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DRAFT FINAL

PHASE II RFI/RI REPORT
903 PAD, MOUND, AND
EAST TRENCHES AREA
OPERABLE UNIT NO. 2

VOLUME 9

APPENDIX A
OU-2 GEOLOGICAL DATA

APPENDIX B
OU-2 HYDROGEOLOGICAL DATA

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

ADMIN RECORD

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°C	degrees Celsius
%R	percent recovery
µCi/L	microcuries per liter
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
µCi/yr	microcuries per year
µm	micrometers
1,1-DCE	1,1-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
1,2-DCA	1,2-dichlorethane
1,2-DCE	1,2-dichloroethene
ac-ft	acre feet
AEC	Atomic Energy Commission
AET	actual evapotranspiration
Ag	silver
AGL	above ground level
AGS	above ground surface
Al	aluminum
ALARA	as low as reasonably achievable
Am	americium
Am-241	americium-241
$Am_2(CO_3)_3$	americium carbonate
AmO_2	americium dioxide
ANOVA	Analysis of Variance
ANOVA	Analysis of Variance
AOC	Area of Concern
AR	activity ratio
ARARs	applicable or relevant and appropriate requirements
As	arsenic
ASTM	American Society for Testing and Materials
ATD	At time of drilling
atm-m^3/mole	Atmosphere-cubic meter per mole
Ba	barium
BCF	bioconcentration factor
Be	beryllium
BEHP	bis(2-ethylhexyl)phthalate
BGS	below ground surface
BH	borehole
BNA	base neutral acid extractable
Bq	Becquerel
BSL	Background Screening Level

BW	body weight
c/f	coarse fine limit
Ca	calcium
CAS	Chemical Abstract Services
CCl_4	carbon tetrachloride
Cd	cadmium
CDH	Colorado Department of Health
CDPHE	Colorado Department of Public Health and Environment
Ce	cesium
CEARP	Comprehensive Environmental Assessment & Response Program
CEC	cation exchange capacity
CEDE	committed effective dose equivalent
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cfm	cubic feet per minute
CHC	chlorinated hydrocarbon
$CHCl_3$	chloroform
Ci	curies
Cis-1,2-DCE	cis-1,2-dichloroethene
CLP	Contract Laboratory Program
cm	centimeter
cm/hr	centimeters per hour
cm/s	centimeters per second
cm^3	cubic centimeter
CME	Central Mine Equipment
CMS/FS	Corrective Measures Study/Feasibility Study
Co	cobalt
COC	chemical of concern
COI	chemicals of interest
cpm	counts per minute
Cr	chromium
Cr VI	chromium hexavalent
CRDL	contract required detection limit
CRQL	contract required quantitation limit
CS	claystone
Cs-134	cesium-34
Cs-137	cesium-137
CSM	conceptual site model
CSU	Colorado State University
CT	central tendency
Cu	copper
Cu	copper
CUHP	Colorado Urban Hydrograph Procedure
DCG	Derived Concentration Guide

DCN	document change notice
DF10 qualifier	10x dilution
DF50 qualifier	50x dilution
DMR	document modification request
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen
DOE	Department of Energy
dpm/g	disintegrations per minute per gram
DQO	Data Quality Objective
DRCOG	Denver-Regional Council of Governments
DW	dry weight
ECAO	Environmental Criteria and Assessment Office
ED	exposure duration
EDE	effective dose equivalent
EE	Environmental Evaluation
EF	exposure frequency
EG&G	EG&G Rocky Flats, Inc.
EIS	Environmental Impact Statement
EM	electromagnetics
EMC	event mean concentrations
EMD	Environmental Management Department
EPA	Environmental Protection Agency
ER	Environmental Restoration
ERA	Environmental Risk Assessment
ERDA	Energy Research and Development Administration
ERM	Environmental Restoration Management
ET	evapotranspiration
FDM	Fugitive Dust Model
Fe	iron
f_i	fractional uptake
FID	flame ionization detectors
FIDLER	field instrument for the detection of low-energy radiation
FS	feasibility study
FSP	field sampling plan
ft^2/min	square feet per minute
FWHM	full width half maximum
FWS	U.S. Fish and Wildlife Service
g/l	grams per liter
g/cm^3	gram per cubic centimeter
g/s	grams per second
g	grams
GC/MS	gas chromatography/mass spectrometry
GI	gastrointestinal
GIS	geographical information system

gpd/ft^2	gallons per day per square foot
gpm	gallons per minute
GPMPP	Groundwater Protection and Monitoring Program Plan
GPR	ground-penetrating radar
GRRASP	General Radiochemistry and Routine Analytical Services Protocol
GSSI	Geophysical Survey Systems, Inc.
GUI	Graphical User Interface
Gy	gray
HASL	Health and Safety Laboratory
HEPA	High Efficiency Particulate Air
Hg	mercury
HHRA	Human Health Risk Assessment
HI	hazard index
HPGe	high purity germanium
HQ	Hazard Quotient
HRR	Historical Release Report
HSA	hollow-stem auger
HSL	Hazardous Substances List
HSPF	Hydrologic Simulation Program in Fortran
HSU	hydrostratigraphic unit
IA	Industrial Area
IAG	Interagency Agreement
ICRP	International Commission on Radiological Protection
ID	inside diameter
IDL	instrument detection limit
IEUBK	Integrated Exposure Uptake Biokinetic
IHSS	Individual Hazardous Substance Site
IM/IRA	Interim Measures/Interim Remedial Action
IR	intake rate
K	potassium
K	hydraulic conductivity
K_l	Cretaceous Laramie formation
Ka	Cretaceous Arapahoe formation
kg	kilogram
km^2	square kilometer
LCS	laboratory control samples
LF	lateral flow
LHSU	lower hydrostratigraphic unit
Li	lithium
LNAPL	light non-aqueous phase liquid
LOAEL	lowest-observed-adverse-effect level
LR	laboratory replicate
m/s	meters per second
m	meter

m^2	square meter
m^2/g	square meters per gram
mCi	microcurie
MDA	minimal detectable activity
MDL	method detection limit
ME	matrix effect
meg/l	milliequivalents per liter
mg	milligram
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
Mg	magnesium
MKV	Mean Kriging Variance
mm	millimeters
Mn	manganese
Mo	molybdenum
mrem	millirem
MSA	Method of Standard Addition
MSE	mean square error
MW	monitoring well
Na	sodium
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAPL	Non-aqueous phase liquid
NCP	National Contingency Plan
NCRP	National Council on Radiation Protection and Measurements
ND	not definitive
NE	northeast
NE	not encountered
Ni	nickel
NI	not installed
nm	nanometer
NO_2	nitrite
NO_3	nitrate
NOAEL	no-observed-adverse-effect level
NP	non-plastic
NPDES	National Pollutant Discharge Elimination System
OB	observation well
OD	outside diameter
OH	hydroxide ion
OU	Operable Unit
OVM	organic vapor monitor
PA	protected area
PAH	polynuclear aromatic hydrocarbon

PARCC	precision, accuracy, representativeness, completeness, and comparability
Pb	lead
PC	permeability constant
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
pcf	pounds per cubic foot
pCi/m^3	picocuries per cubic meter
pCi/ml	picocuries per milliliter
pCi/g	picocuries per gram
pCi/l	picocuries per liter
PCOC	potential chemicals of concern
PERC	perchloroethylene
PID	photoionization detector
PM_{10}	particle matter less than or equal to 10 micrometers in diameter
Po	polonium
ppb	parts per billion
ppm	parts per million
PQL	practical quantitation limit
PRG	preliminary remediation goal
PTFE	polyethylene tetrafluoride
Pu	Plutonium
Pu-239/240	plutonium-239,240
Pu-239	plutonium-239
PVC	polyvinyl chloride
PW	pumping well
QA/QC	quality assurance/quality control
QAA	Quality Assurance Addendum
Qal	valley fill alluvium
QAPP	Quality Assurance Project Plan
Qc	colluvium
QC	quality control
Qrf	Rocky Flats Alluvium
R	radius of influence
Ra	radium
Ra-226	radium-226
Ra-228	radium-228
RAAMP	Radiological Ambient Air Monitoring Program
RAD screen	radiological screen
RAD	radiological
RAO	Remedial Action Objectives
RBC	risk-based concentrations
RBWP	Revised Bedrock Work Plan
RCRA	Resource Conservation and Recovery Act

RDL	required detection limit
RFA	Rocky Flats Alluvium
RfC	Reference Air Concentration
RfD	Reference Dose
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
RME	reasonable maximum exposure
RNS	rinsate blank results
ROD	Record of Decision
RPD	relative percent difference
SA	Sample Management
SAFER	Streamlined Approach for Environmental Restoration
SAP	sampling and analysis plan
Sb	antimony
SB	source borehole
SCS	Soil Conservation Service
Se	selenium
Se	selenium
SE	southeast
SEAM	Superfund Exposure Assessment Manual
SED	Sediment Sampling Location
SERA	Superfund Amendments and Reauthorization
SF	slope factor
Si	silicon
SID	South Interceptor Ditch
SIR	Subsurface Interface Ratio
SIR	Subsurface Interface Radar
SLTST	siltstone
SM	sample management
Sn	tin
SOP	Standard Operating Procedure
SOW	Statement of Work
SQL	sample quantitation limit
Sr	strontium
Sr-89,90	Strontium-89,90
SS	sandstone
Sv	sievert
SVE	soil vapor extraction
SVOC	semivolatile organic compound
SWL	sample
SWMS	Soil Water Monitoring System

SWMU	Solid Waste Management Unit
TAL	target analyte list
TCE	trichloroethene
TCL	Target Compound List
TD	total depth
TDR	time domain reflectometry
TDS	total dissolved solids
TEDE	total effective dose equivalent
Th	thorium
TIC	tentatively identified compound
TM	Technical Memorandum
TOC	total organic carbon
TPH	total petroleum hydrocarbon
TR	trench
TRC	total residual chlorine
TS	tension sampler
TSP	total suspended particulate
TSS	total suspended solids
U	uranium
U-234	uranium-234
U-235	uranium-235
U-238	uranium-238
UCL	upper confidence limit
UDFCD	Urban Drainage and Flood Control District
UHSU	upper hydrostratigraphic unit
USCS	Unified Soil Classification System
USDA	United States Department of Agriculture
USLE	Universal Soil Loss Equation
UTL	upper tolerance limit of the background data
V	vanadium
VF	volatilization factor
VOC	volatile organic compound
VVDM	Ventilated Valley Dispersion Model
WARP	Well Abandonment and Replacement Program
WQPL	Water Quality Parameter List
WW	wet weight
WWC	Woodward-Clyde Consultants
WWTP	Waste Water Treatment Plant
Z	zinc
Zn	zinc
ZTS	zero tension samplers
ZTS	sero tension samplers

APPENDIX A
OU-2 GEOLOGICAL DATA

A4.2

OU-2 HISTORICAL AND OTHER INVESTIGATIONS BOREHOLE LITHOLOGY AND MONITORING WELL CONSTRUCTION LOGS

1989
BOREHOLES/MONITORING WELLS

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 9.6	GROUND ELEVATION (FT):	5917.80	OLD WELL NUMBER:	PZ13-89	LOG OF BORING NUMBER:
NORTH:	750538	AREA: B-1 POND	CASING DIAMETER (IN):	2-3/8 O.D.	GEOLOGIST:	SPC	B213789
EAST:	2086677	LOCATOR NUMBER: N10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	06/13/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.40/1.60; 2.00/2.00; 1.95/2.00; 1.90/2.00; 2.00/2.00

DATUM (FT): 5917, 5916, 5915, 5914, 5913, 5912, 5911, 5910, 5909, 5908

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

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

PZ13890506

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	Sandy Clay - mod. brown (5 YR 4/4) to dusky yellowish brown (10 YR 2/2). Trace gravel to pebbles, non-stratified. F.g. to v.c.g. sand, poor sorting, sub-angular, quartzose. Poorly consol., stiff, med. plasticity, moist.
CL:	Sandy Clay - mod. yellowish brown (10 YR 5/4), non-stratified. F.g. to v.c.g. sand, poor sorting, sub-angular, quartzose. Poor consol., stiff, med. plasticity, calcareous, moist.
CL:	Sandy Clay - same as above. Light brown (5 YR 5/6) to dark yellowish orange (10 YR 6/6), increased calcareous deposits.
CLAYEY SANDSTONE:	Top of Bedrock. Dark yellowish orange (10 YR 6/6) to grayish orange (10 YR 7/4) to light gray (N 7/0), non-stratified, mottled. F.g. to c.g. sand, poor sorting, sub-angular, quartzose. Poorly consol., calcareous, very weathered, moist.
CLAYSTONE:	Very light gray (N 8/0). Non-stratified, blocky, mod. consol., med. to high plasticity, weathered, abundt. iron oxide staining, moist.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Same as above - light olive gray (5 Y 5/2) to dark yellowish orange (10 YR 6/6) to med. light gray (N 6/0), mottled. Calcareous deposits.
	Total Drilled Depth = 9.6'.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.0	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898PA	LOG OF BORING NUMBER:	
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: TAL	B215389	
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/01/89		

REMARKS: Hollow Stem Auger. Borehole abandoned with volclay grout (augers down hole). Weston Log.

SAMPLE NUMBER	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
B215389003	1.20 /2.00	5954	0–1	ML:	Gravelly Sandy Silt - 0.0' to 0.5' dusky yellowish brown (10 YR 2/2), organics, roots. 0.5' to 1.2', med. orange pink (10 YR 2/2), non-stratified. F.g. to m.g., sub-rounded to sub-angular quartzose sand. Some coarse, 2 cm. to 4 cm., broken quartzose gravels. Trace clay. Firm, grading to gravelly silty sand. Caliche, mod. to highly calcareous reaction, dry.
B215389004	2.00 /2.00	5953–5952	2–3	ML:	Gravelly Sandy Silt - grading to Gravelly Silty Sand - same as above.
		5951	4	NO SAMPLE:	NO SAMPLE.
B215389007	0.00 /1.00	5950	5	SM:	Gravelly Silty Sand - same as above. Iron stain, dark yellowish orange (10 YR 6/6). 2 cm. to 6 cm. quartzose gravels.
	1.00 /1.00	5949	6	SM:	Gravelly Silty Sand - same as above.
B215389008	1.50 /1.50	5948	7	SC:	Gravelly Clayey Sand - mod. brown (5 YR 4/4) to mod. reddish brown (10 YR 4/6), non-stratified. F.g. to c.g., sub-angular to sub-rounded quartzose sand. 1 cm. to 4 cm. broken quartzose gravels. Trace to some silt. Iron staining, non to low plasticity, caliche, mod. calcareous reaction, stiff, dry.
	1.00 /1.00	5947	8	SC:	Gravelly Clayey Sand - same as above. Mod. red (5 R 4/6) and grayish orange pink (10 YR 8/2).
	0.00 /0.50	5946	9	NO SAMPLE:	NO SAMPLE.
[illegible]711	1.00 /1.00	5945	10	SC:	Gravelly Clayey Sand - same as above.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 30.0	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898RA	LOG OF BORING NUMBER:
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: TAL	B215389
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/01/89	

REMARKS: Hollow Stem Auger. Borehole abandoned with volclay grout (augers down hole). Weston Log.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	B215389101			1.00 /1.00	5944	10			SC:	Gravelly Clayey Sand - same as above. Mod. yellowish brown (10 YR 5/4), damp.
				0.00 /1.00	5943	11			NO SAMPLE:	NO SAMPLE.
				0.50 /0.50		12			SC:	Gravelly Clayey Sand - same as above (reference interval 10.0' to 11.0').
				0.00 /0.50	5942				NO SAMPLE:	NO SAMPLE.
	B215389125			1.00 /1.00	5941	13			SC:	Gravelly Clayey Sand - same as above (reference interval 12.0' to 12.5'). Olive gray (5 Y 3/2). Trace to some caliche, mod. calcareous reaction.
	B215389146			1.80 /2.00	5940	14			SC:	Gravelly Clayey Sand - same as above. Mod. red (5 R 4/6) and grayish orange pink (10 R 8/2).
	B215389159			1.80 /2.00	5939	15			SC:	Gravelly Clayey Sand - same as above.
					5938	16				
	B215389189			1.00 /1.00	5937	17			SC:	Gravelly Clayey Sand - same as above.
				1.00 /1.00	5936	18			SW:	Sand - mod. brown (5 YR 4/4), non-stratified. F.g. to m.g., sub-angular to sub-rounded, mod. sorted, quartzose, uncemented. Trace silt. Trace clay, firm, damp. (sw-sp?)
					5935	19			SC:	Gravelly Clayey Sand - same as above.
						20				

STATE PLANE COORDINATE:
NORTH: 749494
EAST: 2087341

TOTAL DEPTH (FT): 30.0
AREA: EAST TRENCHES
LOCATOR NUMBER: 09

GROUND ELEVATION (FT): 5954.90
CASING DIAMETER (IN):
BOREHOLE DIAMETER (IN):

OLD WELL NUMBER: 60-898RA
GEOLOGIST: TAL
DATE DRILLED: 11/01/89

LOG OF BORING NUMBER: B215389

REMARKS: Hollow Stem Auger. Borehole abandoned with volclay grout (augers down hole). Weston Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADI SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						20			SC:	Gravelly Clayey Sand - grading to Gravelly Sandy Clay, same as above. Low plasticity, damp to moist.
	B215389123			1.80 /2.00	5934	21				
					5933	22			SC:	Gravelly Clayey Sand - grading to Gravelly Sandy Clay, same as above. Olive gray (5 Y 4/1). Trace silt, trace gravel, high plasticity, damp.
	B215389224			1.00 /2.00	5932	23				
	326				5931	24			CLAYSTONE:	Top of Bedrock Brownish gray (5 YR 4/1) to light brownish gray (5 YR 6/1), non-stratified. Trace silt, weathered, grading to Silty Claystone, damp.
				0.80 /2.00	5930	25				
					5929	26			SILTY CLAYSTONE:	Olive gray (5 Y 4/1), light brownish gray (5 YR 6/1). Iron stained, dusky yellow (5 Y 6/4), mottled, non-stratified, silty, blocky, high plasticity, stiff, damp.
	B215389628			2.00 /2.00	5928	27				
	B215389629				5927	28			SILTY CLAYSTONE:	Same as above. Total Drilled Depth = 30.0'.
				2.00 /2.00	5926	29				
					5925	30				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-898R	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

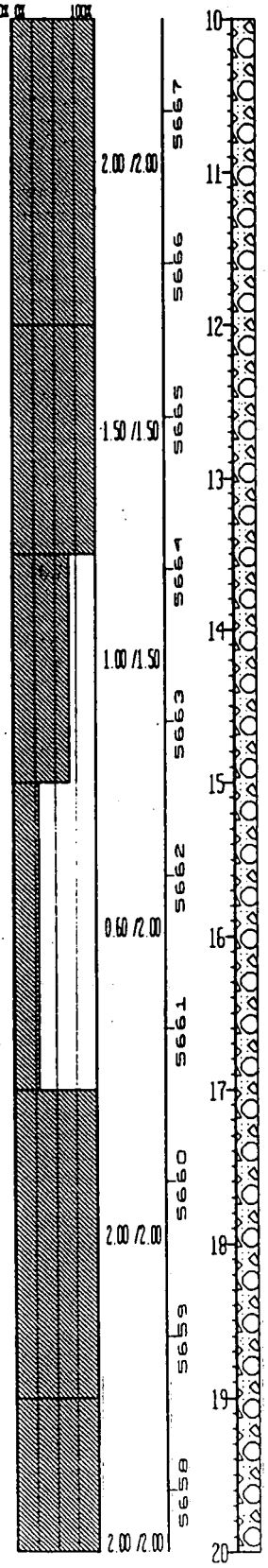
REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				2.00/2.00	5677	0–1			ML:	Organic Silt - mod. brown (5 YR 3/4) Some clay, some gravel (0.2 cm. to 4 cm.). Trace f.g. sand, mod. sorted. Gravel sub-angular to sub-rounded, firm, damp.
				2.00/2.00	5676	1–2				
				2.00/2.00	5675	2–3			CL:	2.4' to 4.0', Silt and Clay - mod. brown (5 YR 3/4) Trace gravel (0.2 cm. to 1 cm.), trace f.g. to c.g. sand. Caliche throughout reacts to HCl (calcareous), mod. sorted, gravel is sub-rounded, quartzose, firm, dry.
				2.00/2.00	5674	3–4				
				2.00/2.00	5673	4–5				
				2.00/2.00	5672	5–6			CLAYSTONE:	Top of Bedrock. Brownish gray (5 YR 4/1). Trace f.g. to c.g. sand, caliche abundt., gravel well rounded to sub-rounded, stiff, dry.
				2.00/2.00	5671	6–7			CLAYSTONE:	Same as above - iron mottling.
				2.00/2.00	5670	7–8				
				2.00/2.00	5669	8–9			CLAYSTONE:	Same as above - some small carbon patches.
					5668	9–10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT)	5677.60	OLD WELL NUMBER	54-89BR	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

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



Unified Soils Classification or Rock Type	Description
SANDY CLAYSTONE	Olive gray (5 Y 4/1) to med. gray (N 5/0). Interbedded Claystone and fine sand, well sorted, firm redeposited, damp to dry.
SANDSTONE	Sandstone - dark yellowish orange (10 YR 6/6). Trace silt, trace clay, well sorted, well rounded, quartz sand, firm, damp to dry.
SANDSTONE	Mod. yellowish brown (10 YR 5/4). Trace silt, poorly sorted. Sandstone nodules with calcareous cement, sub-angular to sub-rounded, quartzose, hard, dry.
SANDSTONE	Same as above - light brown (5 YR 5/6). Color and Sandstone nodules 0.2 cm to 2 cm, damp.
SANDSTONE	Light olive gray (5 Y 6/1). Well sorted, well rounded, quartzose, soft, damp.
SANDY CLAYSTONE	Mod. yellowish brown (10 YR 5/4). Interbedded sandy zones, f.g. to m.g. sand. The bulk of the sample well sorted, f.g. to m.g. sand. Claystone lenses, sand well rounded, firm, moist.
SANDY CLAYSTONE	Same as above - almost all f.g. to m.g. sand, Claystone lense.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-89BR	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 2.00/2.00; 2.00/2.00; 1.00/1.00; 1.00/1.00; 1.00/1.00; 1.00/1.00; 2.00/2.00; 1.00/1.00

DATUM (FT): 5657, 5656, 5655, 5654, 5653, 5652, 5651, 5650, 5649, 5648

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

WELL OR PIEZOMETER CONSTRUCTION: 09/28/89

LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SANDSTONE:	Pale yellowish brown (10 YR 6/2). Stratified, lenses of Claystone very sparse. F.g. to m.g. sand, quartz, well rounded, moist
	SANDSTONE:	Sand and Claystone, interbedded - mod. yellowish brown (10 YR 5/4). Claystone portions mottled.
	CLAYSTONE:	Olive gray (5 Y 4/1). Heavily mottled (iron), some carbon patches, firm, wet.
	CLAYSTONE:	Olive gray (5 Y 4/1) to med. gray (N5). No mottling, tight, carbon material in the clay patches, very stiff, wet.
	CLAYSTONE	Same as above - very slight mottling (iron). Claystone silt, less competent, firm, wet

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

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
		0% 50%	100% 0% 100%	1.00 /1.00	5647	30			CLAYSTONE	Same as above - percentage of silt varies throughout the spoon. Some parts true clay, others clayey silt, very firm, wet
				1.00 /1.00	5646	31				
				0.40 /1.00	5645	32				
				1.00 /1.00	5644	33			SILTSTONE	Olive gray (5 Y 4/1), med. gray (N5). Stratified, f.g. sand, some redeposited Claystone, mottling in Claystone (iron), well sorted, soft, moist
				1.00 /1.00	5643	34			CLAYSTONE	Olive gray (5 Y 4/1) to med. gray (N5). Heavily mottled, weathered, stratified, firm, damp.
				1.00 /1.00	5642	35				
				1.00 /1.00	5641	36			CLAYSTONE	Same as above - tighter, less weathered.
				1.00 /1.00	5640	37				
				1.00 /1.00	5639	38			CLAYSTONE	Same as above - higher percentage of silt, trace of fine sand in lenses.
				1.00 /1.00	5638	39			CLAYSTONE	Light olive gray (5 Y 4/1) to mod. gray (N5). Greater percentage of clay, less mottling (iron), competent, unweathered, very stiff, damp
						40				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER	54-898R	LOG OF BORING NUMBER
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B21728
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89; by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand; 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

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
				1.00 /1.00	5637	40			CLAYSTONE:	Dark yellowish brown (10 YR 4/2). Very tight, mottled (iron), hard, dry to damp.
				1.00 /1.00	5636	41			SANDSTONE:	Light olive gray (5 Y 6/1). Well sorted, well rounded, partially indurated, stiff, damp.
									CLAYSTONE:	Dark yellowish brown (10 YR 4/2) Interbedded, well sorted, well rounded, firm, moist.
				1.00 /1.00	5635	42			CLAYSTONE:	Olive gray (5 Y 4/1). Heavily mottled (iron), firm, moist.
				1.00 /1.00	5634	43			CLAYSTONE:	Dark gray (N3). Slightly mottled (iron), tight, damp.
				1.00 /1.00	5633	44			CLAYSTONE:	Dark gray (N3). Portions Siltstone, barely mottled (iron) Siltstone portions very indurated, have to break with hammer.
				1.00 /1.00	5632	45			CLAYSTONE:	Same as above - slightly mottled.
				1.70 /1.80	5631	46			SILTY CLAYSTONE:	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable, bedding not evident. Some low angle fractures. Trace carbonaceous material. Iron staining in fractures. Most fractures almost horiz. Some silt discoloration (grayish orange (10 YR 7/4)) Fracture angle 20 degrees. >70% clay.
				1.70 /1.80	5630	47			SILTY CLAYSTONE:	Same as above - bedding probably horiz. from fracture patterns. Carbonaceous material is in horiz. planes. >70% clay.
				0.60 /0.40	5629	48				
					5628	49				
						50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH: 750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST: 2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	DEPTH	SAMPLE NUMBER	SAMPLE GRADI SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					1.20 /1.70	5627	50			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding horiz. from fracture patterns and carbonaceous material. Trace carbonaceous material. Iron staining in high angle fractures. Some grayish orange (10 YR 7/4) silt discoloration locally. Fracture angle 80 degrees. >60% clay.
					1.70 /2.00	5626	51			SILTY CLAYSTONE	Same as above - slickensides visible in high angle fractures. Approx. 70 degree fracture angle.
					0.40 /0.30	5625	52			SILTY CLAYSTONE	Same as above - some v.f.g. sand in a very thin (approx. 1 mm.) layer.
					1.20 /1.00	5624	53			SILTY CLAYSTONE	Same as above - some fractures show slickensides. Some bedding appears to be approx. 25 degrees off horiz., only visible in upper portion of interval. Trace v.f.g. sand in thin (1 mm.) layer. Fracture angles 20 degrees and 30 degrees. >60% clay.
					1.80 /1.70	5623	54			SILTY CLAYSTONE	Same as above - high angle (approx. 60 degrees) bedding visible. Low angle to horiz. fractures. Slickensides on some low angle fractures. Fracture angles 0 degrees to 25 degrees. >60% clay.
					1.30 /1.30	5622	55			SILTY CLAYSTONE	Same as above - bedding not evident, no fractures.
					0.50 /0.20	5621	56			SILTY CLAYSTONE	Same as above - some v.f.g. sand, bedding convoluted, irregular. >50% clay.
					1.80 /2.00	5620	57				
						5619	58				
						5618	59				
							60				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-89BR	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

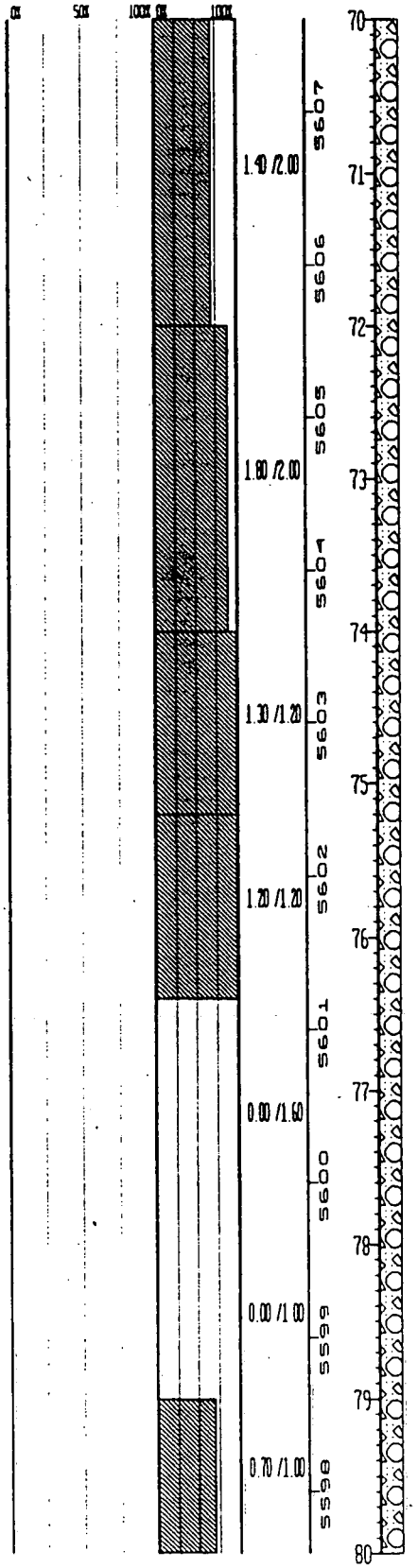
REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

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
			100%	1.50 /1.80	5617	60–61			SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Bedding appears to dip approx. 33 degrees. Probably convoluted as in previous interval. Trace carbonaceous material. >50% clay.
				0.20 /0.10	5616	61–62			CLAYSTONE	Light brownish gray (5 YR 6/1) Mod. to slightly friable. Bedding not evident.
				1.80 /1.80	5615	62–63			CLAYSTONE	Same as above - brownish gray (5 YR 4/1) Mod. to friable. Some carbonaceous material. >80% clay.
				1.80 /1.90	5614	63–64			SILTY CLAYSTONE	Light brownish gray (5 YR 6/1) to brownish gray (5 YR 4/1). Slightly to mod. friable. Bedding not evident. Some minor slickensides visible. Trace carbonaceous material. >70% clay.
				0.30 /0.20	5613	64–65				
				1.30 /1.80	5612	65–66			CLAYSTONE	Brownish gray (5 YR 4/1) Slightly friable. Some slickensides present on fractures. Trace carbonaceous material. Fracture angle of 30 degrees.
				1.70 /2.00	5611	66–67				
				0.30 /0.20	5610	67–68			CLAYSTONE	Same as above. Fracture angle of 60 degrees. >75% clay.
					5609	68–69				
					5608	69–70			SILTY CLAYSTONE	Same as above

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-89BR	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample; 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASILog: 46.0'-220.0'.

