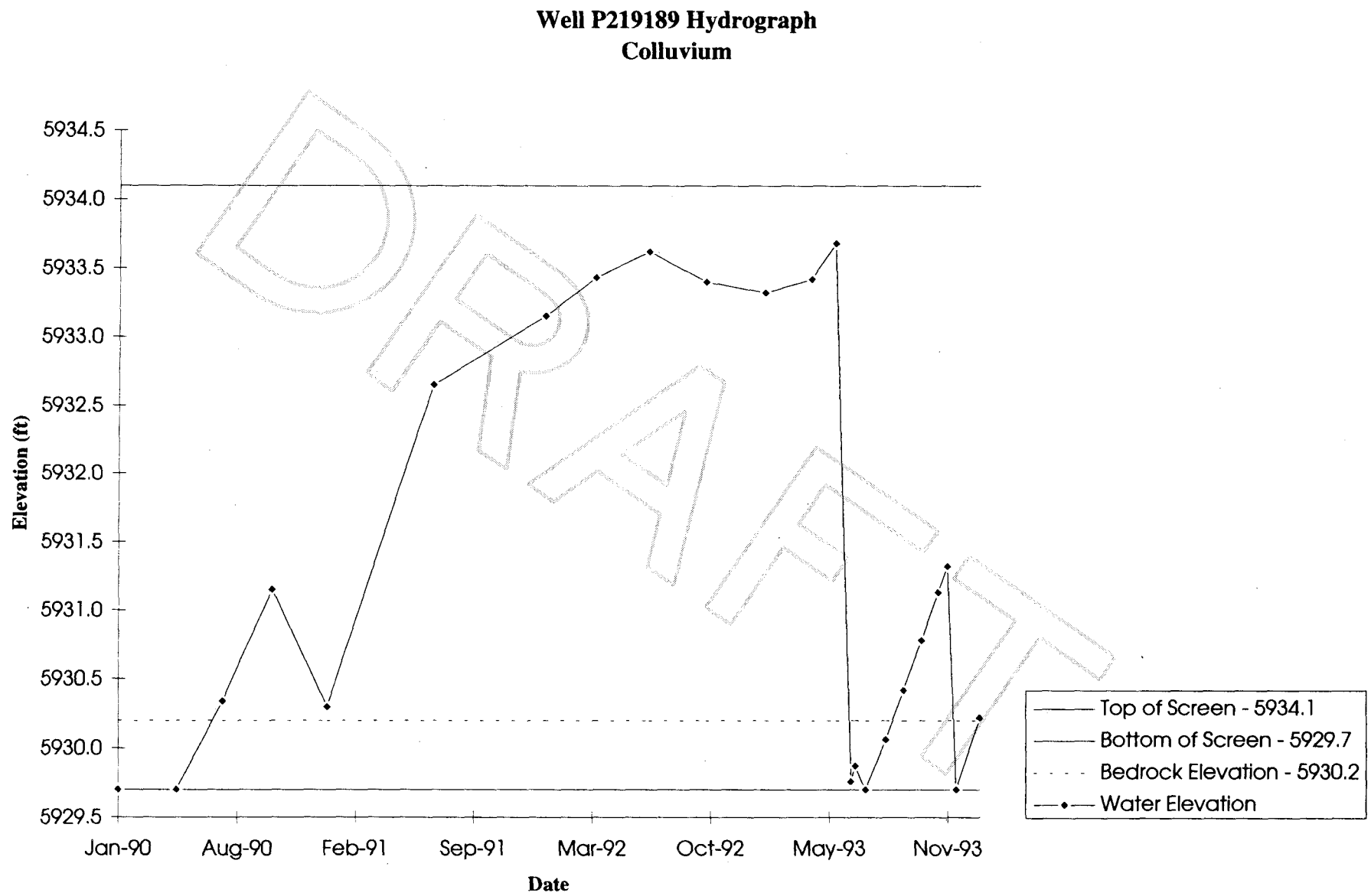
DRAFT

(4047-910-[illegible])(3/10/95 7:32 AM)(P213989 Chart 1)

Well P218389 Hydrograph
Rocky Flats Alluvium

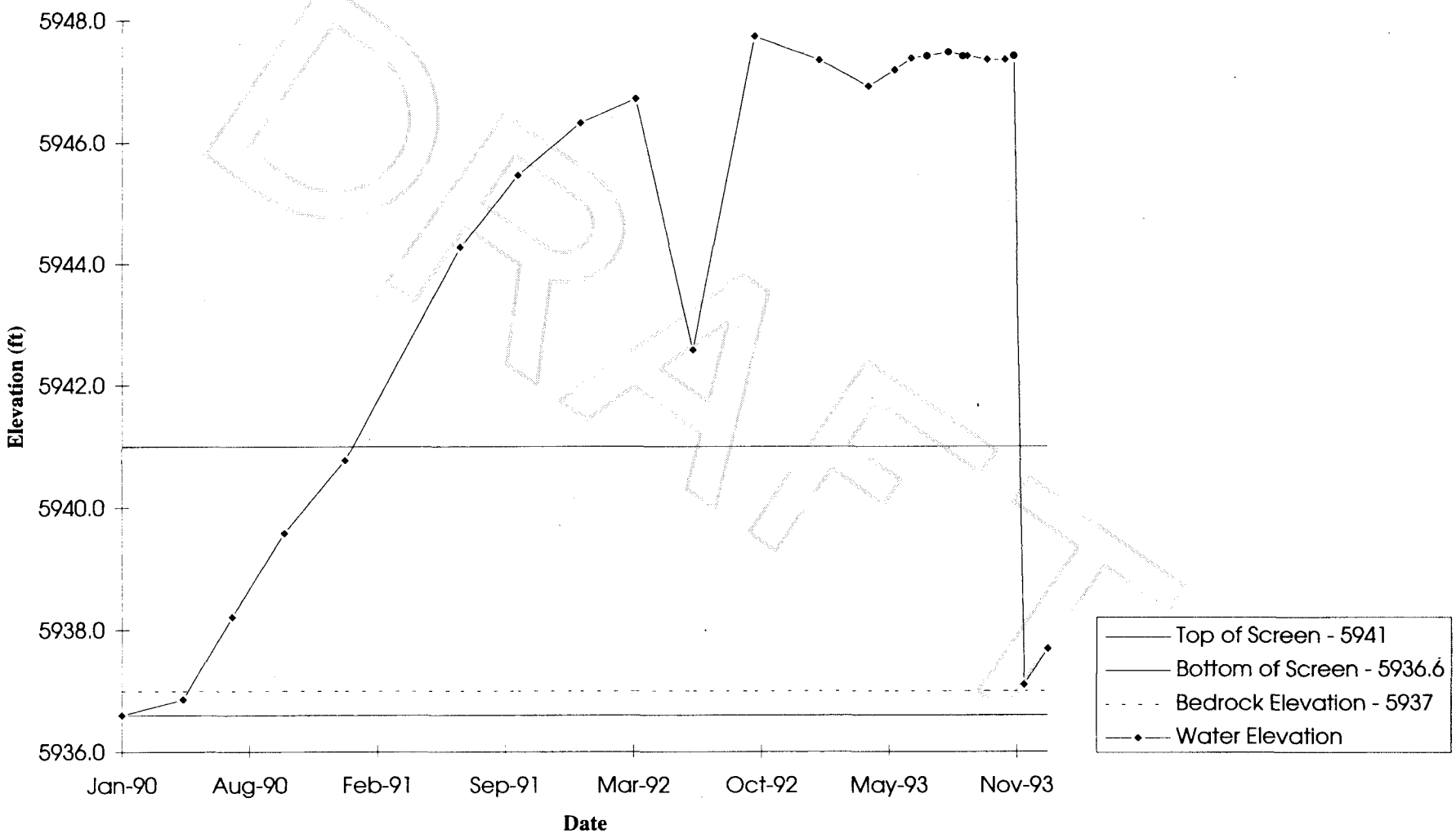


(4047-910-0025-521)(3/10/95 7:32 AM)(P218389 Chart 1)



(4047-910)(3/10/95 7:32 AM)(P219189 Chart 1)

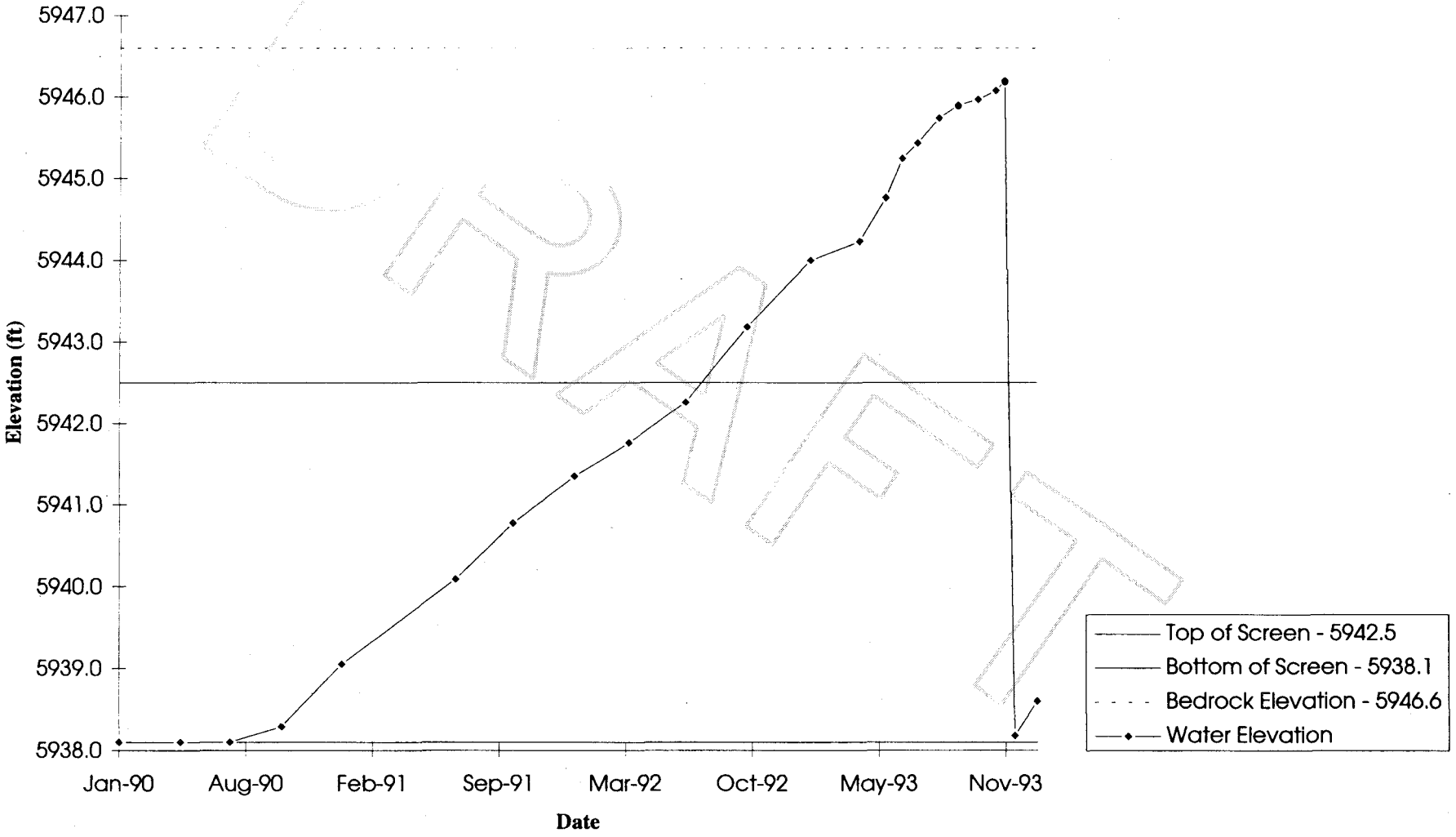
Well P219489 Hydrograph
Rocky Flats Alluvium



DRAFT

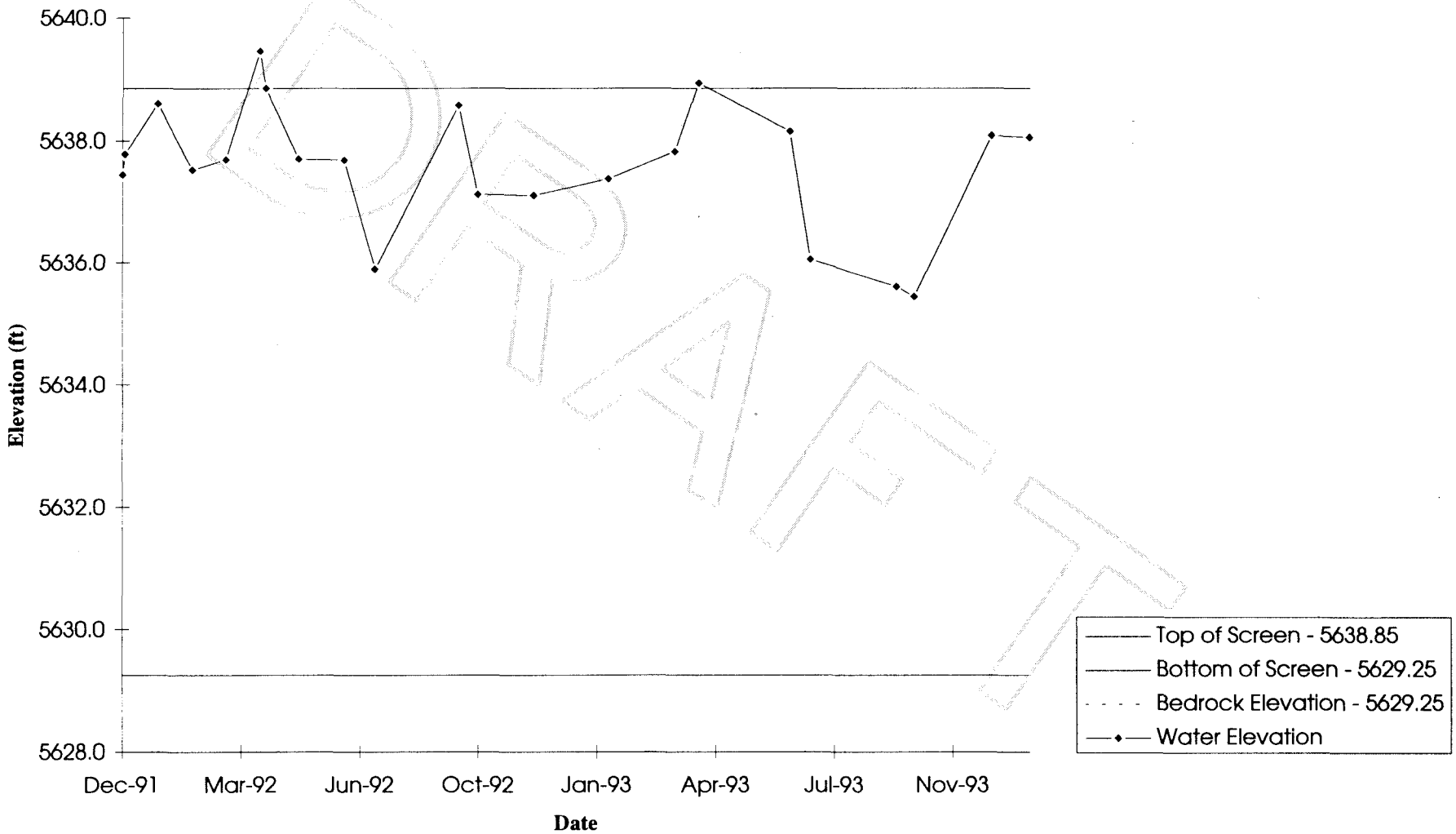
(4047-910-0025-521)(3/10/95 7:32 AM)(P219489 Chart 1)