CHEMICAL SAMP / GEOTECHNICAL / 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)	Unified Soils Classification or Rock Type	Description
1.40/2.00	5607, 5606	70–72	SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Bedding not evident. Slightly friable. Trace carbonaceous material. >60% clay.
1.80/2.00	5605, 5604	72–74	CLAYSTONE:	Olive gray (5 Y 4/1). Bedding not evident. Mod. friable to friable. Some silt, trace carbonaceous material. Some slickensides visible on irreg. fracture planes. >80% clay.
1.30/1.20	5603	74–75	CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident, fractures horiz. Trace carbonaceous material, trace iron staining. >80% clay.
1.20/1.20	5602	75–76	CLAYSTONE:	Same as above - slickensides visible on one high angle fracture. Some silt. Fracture angle of approx. 75 degrees. >80% clay.
0.00/1.60	5601, 5600	76–79	NO SAMPLE	NO SAMPLE.
0.00/1.00	5599	79–80	CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Trace carbonaceous material, some silt. Slickensides present on one high angle fracture. Fracture angles from 60 degrees to 70 degrees.
0.70/1.00	5598	80		

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH: 750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST: 2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89; by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPL GEOTECHNICAL S.	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
				0.60 /1.80	5597	80–81			CLAYSTONE:	Same as above. >80% clay.
				1.70 /1.80	5596, 5595	82–83			CLAYSTONE:	Olive black (5 Y 2/1). Bedding not evident. Mod. friable. Some silt, trace carbonaceous material. Slickensides present on irreg. fractures. >80% clay.
				1.20 /1.40	5594, 5593	84			CLAYSTONE:	Same as above - color change to brownish gray (5 Y 4/1). >80% clay.
				0.50 /0.40	5593	85				
				1.70 /1.80	5592, 5591	86–87			CLAYSTONE:	Olive gray (5 Y 4/1). Bedding not evident, slightly friable. Some silt, trace carbonaceous material. Becomes siltier toward bottom of interval. >70% clay.
				1.60 /1.80	5590	88			CLAYSTONE:	Same as above - mod. friable. >70% clay.
				0.10 /0.10	5589	89			SILTY CLAYSTONE:	Light olive gray (5 Y 6/1). Slightly friable. Thin horiz. bedding (<1 mm.) visible. >50% clay.
					5588	90			SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding horiz., some very thin (approx. 1 mm.) silt layers visible. Trace carbonaceous material. >60% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-898R	LOG OF BORING NUMBER
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D	GEOLOGIST	TG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	DEPTH (FT)	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 /1.90	5587	90				
					1.60 /1.70	5586	91			CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Some slickensides visible on high angle fractures. Some silt toward bottom of interval, trace carbonaceous material. Fracture angle of 60 degrees. >60% clay.
					0.50 /0.30	5585	92			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Silt in thin (<1 mm.) layers. >70% clay.
					1.20 /1.80	5584	93			SILTY CLAYSTONE	Same as above - mod. friable. >70% clay.
					1.70 /2.00	5583	94			SILTY CLAYSTONE	Same as above - slightly friable. Some slickensides on fracture angles, trace carbonaceous material, trace v.f.g. sand. Fracture angles 20 degrees, 30 degrees and 0 degrees. >70% clay.
					0.20 /0.20	5582	95			SILTY CLAYSTONE	Same as above - horiz. fractures. Trace v f g. sand in thin layers (approx 1 mm.)
					1.50 /1.30	5581	96			SILTY CLAYSTONE	Same as above - some slickensides visible.
					1.75 /1.60	5580	97			SILTY CLAYSTONE	Brownish gray (5 YR 4/1). Slightly to non-friable. Trace carbonaceous material, trace iron staining. Mostly horiz. fractures. >60% clay.
						5579	98				
						5578	99				
							100				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-89BR	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

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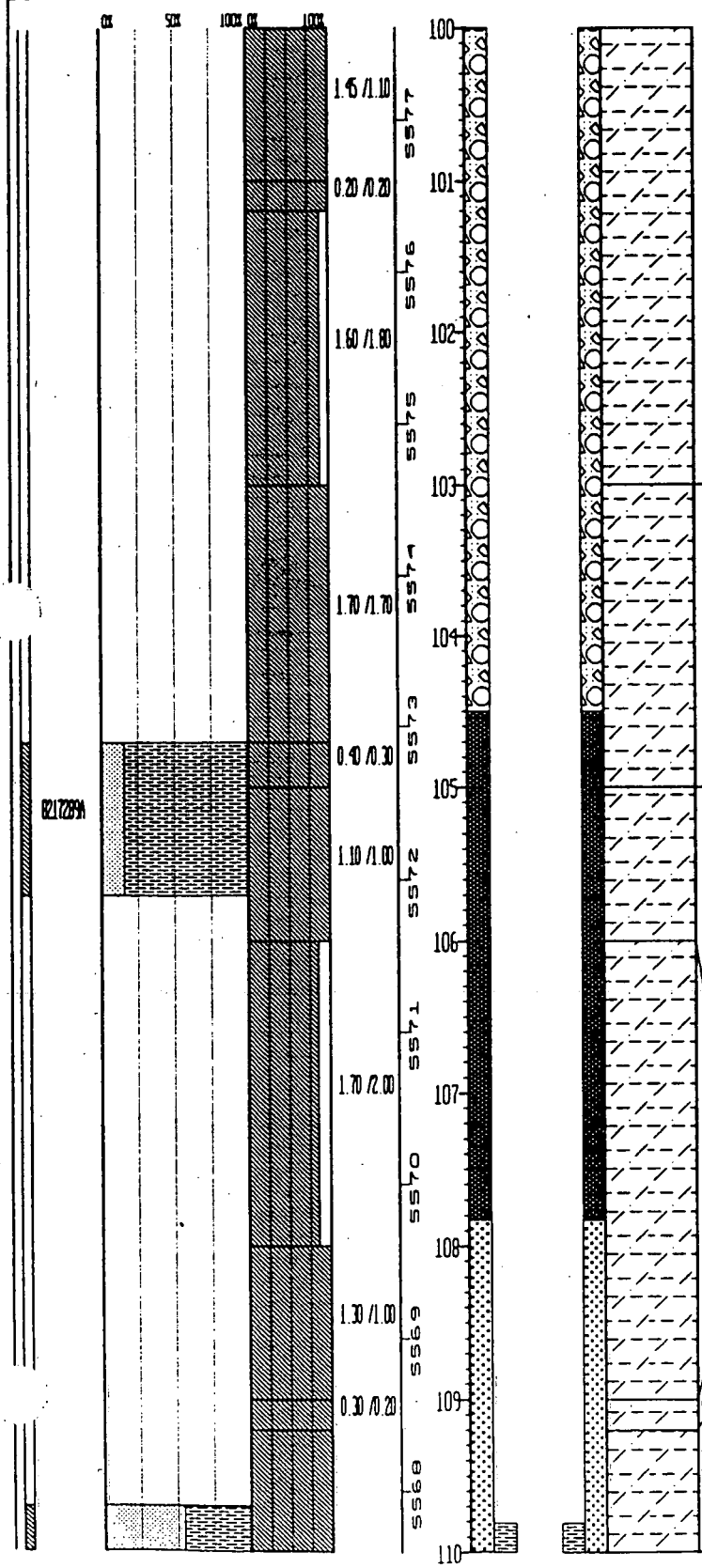

SILTY CLAYSTONE: Same as above.
>50% clay.

SILTY CLAYSTONE: Light brownish gray (5 YR 6/1) to light olive gray (5 Y 6/1). Slightly friable. Bedding appears horiz. in thin laminations. Some v.f.g. sand. Fracture angles of 0 degrees to 15 degrees.
>50% clay.

SILTY CLAYSTONE: Same as above - olive gray (5 Y 4/1) No v f g sand visible. 0 degree fracture angle
>60% clay.

SILTY CLAYSTONE: Same as above - some v.f.g. sand

SILTY CLAYSTONE: Silty Claystone to Sandy Claystone - Light olive gray (5 Y 6/1). Sand mod. sorted, mod. rounded, v.f.g. to f.g. Slightly friable. Bedding appears thinly laminated (<1 mm.), horiz.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

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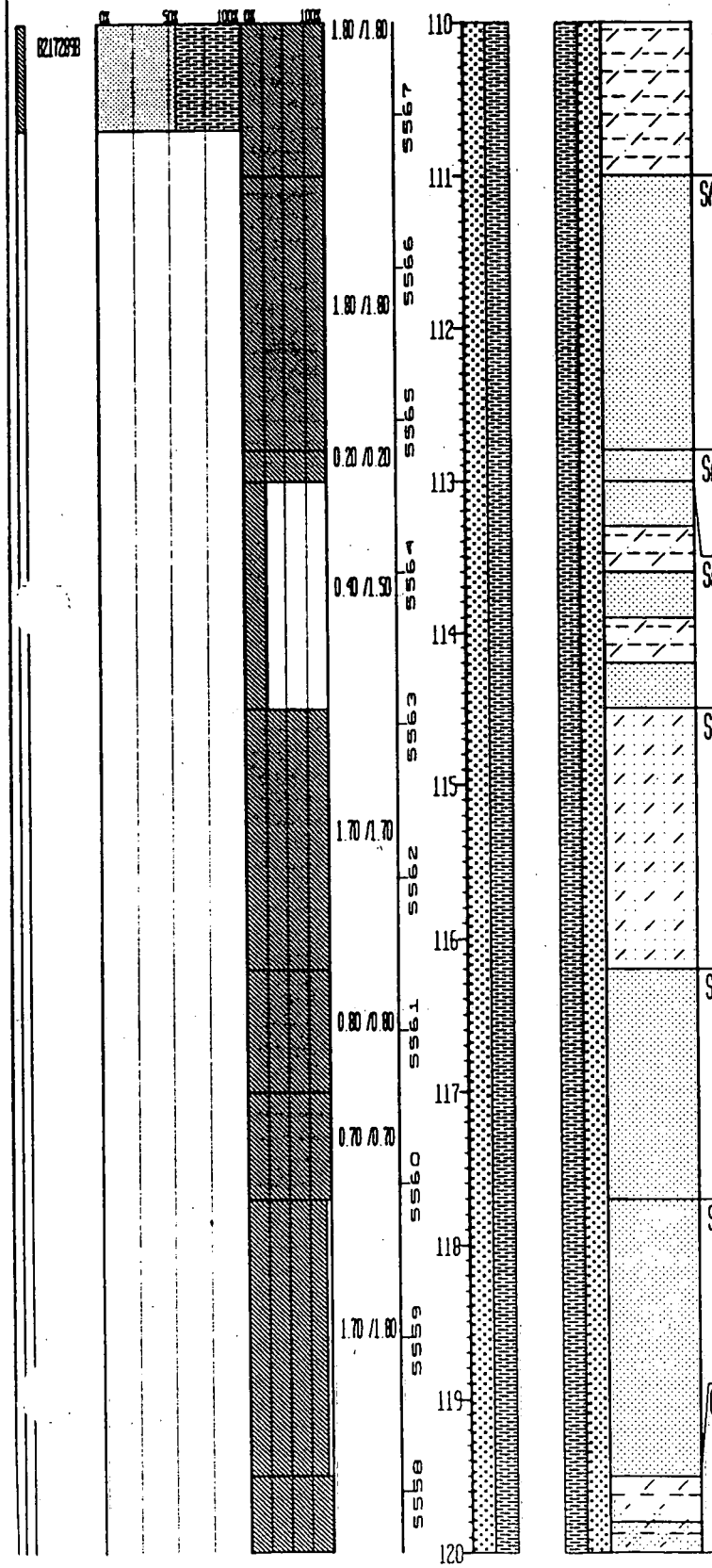
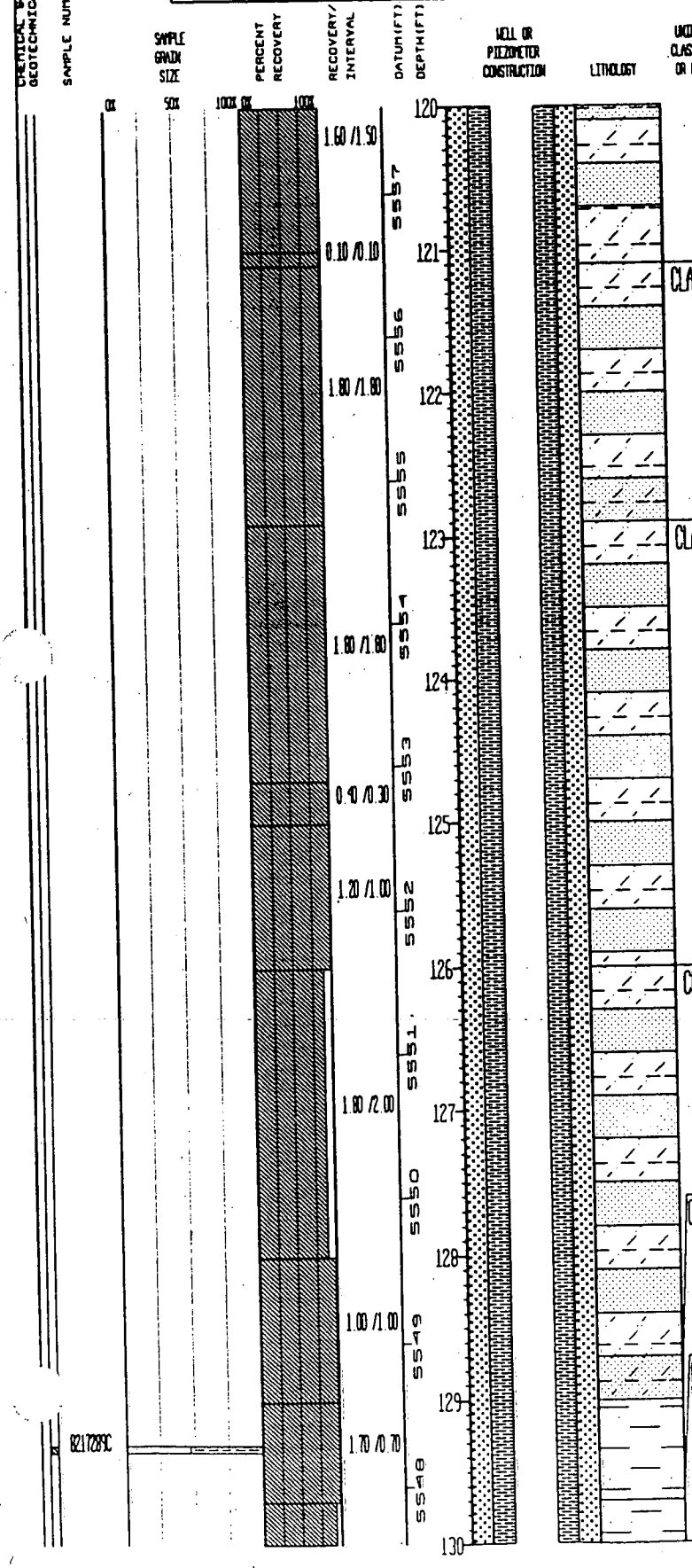
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL 6" - 6" DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE
PERCENT RECOVERY
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



	>50% clay to 25% sand, 25% silt
SANDSTONE:	Light olive gray (5 Y 6/1). V.f.g. to f.g., mod. to well sorted, rounded to well rounded, mod. porous to porous. Some silt. Slightly friable. Thin, horiz. laminated bedding (1 mm.). Grain size decreases at bottom of interval to v.f.g. sand and silt. Laminated with Claystone at bottom. >70% sand.
SANDSTONE:	Interbedding v.f.g. Sandstone and Silty Claystone - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Same features as above.
SANDSTONE:	Same as above - some cross-stratification visible.
SILTY SANDSTONE:	Light olive gray (5 Y 6/1). V.f.g. sand, rounded, well sorted. Slightly porous, slightly friable. Some clay. Thinly laminated bedding (less than 1 mm.), dipping 0 degrees to 10 degrees. Some cross-stratification visible. (Silty Sandstone with some Clay). 60% sand, 30% silt, 10% clay
SANDSTONE:	V.f.g. Sandstone - light olive gray (5 Y 6/1). Rounded, well sorted, same as above. Some clay and silt (Silty Clayey Sandstone). <50% sand, 50% silt and clay
SANDSTONE:	Light olive gray (5 Y 6/1). V.f.g. sand, rounded, well sorted, thin laminated bedding, mod. to porous, mod. friable. Some crossbedding visible, some silt >70% sand.
CLAYEY SILTSTONE:	Interbedded Clayey Siltstone and Sandstone - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). V.f.g. sand, well sorted, mod. porous, mod. rounded. Thinly laminated crossbedding visible. 35% sand, 35% silt, 30% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH: 750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST: 2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.



CLAYEY SILTSTONE: Same as above with layers of Silty Claystone - dipping bedding. Trace carbonaceous material. Bedding angle of 30 degrees. Fracture angle of 30 degrees 30% sand, 30% silt, 30% clay.

CLAYEY SILTSTONE: Same as above - bedding does not appear to dip as much.

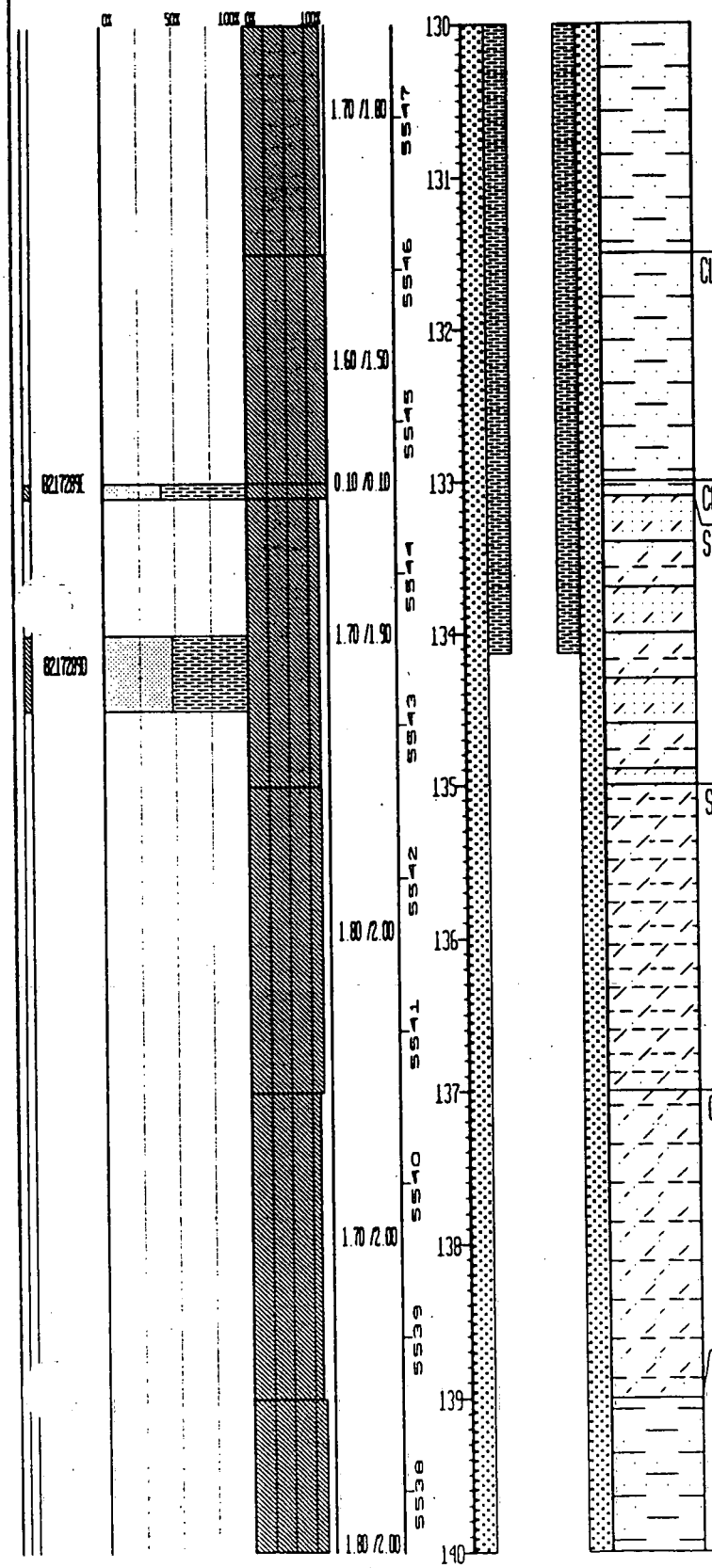
CLAYEY SILTSTONE: Same as above - v.f.g Sandstone more prevalent. Some carbonaceous material.

CLAYEY SANDSTONE: Light brownish gray (5 YR 6/1). Well sorted, rounded, slightly friable. Thin laminated crossbedding, some carbonaceous material. V.f.g. to f.g. sand, slightly porous. >50% sand.

CLAYEY SANDSTONE: Clayey Sandstone - yellowish gray (5 Y 8/1) to grayish orange pink (5 YR 7/2). V.f.g. sand, well sorted, rounded, mod. porous to porous. Slightly to mod. friable. Some silt. Thinly laminated (<1 mm) dipping bedding. Fracture angle of 20 degrees. Bedding angle of 25 degrees >50% sand.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH: 750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST: 2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. Geotech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SANDSTONE	Same as above - grades to Clayey Siltstone and back to Clayey Sandstone.
CLAYEY SANDSTONE	Same as above - some carbonaceous material
SILTY SANDSTONE	Silty Sandstone and Clayey Siltstone interbedded - yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Sandy areas mod. friable, sorted - Rounded, f.g. to m.g. sand. Bedding irreg. crossbedding and slumps. Grades to Claystone, more friable. Mod. brown Siltstone nodule (2 cm.) visible. 40% sand, 40% silt, 20% clay.
SILTY CLAYSTONE	Mottled - yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Bedding not evident, irreg. Some light brown silty areas. Slightly friable >50% clay.
CLAYEY SILTSTONE	Yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Mod. to slightly friable. Irreg. laminations, some v.f.g. sand, some carbonaceous material. Fracture angle of 30 degrees. >50% silt
CLAYEY SANDSTONE	Pinkish gray (5 YR 8/1). Well sorted, rounded. Slightly to mod. friable. Mod. porous, some silt. Bedding not apparent, trace carbonaceous material. Grades to Claystone - light brownish gray (5 YR 6/1). Mod. friable. Bedding not evident, trace carbonaceous material. >50% sand.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-898R	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B21728C
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAM / GEOTECHNICAL	SAMPLE NUMBER	SAMPLE GRADIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		50%	100%	1.80 /2.00	5537	140				
				1.90 /1.80	5536	141			CLAYSTONE	Same as above - high angle fracture, becomes silty at bottom of interval. Fracture angle 80 degrees. >50% clay.
					5535	142				
				2.20 /2.20	5534	143			SILTY CLAYSTONE	Same as above - light olive gray (5 Y 6/1), slightly friable. >50% clay.
					5533	144				
				1.30 /1.20	5532	145			SILTY CLAYSTONE	Brownish gray (5 YR 4/1) to pinkish gray (5 YR 8/1). Slightly friable. Thin laminated, sloped bedding. Silt layers in bedding (1 mm. laminations). Bedding angles 30 degrees and 35 degrees. >50% clay.
					5531	146				
				1.80 /1.80	5530	147			SILTY CLAYSTONE	Interbedded Silty Claystone, Clayey Siltstone and Clayey Sandstone - thin horiz. laminations (1 mm. to 40 mm.). V.f.g. sands. Slightly friable. Trace to some carbonaceous material. 50% silt, 50% clay.
						148				
				0.90 /1.00	5529				SILTY CLAYSTONE	Same as above - some areas of abundt. carbonaceous material.
				0.90 /0.70	5528	149			SILTY CLAYSTONE	Interbedded Silty Claystone, Clayey Siltstone and Clayey Sandstone - olive gray (5 Y 4/1). Thin laminated layers (1 mm. to 5 mm.). Irreg. bedding. Abundt. carbonaceous material in top of interval. Healed fracture. V.f.g. sand. Fracture angle 40 degrees. 50% silt, 50% clay.
						150				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-898R	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

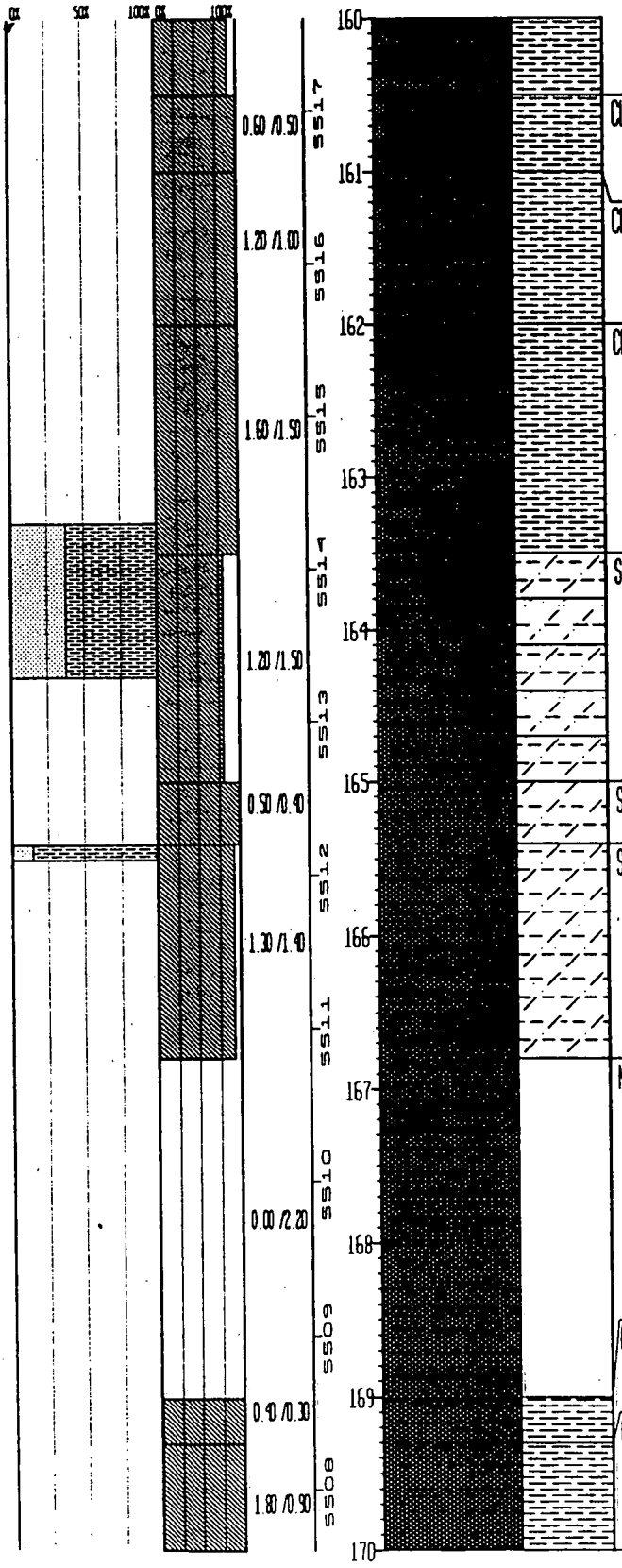
REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50%)	PERCENT RECOVERY (0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					1.70 /1.80	5527	150–151				
					1.30 /1.50	5526, 5525	151–152			SILTY CLAYSTONE	Same as above - less carbonaceous material.
					0.40 /0.30	5524	152–153			SILTY CLAYSTONE	Same as above - slickensides present on fracture plane. Some carbonaceous material. Fracture angle of 30° degrees.
					1.80 /1.80	5523	153–154				
					1.60 /1.90	5522, 5521	154–156			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Bedding not evident, slightly friable. Bedding irreg., low angle fractures. Slickensides on fracture planes. Some yellowish brown silt, localized. Trace carbonaceous material. Fracture angle 20 degrees. >50% clay.
					0.10 /0.10		156–157				
					1.70 /1.40	5520	157–158			CLAYSTONE	Olive black (5 Y 2/1). Mod. friable. Bedding probably nearly horiz. from fracture angles. Grades to brownish black (5 YR 2/1). Some carbonaceous material, grades to abundt. carbonaceous material. >70% clay.
					1.80 /2.00	5519, 5518	158–160			CLAYSTONE	Same as above - small layer of coal (approx. 30 mm).