Well P219589 Hydrograph
Bedrock



DRAFT

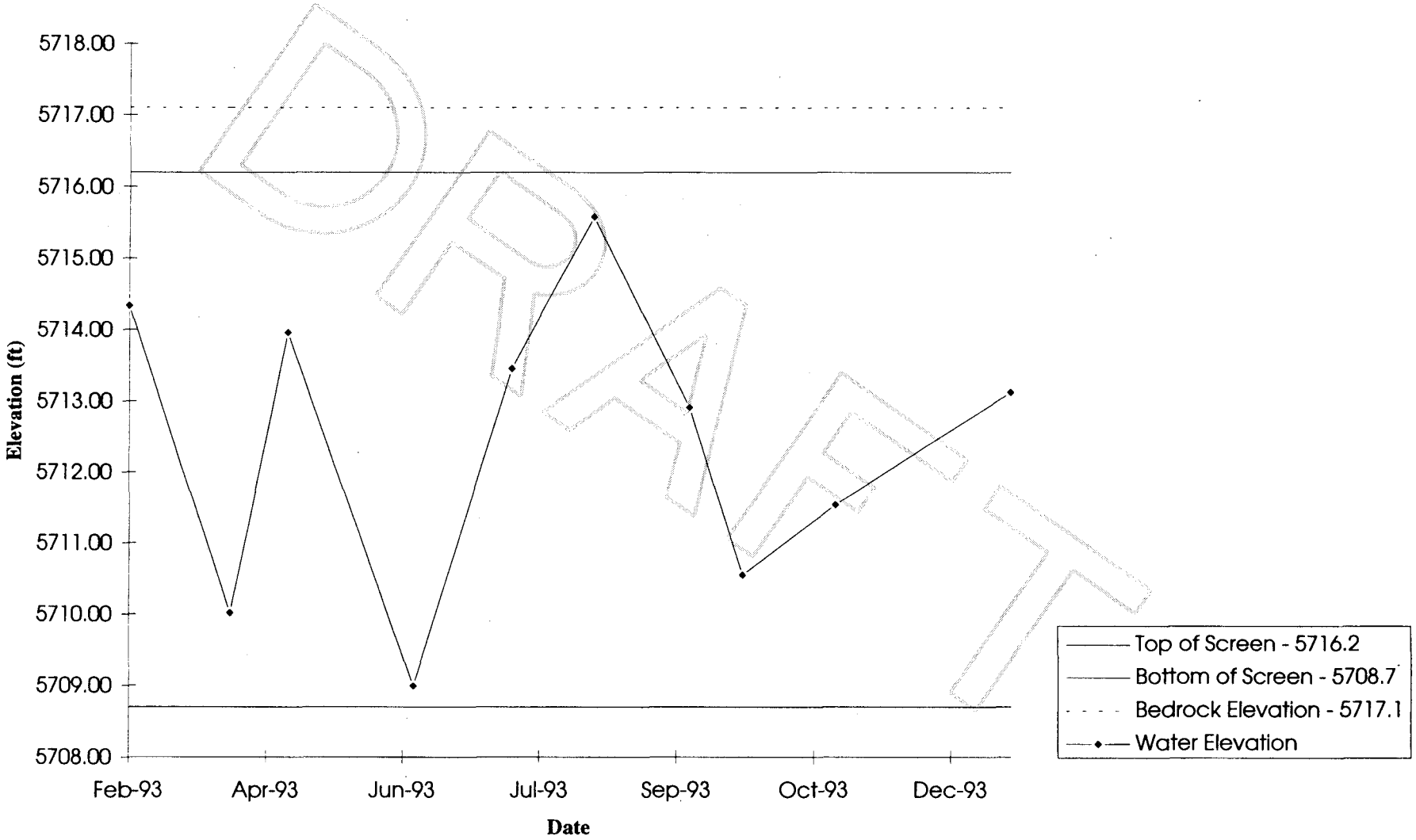
Well 41691 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:28 AM)(41691 Chart 1)

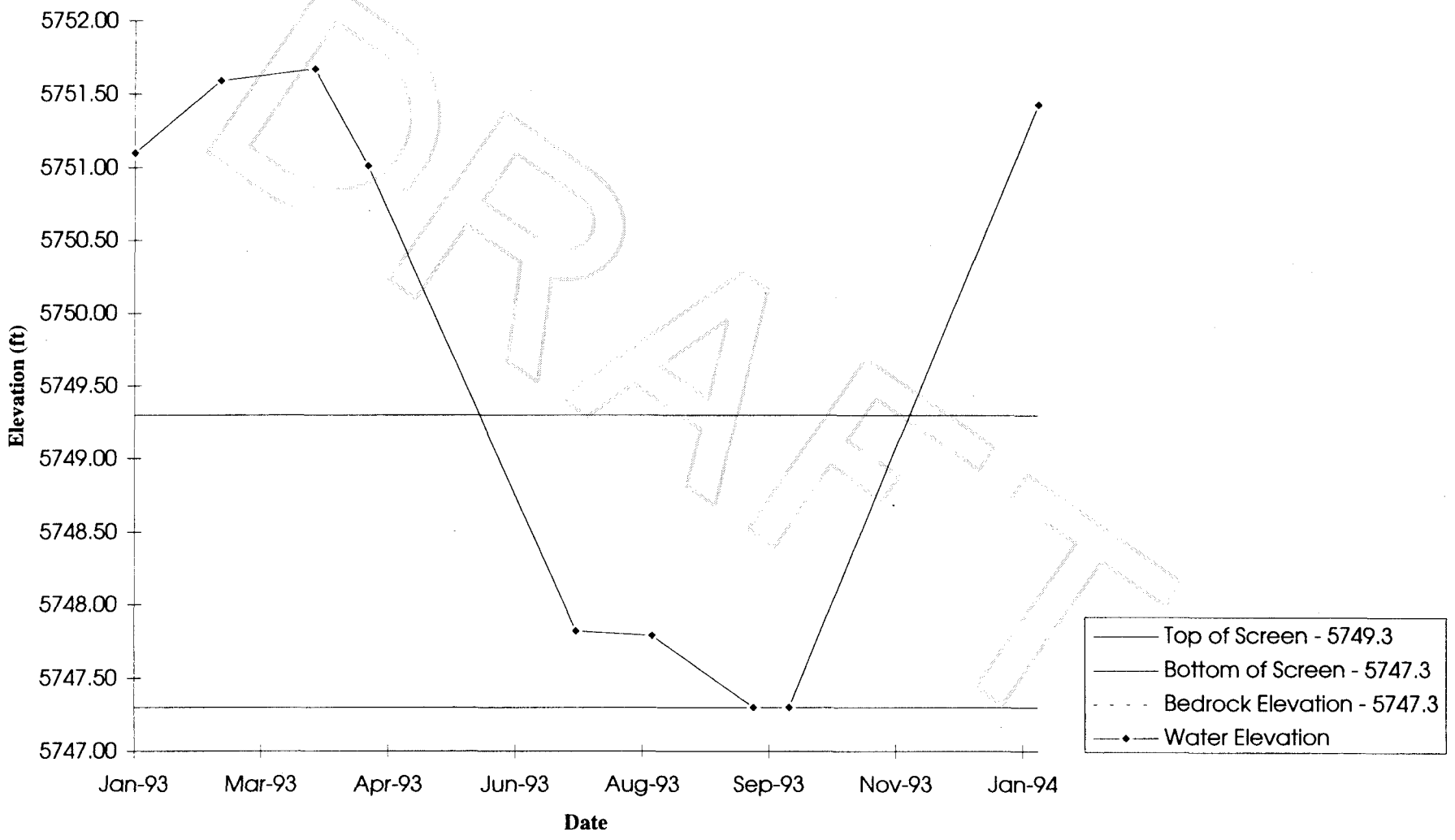
Well 75092 Hydrograph
Bedrock



DRAFT

(4047-910- 3/10/95 7:29 AM)(75092 Chart 1)

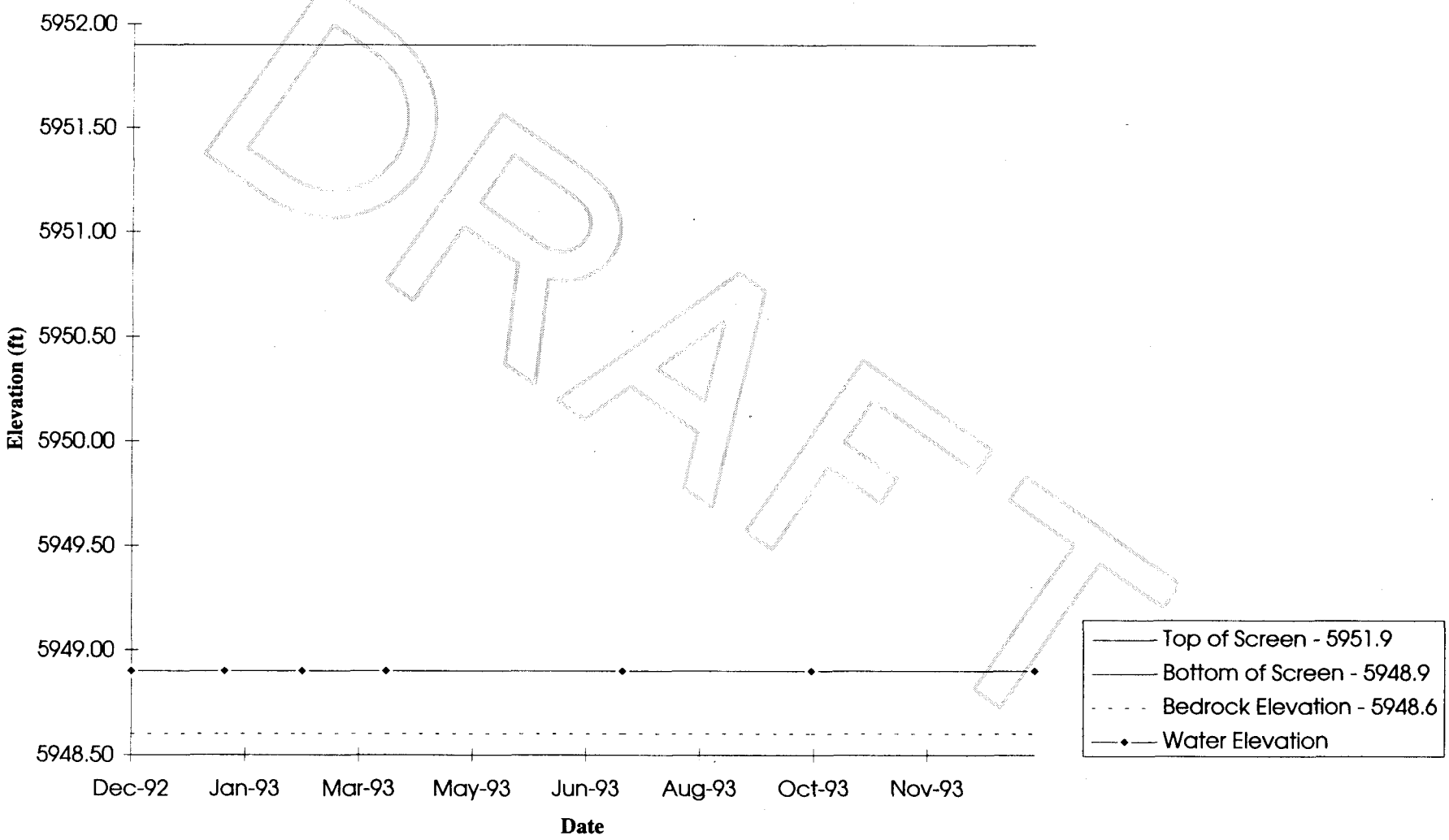
Well 75292 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:29 AM)(75292 Chart 1)

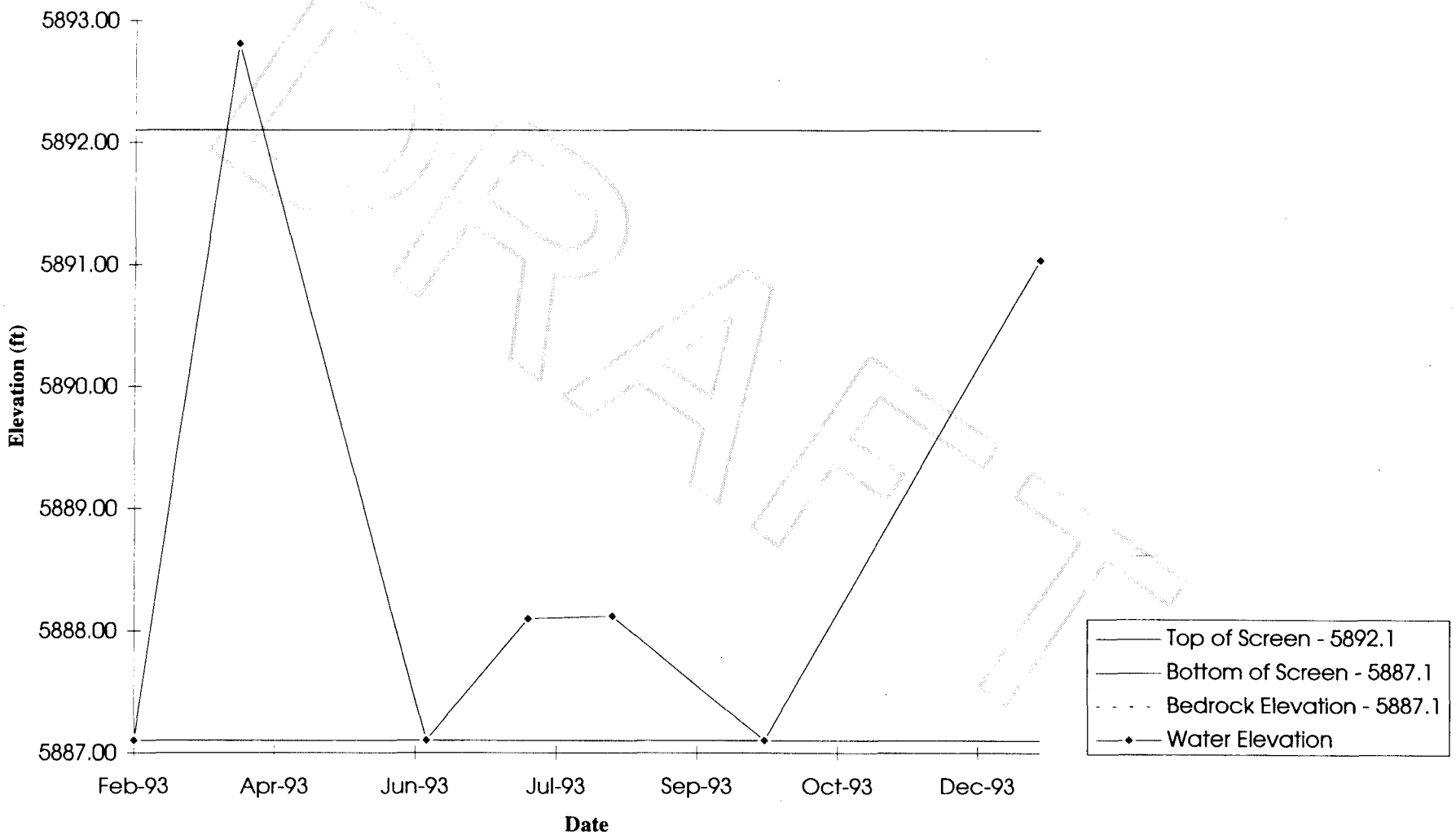
Well 75892 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-[illegible]3/10/95 7:29 AM)(75892 Chart 1)