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

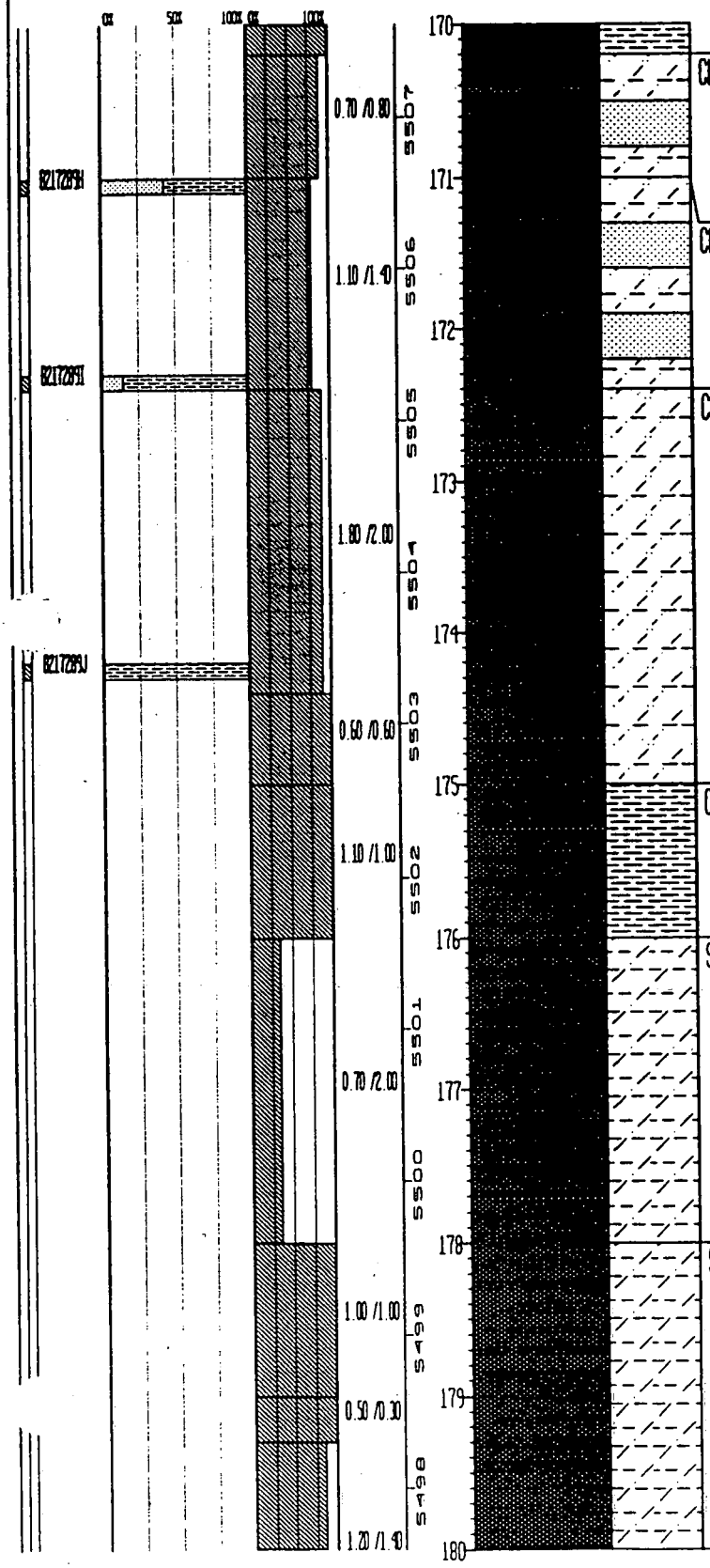
REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

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
				0.60 /0.50	SS17			CLAYSTONE:	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Bedding not evident. Mod. friable. Coal in thin (1 mm.) seams. >70% clay.
				1.20 /1.00	SS16			CLAYSTONE:	Same as above - no coal seams, high angle fractures. Fracture angle of 80 degrees.
				1.60 /1.50	SS15			CLAYSTONE:	Same as above - color change to light olive gray (5 Y 6/1). No carbonaceous material.
	B217289			1.20 /1.50	SS14 SS13			SILTY CLAYSTONE:	Silty Claystone and Clayey Siltstone interbedded - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Irreg. thinly laminated bedding (1 mm.). Trace iron staining. Slightly friable. 50% silt, 50% clay.
				0.50 /0.40				SILTY CLAYSTONE:	Same as above - with v.f.g. sand layers.
	B217289			1.30 /1.40	SS12 SS11			SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding irreg. laminations, some carbonaceous material >50% clay.
				0.00 /2.20	SS10 SS09			NO SAMPLE:	NO SAMPLE.
				0.40 /0.30				CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. >70% clay.
				1.80 /0.90	SS08			CLAYSTONE:	Same as above - becomes silty toward bottom, grades to Clayey Sandstone, v.f.g., well sorted. Some black carbonaceous material. 50% sand, 50% clay



STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-898R	LOG OF BORING NUMBER
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

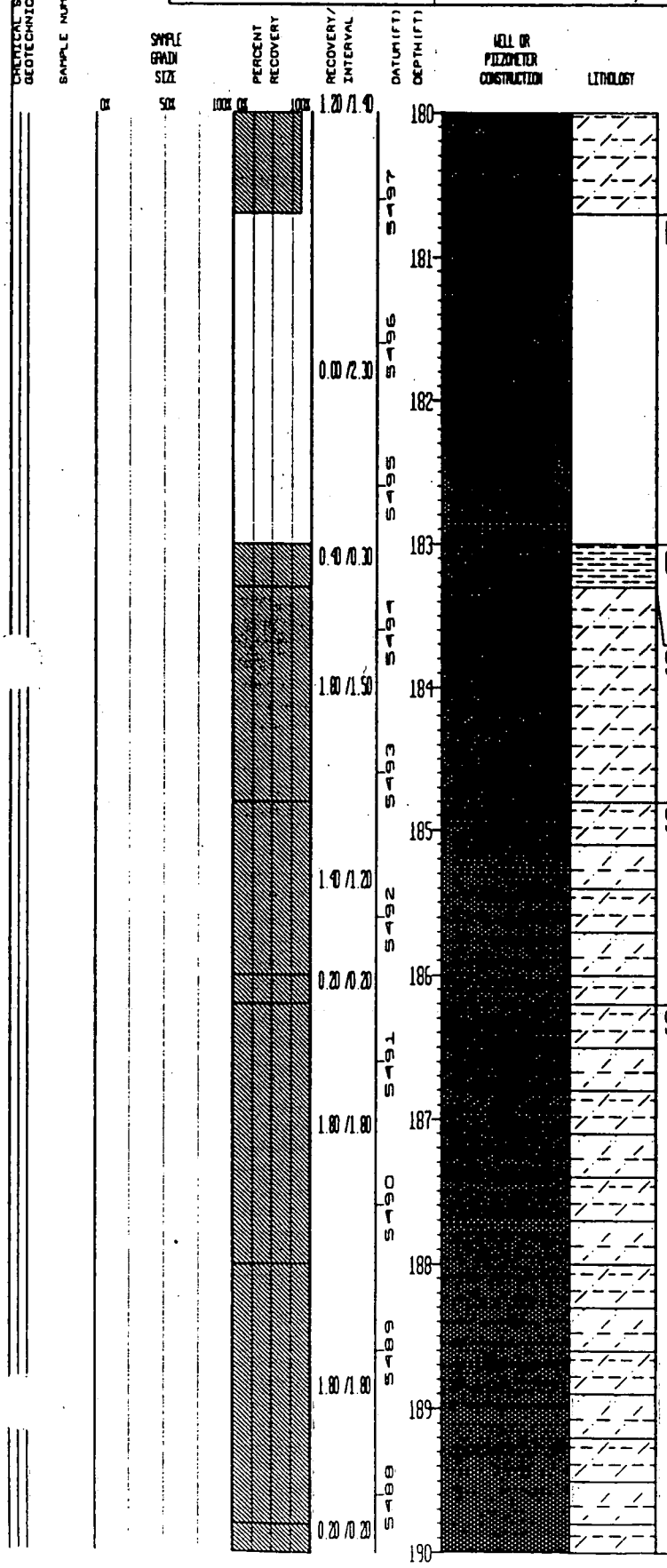
REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.



CLAYEY SILTSTONE:	Interbedded Clayey Siltstone and Sandstone. Yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Thin laminated, dipping bedding (1 mm.). Some black carbonaceous material. 40% sand, 40% silt, 20% clay.
CLAYEY SILTSTONE:	Same as above - with Silty Claystone. Silt layers are calcareous. Bedding angle of 20 degrees.
CLAYEY SILTSTONE:	Same as above - grading to Silty Claystone, olive gray (5 Y 4/1). Bedding not evident. Slightly to non-friable. Trace of carbonaceous material, mostly horiz. fractures. >50% clay.
CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable. Bedding not evident, irreg. fractures, trace carbonaceous material. >70% clay.
SILTY CLAYSTONE:	Pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable. Thin laminated bedding, mostly horiz., some minor crossbedding visible. Trace carbonaceous material. Some light brown silt discoloration. >50% clay.
SILTY CLAYSTONE:	Same as above - grading to Claystone, olive black (5 Y 2/1). Mod. friable. Bedding not evident, trace carbonaceous material >60% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9.	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	NO SAMPLE.
CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable Bedding not evident, trace carbonaceous material. >70% clay.
SILTY CLAYSTONE	Light olive gray (5 Y 6/1) Slightly friable. Bedding not evident, trace carbonaceous material. >50% clay.
SILTY CLAYSTONE	Same as above - interbedded with Clayey Siltstone Irreg laminated bedding
SILTY CLAYSTONE	Same as above - 0.25 in. coal seam. >50% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER
NORTH: 750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST: 2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4.75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. Geotech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.60 /1.70	5487	190			SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1) Slightly friable, irreg. laminated bedding. Trace carbonaceous material. Some v.f.g. sand >50% clay.
				1.80 /1.80	5486	191				
				0.60 /0.50	5485	192				
				1.10 /1.00	5484	193			SILTY CLAYSTONE	Light olive gray (5 Y 6/1). Slightly friable. Bedding not evident, low angle fractures. Fracture angle of 5 degrees. >50% clay.
				1.80 /1.70	5483	194			SILTY CLAYSTONE	Same as above - horiz. fractures
				1.20 /1.30	5482	195			SILTY CLAYSTONE	Same as above - some v.f.g. sand, trace carbonaceous material.
				0.60 /0.50	5481	196			SILTY CLAYSTONE	Same as above - v.f.g. Sandy Claystone, some silt >50% clay
				1.80 /1.80	5480	197			SILTY CLAYSTONE	Same as above - thin laminated bedding and cross-stratification visible.
					5479	198			SILTY CLAYSTONE	Same as above - Silty Claystone and Sandy Claystone interbedded. Trace carbonaceous material
					5478	199				
						200				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0		GROUND ELEVATION (FT):	5677.60	OLD WELL NUMBER:	54-89BR	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST		CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9		BOREHOLE DIAMETER (IN):	4.75	DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample; 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASILog: 46.0'-220.0'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE / DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.60 /1.70; 0.10 /0.10; 1.80 /1.80; 1.70 /1.80; 0.30 /0.30; 1.50 /1.30; 1.80 /1.70; 0.90 /1.00

DATUM (FT): 5477, 5476, 5475, 5474, 5473, 5472, 5471, 5470, 5469, 5468

DEPTH (FT): 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

SILTY CLAYSTONE: Silty Claystone to Sandy Claystone - olive gray (5 Y 4/1) to light olive gray (5 Y 6/1). Slightly friable. Irreg. horiz. laminated bedding. Trace carbonaceous material, trace iron staining. V.f.g. sand. 20% sand, 20% silt, 60% clay.

SILTY CLAYSTONE: Same as above - fractures low angle to horiz. Low angle fracture is 5 degrees.

SILTY CLAYSTONE: Same as above - localized area of mostly f.g. sand, well sorted, rounded, mod. porous. Approx. 30 mm. of core (approx. 0.1').

SILTY CLAYSTONE: Same as above - not sand area.

SILTY CLAYSTONE: Same as above (reference interval 200.3' to 202.0')

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5677.60	OLD WELL NUMBER: 54-898R	LOG OF BORING NUMBER:
NORTH:	750563	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217289
EAST:	2093774	LOCATOR NUMBER: T9	BOREHOLE DIAMETER (IN): 4 75	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger 0.0-46.0', Rotary Core 46.0-220.0'. Set 5-5/8" steel surface casing to 46.19' below ground surface on 9-14-89, by W. W. Hurlburt. GeoTech Sample: 110.0' to 134.0': 37% sand, 39% silt, 24% clay. Weston Log: 0.0'-46.0'. ASI Log: 46.0'-220.0'

CHEMICAL SAMPLE / GEOTECHNICAL / 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
				0.80 /0.80	5467	210			SANDY CLAYSTONE	Pinkish gray (5 YR 8/1). Slightly friable. Irreg. horiz. laminated bedding to dipping bedding (cross-stratification). Sand v.f.g., some silt. Bedding angle 0 degrees to 30 degrees. >50% clay.
				1.60 /1.60	5466	211			SANDY CLAYSTONE	Same as above - pinkish gray (5 YR 8/1) to yellowish gray (5 Y 8/1). Irreg. crossbedding visible. V.f.g. sand, well sorted, calcareous. Some silt, trace carbonaceous material, mod. to slightly porous.
				1.60 /1.60	5465	212			SILTY CLAYSTONE	Silty Claystone to Sandy Claystone - same as above, but not calcareous. >50% clay.
				0.20 /0.10	5464	213			SILTY CLAYSTONE	Same as above - bedding irreg. horz. laminations
				1.80 /1.60	5463	214				
				1.80 /1.50	5462	215				
				0.50 /0.40	5461	216				
				1.30 /1.30	5460	217				
					5459	218			SILTY CLAYSTONE	Same as above - more Sandy Claystone
					5458	219			SILTY CLAYSTONE	Same as above - mod. porosity. Total Drilled Depth = 220.0'.
						220				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 64	GROUND ELEVATION (FT): 5961.60	OLD WELL NUMBER: 558988A	LOG OF BORING NUMBER:	
NORTH: 749451	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: RNZ	B217389	
EAST: 2086807	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 09/28/89		

REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989. AST Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL 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
	558988002	0% 50%	100% 0% 100%	1.30 /2.00	5961	0			GC:	Sandy Clayey Gravel - grayish brown (5 YR 3/2), 30 mm. to 2.0 mm. mod. graded, sub-angular. Roots in top 2 in. Grades to grayish pink (5 R 8/2), 2 mm. to 40 mm. Sub-angular to sub-rounded, very calcareous, some silt. (Clayey Gravel with some Sand and Silt). 45% gravel, 20% sand, 10% silt, 25% clay.
	558988003				5960	1				
	558988004			1.30 /2.00	5959	2			GC:	Sandy Clayey Gravel - grayish orange pink (5 YR 7/2) to light brown (5 YR 6/4), 50 mm. to 2 mm. Mod. graded, sub-angular to rounded, calcareous, some silt. (Clayey Gravel with some Sand and Silt). 45% gravel, 20% sand, 10% silt, 25% clay.
					5958	3				
	0007					4				
	558988015			1.30 /1.00	5957					
					5956	5			NO SAMPLE:	NO SAMPLE.
				0.00 /2.00	5955	6				
	558988708			1.20 /1.00	5954	7			GC:	Sandy Clayey Gravel - light brown (5 YR 6/4), mod. graded, 2 mm. to 70 mm. gravel, angular to rounded, very calcareous, some silt
					5953	8			NO SAMPLE:	NO SAMPLE.
	980711			0.00 /2.00		9				
					5952	10				

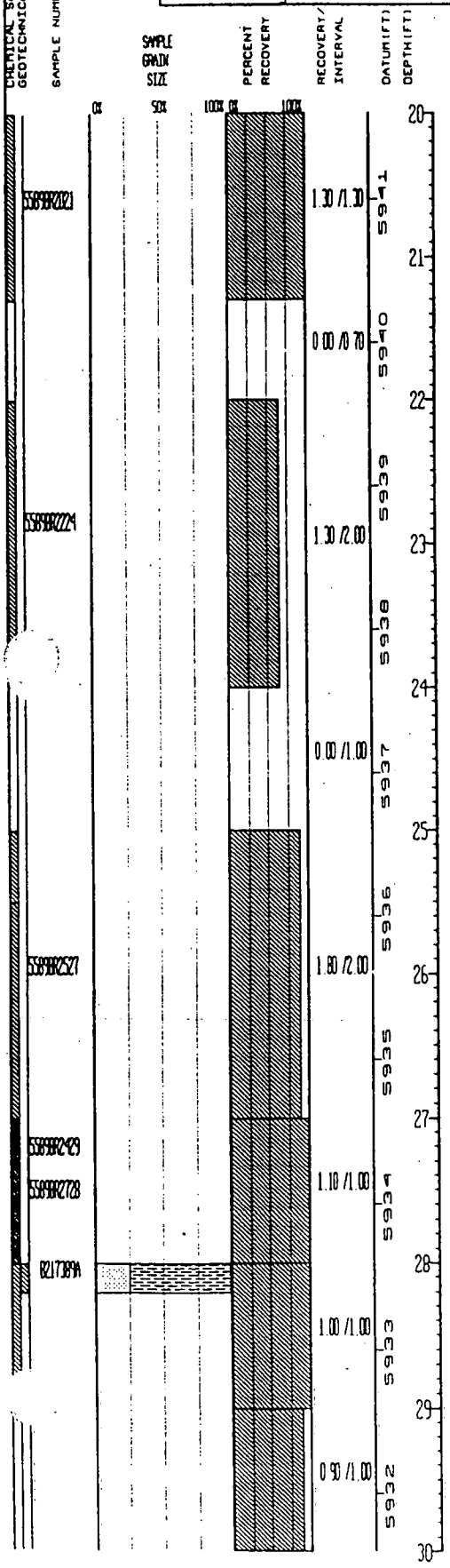
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 64	GROUND ELEVATION (FT): 5961.60	OLD WELL NUMBER: 55898RA	LOG OF BORING NUMBER:	
NORTH: 749451	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: RMZ	B217389	
EAST: 2086807	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 09/28/89		

REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989.
ASI Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SA... DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50% – 100%)	PERCENT RECOVERY (0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	55898R1011			0.40 /1.00	5951	10			GC	Sandy Clayey Gravel - same as 7.0' to 8.0' interval. (Clayey Gravel with some Sand and trace Silt). 45% gravel, 20% sand, 5% silt, 30% clay.
				0.00 /1.00	5950	11			NO SAMPLE	NO SAMPLE.
	55898R1213			0.80 /1.00	5949	12			GC	Sandy Clayey Gravel - light brown (5 YR 6/4), 2 mm. to 55 mm. gravel, mod. graded, rounded to angular. Very calcareous some silt. (Sandy Gravel with some Clay and Silt) 40% gravel, 30% sand, 10% silt, 20% clay.
	55898R1215			1.40 /2.00	5948	13			GM	Sandy Silty Gravel - light brown (5 YR 5/6), 2 mm. to 45 mm. gravel, mod. graded. Rounded to angular, very calcareous, some clay. (Sandy Gravel with some Silt and Clay) 50% gravel, 30% sand, 14% silt, 6% clay.
	1015				5947	14				
	55898R1516			1.50 /1.50	5946	15			GC	Clayey Sandy Gravel - light brown (5 YR 6/4), 2 mm. to 65 mm. gravel, mod. sorted, rounded to sub-rounded. Mod. calcareous, trace silt, low plasticity. (Sandy Gravel with some Clay and trace Silt). 5% silt, 10% clay.
	55898R1518			0.00 /0.50	5945	16			NO SAMPLE	NO SAMPLE.
	55898R1718			0.60 /1.00	5944	17			GM	Silty Sandy Gravel - light brown (5 YR 6/4), 2 mm. to 45 mm. gravel, rounded to sub-rounded. Mod. sorted, low plasticity, trace clay, little to no calcareousness. (Sandy Gravel with some Silt and trace Clay). 55% gravel, 25% sand, 15% silt, 5% clay.
				0.00 /1.00	5943	18			NO SAMPLE	NO SAMPLE.
	55898R1921			0.80 /1.00	5942	19			GM	Sandy Silty Gravel - light brown (5 YR 6/4), 2 mm. to 75 mm. gravel, rounded to sub-rounded. Mod. sorted, not calcareous, trace clay. (Sandy Gravel with some Silt and trace Clay). 55% gravel, 30% sand, 10% silt, 5% clay.
						20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 64	GROUND ELEVATION (FT):	5961.60	OLD WELL NUMBER:	558988A	LOG OF BORING NUMBER:
NORTH: 749451	AREA: EAST TRENCHES	CASING DIAMETER (IN):		GEOLOGIST:	RMZ	B217389
EAST: 2086807	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):		DATE DRILLED:	09/28/89	

REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989.
ASI Log:



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	GW:	Sandy Gravel - light brown (5 YR 5/6), well graded, sub-rounded to rounded. Some silt, trace clay. (Sandy Gravel with some Silt and trace Clay) (gw-gm) 60% gravel, 30% sand, 7% silt, 3% clay.
	NO SAMPLE:	NO SAMPLE.
	GW:	Sandy Gravel - same as interval 20.0' to 21.3'. (Sandy Gravel with some Silt and trace Clay) (gw-gm) 60% gravel, 30% sand, 7% silt, 3% clay.
	NO SAMPLE:	NO SAMPLE.
	GM:	Silty Sandy Gravel - light brown (5 YR 6/4), mod. graded, sub-rounded to rounded. Trace clay. (Sandy Gravel with some Silt and trace Clay) 45% gravel, 40% sand, 10% silt, 5% clay.
	SANDSTONE:	Top of Bedrock. Sandstone - very pale orange (10 YR 8/2), very well sorted. V.f.g. sandstone, iron stained. May be thin clay stringers (few) and at base of interval. Clay rip up clasts (?) and sparse grains, med. size sand. Friable. (Sandstone with some Silt and Clay). 80% sand, 10% silt, 10% clay.
	CLAYEY SANDSTONE:	Pale yellowish orange (10 YR 8/6), poorly sorted, friable, iron stained. Sand is f.g., some silt. Occasional stringers of Claystone. (Clayey Sandstone with some Silt). 65% sand, 15% silt, 20% clay.
	SANDSTONE:	Same as above, grades to v.f.g. Sandstone. Very pale orange (10 YR 8/2), well sorted. V.f.g. Sandstone, iron stained. (Sandstone with some Silt and Clay). 80% sand, 20% silt and clay.
	SANDSTONE:	V.f.g. Sandstone, very pale orange (10 YR 8/2), well sorted, iron stained. (Sandstone with some Silt and Clay). 80% sand, 20% silt and clay

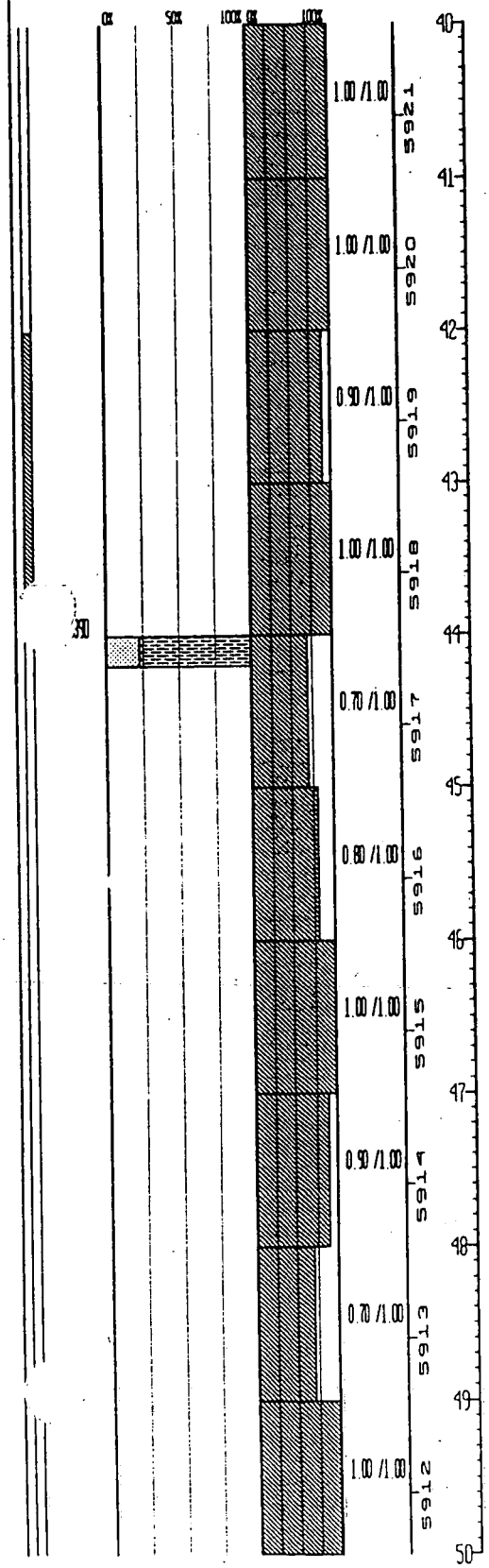
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 64	GROUND ELEVATION (FT): 5961.60	OLD WELL NUMBER: 558988A	LOG OF BORING NUMBER:
NORTH: 749451	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: RMZ	B217389
EAST: 2086807	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 09/28/89	

REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989.
ASI Log.

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 /1.00	5931	30			SANDSTONE	Trace silt, very pale orange (10 YR 8/2), v f g. sand, very well sorted. Porous, very friable, Fe stained. Occasional very thin Claystone lenses and Silty Sandstone lenses. 95% sand, 5% silt
			0.90 /1.00	5930	31			SANDSTONE	Trace silt, same as interval 30.0' to 31.0'. 95% sand, 5% silt.
			0.80 /1.00	5929	32				
B217389					33				
			0.80 /1.00	5928					
			1.50 /1.00	5927	34			SILTY SANDSTONE	V. Clayey Silty Sandstone - grayish orange (10 YR 7/4), v.f.g. sand. Poorly sorted, very friable, Fe stained. Trace carbonaceous matter. Occasional thin sandstone and Claystone lenses. (Silty Sandstone with some Clay) 50% sand, 30% silt, 20% clay.
			1.10 /1.00	5926	35				
			1.50 /1.00	5925	36			SANDSTONE	Trace silt, very pale orange (10 YR 8/2), v.f.g. sand, very well sorted. Porous, very friable, Fe stained. Occasional very thin Claystones lenses. 95% sand, 5% silt.
					37			SILTY SANDSTONE	Same as above, grading to Silty Sandstone. Grayish orange (10 YR 7/4), v.f.g. sand. Trace f.g. sand, friable, Fe stained, some clay. (Silty Sandstone with some Clay) 70% sand, >15% silt, <15% clay.
			0.80 /1.00	5924				SANDSTONE	Trace silt, very pale orange (10 YR 8/2), v.f.g. sand. Very well sorted, porous, very friable, Fe stained. 95% sand, 5% silt.
			0.70 /1.00	5923	38				
			0.70 /1.00	5922	39			CLAYEY SANDSTONE	Becomes Clayey/Silty Sandstone at base
					40				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 64	GROUND ELEVATION (FT): 5961.60	OLD WELL NUMBER: 558988A	LOG OF BORING NUMBER:	
NORTH: 749451	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: RMZ	B217389	
EAST: 2086807	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 09/28/89		

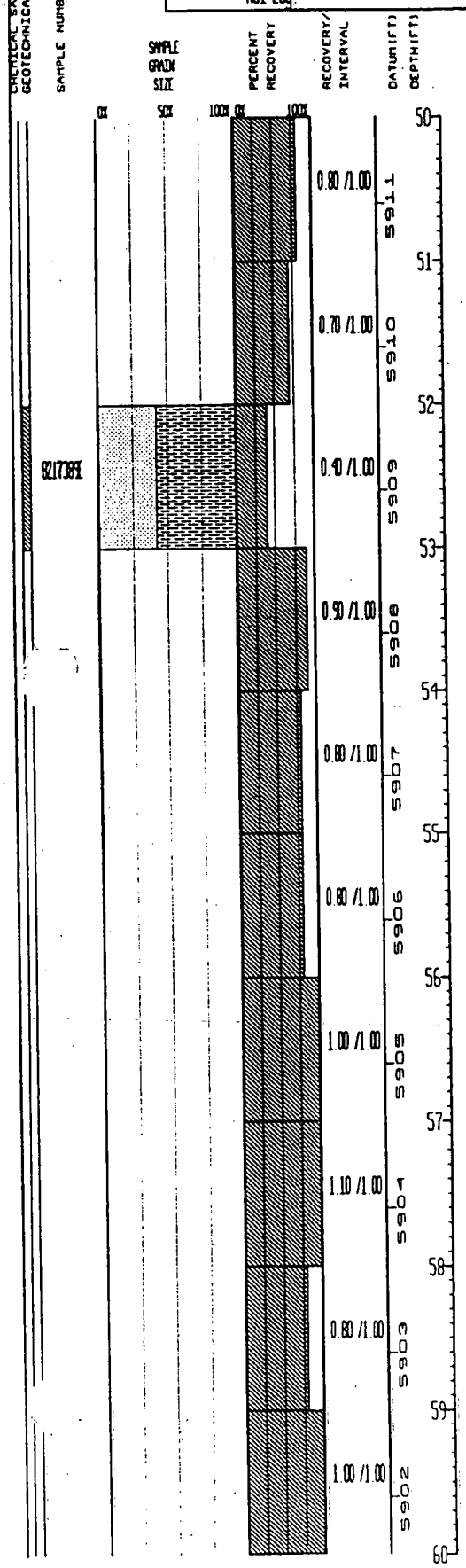
REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989. AST Log.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SANDSTONE	Clayey/Silty Sandstone followed by Sandstone with a trace of silt. Very pale orange (10 YR 8/2), very well sorted. V.f.g. sand, porous, very friable, Fe stained. 95% sand, 5% silt.
	SILTY SANDSTONE	Pale yellowish brown (10 YR 6/2), v.f.g. sand. Poorly sorted porous, mod. friable, Fe stained. Becoming less silty downward. (Silty Sandstone with trace Clay). 45% sand, 40% silt, 5% clay.
	SILTY SANDSTONE	Same as above, Silty Sandstone. Ocassional very silty sandstone lenses, trace carbonaceous material. (Silty Sandstone with trace Clay). 45% sand, 40% silt, 5% clay.
	SANDSTONE	Lenses of clean Sandstone, trace silt. Very pale orange (10 YR 8/2), v.f.g. sand. Well sorted, porous, friable. 95% sand, 5% silt. Clayey Sandy Siltstone, Fe stained, trace carbonaceous matter. >20% sand, 60% silt, <20% clay.
	SANDY SILTSTONE	Trace clay, dark yellowish brown (10 YR 4/2), Fe stained. 35% sand, 60% silt, 5% clay.
	CLAYEY SILTSTONE	Trace sand, dark yellowish brown (10 YR 4/2), Fe stained. 5% sand, 60% silt, 35% clay.
	SANDSTONE	Trace silt, very pale orange (10 YR 8/2). V.f.g. sand, well sorted, porous. Friable, with thin lenses of Silty Claystone. Fe staining, carbonaceous matter. 95% sand, 5% silt.
	SANDSTONE	Brownish gray (5 YR 4/1), some silt, trace clay. Fe stained, trace carbonaceous matter. (Sandstone with some Silt). 90% sand, 10% silt.
	SANDSTONE	Trace silt, same as interval 46.0' to 47.4'. 95% sand, 5% silt.
	SANDSTONE	Some silt, pale yellowish brown (10 YR 6/2). V.f.g. sand, well sorted, porous, friable, Fe stained. Some carbonaceous matter. 90% sand, 10% silt.
	SANDSTONE	Same as above, very pale orange (10 YR 8/2), less carbonaceous matter. (Sandstone with some Silt). 90% sand, 10% silt.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 64	GROUND ELEVATION (FT): 5961.60	OLD WELL NUMBER: 558988A	LOG OF BORING NUMBER:	
NORTH: 749451	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: RMZ	B217389	
EAST: 2086807	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 09/28/89		

REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989.
ASI Log.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SILTY SANDSTONE:	Some silt, pinkish gray (5 YR 8/1), mod. well sorted. V.f.g. sand, mod. friable. Some crosslaminations, some very thin clay lenses. Some carbonaceous matter, Fe staining. Some thin, well sorted, v.f.g. sandstone lenses. (Silty Sandstone with some Clay). 70% sand, 20% silt, 10% clay.
	SANDSTONE:	Pred. Sandstone, trace silt, well sorted. V.f.g. sand, mod. friable. Crosslaminated, with some thin, clayey, silty lenses. Trace carbonaceous matter, Fe stained.
	SILTY SANDSTONE:	Abundt. silt, and Clayey Sandstone with some sand. Light olive gray (5 Y 6/1) and olive gray (5 Y 4/1), some Fe staining, some carbonaceous matter
	SANDY SILTSTONE:	Sandy Siltstone, Clayey Siltstone and Silty Sandstone. Some carbonaceous matter
	SANDY SILTSTONE:	Same as above, pred. Sandy Siltstone with some clay. Olive gray (5 Y 4/1), some carbonaceous matter
	CLAYEY SILTSTONE:	Clayey Siltstone with some sand. Olive gray (5 Y 4/1), some iron staining. 15% sand, 50% silt, 35% clay.
	SILTY SANDSTONE:	Silty Sandstone with some clay. Light olive gray (5 Y 6/1) Mod. sorted, v.f.g. sand. Friable, with thin Clayey Siltstone lenses. 50% sand, 40% silt, 10% clay.
	SILTY SANDSTONE:	Silty Sandstone with some clay, same as above. 50% sand, 35% silt, 15% clay.
	SILTY SANDSTONE:	Silty Sandstone with some clay. Light olive gray (5 Y 6/1) Mod. to poorly sorted, friable. 50% sand, 40% silt, 10% clay.