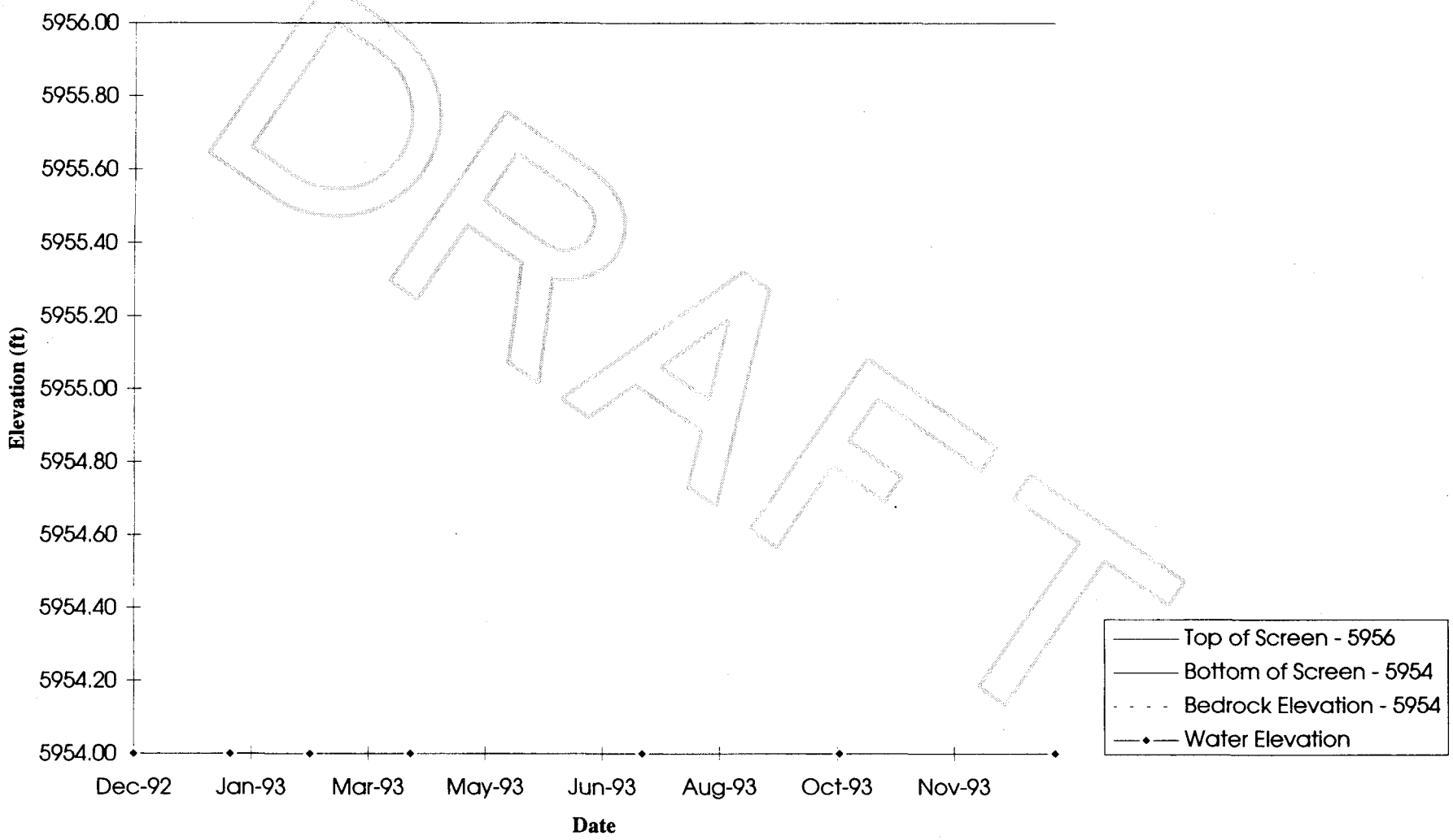
Well 75992 Hydrograph
Valley Fill Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:29 AM)(75992 Chart 1)

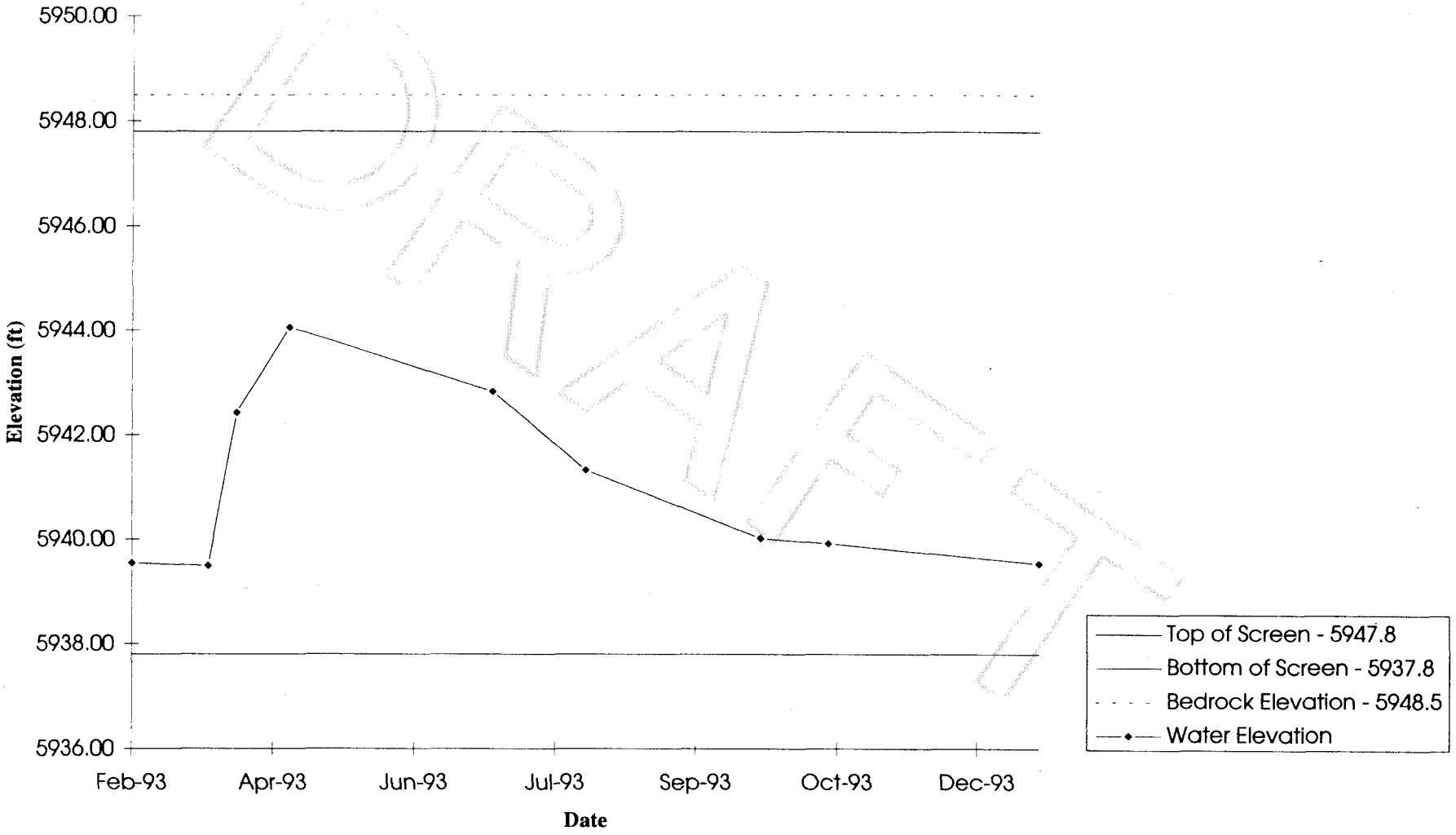
Well 76192 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-[illegible] 3/10/95 7:29 AM)(76192 Chart 1)

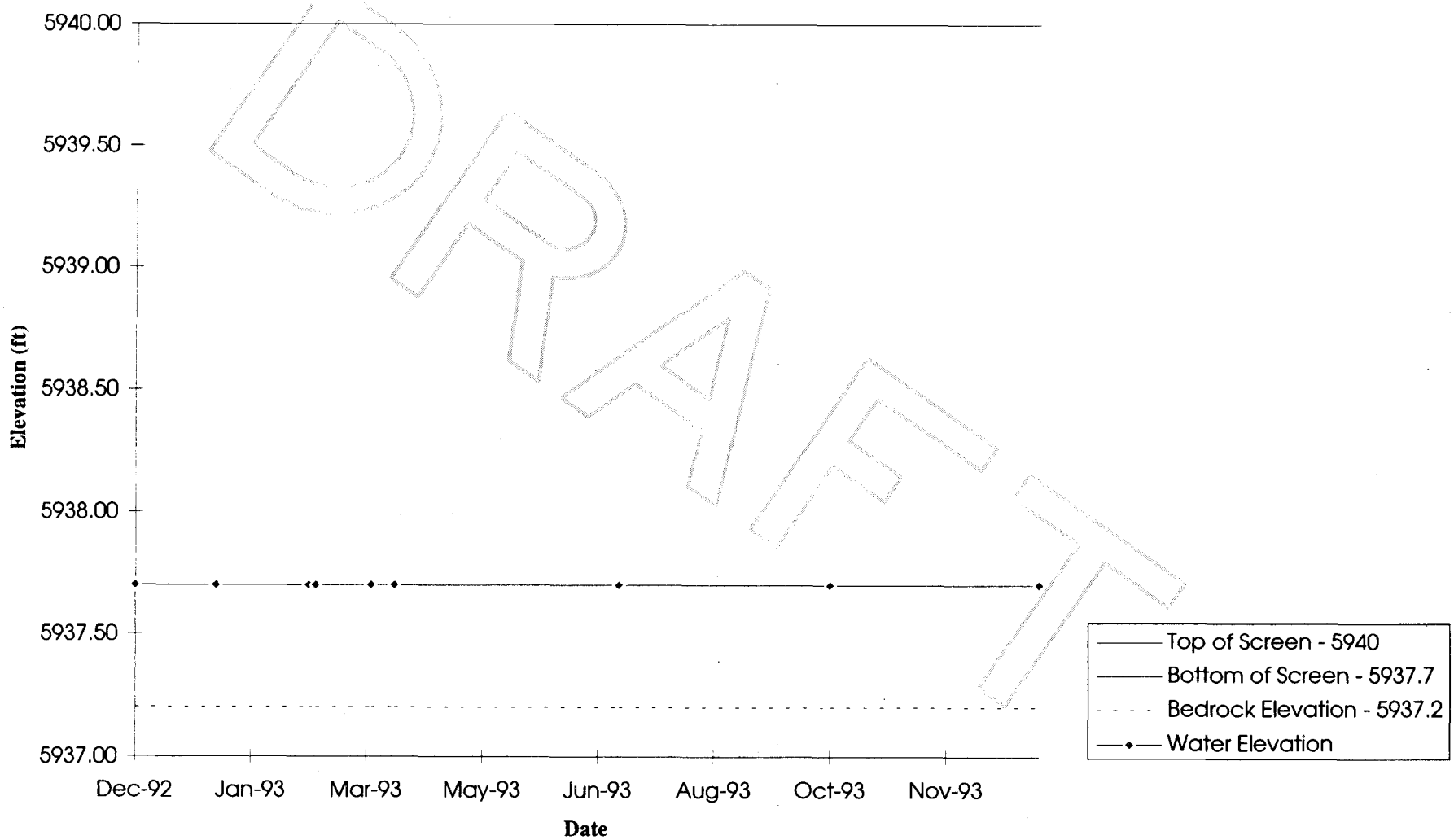
Well 76292 Hydrograph
Bedrock



DRAFT

(4047-910-0025-521)(3/10/95 7:29 AM)(76292 Chart 1)