STATE PLANE COORDINATE:
NORTH: 749451
EAST: 2086807

TOTAL DEPTH (FT): 64
AREA: EAST TRENCHES
LOCATOR NUMBER: N9

GROUND ELEVATION (FT): 5961.60
CASING DIAMETER (IN):
BOREHOLE DIAMETER (IN):

OLD WELL NUMBER: 558988A
GEOLOGIST: RMZ
DATE DRILLED: 09/28/89

LOG OF BORING NUMBER: B217389

REMARKS: Hollow Stem Auger. Borehole filled with volclay grout to within 5' of surface then topped off with cement on October 4, 1989.
ASI 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
				1.00 /1.00	5961	60			SANDY SILTSTONE	V.f.g. Sandy Siltstone with some clay. Light olive gray (5 Y 6/1). Trace Fe. 30% sand, 45% silt, 25% clay.
				0.50 /1.00	5960	61			SILTY CLAYSTONE	Olive gray (5 Y 4/1). 45% silt, 55% clay. Silty Claystone interbedded with Clayey Siltstone, olive gray (5 Y 4/1). A few v.f.g. sand lenses (very thin). 10% sand, 50% silt, 40% clay.
				0.50 /1.00	5959	62			CLAYEY SILTSTONE	Same as above, pred. Clayey Siltstone, some sand grading to Silty Sandstone, v.f.g. 10% sand, 50% silt, 40% clay.
				1.10 /1.00	5958	63			SILTY CLAYSTONE	Olive gray (5 Y 4/1) grading to Clayey Siltstone with some sand.
					5957	64				Total Drilled Depth = 64.0'.
					5956	65				
					5955	66				
					5954	67				
					5953	68				
					5952	69				
						70				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	5689BR	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI Log.

CHEMICAL SAMPLE / 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

Recovery/Interval	Datum (FT)	Unified Soils Classification or Rock Type	Description
1.90 /3.00	5961, 5960	CL:	Silty Gravelly Clay - Dark yellowish brown (10 YR 4/2). Clay low to med. plasticity. Gravel 2 mm. to 60 mm., angular, poorly graded. Some sand, v. f.g. to v.c.g. Some root material at top of interval. 50% clay.
	5959	CALICHE:	Grades to gravelly Caliche at 2/3 into interval - very pale orange (10 YR 8/2). Some silt and sand. Sand v.f.g. to c.g. Some gravel to 15 mm. 50% Caliche.
1.90 /2.00	5958, 5957	GC:	Gravel - very pale orange (10 YR 8/2) to light brown (5 YR 5/6). Matrix of Clay and Caliche. Gravel 2 mm. to 70 mm., mod. graded. Sub-angular to angular. Matrix silty Caliche and Clay, some silt, some sand, v.f.g. to v.c.g. 65% gravel.
1.70 /1.00	5956	GW:	Sandy Gravel - light brown (5 YR 5/6). 2 mm. to 60 mm., mod. graded, angular to sub-angular. Sand v.f.g. to v.c.g., mod. to well graded. Some sand and silt. Mod. calcareous. 60% gravel, 30% sand.
0.00 /1.00	5955	NO SAMPLE:	NO SAMPLE.
1.80 /1.50	5954, 5953	GW:	Gravel - light brown (5 YR 5/6). Clayey Sand matrix. Gravel 2 mm. to 65 mm., well graded, sub-angular to angular. Sand v.f.g. to v.c.g., well graded. Matrix becomes silty toward bottom, less sand. 75% gravel.
0.00 /1.50	5952	NO SAMPLE:	NO SAMPLE.

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

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	56898R	LOG OF BORING NUMBER:
NORTH:	74964	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2066818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
AST Log.

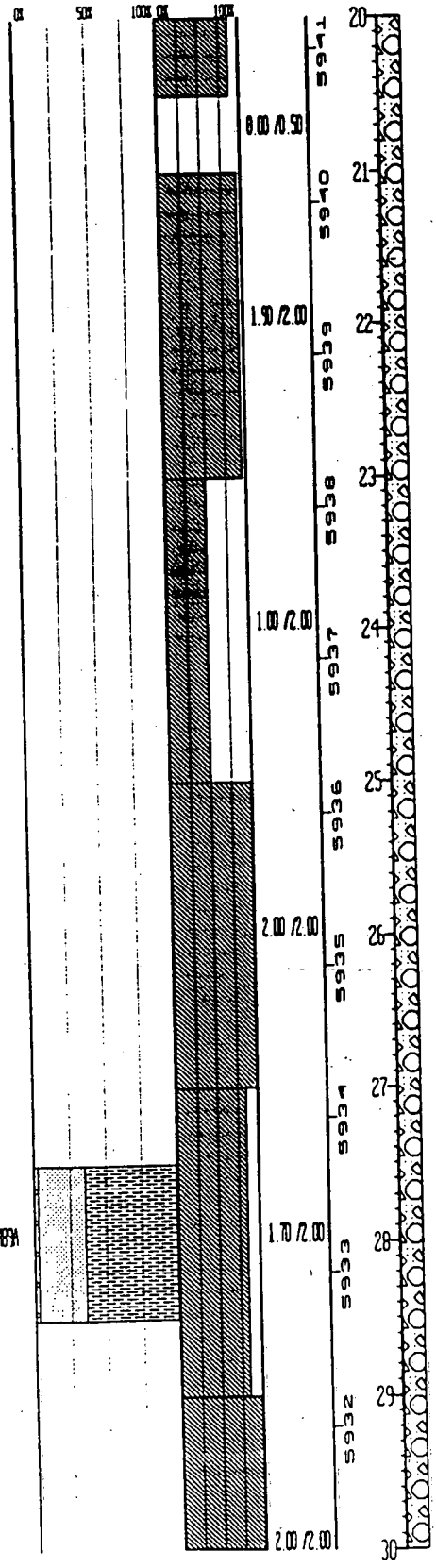
CHEMICAL SAMPLE DEPTH / GEOTECHNICAL DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.80 /1.50	5951	10			GW:	Sandy Gravel - light brown (5 YR 5/6). Clayey Sand matrix. Gravel 2 mm. to 25 mm., sub-angular, mod. graded. Sand v.f.g. to v.c.g., sub-angular, well graded. Some clay and silt, slightly calcareous. 70% gravel.
				1.50 /1.00	5950	11			GW:	Same as above - gravel to 55 mm., well graded. 70% gravel.
				0.00 /1.00	5949	12			NO SAMPLE:	NO SAMPLE.
				1.00 /0.50	5948	13			GW:	Gravel - Grayish orange (10 YR 7/4). Silty Clay matrix. Gravel 2 mm. to 5 mm., mod. to well graded, sub-angular to angular. Low plasticity matrix. Some f.g. to c.g. sand. Slightly calcareous. 50-60% gravel.
				0.00 /1.00	5947	14			NO SAMPLE:	NO SAMPLE.
				1.50 /2.00	5946	15			SC:	Gravelly Sand - grayish orange (10 YR 7/4). V.f.g. to v.c.g., well graded. Sub-rounded to sub-angular. Gravel 2 mm. to 30 mm., mod. graded, angular. Some silty clay matrix. Slightly calcareous. (Gravelly Sand with abundt. Silty and Clay) 20% gravel, 50% sand, 30% silt and clay.
				1.20 /2.00	5945	16			GC:	Gravel - grayish orange (10 YR 7/4). Silty Sandy Clay matrix. Gravel 2 mm. to 55 mm., mod. graded, angular. Matrix low plasticity. Sand v.f.g. to v.c.g., well graded. (Sandy Clayey Gravel). (gn-gc) 50% gravel, 25% sand, 25% clay.
				1.30 /1.50	5944	17			GC:	Same as above. 50% gravel, 25% clay, 25% sand and silt
					5943	18				
					5942	19				
						20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 56898R	LOG OF BORING NUMBER:	
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH		
EAST: 2086818	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89		

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt. ASI Log.

B217489

CHEMICAL SAMPLE / GEOTECHNICAL S — 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



NO SAMPLE:	NO SAMPLE.
SC:	Same as above (reference interval 17.0' to 19.0'). Gravel - Sandy Silty Clay matrix.
SILTY CLAYSTONE:	Top of Bedrock. Silty Claystone - very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6), mottled. Some v.f.g. sand. 50% clay.
SANDY CLAYSTONE:	Very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6), mottled. Some silt. Sand v.f.g. 50% clay.
SANDY CLAYSTONE:	Same as above. Some bedding (laminated) beginning to be visible (horiz.) Some to trace carbonaceous material >50% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 568988	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt. ASI 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
				2.00 /2.00	5931	30				
					5930	31			SILTY CLAYSTONE	Very pale orange (10 YR 8/2) to grayish orange (10 YR 7/4). Very friable, highly weathered. Thinly laminated irregular bedding. Abundt. v.f.g. sand. Trace carbonaceous material. (Silty Claystone with abundt. Sand). <30% sand, >50% silt and clay.
	B217488			2.50 /2.00	5929	32				
					5928	33				
				1.50 /2.00	5927	34				
					5926	35				
				1.50 /2.00	5925	36				
					5924	37				
				0.80 /1.00	5923	38				
					5922	39				
						40			SANDSTONE	Very pale orange (10 YR 8/2). V.f.g., thinly laminated, irregular bedding. Very friable. Sand well sorted. >50% sand, <50% fines.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	56898R	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B21748C
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

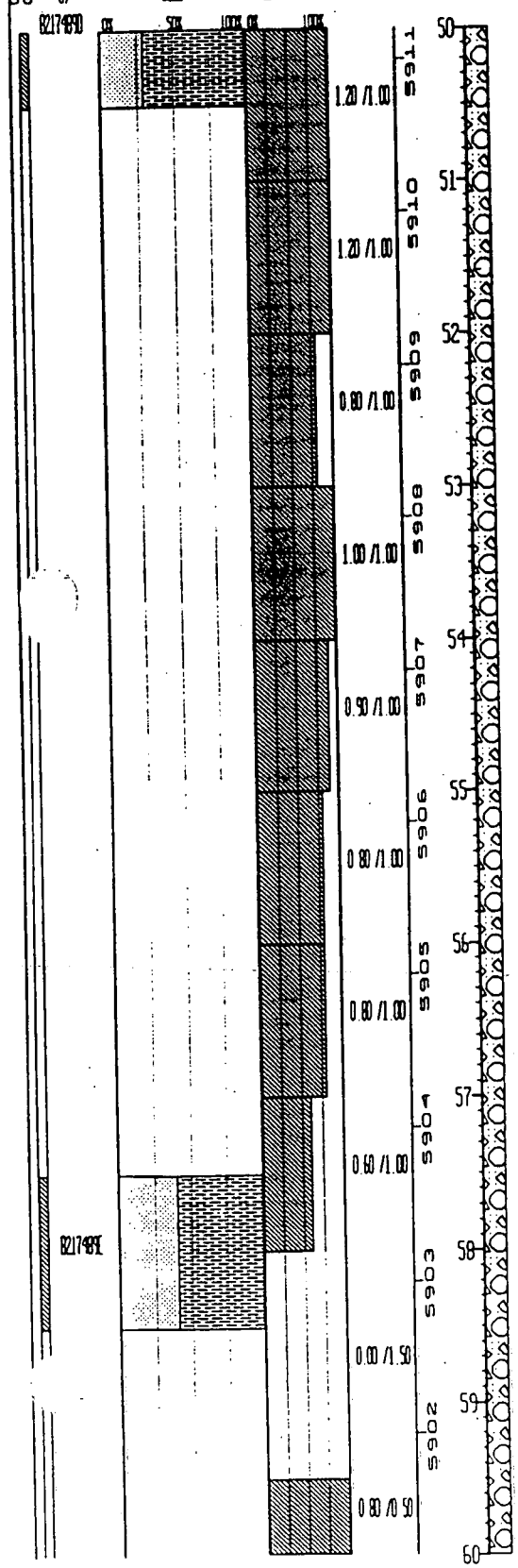
REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
AST Log.

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
		0% 50% 100%	0% 100%							
					5921	40				
					5920	41				
				2.90 /1.00	5919	42				
					5918	43				
	B21748C				5917	44				
					5916	45			SILTY CLAYSTONE	Very pale orange (10 YR 8/2), grayish orange (10 YR 7/4), and light brownish gray (5 YR 6/1), mottled. Highly weathered, highly friable. Unable to determine bedding, highly irregular. Some v.f.g. sand. Trace iron staining. >50% fines.
				0.70 /1.00						
					5915	46				
				1.40 /1.50						
					5914	47				
					5913	48			SANDSTONE	Pinkish gray (5 YR 8/1). Bedding horiz. laminated, thin. Sand v.f.g. Abundt. fines. Trace iron staining, carbonaceous material. Highly friable. >50% v.f.g. sand, >25% fines.
				1.30 /1.50						
					5912	49				
				0.60 /1.00						
	B21748D					50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	56898R
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086818	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89

LOG OF BORING NUMBER: B217489

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt. ASI Log.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SANDSTONE:	Sandstone and Clayey Sandstone interbedded - pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1). Trace iron staining. Bedding not apparent, highly friable. Some silt. Sand v.f.g., mod. weathered. >50% sand.
	SANDSTONE:	Same as above, interbedded with Siltstone. Trace carbonaceous material. >50% sand.
	SILTY CLAYSTONE:	Light olive gray (5 Y 6/1). Mod. friable, mod. weathered. Irreg. laminated bedding. Grades to Sandstone as 50.0' to 51.0' above. >50% fines.
	SANDSTONE:	Same as 50.0' to 51.0' above. Sandstone and Clayey Sandstone, v.f.g. >50% sand.
	SILTY CLAYSTONE:	Light olive gray (5 Y 6/1). Mod. friable, slightly weathered. Trace carbonaceous material. Bedding appears irregular, horiz. thin laminae. Some v.f.g. sand. >50% fines.
	SILTY CLAYSTONE:	Same as above - very friable, highly weathered. Some v.f.g. sand. >50% fines.
	SILTY CLAYSTONE:	Same as above - with very thin layers (<1 mm.) of v.f.g. sand. >50% fines.
	SANDY CLAYSTONE:	Same as above - sand v.f.g., some silt >50% fines
	NO SAMPLE:	NO SAMPLE.
	SILTY CLAYSTONE:	Same as above (reference interval 57.0' to 58.0'). Some v.f.g. sand, slightly weathered, slightly friable. Bedding not apparent. Trace carbonaceous material. >50% fines

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 56898R	LOG OF BORING NUMBER:
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489
EAST: 2086818	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt. AST Log.

CHEMICAL SAP 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
				0.00 /0.50	5961	60			NO SAMPLE:	NO SAMPLE.
				1.20 /1.20	5960	61			SILTSTONE:	Olive gray (5 YR 4/1). Slightly weathered, slightly friable. Thin horiz. laminated bedding. Some v.f.g. sand present in lenses and thin (5 mm.) layers. Some carbonaceous material. Some clay.
				0.40 /0.20					SILTSTONE:	Same as above - 50 degree fracture present.
				1.60 /1.60	5959	62			SILTY CLAYSTONE:	Interbedded Silty Claystone and Siltstone - brownish gray (5 YR 4/1). Slightly friable, slightly weathered. Thin horiz. laminated bedding as before. 60 degree fracture angle from horiz. Some v.f.g. sand in layers (2 mm.). Trace carbonaceous material.
					5958	63				
				1.70 /2.00	5957	64			SILTY CLAYSTONE:	Same as above - mostly Clayey Siltstone and fine grained Sandstone. Low angle (20 degree) bedding planes visible.
				0.20 /0.20	5956	65				
				1.40 /1.30	5955	66				
				1.60 /1.70	5954	67			SILTY CLAYSTONE:	Light brownish gray (5 YR 6/1) to olive gray (5 YR 4/1), mod. friable. Thin, laminated horiz. bedding. Some v.f.g. sand in thin (1 mm.) layers. Some f.g. to m.g. sand in lenses. Some irregular cross lamination (strata visible). Some carbonaceous material.
				1.00 /1.00	5953	68			SILTY CLAYSTONE:	Silty Claystone with some Sand. Light olive gray (5 Y 6/1) with some med. gray (N5) claystone lamination. Core dry, indurated, slightly friable, some siltstone nodules. Lower 0.75 in. of is a core claystone bed overlying calcareous siltstone. No apparent bedding except claystone bed (horiz.). No fractures. Trace carbon. 10% sand, 30% silt, 60% clay.
				0.20 /0.30	5952	69			SILTSTONE:	Calcareous Siltstone. Very light gray (N8). Very hard Some carbonaceous lenses.
						70				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 568988	LOG OF BORING NUMBER:
NORTH:	749651	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489
EAST:	2086818	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
AST Log.

CHEMICAL SAMPLE, DEPTH
GEOTECHNICAL, DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 2.30/3.70; 1.10/2.00; 3.80/3.30; 0.70/0.70; 1.10/0.60
DATUM (FT): 5891, 5890, 5889, 5888, 5887, 5886, 5885, 5884, 5883, 5882
DEPTH (FT): 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

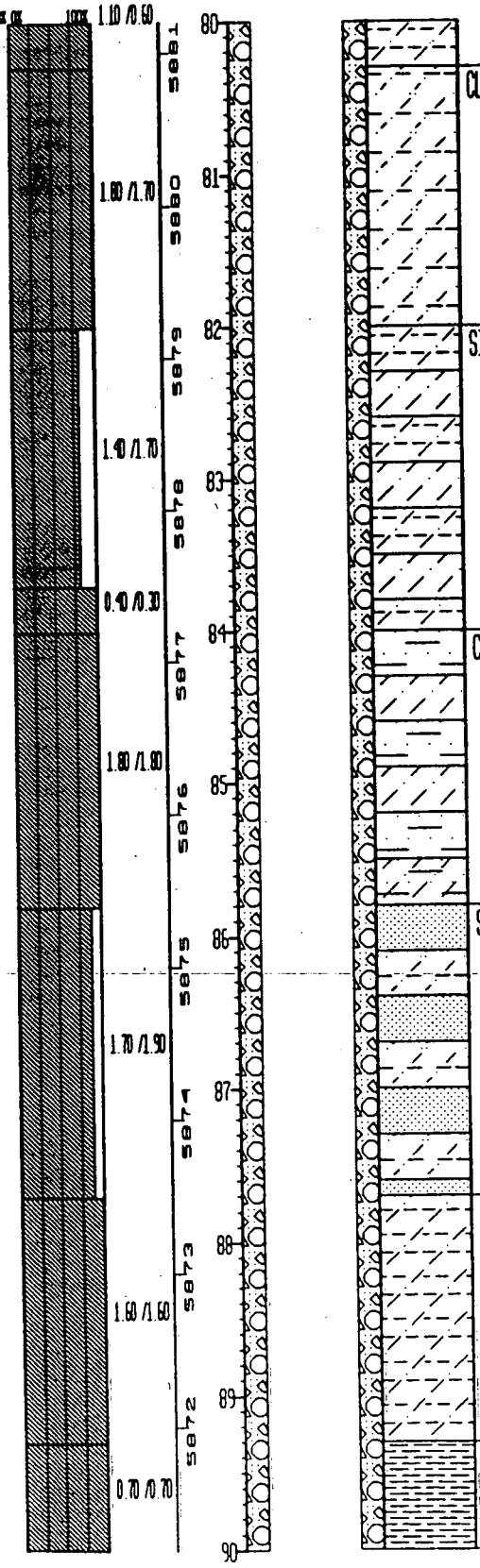
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Silty Claystone. Light olive gray (5 Y 6/1). Massive, dry and indurated, slightly friable. 25% silt, 75% clay.
CLAYSTONE	Claystone. Brownish gray (5 YR 4/1). Some carbon. Bedding (indicated) horiz. to approx. 8 degrees. Core dry, indurated, non-friable. >90% clay.
NO SAMPLE	No recovery.
CLAYSTONE	Claystone. Same as above (reference interval 70.8' to 72.3'). 60 degree fracture with slickensides at bottom of interval. >90% clay.
NO SAMPLE	No recovery.
CLAYSTONE	Claystone with some Silt. Light olive gray (5 Y 6/1). Core dry, well cemented (argillaceous). Indurated. Some carbon. Non-friable. Interval massive. 70 degree fracture with slickensides at approx. 77.0'. 20% silt, 80% clay.
SILTY CLAYSTONE	Light olive gray (5 YR 6/1) to olive gray (5 Y 4/1). Some very thin layers (<.5 mm.) of silt. Irregular, thin horiz. bedding. Trace carbonaceous material.
SILTY CLAYSTONE	Same as above - some v.f.g. sand or thin layers.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 568988	LOG OF BORING NUMBER:	
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489	
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89		

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.

ASI Log.

CHEMICAL SAMPL GEOTECHNICAL S | 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



CLAYEY SILTSTONE: Light brownish gray (5 YR 6/1). Thin laminated horiz. bedding, slightly weathered, slightly friable. Some v.f.g. sand, some organic, carbonaceous material. >50% silt.

SILTY CLAYSTONE: Interbedded Silty Claystone, Siltstone, and Sandstone - olive gray (5 Y 4/1) to light olive gray (5 Y 6/1). Bedding, thin layers (1 mm.). Some cross stratification visible, some v.f.g. sand and silt in lenses. 50% silt, 50% clay.

CLAYEY SANDSTONE: Same as above - becoming sandier toward bottom of interval. Sand v.f.g., trace carbonaceous material. 60% sand, 40% clay.

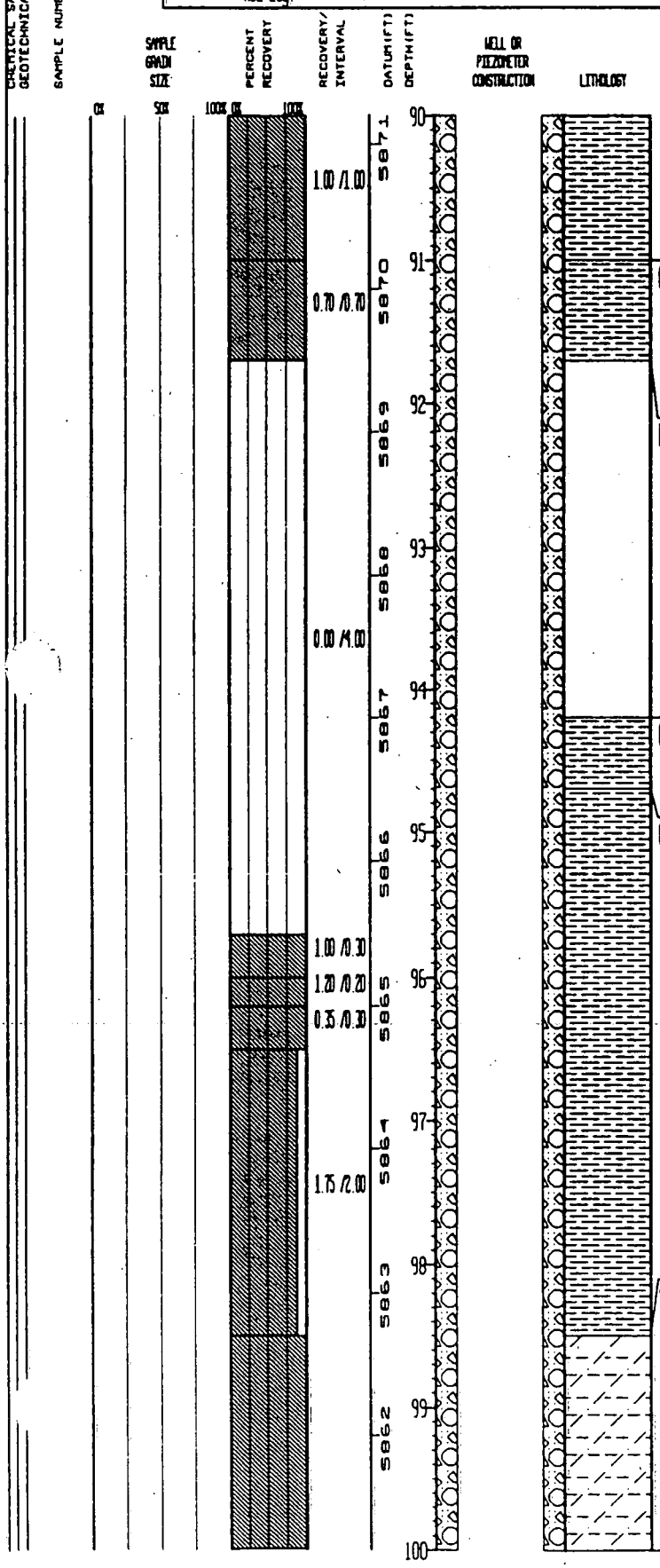
SANDSTONE: Sandstone and Clayey Siltstone, interbedded. Sand v.f.g. Bedding irregular, horiz., thin laminations. Slightly to non-friable. Trace carbonaceous material. >50% sand.

SILTY CLAYSTONE: Claystone with some Silt. Light olive gray (5 Y 6/1). Some siltstone noduless. Horiz. to approx. 8 degree bedding. Core dry, indurated, non-friable. Some carbon. No apparent fractures. 20% silt, 80% clay.

CLAYSTONE: Claystone with some Silt. Same as above (reference interval 87.7' to 89.3'). Bedding angle horiz. to approx. 8 degrees. 20% silt, 80% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	56898A	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI Log.

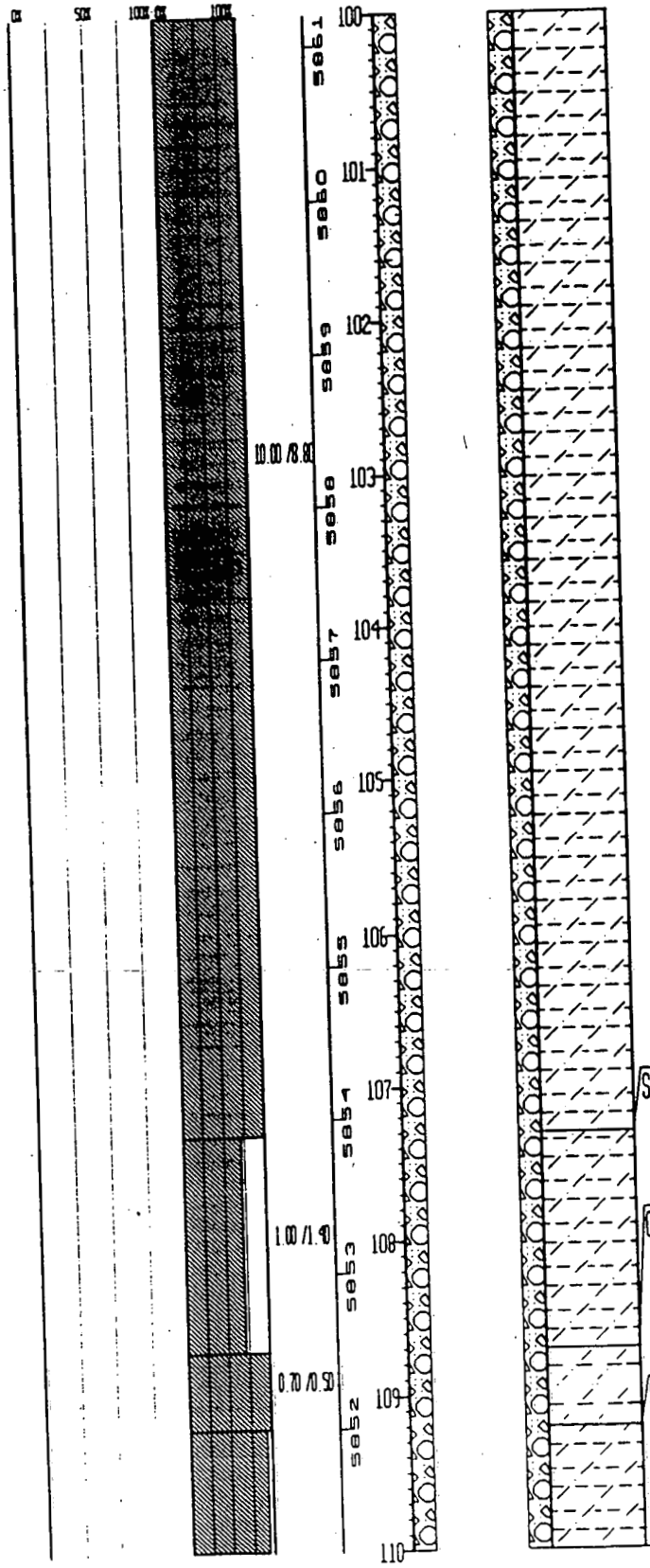


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone. Olive gray (5 Y 4/1). Some carbon. Core dry, indurated, non-friable. Possible bedding up to approx. 15 degrees. 60 degree fracture at top of interval (with slickensides). >90% clay.
NO SAMPLE:	No recovery. NOTE: Total core in box is 4.3'. Lost core interval is adjusted to recovered core.
CLAYSTONE:	Claystone. Same as above (reference interval 91.0' to 91.7'), except indicated disturbed sediments. >90% clay.
CLAYSTONE:	Claystone with some Silt. Yellowish gray (5 Y 7/2). Some carbon. Core dry, indurated and non-friable. Grades from massive to horiz. bedded at bottom of interval. 30 degree fracture at approx. 95.2'. 20% silt, 80% clay.
SILTY CLAYSTONE:	Light brownish gray (5 YR 6/1). Bedding massive. Some thin laminae visible only in a few areas (approx. 0.5' total). One section of m.g. silty sandstone (approx. 0.5'). Trace carbonaceous material. NOTE: Core mix up was from 98.5' to 103.9'. This box was dropped prior to logging. The core interval designations were lost and core was all mixed up. Since sequence is basically homogenous, it is described here as a continuous unit. >50% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 56898R	LOG OF BORING NUMBER:	
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489	
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89		

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
MSI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL 6" 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



SILTY CLAYSTONE: Yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Non friable. Some v.f.g. sand lenses. Trace carbonaceous material.
>50% clay.