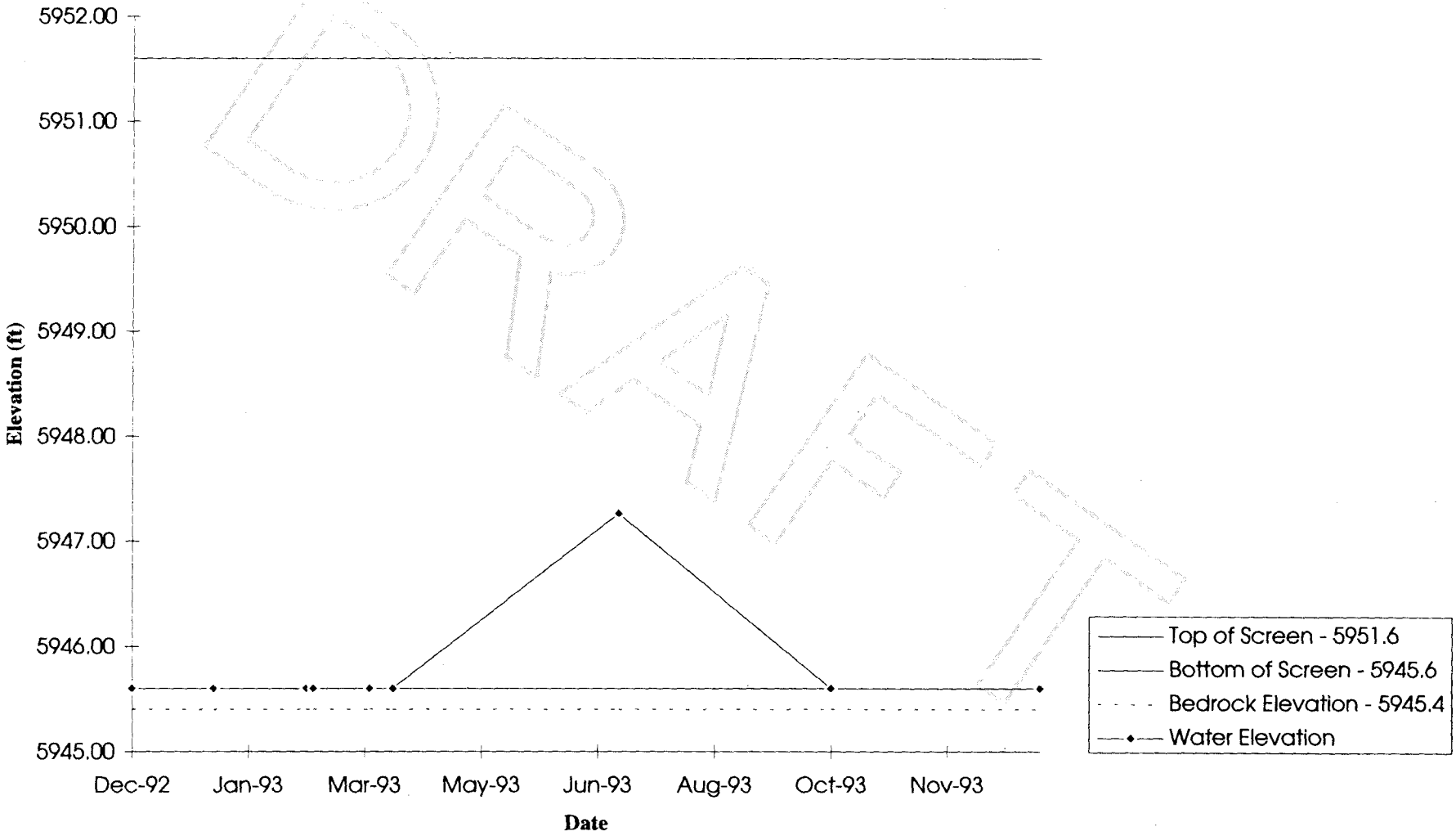
Well 76792 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-[illegible]3/10/95 7:29 AM)(76792 Chart 1)

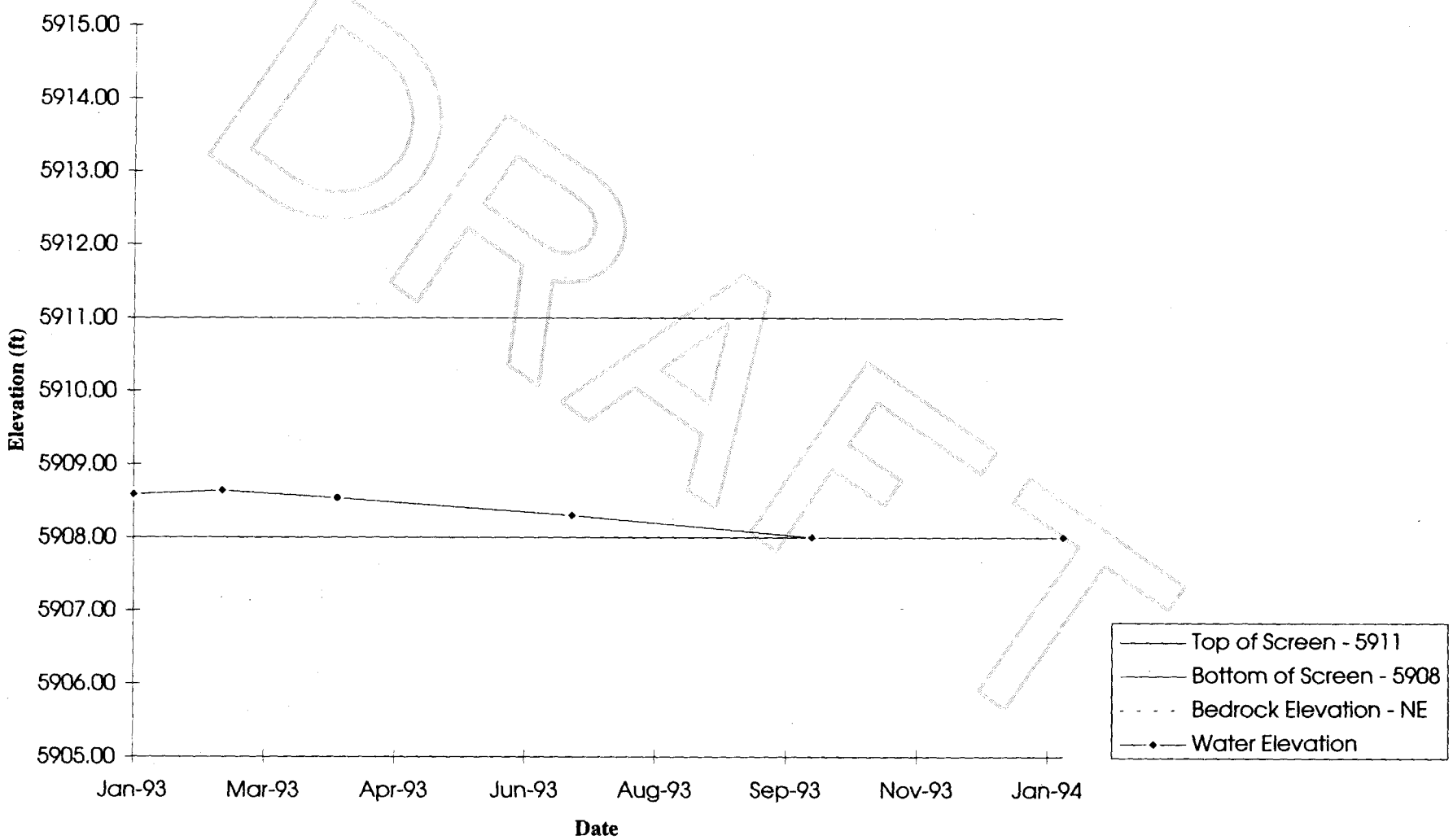
Well 76992 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:29 AM)(76992 Chart 1)