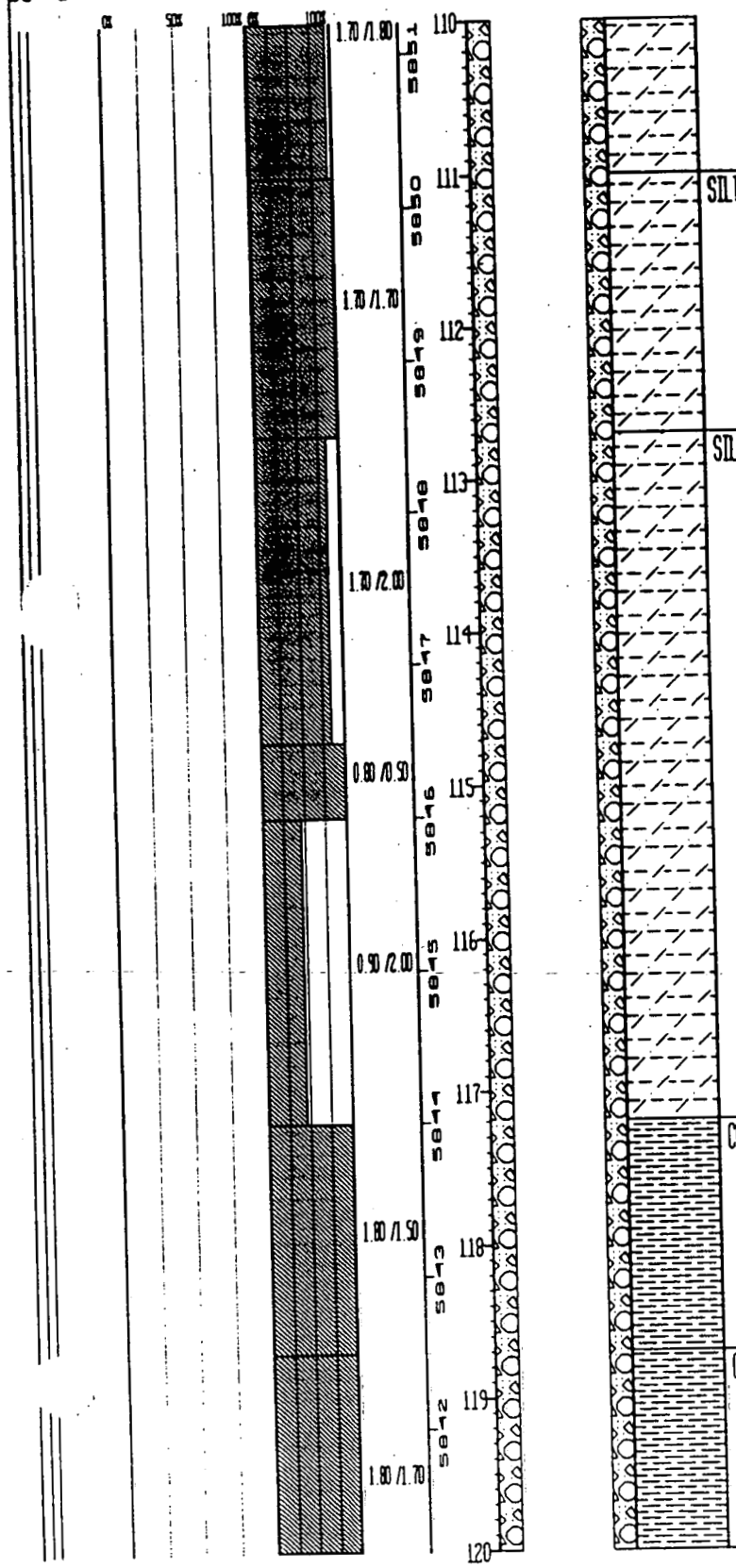
CLAYEY SILTSTONE: Light brownish gray (10 YR 6/1). Slightly friable. Some v.f.g. sand in thin layers. Bedding irregular, thin laminae. Some possible cross stratification visible. Trace carbonaceous material.
>50% silt.

SILTY CLAYSTONE: Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slight weathered, mod. friable. Massive bedding. Becoming less silty at bottom of interval. Trace carbonaceous material.
>60% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 5689BR	LOG OF BORING NUMBER:	
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489	
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89		

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL 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



SILTY CLAYSTONE: Same as above - becoming more silty.
>60% clay.

SILTY CLAYSTONE: Same as above - some carbonaceous material.

CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Trace to some silt. Massive bedding, possible slickensides present in irregular fractures.
>70% clay

CLAYSTONE: Olive gray (5 Y 4/1). Mod. friable. Some silt. Massive bedding. Trace carbonaceous material. Possible slickensides in irregular fractures.
>60% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	5689BR
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89

LOG OF BORING NUMBER: B217489

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
NSI Log.

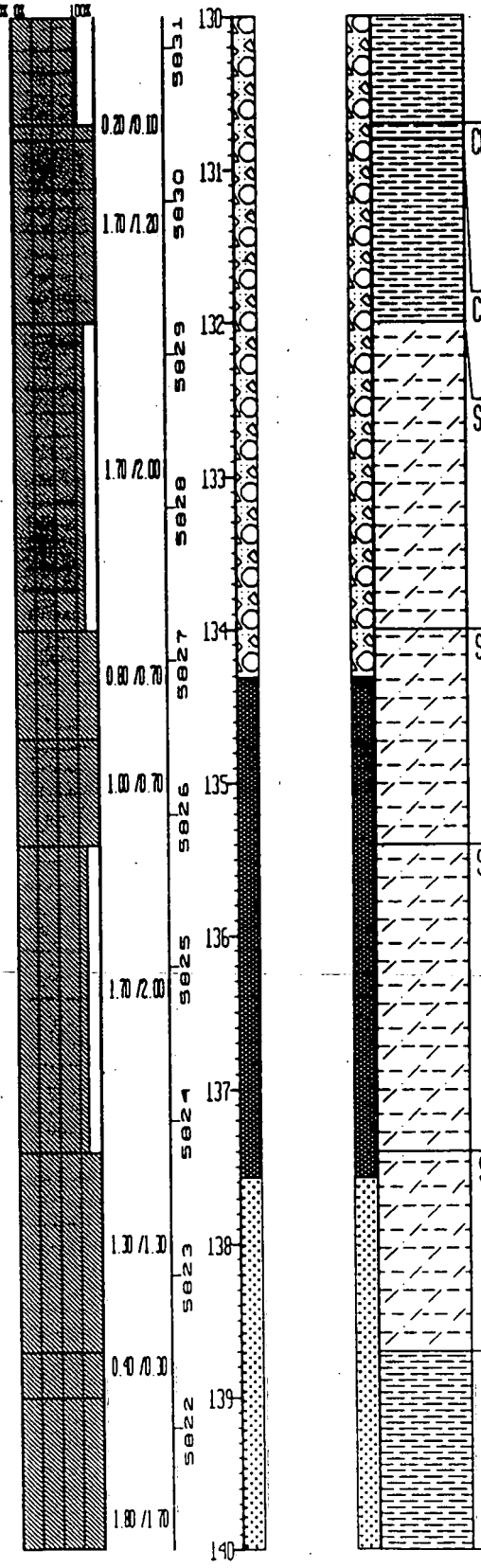
CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5941	120			CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable. Some silt. Trace carbonaceous material. Massive bedding. >70% clay.
				1.60 /1.50	5940	121				
				0.50 /0.80	5939	122			CLAYSTONE:	Same as above - some carbonaceous material. >70% clay.
				0.80 /0.70	5938	123			CLAYSTONE:	Same as above - possible slickensides in irregular, 75 degree to 80 degree fracture. >70% clay.
				1.70 /1.60	5937	124			CLAYSTONE:	Same as above - grading to Silty Claystone toward bottom of interval. >70% clay to >60% clay.
				1.50 /1.70	5936	125			CLAYSTONE:	Same as above - less silty, less carbonaceous material (trace). >70% clay.
				0.10 /0.10	5935	126				
				1.70 /2.00	5934	127			CLAYSTONE:	Olive black (5 Y 2/1). Mod. friable. Massive bedding. Possible slickensides in irregular fractures. >80% clay.
					5933	128				
				1.50 /1.90	5932	129			CLAYSTONE:	Same as above - some carbonaceous material toward bottom. >80% clay.
						130				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 56898R	LOG OF BORING NUMBER:
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

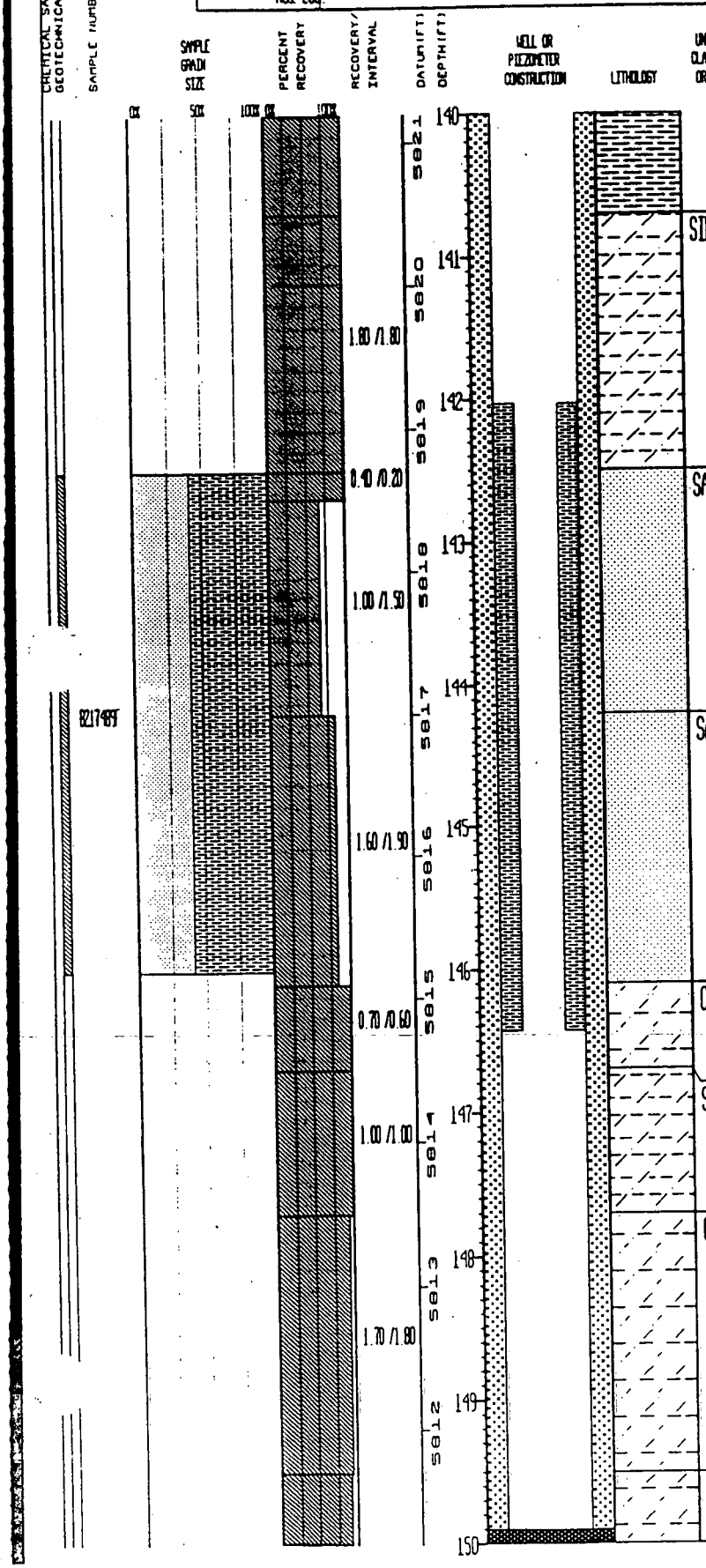
SAMPLE GRADI SIZE | PERCENT RECOVERY | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



CLAYSTONE:	Olive black (5 Y 2/1). Mod. to slightly friable. Some carbonaceous material. Massive bedding. Some possible slickensides in irregular low angle fractures (20 degrees to 25 degrees). Trace silt. >80% clay.
CLAYSTONE:	Same as above - some silt, bedding appears thin, laminar, horiz. >70% clay.
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable. Bedding irregular laminations. Some carbonaceous material. Some small silt nodules (5 mm. to 10 mm.) (2 to 3 of them). >60% clay.
SILTY CLAYSTONE:	Same as above - bedding becoming slightly angled, 10 degrees to 15 degrees from horiz. Silt nodules dark yellowish orange (10 YR 6/6). 20 mm. on long axis. >60% clay.
SILTY CLAYSTONE:	Same as above - silt nodules becoming more prevalent. >60% clay.
SILTY CLAYSTONE:	Same as above - bedding more horiz. Trace v.f.g. sand toward bottom of interval in very thin, irregular layer (<1.0 mm.) >60% clay.
CLAYSTONE:	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slight to mod. friable. Bedding irreg., horiz. laminations approx. 1.0 mm. Some silt throughout and in laminations and in nodules. Some carbonaceous material. >70% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	568998	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt. ASI Log.



SILTY CLAYSTONE: Light olive gray (5 Y 6/1). Slightly friable. Massive bedding. Trace carbonaceous material. Low angle (20 degree) fractures. Grades to Sandy Claystone. V.f.g. sand, massive bedding, non-friable. Trace carbonaceous material.
>60% clay.

SANDSTONE: Light olive gray (5 Y 6/1). Non-friable. V.f.g. sand. Massive bedding. Trace carbonaceous material. Some silt.
>50% sand.

SANDSTONE: Same as above - some thin (<1 mm.) horiz. laminar bedding visible. Slightly friable.
>50% sand.

CLAYEY SILTSTONE: Olive gray (5 Y 4/1). Slightly friable, bedding not apparent.
>50% silt

SILTY CLAYSTONE: Silty Claystone grading to Clayey Siltstone as above. V.f.g. Sandstone lense at bottom (0.5 in. thick).
>50% clay.

CLAYEY SILTSTONE: Sandstone (top 1 in.) grading to Clayey Siltstone - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Irregular, laminar, horiz. bedding grading to massive bedding. slightly friable. Trace carbonaceous material.
>50% silt.

CLAYEY SILTSTONE: Same as above.
>50% silt.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 5689BR	LOG OF BORING NUMBER:
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
AST 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

0% 50% 100% 0% 100%

1.10 /1.20
0.60 /0.30
1.80 /2.00
1.50 /1.50
1.80 /1.50
1.80 /1.50
1.50 /1.50

5811 5810 5809 5808 5807 5806 5805 5804 5803 5802

150 151 152 153 154 155 156 157 158 159 160

CLAYEY SILTSTONE: Olive gray (5 Y 4/1). Slightly friable, bedding not evident. Trace carbonaceous material. >50% silt.

SILTY CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable, bedding not evident. Trace carbonaceous material. Possible slickensides on low angle fractures (20 degrees). >50% clay.

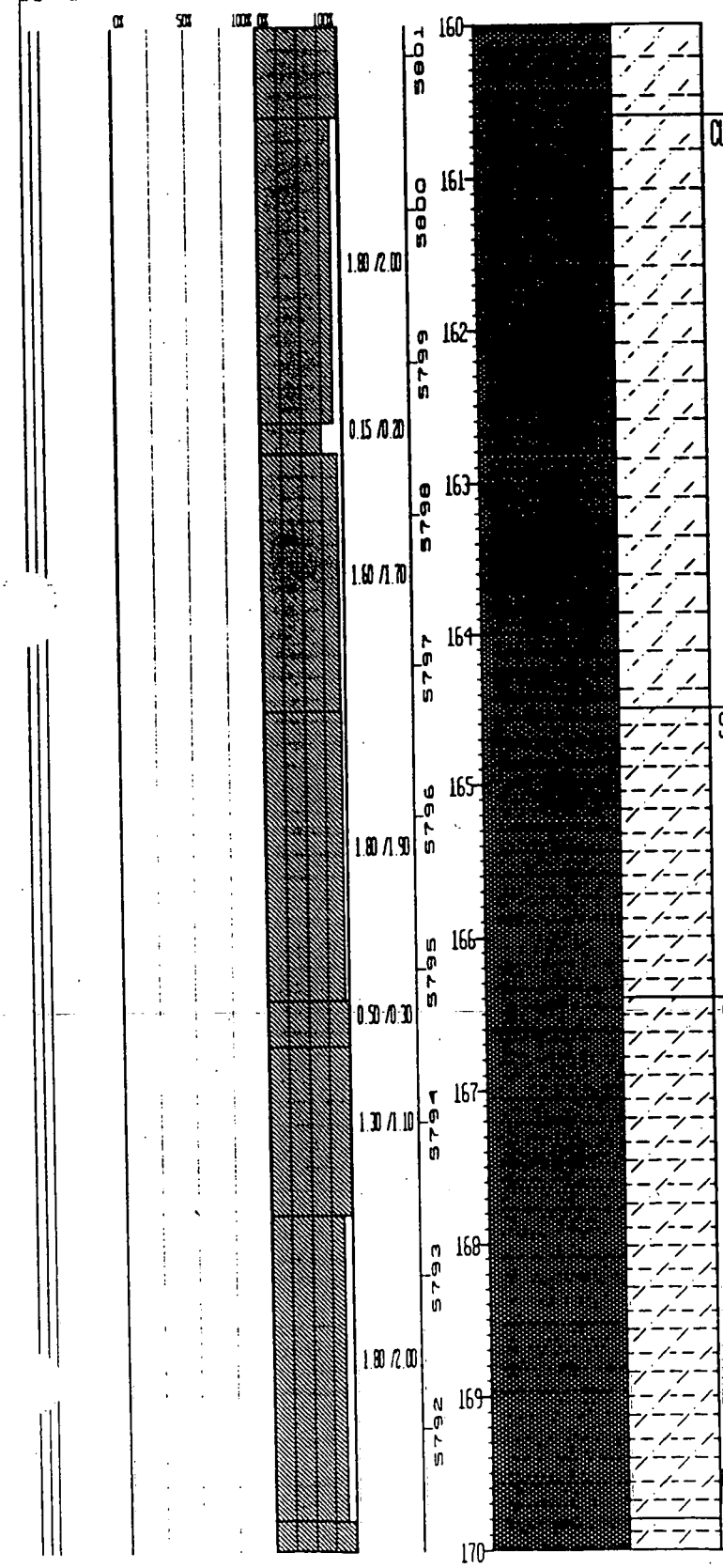
SILTY CLAYSTONE: Same as above - slickensides on 60 degree fracture angle. >50% clay

CLAYEY SILTSTONE: Olive gray (5 Y 4/1). Mod. friable, massive bedding, some v.f.g. sand. Trace carbonaceous material. >50% silt.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	5689BR
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89

LOG OF BORING NUMBER: B217489

REMARKS: Hollow Stem Auger: 0 0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SILTSTONE	Light olive gray (5 Y 6/1). Slightly friable. Some v.f.g. sand. Irregular, horiz. bedding visible, 1 mm. to 60 mm. thick. Some carbonaceous material toward bottom. >50% silt.
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding appears massive. Some grayish orange (10 YR 7/4) Silty areas, some v.f.g. sandy areas. >50% clay
SILTY CLAYSTONE	Same as above - trace carbonaceous material >50% clay.
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Irregular horiz. bedding. Some v.f.g. sand in localized areas. Some low angle fractures (10 degrees to 15 degrees). >60% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 5689BR	LOG OF BORING NUMBER:	
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH		
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89		B217489

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
AST Log.

CHEMICAL SAMP / GEOTECHNICAL	SAMPLE NUMBER	SAMPLE GRADI SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.50 /0.50	5791	170				
				0.80 /0.80	5790	171				
										SILTY CLAYSTONE: Same as above - Slickensides visible in high angle fractures (40 degrees to 50 degrees). >60% clay.
				1.60 /1.60	5789	172				
					5788	173				SILTY CLAYSTONE: Same as above - no slickensides or fractures at angles to bedding. >60% clay.
				1.40 /1.60	5787	174				
				0.30 /0.20						
					5786	175				SILTY CLAYSTONE: Same as above - high angle fracture with slickensides present (50 degrees to 60 degrees). >60% clay.
				1.80 /2.00	5785	176				
					5784	177				SILTY CLAYSTONE: Same as above - trace carbonaceous material. >60% clay.
				1.70 /1.80	5783	178				
					5782	179				SILTY CLAYSTONE: Same as above - some carbonaceous material and small coal seam (approx 1 mm.). High angle fracture (70 degrees). >60% clay.
				1.50 /1.80						
						180				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	5689BR	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

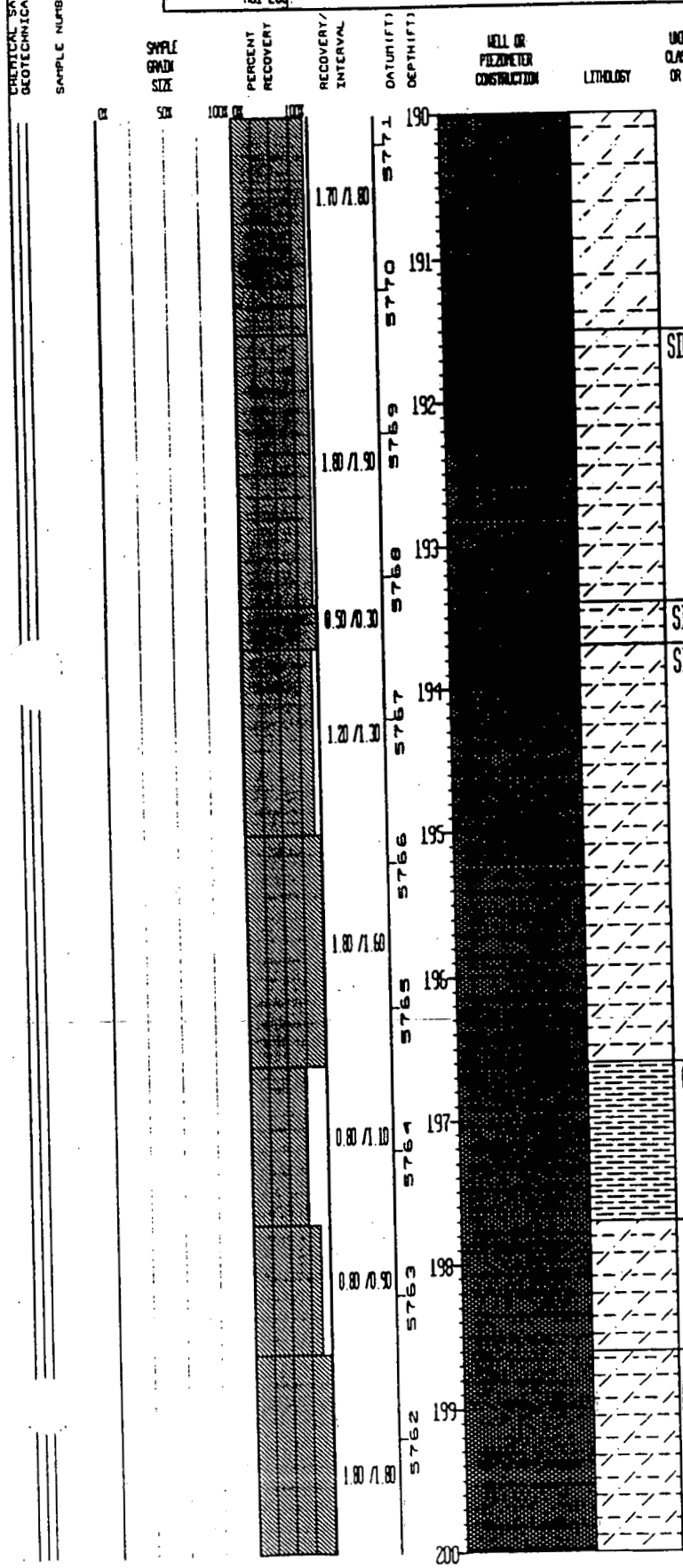
REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI Log.

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
					5781	180				
				1.00 /1.00	5780	181			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Bedding not evident. Slightly friable. Trace carbonaceous material. High angle fracture (70 degrees). >70% clay.
				0.00 /1.20	5779	182			NO SAMPLE	NO SAMPLE.
				0.80 /0.30	5778	183			SILTY CLAYSTONE	Same as above (reference interval 180.5' to 181.5') - high angle fracture (70 degrees).
				1.70 /1.50	5777	184			SILTY CLAYSTONE	Same as above - becomes siltier toward bottom, some v.f.g. sand. >50% clay.
				1.40 /1.20	5776	185			SILTY CLAYSTONE	Same as above - no v.f.g. sand. >50% clay.
				0.40 /0.30	5775	186			SILTY CLAYSTONE	Same as above - some very faint horiz. laminar bedding visible (<0.5 mm.). >50% clay.
				1.80 /2.00	5774	187				
					5773	188			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding appears mostly horiz. laminar. Some v.f.g. sand in very thin layers.
				1.80 /1.70	5772	189			CLAYEY SILTSTONE	Silty Claystone to Clayey Siltstone - light brownish gray (5 YR 6/1). Slightly friable. Some v.f.g. sand. Thin laminar (1 mm. to 20 mm.). Bedding angled at 40 degrees. Grades to Clayey Siltstone. >50% silt
						190				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT): 5961.20	OLD WELL NUMBER: 56898R	LOG OF BORING NUMBER:	
NORTH: 749454	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217489	
EAST: 2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/12/89		

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.

ASI Log.

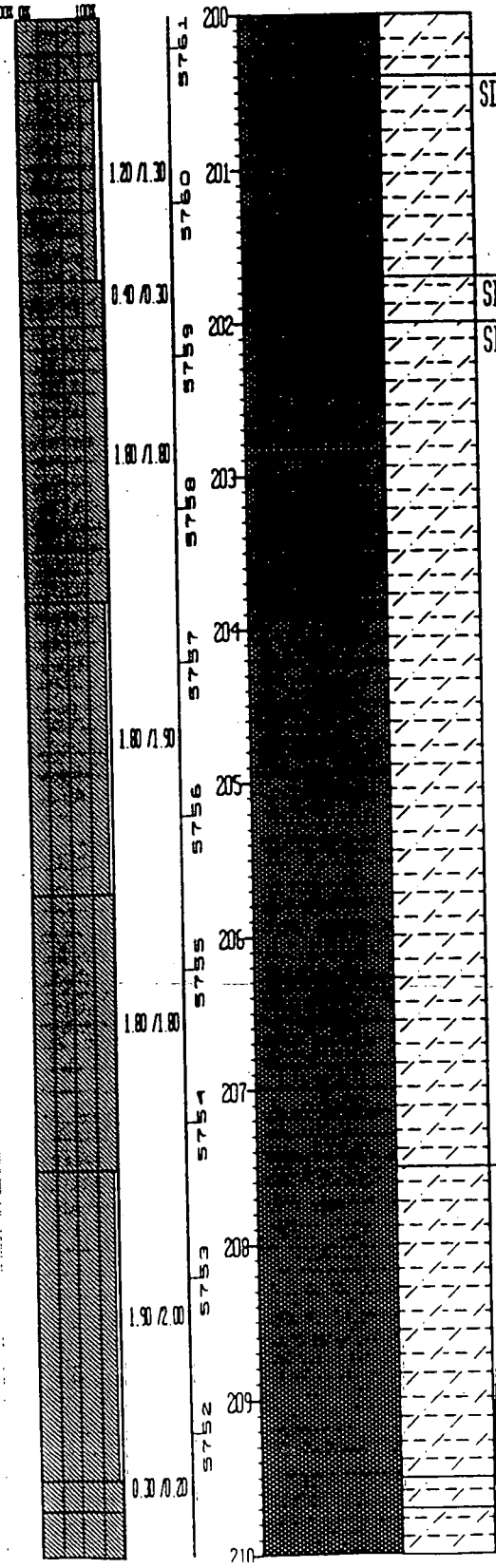


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Same as above - some carbonaceous material and coal. Some light brown (5 YR 6/4) discolorations.
SILTY CLAYSTONE:	Same as above - trace carbonaceous material.
SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding angle fracture (40 degrees), shows possible slickensides. Trace carbonaceous material. >50% clay.
CLAYSTONE:	Olive gray (5 Y 4/1). Slightly to mod. friable. Bedding appears massive, some silt. >70% clay.
SILTY CLAYSTONE:	Light brownish gray (5 YR 6/1). Slightly friable. Massive bedding. Some carbonaceous material. >50% clay
SILTY CLAYSTONE:	Same as above - angled, thin, laminar bedding visible (approx. 1 mm. to 4 mm. at 10 degrees to 20 degrees). Fracture, 50 degrees from horiz., shows possible slickensides.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5961.20	OLD WELL NUMBER:	5689BR	LOG OF BORING NUMBER:
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
ASI 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



SILTY CLAYSTONE: Light brownish gray (5 YR 6/1). Slightly friable. Irregular, thinly laminated (<1 mm.) bedding, mostly horiz. in this interval. Some v.f.g. sand.
>50% clay.

SILTY CLAYSTONE: Same as above - bedding angled to approx. 20 degrees.

SILTY CLAYSTONE: Same as above - some laminations are more silt and v.f.g. sand than clay.

SILTY CLAYSTONE: Same as above - high angle fracture (80 degrees) shows slickensides.

SILTY CLAYSTONE: Same as above - no fractures.

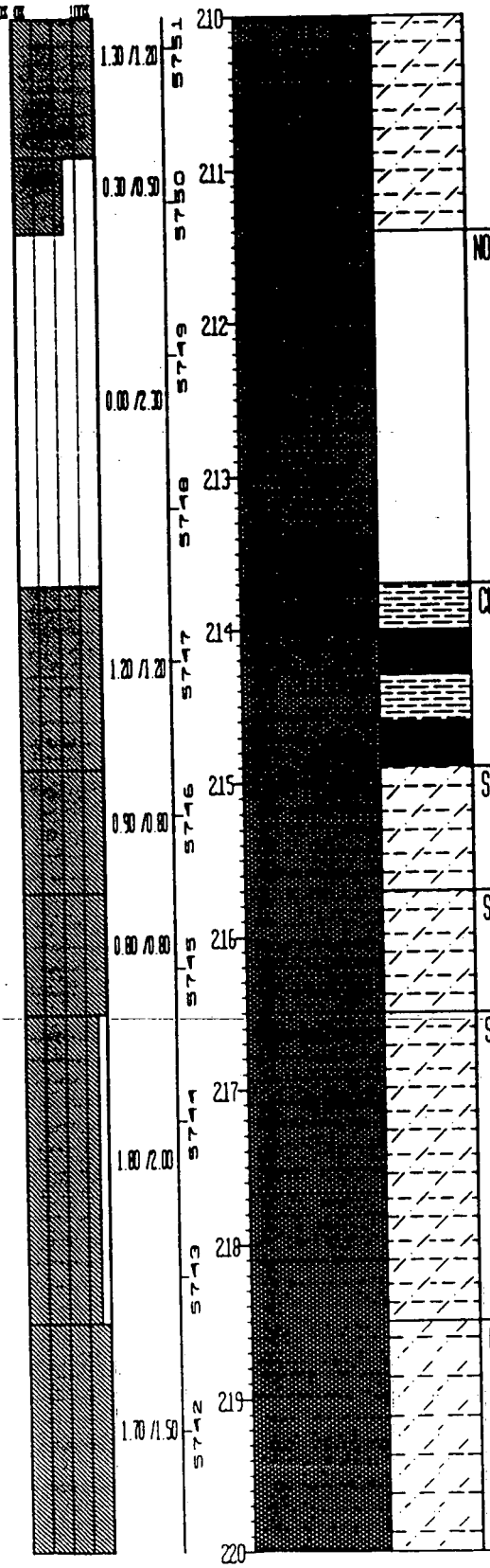
SILTY CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Some carbonaceous material. Bedding irregular, thin, laminations, mostly horiz., interrupted by minor fractures in some areas. Larger fractures through bedding planes at approx. 55 degrees. Some v.f.g. sand. Some very thin laminations, mostly silt (<1 mm.).
>50% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220	GROUND ELEVATION (FT):	5561.20	OLD WELL NUMBER:	56898R	LOG OF BORING NUMBER
NORTH:	749454	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217489
EAST:	2086818	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/12/89	

REMARKS: Hollow Stem Auger: 0.0' to 61.0', Rotary 61.0' to 220.0'. 5-5/8" Surface casing set to 61.0' on 10/05/89 by W. W. Hurlburt.
AST Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

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



Unified Soils Classification or Rock Type	Description
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Claystone and Coal interbedded - Claystone is brownish black (5 YR 2/1). Slightly friable. Bedding horiz., thin (1 mm.) laminar. Some silt, some carbonaceous organic material. Coal laminar approx. 1 mm. every 20 mm. >70% clay.
SILTY CLAYSTONE:	Brownish black (5 YR 2/1). Slightly friable. Massive bedding. Some carbonaceous organic material. >70% clay.
SILTY CLAYSTONE:	Same as above - color change to olive gray (5 Y 4/1). Fewer organics. >70% clay.
SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Massive bedding. Some organic material and coal veins (1 mm. wide), becomes siltier at bottom of interval. >50% clay.
CLAYEY SILTSTONE:	Pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1). Mod. to slightly friable. Some v.f.g. sand. Thinly laminated bedding (1 mm. to 5 mm.). Trace carbonaceous organics. Becomes Silty Claystone at bottom. Small coal seam at bottom (1 mm.). >50% silt. Total Drilled Depth = 220.0'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	799817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMP. 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
578990002	0% 50%	100% 0% 100%	1.40 /2.00	5952	0			GC:	Well Graded Gravel with Silty Clay topsoil - color pred. mod. brown (5 YR 3/4). Max. gravel size to 2.25 in., avg. size 0.25 in. to 1.5 in. Mixed lithology of quartzite, quartz, granite, some feldspar, sub-rounded to angular. Some caliche, grain distribution est. from intact core. Mod. root development, trace mica in sand. Med. plasticity. Weathered. (Sandy Gravel with some Fines). 60% gravel, 25% sand, 15% fines.
578990003			0.50 /1.00	5951	1				
				5950	2			SW:	Well Graded Sand with Gravel and some Silt - sand mod. brown (5 YR 4/4), sub-rounded, pred. quartz, with feldspar, some mica. Gravel predom. angular to sub-angular, quartz, quartzite, non-calcareous, low plasticity. Well weathered. (Sand with some Gravel and trace Fines). >15% gravel, 80% sand, <5% fines.
			0.00 /1.00	5949	3			NO SAMPLE:	NO SAMPLE.
578990406			0.50 /1.00	5948	4			SW:	Same as above except one 2.25 in. pebble (quartzite) in sample. Well weathered. >15% gravel, 80% sand, <5% fines.
578990408			0.00 /1.00	5947	5			NO SAMPLE:	NO SAMPLE.
			0.60 /1.20	5946	6			SW:	Same as above except 3 large pebbles (quartzite), 2.50 in., 2.25 in., and 1.75 in. Well weathered. (Gravelly Sand with trace Fines). 35% gravel, 60% sand, <5% fines.
			0.00 /0.80	5945	7			NO SAMPLE:	NO SAMPLE.
			0.30 /1.00	5944	8			SW:	Gravelly Sand - sample from center of bit, not representative. Gravel to 0.5 in., well weathered.
578990810			0.80 /1.00	5943	9			SW:	Gravelly Sand - light brown (5 YR 5/6) to mod. brown (5 YR 4/4). Sand well graded, predom. quartz, quartzite, some feldspar, some mica, predom. sub-rounded. Gravel to 1.75 in., predom. 0.25 in. to 0.5 in., poorly graded. Well weathered. (Gravelly Sand with trace Fines). 35% gravel, 60% sand, <5% fines.
					10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST: 2087189.	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

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			SW:	Gravelly Sand - same as above. Low plasticity, well weathered. (Gravelly Sand with trace Fines). 35% gravel, 60% sand, <5% fines.
	57898R0913			1.50 /2.00	5942	11			SW:	Gravelly Sand - Color change to pred. mod. yellowish brown (10 YR 5/4), gravel to 2.5+ in. and increase in amount of gravel, mod. well graded. Non-calcareous Well weathered. (Gravelly Sand with trace Fines). 45% gravel, 50% sand, <5% fines.
					5941	12			SW:	Well Graded Sand with Gravel and some Silt - color dark yellowish orange (10 YR 6/6) to mod. yellowish brown (10 YR 5/4). Sand sub-rounded to rounded. Coarser sand, some quartzite grains, predom. quartz and feldspar, f.g. predom., or well rounded to sub-rounded quartz. Gravel mod. well graded, angular to sub-angular quartzite. Non calcareous, well weathered. (Sand with some Gravel and trace Fines). 15% gravel, 80% sand, <5% fines.
	57898R1214			0.80 /1.00	5940	13				
				0.00 /1.00	5939	14			NO SAMPLE	NO SAMPLE.
									GW:	Poorly Graded large Gravel - with sandy matrix. Color predom. mod. yellowish brown (10 YR 5/4). Gravel sub-angular, quartzite, some quartz. (Gravel with some Sand). <20% sand, 80%+ gravel.
	57898R1317			1.70 /2.00	5938	15			CLAYSTONE:	Claystone block or boulder - yellowish gray (5 Y 7/2) with sandy lenses
					5937	16			GW:	Quartzite cobbles and gravel with light brown (5 YR 5/6) sandy matrix
	57898R1618			1.60 /2.00	5936	17			CLAYEY SILTSTONE:	Top of Bedrock at 17.3'. Yellowish gray (5 Y 7/2) with dark yellowish orange (10 YR 6/6) hematite and/or limonitic zones. Siltstone friable, porosity 15+% in upper part of section. Weathered.
					5935	18				
				1.70 /2.00	5934	19			CLAYSTONE:	Yellowish gray (5 Y 7/2) with zones of dark yellowish orange (10 YR 6/6) Fe Oxide (hematite or limonite) staining. Some silty intervals. Some drilling induced fractures. Trace Mn staining.
	57898R1722				5933	20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT): 5952.90	OLD WELL NUMBER: 57-89BR	LOG OF BORING NUMBER:
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217589
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNIC 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
5789BR2022			1.70 /2.00	5932	20–21				
				5931	22				
			1.75 /2.00	5930	23				
				5929	24				
			1.90 /2.00	5928	25				SILTY CLAYSTONE: Light brown (5 YR 5/6) to pale yellowish orange (10 YR 6/2). Highly weathered, mod. friable. Some irregular horiz. laminated bedding visible. Some iron staining. >60% clay
				5927	26				
			1.90 /2.00	5926	27				SILTY CLAYSTONE: Same as above - larger silt fraction. >50% clay.
				5925	28				
			1.90 /2.00	5924	29				SILTY CLAYSTONE: Same as above - some v.f.g. sand. >50% clay.
				5923	30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT): 5952.90	OLD WELL NUMBER: 57-898R	LOG OF BORING NUMBER:
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217589
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI 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
				1.90 /2.00	5922	30			SILTY CLAYSTONE	Grayish orange (10 YR 7/4) to dark yellowish orange (10 YR 6/6). Mod. friable, highly weathered. Some v.f.g. sand. Bedding not evident. >50% clay.
					5921	31				
				1.90 /2.00	5920	32			SILTY CLAYSTONE	Same as above - some v.f.g. sand. >50% clay.
					5919	33				
				1.90 /2.00	5918	34			SILTY CLAYSTONE	Same as above - some m.g. to c.g. sand. Some staining. Sand rounded. >50% clay.
					5917	35				
				1.90 /2.00	5916	36			SILTY CLAYSTONE	Light olive gray (5 Y 6/1). Some well sorted, v.f.g. sand. Mod. friable, highly weathered, bedding not evident. Some iron staining. >50% clay.
					5915	37				
				1.90 /2.00	5914	38			SILTY CLAYSTONE	Same as above - some irregular thinly laminated bedding, horiz. >50% clay.
					5913	39				
						40				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89

LOG OF BORING NUMBER: B217589

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMP DEPTH
GEOTECHNICAL DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50%

PERCENT RECOVERY: 100% 0% 100%

RECOVERY/INTERVAL: 2.00 /2.00; 2.00 /2.00; 0.00 /6.00

DATUM (FT): 5912, 5911, 5910, 5909, 5908, 5907, 5906, 5905, 5904, 5903

DEPTH (FT): 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50

WELL OR PIEZOMETER CONSTRUCTION: 10/25/89

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE / DESCRIPTION

SILTY CLAYSTONE: Very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6). Some v.f.g. sand, highly weathered, mod. friable. Some irregular, thinly laminated, bedding. Some iron staining.
>50% clay.

SILTY CLAYSTONE: Same as above - grading to olive gray (5 Y 4/1) Silty Claystone. Some layers of v.f.g. sand light. olive gray (5 Y 6/1), well sorted. Trace c.g. sand.
>50% clay.

NO SAMPLE: NO SAMPLE.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89

LOG OF BORING NUMBER: B217589

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T A Lutherer. ASI 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
0%		50% 100%	0% 100%	0.00 /10.00	5902 5901 5900 5899 5898 5897 5896 5895 5894 5893	50 51 52 53 54 55 56 57 58 59 60			NO SAMPLE	NO SAMPLE.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI 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
					5892	60			NO SAMPLE	NO SAMPLE
					5891	61				
					5890	62				
					5889	63				
				0.00 /10.00	5888	64				
					5887	65				
					5886	66				
					5885	67				
					5884	68				
					5883	69				
						70				

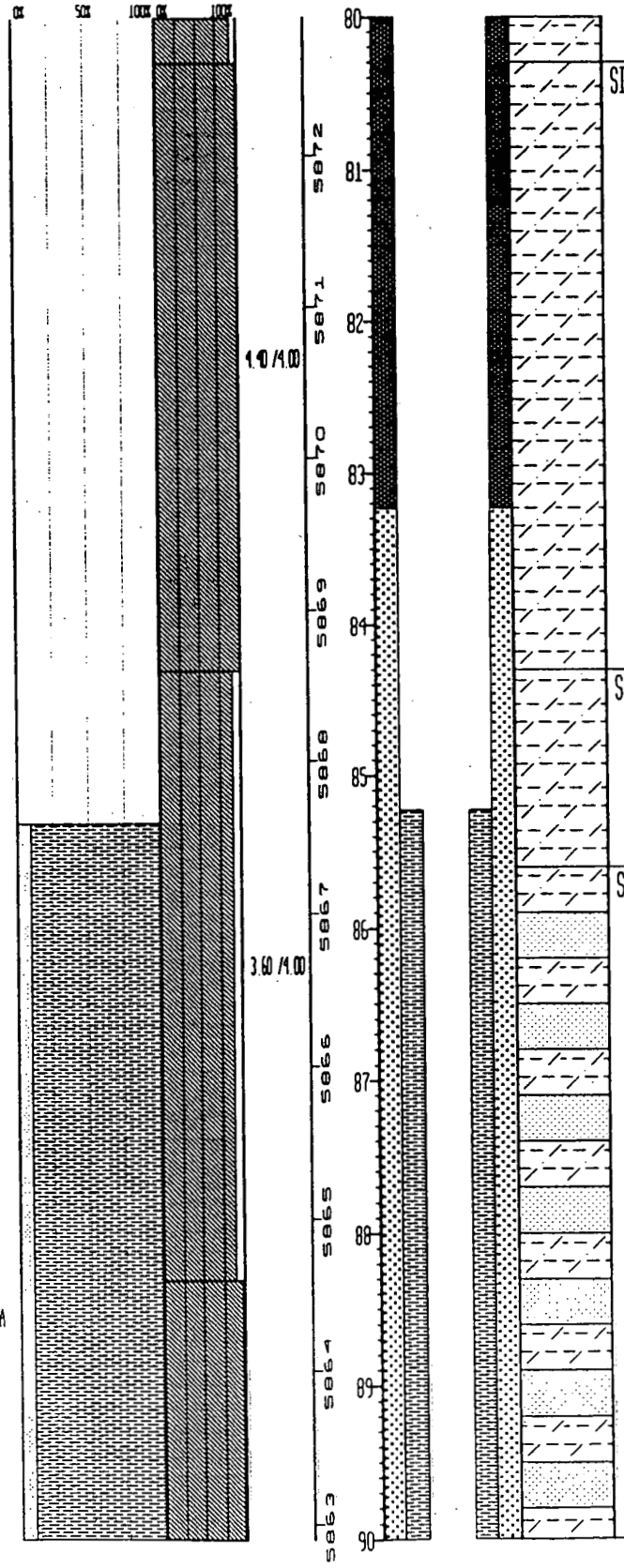
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CRITICAL SAMPLE DEPTH / GEOTECHNICA	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
					5882	70			NO SAMPLE	NO SAMPLE
					5881	71				
					5880	72				
				0.00 /6.10	5879	73				
					5878	74				
					5877	75				
					5876	76			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Trace to some carbonaceous material. Some possible slickensides visible. Becoming less silty, darker brownish black (5 YR 2/1). More carbonaceous material. Bedding angle 60 degrees. >60% clay.
					5875	77				
				3.90 /4.20	5874	78				
					5873	79				
						80				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.



SILTY CLAYSTONE: Brownish gray (5 YR 4/1). Slightly friable, slightly weathered. Trace to some carbonaceous material, becoming more carbonaceous toward bottom.
>50% clay.

SILTY CLAYSTONE: Same as above - trace carbonaceous material. Irregular bedding. More silt
>50% clay.

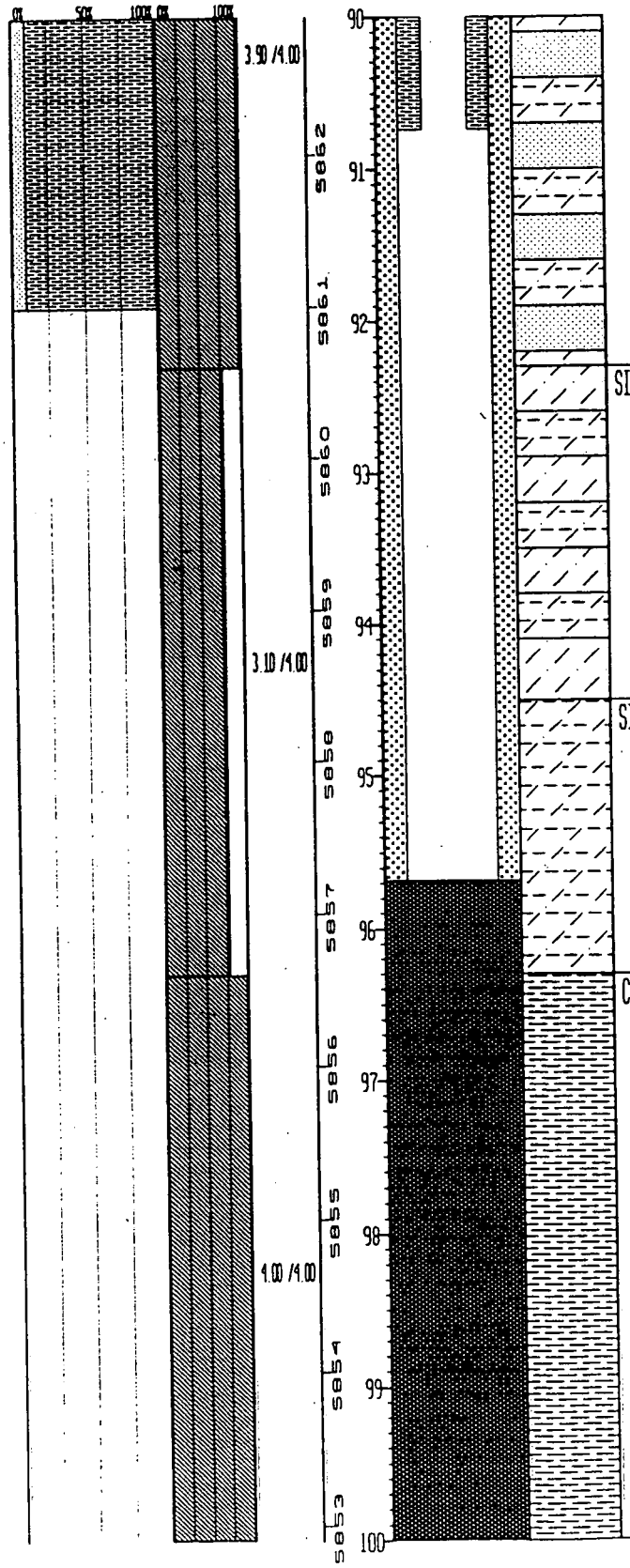
SILTY CLAYSTONE: Interbedded Silty Claystone and v.f.g. Sandstone. Thin laminated bedding (2 mm. to 3 mm.). Slightly dipping (10 degrees to 20 degrees). Sand well sorted. Trace carbonaceous material, some grayish orange (10 YR 7/4).
>50% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT) 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBE

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

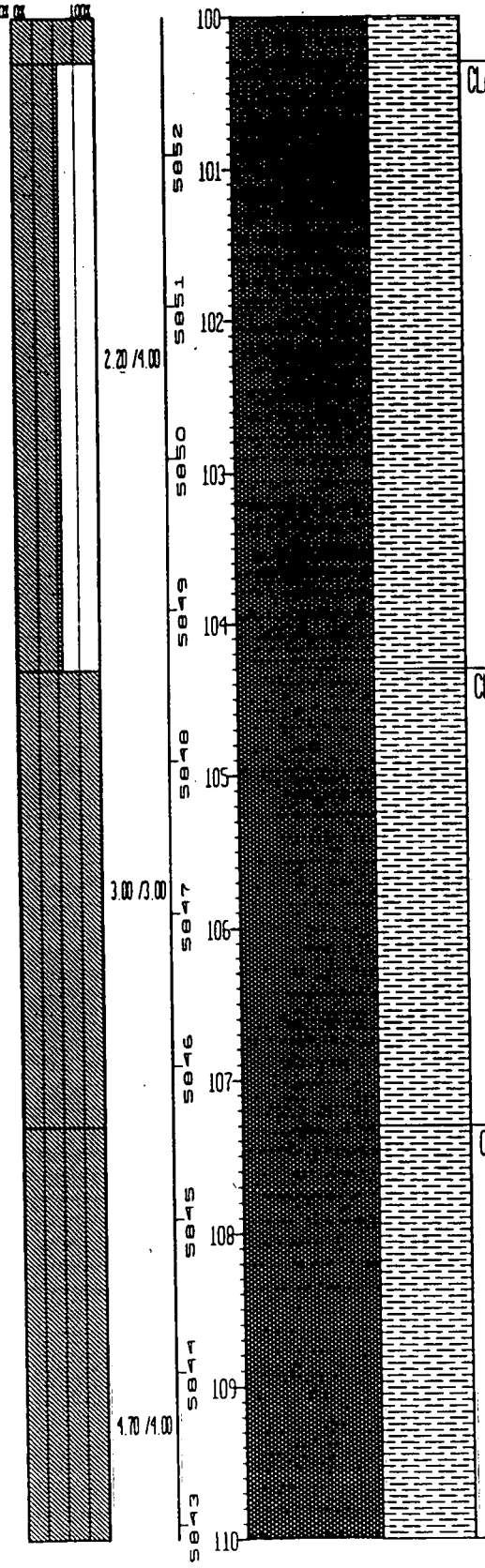


SILTSTONE:	Interbedded Siltstone, Silty Claystone and v f g. Sandstone Very thin irregular laminations (1 mm. to 2 mm.). Some cross bedding visible. Some carbonaceous material.
SILTY CLAYSTONE:	Becomes Silty Claystone - olive gray (5 Y 4/1). Bedding not evident. Slightly friable. Trace carbonaceous material. Some possible slickensides on fracture angle. Fracture angle 75 degrees. >50% clay
CLAYSTONE:	Olive black (5 Y 2/1). Slightly friable. Bedding not evident. Trace carbonaceous material. Some possible slickensides on fracture angle. Fracture angle 70 degrees. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT): 5952.90	OLD WELL NUMBER: 57-898R	LOG OF BORING NUMBER:
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217589
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI 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



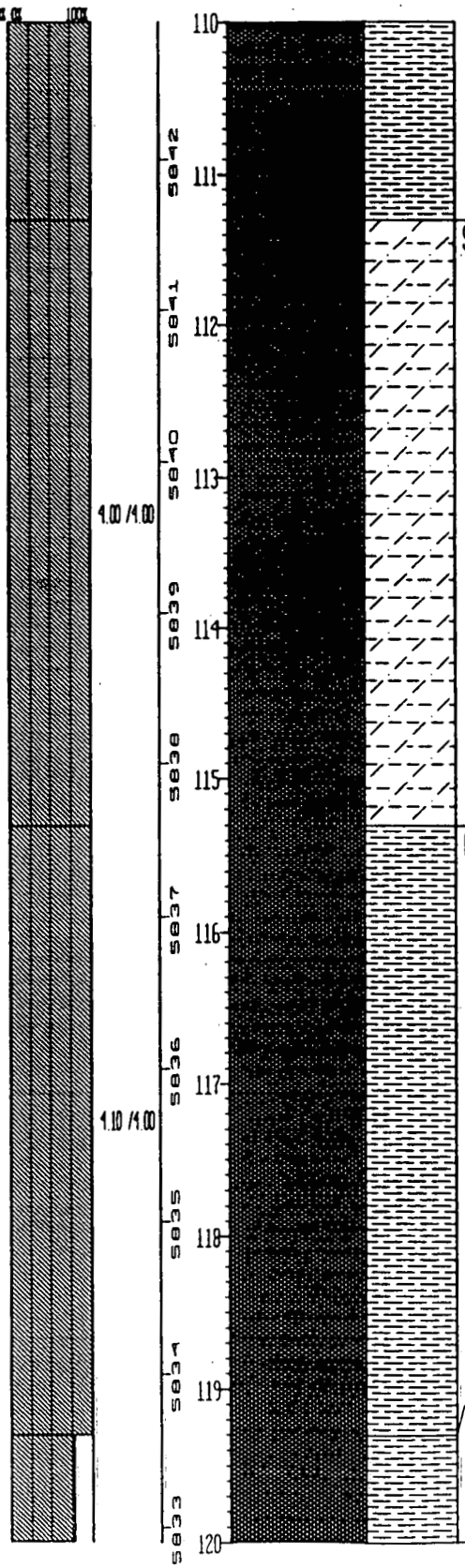
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Claystone as in 96.3' to 100.3' interval. >70% clay.
CLAYSTONE	Same as above - some carbonaceous material toward bottom. Siltier toward bottom. >70% clay.
CLAYSTONE	Brownish gray (5 YR 4/1). Slightly weathered, slightly friable. Bedding not evident. Some siltier areas, some carbonaceous material in some layers. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT): 5952.90	OLD WELL NUMBER: 57-898R	LOG OF BORING NUMBER:
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217589
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI 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

0% 50% 100% 0% 100%



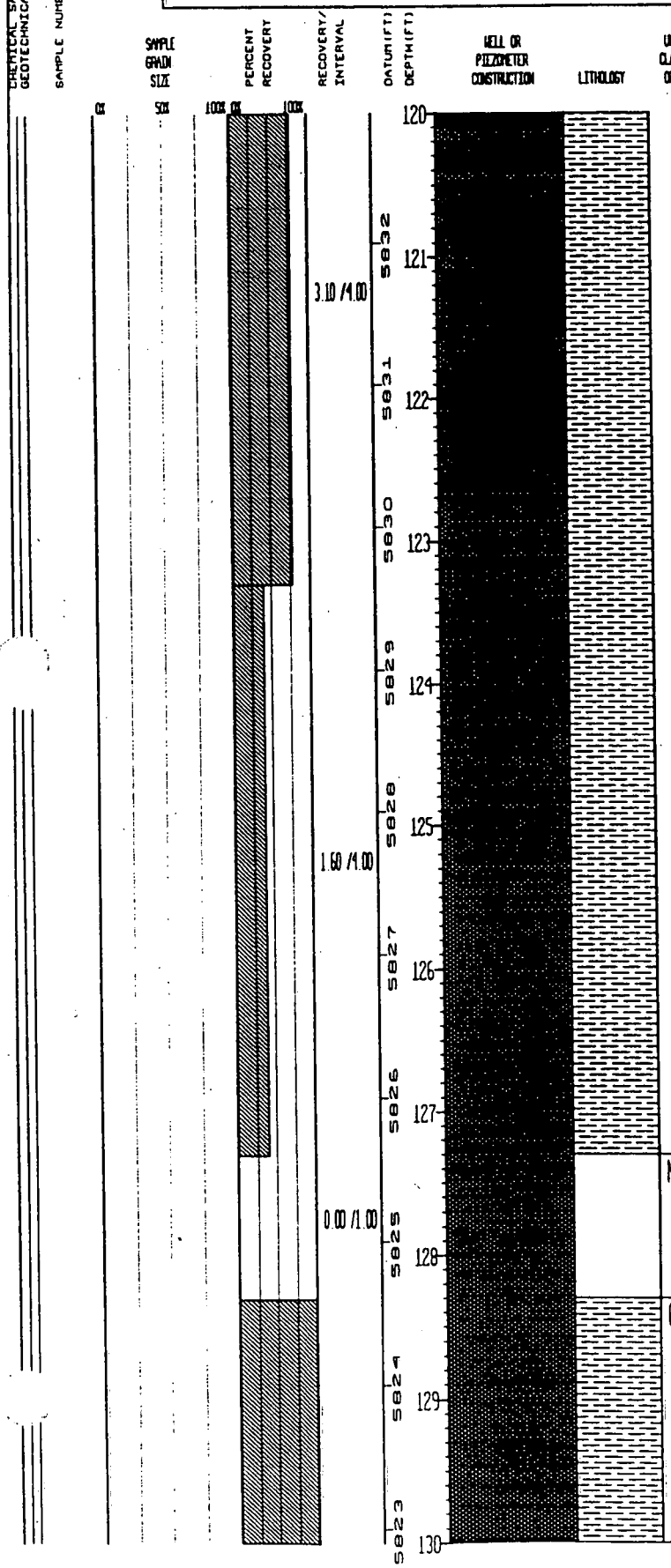
SILTY CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Trace carbonaceous material. Some v.f.g. sand toward bottom of interval.
>50% clay.

CLAYSTONE: Olive gray (5 Y 4/1). Bedding not evident. Slightly friable.
>70% clay.

CLAYSTONE: Olive gray (5 Y 4/1) to brownish black (5 YR 4/1). Slightly friable. Bedding appears thinly laminated, horiz. in some areas. Trace silt.
>70% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-899R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.



NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable. Bedding not evident. Trace iron staining. Fracture angle 60 degrees. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-89BR
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89

LOG OF BORING NUMBER: B217589

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMP DEPTH
GEOTECHNICAL DEPTH
SAMPLE NUMBE

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

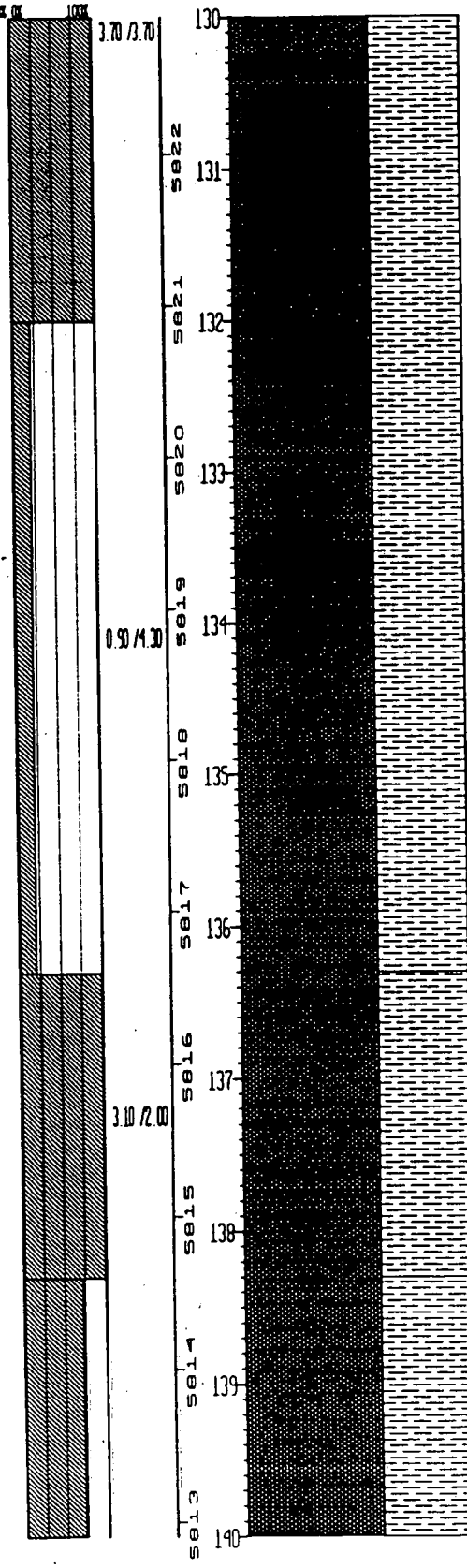
RECOVERY/INTERVAL: 3.70 /3.70; 0.90 /4.30; 3.10 /2.00

DATUM (FT): 5822, 5821, 5820, 5819, 5818, 5817, 5816, 5815, 5814, 5813

DEPTH (FT): 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY



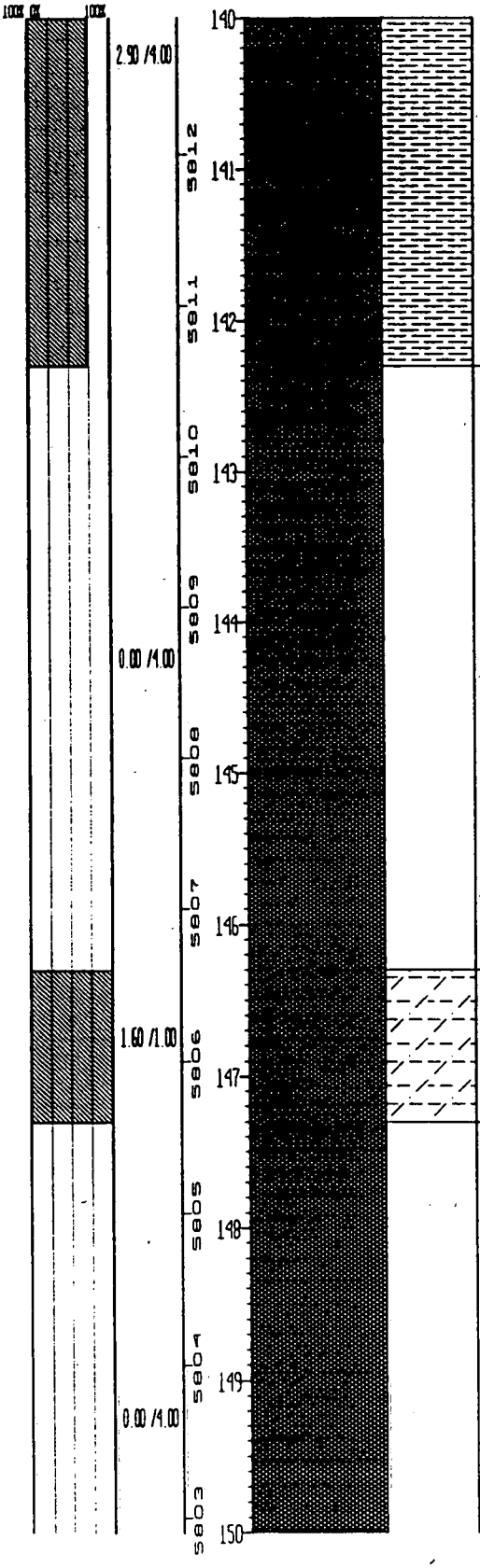
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Same as above - trace carbonaceous material Fracture angle 70 degrees. >70% clay.
CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable. Bedding not evident >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT): 5952.90	OLD WELL NUMBER: 57-89BR	LOG OF BORING NUMBER:	
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B217589	
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/25/89		

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8" Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNIC 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



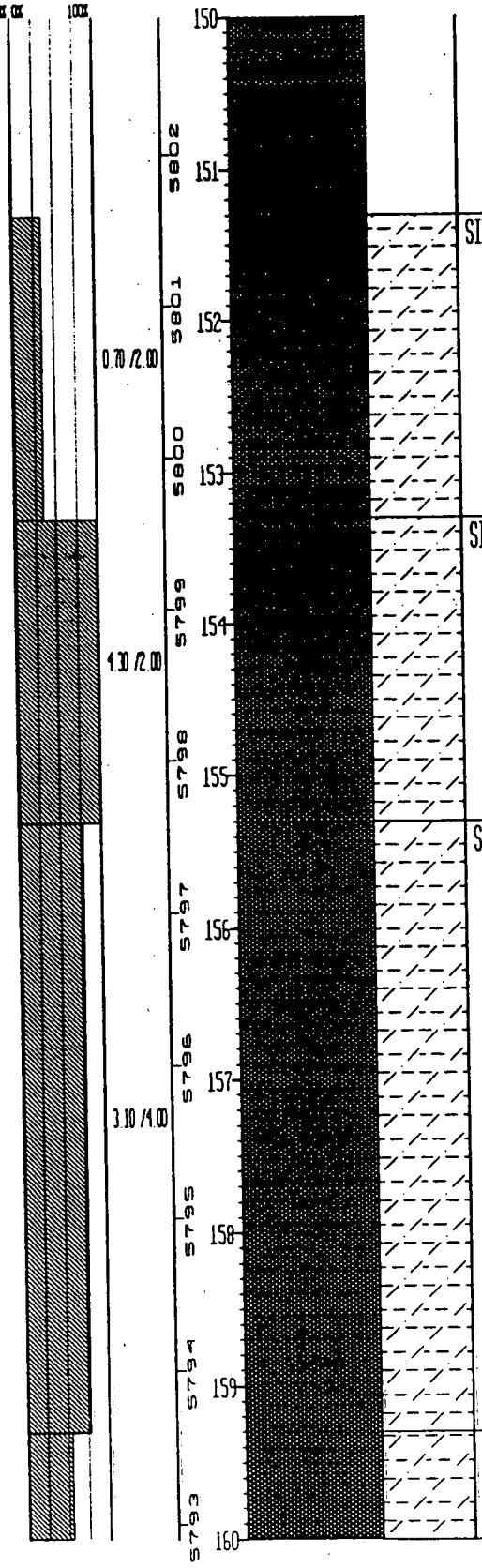
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	NO SAMPLE.
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Bedding not evident, slightly friable. Trace carbonaceous material. >50% clay.
NO SAMPLE	NO SAMPLE.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189.	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89.	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI 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



SILTY CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Trace carbonaceous material >70% clay.

SILTY CLAYSTONE: Same as above, siltier. >60% clay.

SILTY CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Trace carbonaceous material, trace iron staining. >50% clay.

SILTY CLAYSTONE: Olive gray (5 Y 4/1). Mod. friable. Bedding not evident. Trace iron staining. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89

LOG OF BORING NUMBER: B217589

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 2.20/4.00; 4.10/4.00; 1.90/4.00

DATUM (FT): 5792, 5791, 5790, 5789, 5788, 5787, 5786, 5785, 5784, 5783

DEPTH (FT): 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170

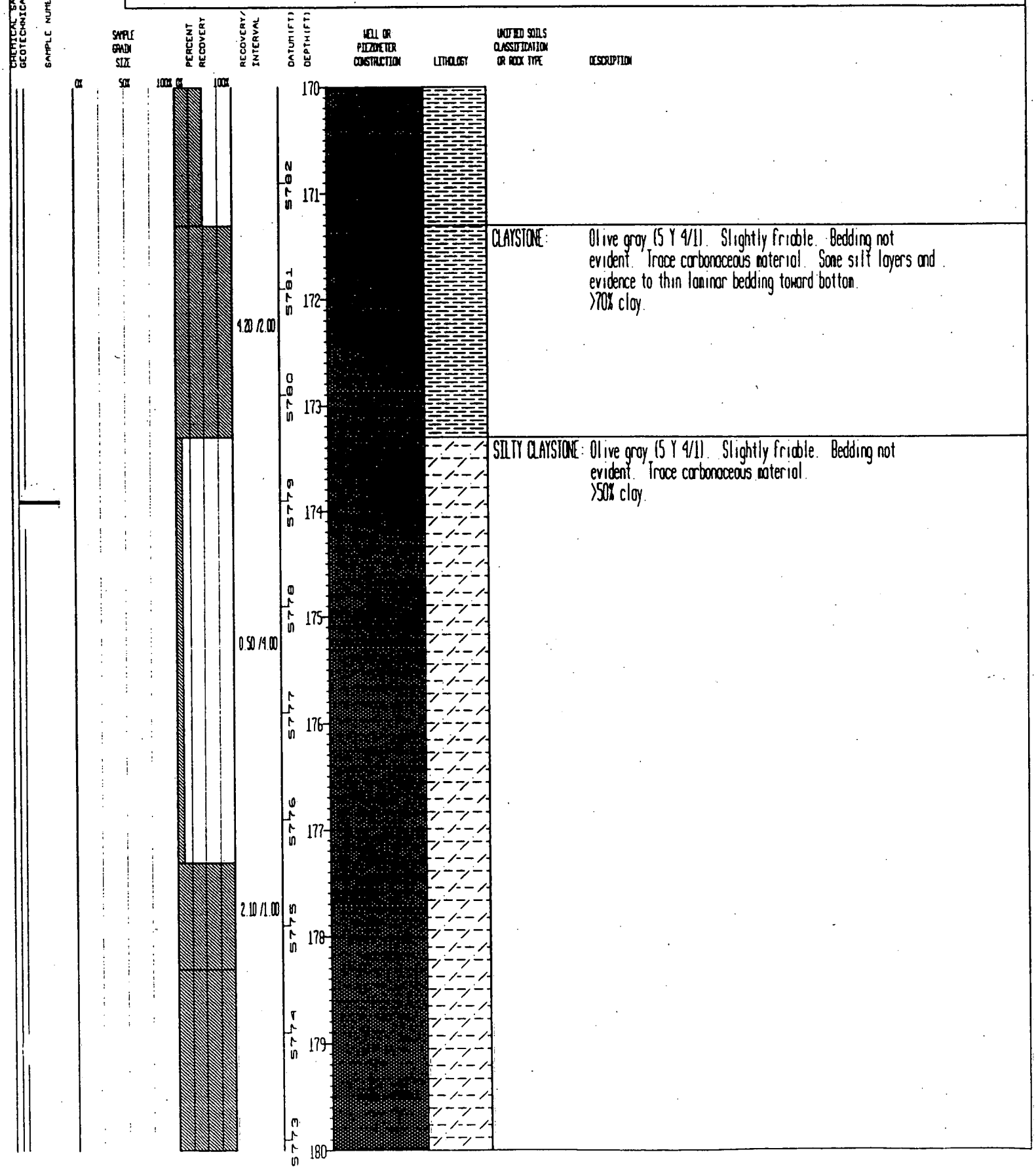
WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Same as above - thin horiz. laminar bedding (1 mm. to 2 mm.) visible in some areas, mostly massive, however. Trace carbonaceous material. >60% clay.
CLAYSTONE	Olive gray (5 Y 4/1) Slightly friable Bedding not evident. >70% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.



STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8" Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 4.40/4.00; 4.50/4.00; 4.00/4.00
DATUM (FT): 5972, 5971, 5970, 5969, 5968, 5967, 5966, 5965, 5964, 5963
DEPTH (FT): 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Interbedded Claystone and Silty Claystone - olive gray (5 Y 4/1 to 5 Y 6/1). Mod. to slightly friable. Bedding primarily horiz., 6 cm. to 15 cm. thick. Some carbonaceous material. Bedding thinner and more irregular toward bottom of interval. Some v f g sand in layers. Fracture angle 65 degrees to 70 degrees. >60% clay.
CLAYSTONE	Same as above - some layers of v f g. Sandy Siltstone. Slickensides visible in fracture. Silt nodule approx. 3.5 cm., reddish brown coloring. Fracture angle 60 degrees >50% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89

LOG OF BORING NUMBER: B217589

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. 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
						190				
					5762	191			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Horiz. bedding. Slickensides in fracture. Some silt discoloration, light brown (5 YR 5/6). Fracture angle 45 degrees to 50 degrees. >60% clay.
					5761	192				
				3.80 /4.00						
					5760	193				
					5759	194				
					5758	195			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Irregular bedding. Possible slump structures visible. >50% clay.
					5757	196				
				4.00 /4.00						
					5756	197				
					5755	198				
					5754	199			SILTY CLAYSTONE	Same as above - bedding sloped and irregular, 1 mm. to 2 mm. thick.
					5753	200				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	TG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

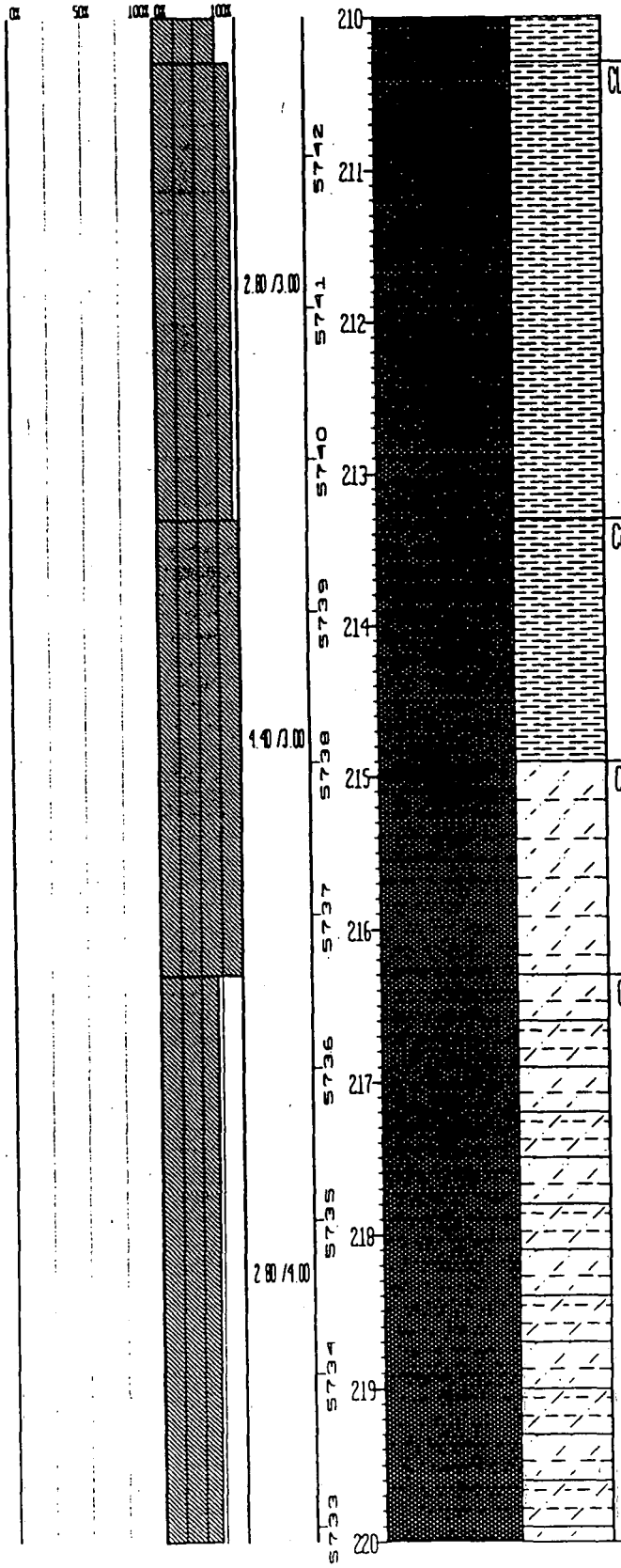
CHEMICAL SA / GEOTECHNICA	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	4.10 /4.00	5752	200				
					5751	201				
						202				
					5750	203			CLAYSTONE:	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Fracture angle 60 degrees. >70% clay.
				4.00 /4.00	5749	204				
					5748	205				
					5747	206				
					5746	207			CLAYSTONE:	Same as above - trace carbonaceous material. Some silt. Fracture angle 60 degrees. >70% clay.
				3.00 /4.00	5745	208				
					5744	209				
					5743	210				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT):	5952.90	OLD WELL NUMBER:	57-898R	LOG OF BORING NUMBER:
NORTH:	749817	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B217589
EAST:	2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	10/25/89	

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

CHEMICAL SAMP DEPTH
GEOTECHNICAL 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: Olive gray (5 Y 4/1). Slightly friable. Trace carbonaceous material. Bedding not evident. Color grades to olive black (5 Y 2/1). Abundt. organics. Bedding appears thin laminar.
>70% clay.

CLAYSTONE: Olive black (5 Y 2/1). Mod. to slightly friable. Bedding not evident. Some silt, trace black carbonaceous material.
>70% clay.

CLAYEY SILTSTONE: Light olive gray (5 Y 6/1). Horiz. bedding. Some v.f.g. sand in localized thin layers. Trace black carbonaceous material.
>50% silt.

CLAYEY SILTSTONE: Interbedded Clayey Siltstone and Silty Claystone. Light olive gray (5 Y 6/1). Horiz., irregular, thin, laminated bedding. Trace black carbonaceous material. Slightly friable.
50% silt, 50% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 221.3	GROUND ELEVATION (FT): 5552.90	OLD WELL NUMBER: 57-898R	LOG OF BORING NUMBER:	
NORTH: 749817	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH		
EAST: 2087189	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 10/25/89		B217589

REMARKS: Hollow Stem Auger 0-75', Rotary Core 75' to 221. 5-5/8". Surface Casing set to 75.0' on Oct. 18, 1989 by T. A. Lutherer. ASI Log.

DEPTH | CHEMICAL SAT GEOTECHNICA | 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%

1.00 /1.00

DATUM (FT)	DEPTH (FT)
	220
5732	221
5731	222
5730	223
5729	224
5728	225
5727	226
5726	227
5725	228
5724	229
5723	230

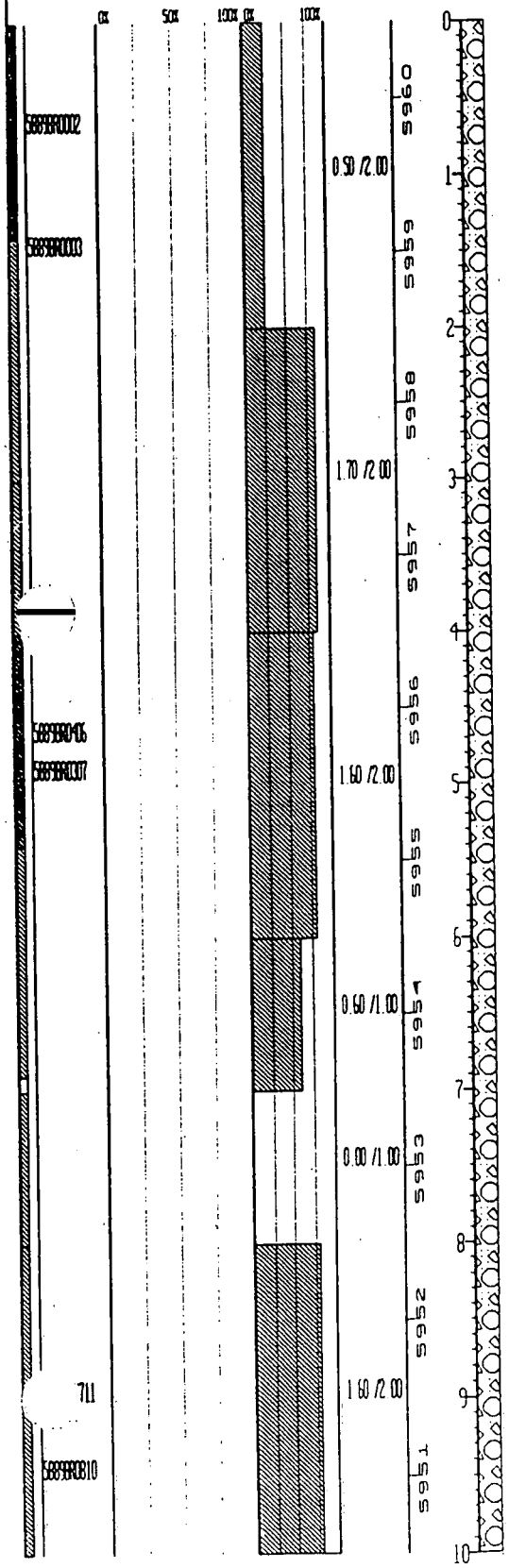
CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Grades to Silty Claystone, light olive gray (5 Y 6/1). Slightly friable. Bedding not evident. Trace carbonaceous materials and iron staining. >70% clay.

Total Drilled Depth = 221.3'.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89

LOG OF BORING NUMBER: B217689

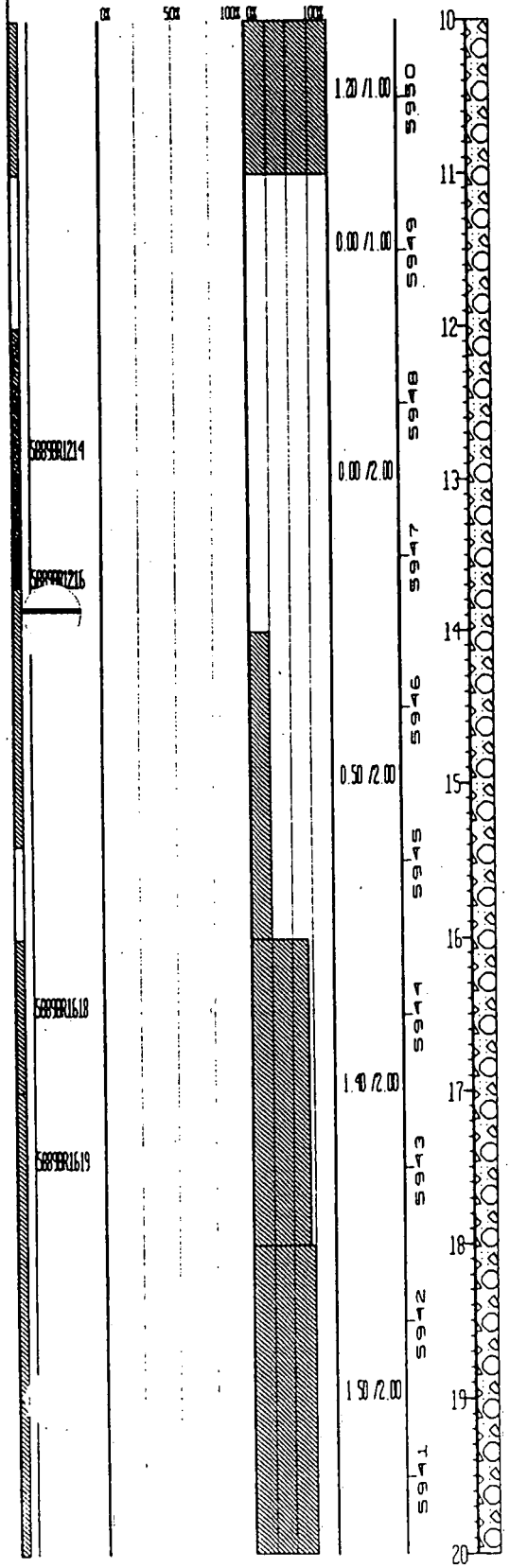
REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. Geotech Sample 82176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	CL:	Silty Clay (Topsoil) - Dark yellowish brown (10 YR 4/2). Plasticity mod., some gravel to 4 cm. Becomes gravel at 0.10 ft., sub-angular. Some CaCO3. >50% clay.
	GC:	Gravelly Silty Clay matrix. Matrix dark yellowish brown (10 YR 4/2). Mod. plasticity. Gravel angular to sub-rounded, granules to 2.5 cm., mod. to well graded. Some sand and silt. Some CaCO3. >50% gravel
	GC:	Gravel - as above. Angular to rounded granules to 5 cm. Some caliche rinds on gravel. Gravel granules. >50% gravel
	CL:	Sandy Gravelly Clay. Grayish orange (10 YR 7/4). Low plasticity. 2 cm. to granule size gravel. Some sand. >50% clay.
	NO SAMPLE:	NO SAMPLE.
	GC:	Gravel. Same as above (reference interval 4.0' - 6.0'). >50% gravel.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.



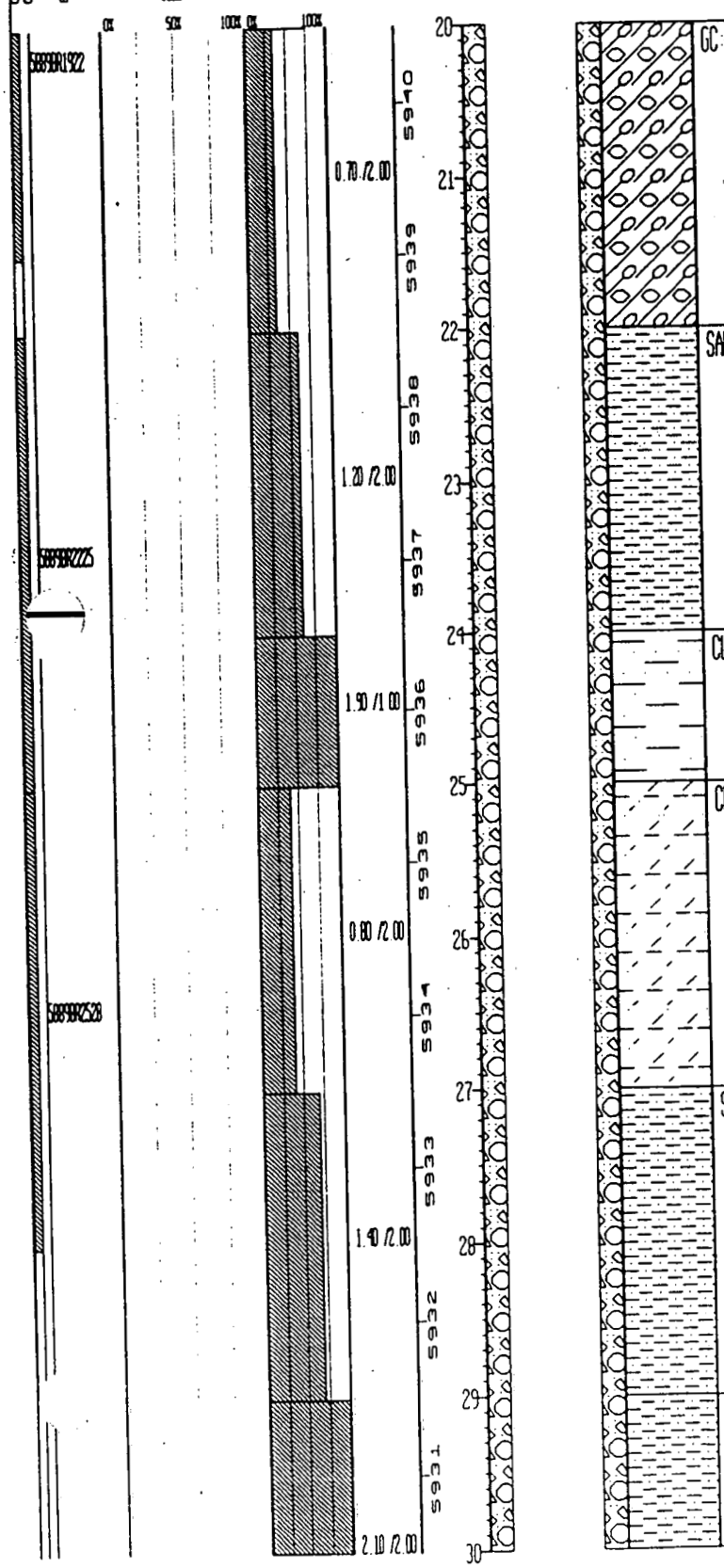
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	Clayey Gravel. Very pale orange (10 YR 8/2). Mod. graded. Granules to 4 cm., sub-angular to sub-rounded. Some v.f.g. to c.g. sand. >50% gravel.
NO SAMPLE:	NO SAMPLE.
NO SAMPLE:	NO SAMPLE.
GC:	Clayey Gravel. Pale yellowish brown (10 YR 6/2). Gravel granules to 5.5 cm. Poorly graded. Some v.f.g. to v.c.g. sand. Some silt. >50% gravel.
GC:	Same as above, gravel granule size to 3 cm. >50% gravel.
GC:	Same as above. Gravel to 4.0 cm., trace carbonaceous material >50% gravel

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-89BR
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89

LOG OF BORING NUMBER: **B217689**

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	Clayey Gravel to Gravelly Clay (10 YR 7/4). Mod. plasticity. Gravel granules to 2 cm. (2.6 cm. cobbles). Poorly graded angular to sub-angular. (gc-cl) 50% gravel, 50% clay.
SANDY CLAYSTONE:	Sandy Claystone - very pale orange (10 YR 8/2), grayish orange (10 YR 7/4). Highly weathered, highly friable. V.f.g. to f.g. sand. 50% clay, 50% sand.
CLAYEY SANDSTONE:	Clayey Sandstone. Grayish orange to dark yellowish orange (10 YR 7/4 to 10 YR 6/6). Some CaCO3. V.f.g. to f.g. rounded grains. Highly weathered, friable. >50% sand.
CLAYEY SILTSTONE:	Clayey Siltstone to Clayey Sandstone - as above. Some horiz. laminated bedding visible. Highly weathered, friable. >50% silt
SANDY CLAYSTONE:	Sandy Claystone - Very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6). V.f.g. sand, poorly graded. (mod. to well sorted), mod. rounded to rounded, mod. porous to porous, mod. friable. Horiz. irreg. laminated bedding. >50% clay.
SANDY CLAYSTONE:	Same as above, some carbonaceous material. >50% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 220.1	GROUND ELEVATION (FT) 5960.50	OLD WELL NUMBER 58-898R	LOG OF BORING NUMBER
NORTH: 749629		AREA: EAST TRENCHES	CASING DIAMETER (IN) 2 3/8 O.D.	GEOLOGIST LAH	B217689
EAST: 2086746		LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN) 4	DATE DRILLED 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample: 98.5'-103.0'; 34% sand, 66% silt and clay.

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%	2.10 /2.00	5930	30				
				1.20 /2.00	5929	31			CLAYEY SANDSTONE	Clayey Sandstone - Very pale orange to dark yellowish orange (10 YR 6/6 to 10 YR 8/2). Vf g to m g. sand. Poorly sorted. Irreg. horiz bedding. Rounded grains. Some silt. Porous. 50% sand, 30% clay, 20% silt.
					5928	32				
				1.60 /2.00	5927	33			CLAYEY SANDSTONE	Same as above
					5926	34				
				1.20 /2.00	5925	35			CLAYEY SANDSTONE	Same as above
					5924	36	11/07/89			
				1.60 /2.00	5923	37			CLAYEY SANDSTONE	Same as above
					5922	38				
				1.40 /1.00	5921	39			CLAYEY SANDSTONE	Same as above
						40				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-89BR
NORTH: 749629	AREA: EAST TRENCHES.	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89

LOG OF BORING NUMBER: **B217689**

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1' 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.