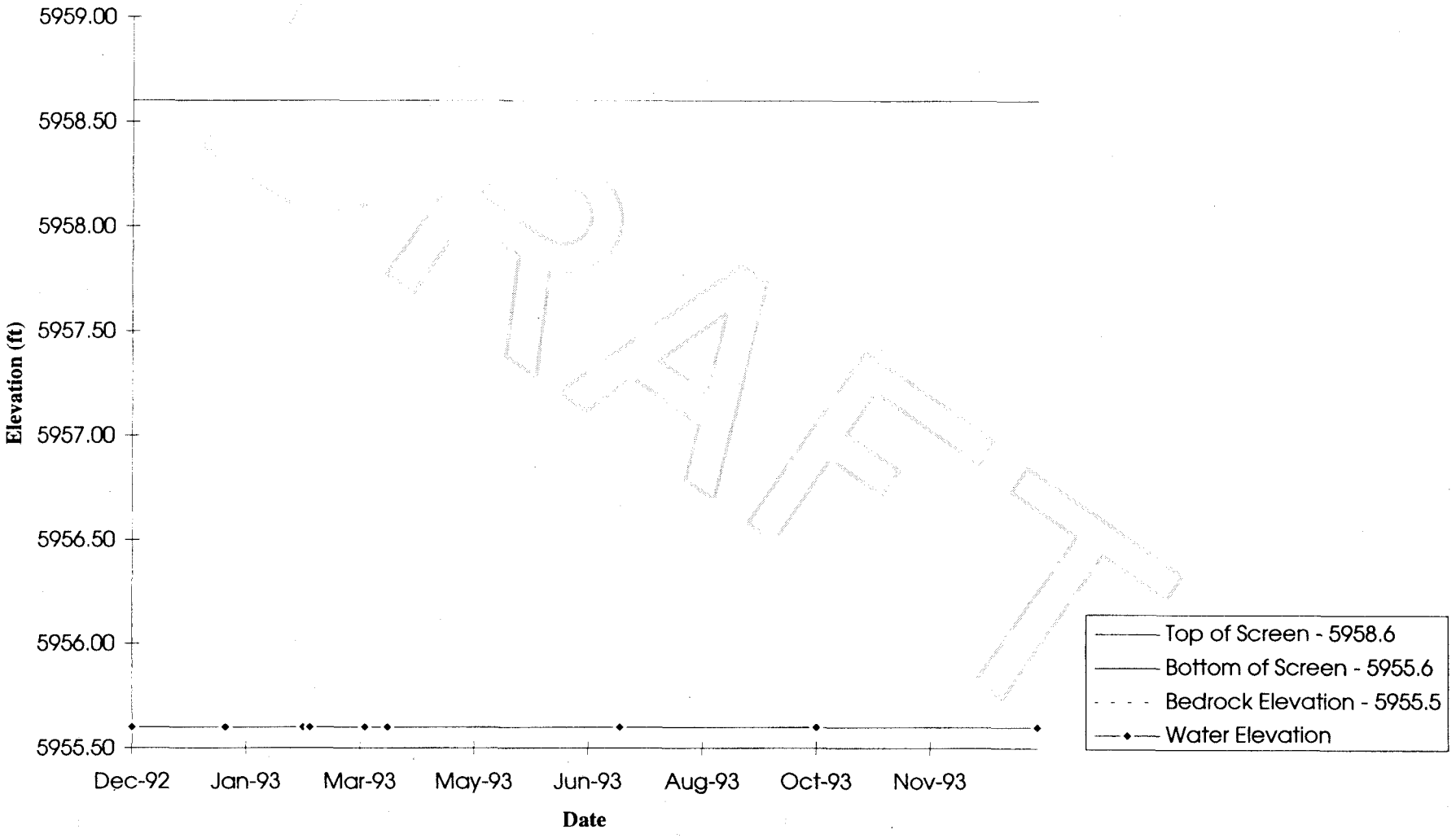
Well 77192 Hydrograph
Colluvium



DRAFT

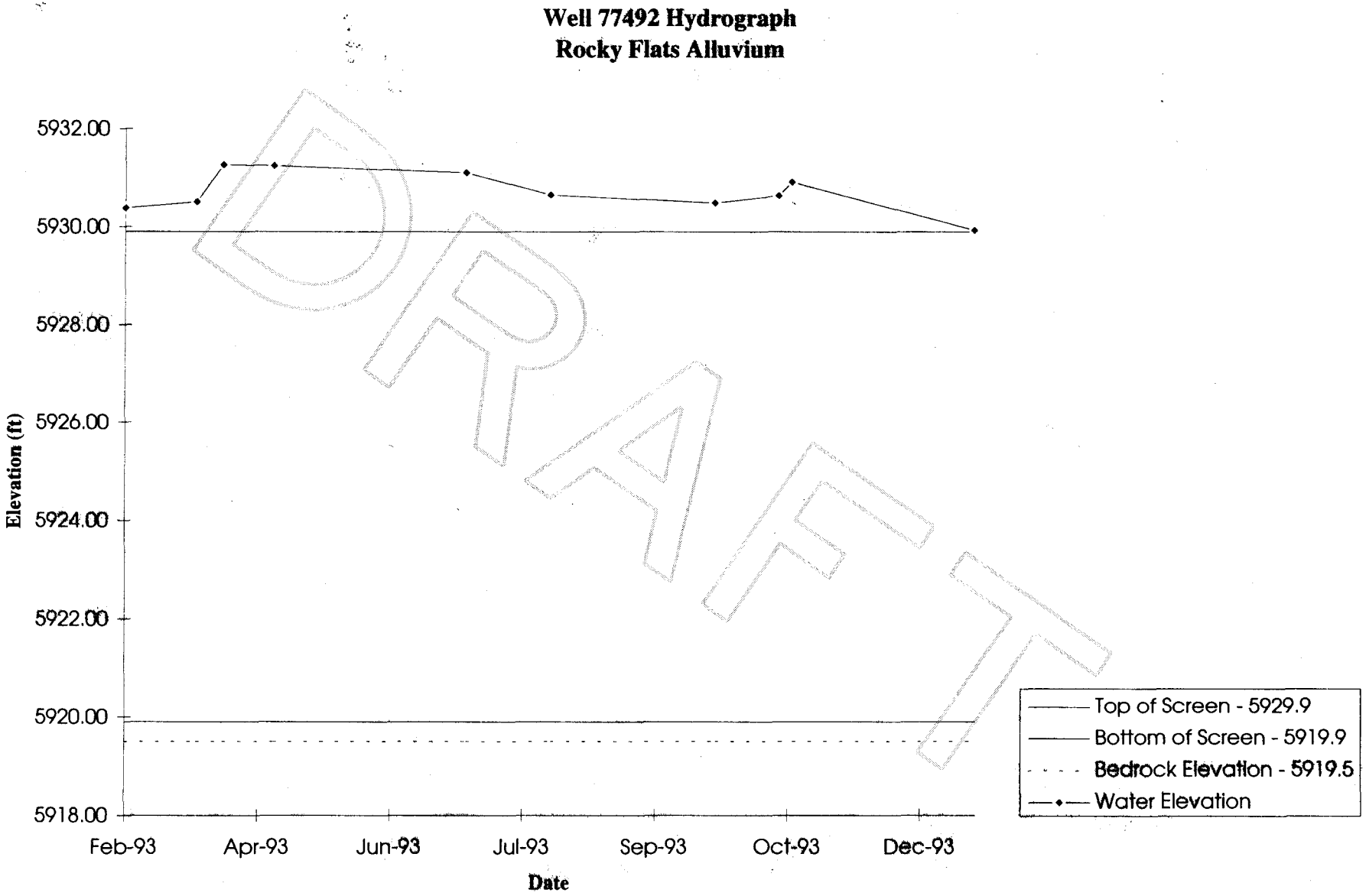
(4047-910-00[illegible] (3/10/95 7:30 AM)(77192 Chart 1)

Well 77392 Hydrograph
Rocky Flats Alluvium



DRAFT

(4047-910-0025-521)(3/10/95 7:30 AM)(77392 Chart 1)



(4047-910-00[illegible]3/10/95 7:30 AM)(77492 Chart 1)