ASI Log. GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH / SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

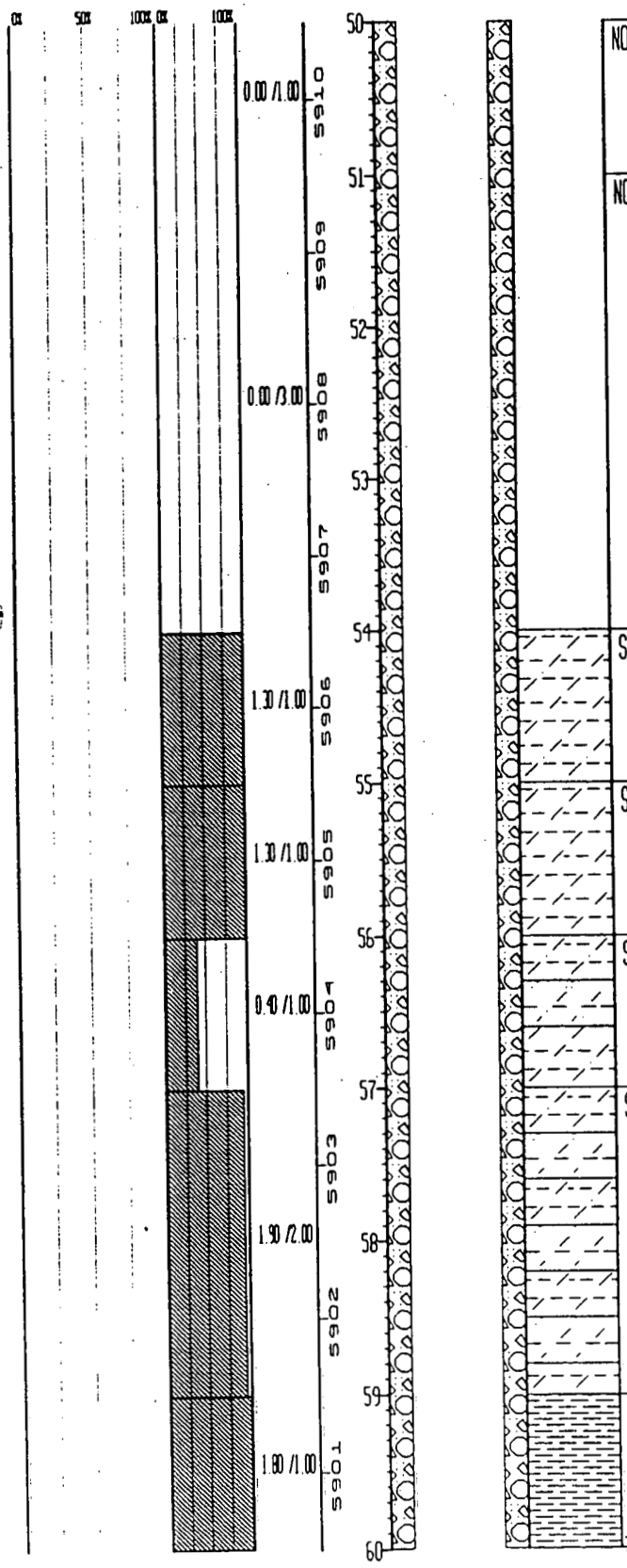
RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
1.40 /1.00	5920	40			CLAYEY SANDSTONE	Clayey Sandstone - Very pale orange to dark yellowish orange (10 YR 8/2 to 10 YR 6/6). V.f.g. to f.g., mod. graded, sorted, rounded grains. Mod. porous to porous. Mod. friable. Crossbedded especially toward bottom of interval. Some iron staining. >60% sand.
0.30 /1.00	5919	41			CLAYEY SANDSTONE	Same as above.
0.00 /1.00	5918	42			NO SAMPLE	NO SAMPLE.
0.00 /1.00	5917	43			NO SAMPLE	NO SAMPLE.
1.20 /1.00	5916	44			SANDSTONE	Sandstone - Grayish orange to mod. yellowish brown (10 YR 7/4 to 10 YR 5/4). Well sorted, rounded grains. Med. grained. Porous. Bedding not evident. Some clay. Friable. Becomes more clayey, finer grained toward bottom of interval. 90% sand.
0.00 /1.00	5915	45			NO SAMPLE	NO SAMPLE
1.70 /1.00	5914	46			CLAYEY SANDSTONE	Clayey Sandstone to Sandy Claystone. Grayish orange to mod. yellowish brown (10 YR 7/4 to 10 YR 5/4). Mod. friable, bedding not evident. Mod. porous, v.f.g. to m.g. sand, rounded, mod. sorted. 50% clay, 50% sand.
0.00 /1.00	5913	47			NO SAMPLE	NO SAMPLE.
0.00 /1.00	5912	48			NO SAMPLE	NO SAMPLE.
0.00 /1.00	5911	49			NO SAMPLE	NO SAMPLE.
		50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89

LOG OF BORING NUMBER: B217689

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBI



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	NO SAMPLE.
NO SAMPLE	NO SAMPLE.
SILTY CLAYSTONE	Silty Claystone - Med. bluish gray (5 B 5/1). Irreg. bedding, slightly friable. Some dark yellowish orange. Mottling, mod. porous, some v.f.g. sand. 60% clay, 30% silt.
SILTY CLAYSTONE	Same as above. Some carbonaceous material visible.
SILTY CLAYSTONE	Silty Claystone and Clayey Siltstone. Irregularly interbedded (mottled). Yellowish gray to light olive gray (5 Y 8/1 to 5 Y 6/1). Mod. friable, no apparent bedding. Some coal, unconsol.
SILTY CLAYSTONE	Same as above (reference interval 56.0' to 57.0').
CLAYSTONE	Claystone - Olive gray (5 Y 4/1). Friable. No apparent bedding, unconsol. >70% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample: 98.5'-103.0'; 34% sand, 66% silt and clay.

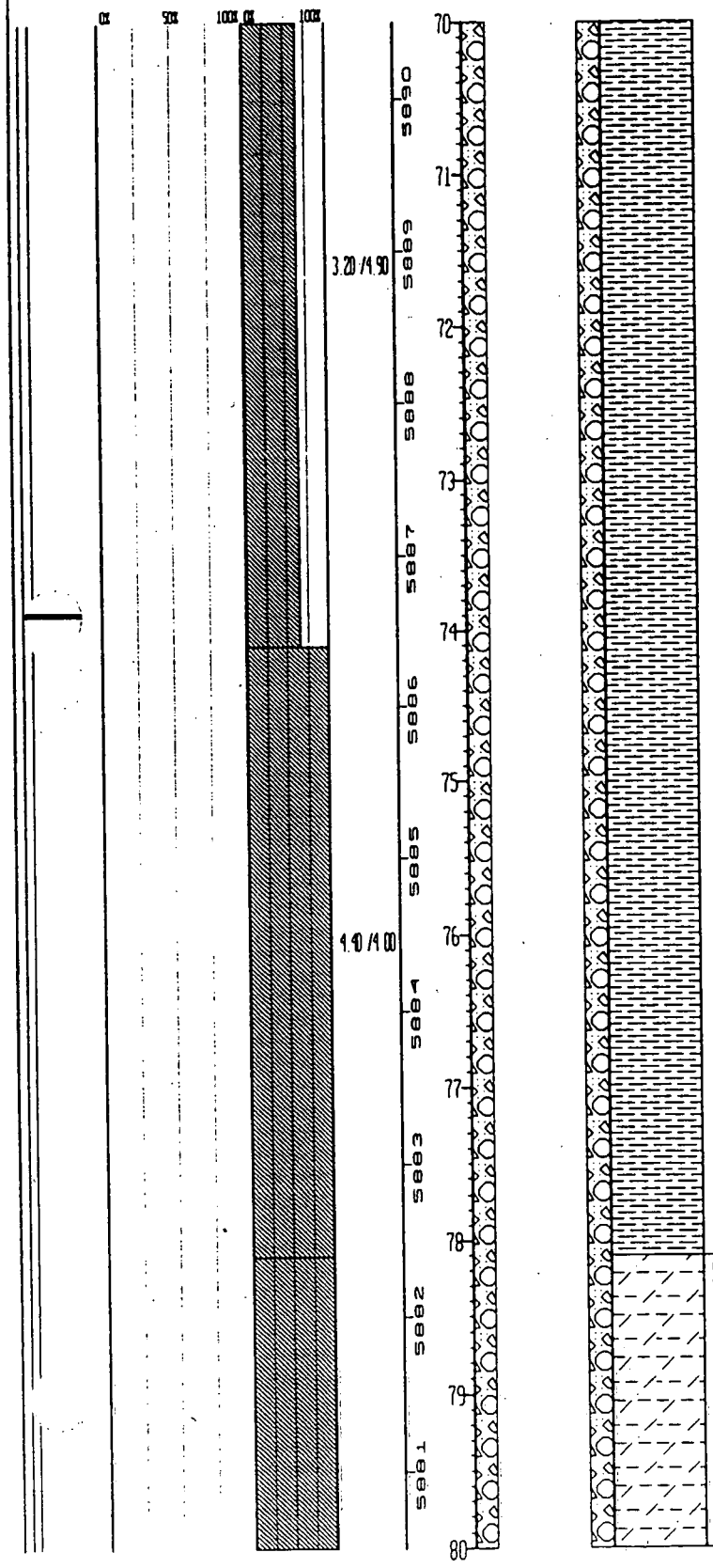
CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			1.00 /1.00	5900	60			CLAYSTONE	Claystone - Olive (5 Y 4/1). Mod to slightly friable. No apparent bedding. Core is unconsol, some silt, trace of carbonaceous material. >60% clay.
			1.00 /1.00	5899	61			CLAYSTONE	Same as above. Some v f g -f g sand
			0.90 /1.00	5898	62			CLAYSTONE	Claystone - olive gray (5 Y 4/1). Mod. - highly friable. No apparent bedding. Core is unconsol. Trace of coal, trace of carbonaceous material, trace of silt. Interval shows possible clast material.
			0.90 /1.00	5897	63			CLAYSTONE	Same as above.
			0.90 /1.00	5896	64			CLAYSTONE	Same as above
			0.90 /1.00	5895	65			CLAYSTONE	Same as above. Trace of Fe staining.
			0.00 /1.00	5894	66			NO SAMPLE	NO SAMPLE
			1.20 /1.00	5893	67			CLAYEY SANDSTONE	Top 4 in. is same as above (reference interval 62.0' to 63.0'). Base of interval is Clayey Sandstone light olive gray (5 Y 6/1). V.f.g. - f g, sub-rounded, mod. well sorted. No apparent bedding. Trace carbonaceous material
					68			CLAYSTONE	Same as above. Possible horiz. bedding planes. Base of interval is unconsol
			1.60 /1.00	5892				NO SAMPLE	NO SAMPLE
			0.00 /0.20	5891	69			CLAYSTONE	Olive gray (5 Y 4/1) to light olive gray (5 Y 6/1). Mod to slightly friable, some silt, trace carbonaceous material. Bedding not evident. Fractures mostly horiz. Some slickensides visible on one irregular 80 degree fracture. Mildly calcareous. (Claystone with trace Silt) >5% silt, >70% clay.
					70				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-89BR
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89

LOG OF BORING NUMBER: B217689

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay

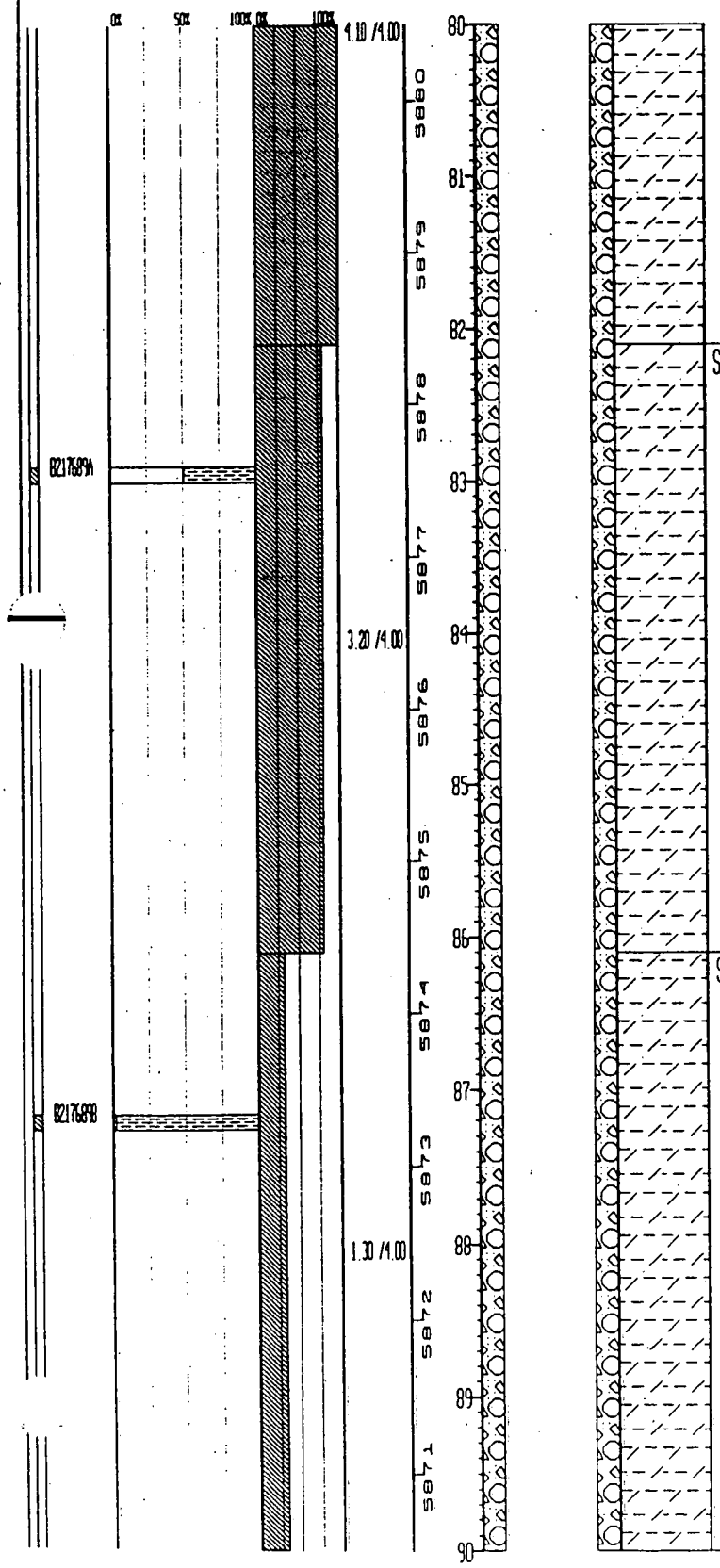
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMB
SAMPLE GRAIN SIZE
PERCENT RECOVERY
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



SILTY CLAYSTONE Light olive gray (5 Y 6/1). Slightly friable. Bedding not evident, fractures mostly horiz., trace carbonaceous material. Bedding becomes visible toward bottom of interval. Irregular thin laminations, some v.f.g. sand, some iron staining visible. Some carbonaceous material. (Silty Claystone with trace Sand)
5% sand, 25% silt, 70% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow
ASI Log. GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.

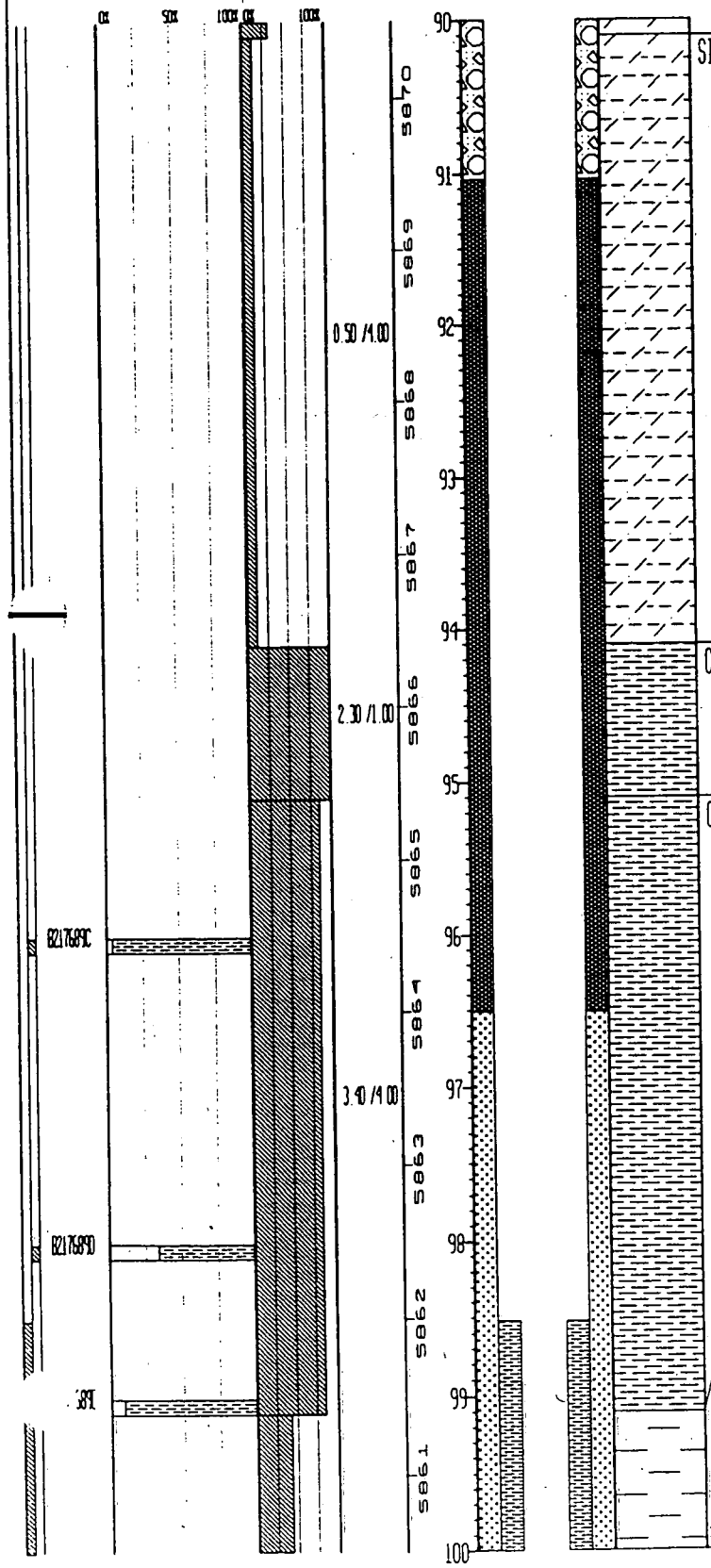


SILTY CLAYSTONE: Light olive gray (5 Y 6/1). Mod. to slightly friable. Thinly laminated bedding visible, some crossbedding visible. Some carbonaceous material, some iron staining. One area of Sandy Claystone (calcareous) toward top of interval, approx. 4 in. long. (Silty Claystone with some Sand).
10% sand, 20% silt, >50% clay.

SILTY CLAYSTONE: Same as above - bedding mostly horiz., thinly laminated. Very thin silt laminations (<1 mm.). Becomes less silty toward bottom of interval. Slickensides on a near vertical irregular fracture toward bottom. (Silty Claystone with some Sand).
10% sand, 20% silt, >50% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-89BR	LOG OF BORING NUMBER:
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

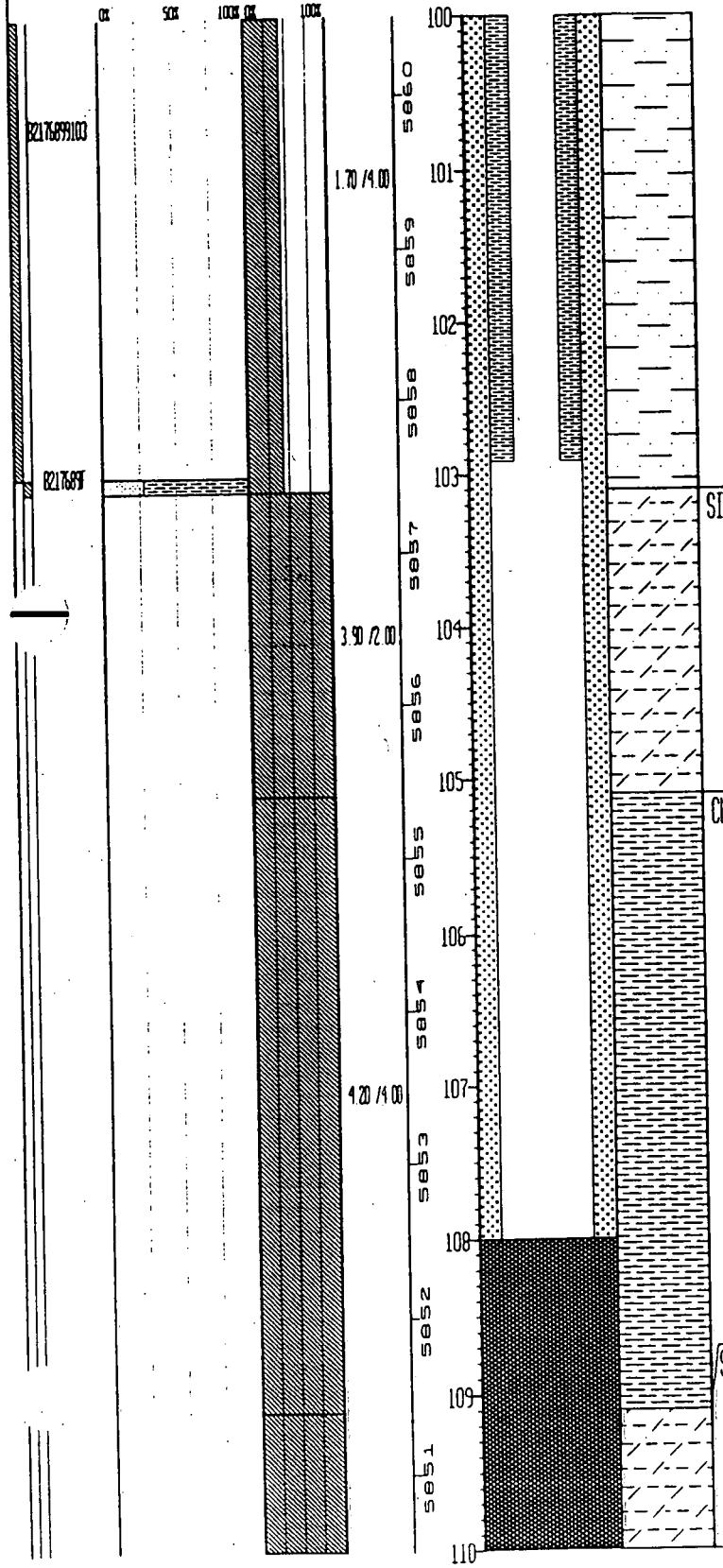
REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
AST Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. 30% silt, 70% clay.
CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable, bedding not evident. Some slickensides present on fracture (open). Fracture angle 40 degrees. >70% clay.
CLAYSTONE	Same as above - color change to olive black (5 Y 2/1). Some carbonaceous material, especially toward center. Bedding mostly horiz. from fracture patterns. Becomes Sandy Claystone at a distinct contact, yellowish gray (5 Y 8/1). Slightly friable. Bedding irregular. Sand v.f.g to f.g., trace carbonaceous material. >70% clay to >50% clay.
CLAYEY SANDSTONE	Yellowish gray (5 Y 8/1). V.f.g. to f.g., poorly to mod. graded. Thinly laminated, irregular bedding (1 mm. to 2 mm.). Slightly dipping (20 degrees). Trace carbonaceous material. >60% sand

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.



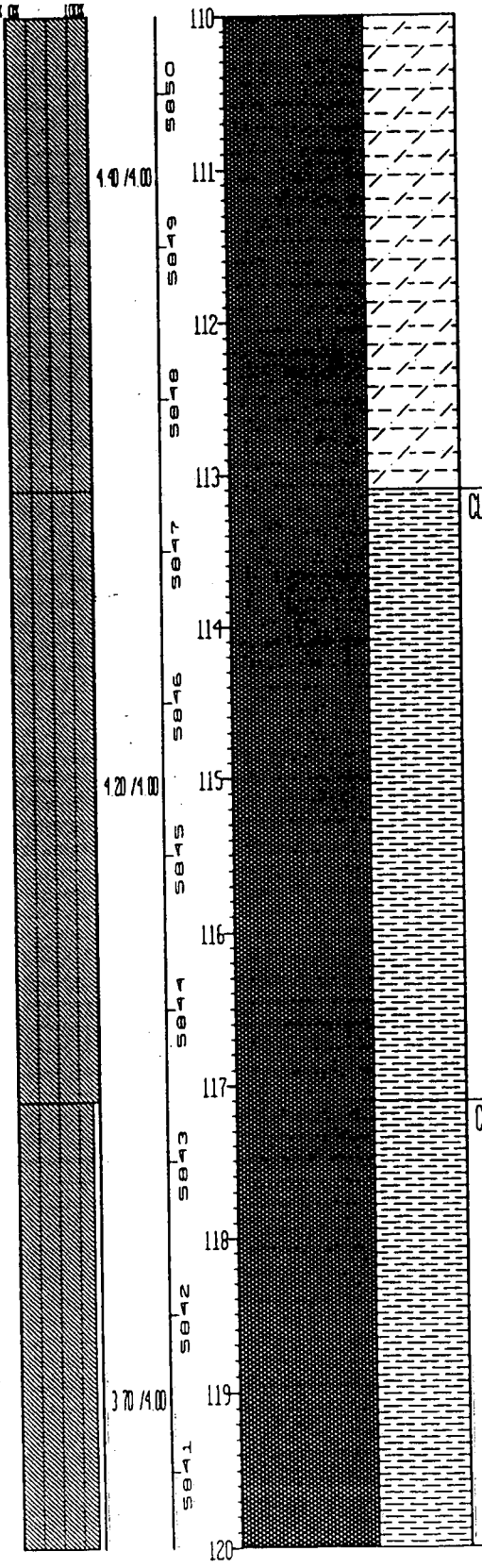
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to olive black (5 Y 2/1). Slightly to mod. friable. Bedding not evident. Some carbonaceous material. Slickensides visible on fracture. Irregular fracture, trace iron staining. Abundt. carbonaceous material in localized areas. Fracture angle 30 degrees. >60% clay.
CLAYSTONE	Olive gray (5 Y 4/1). Mod. to highly friable. Bedding not evident. Some carbonaceous material. Grades to very Silty Claystone, yellowish gray (5 Y 8/1). Slightly friable. Massive bedding, trace carbonaceous material. >80% clay to >50% clay.
SILTY CLAYSTONE	Light olive gray (5 Y 6/1). Slightly friable. Thin, laminated bedding in areas, mostly horiz. Some v.f.g. sand and silt in thin layers. Some coal in thin layers (1 mm.) Less silty toward bottom, slightly calcareous in some areas >60% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log: GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUM

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

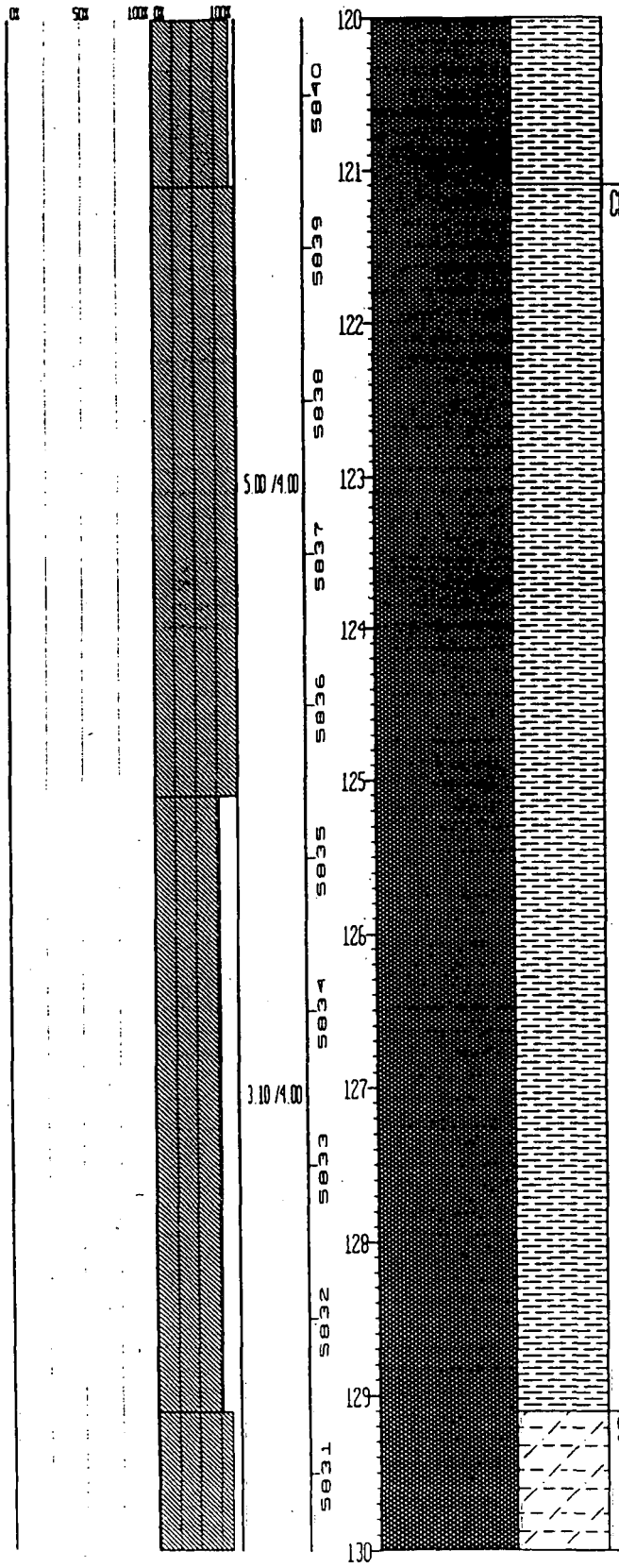


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Same as above - olive gray (5 Y 4/1) to olive black (5 Y 2/1). Mod. to slightly friable. Bedding not apparent. Some silt, trace carbonaceous material. >80% clay.
CLAYSTONE	Same as above - Mod. friable to friable. High angle fractures (numerous) toward bottom of interval. This area is highly friable (approx. 6 in.) Vertical slickensides on fractures. Fracture angle 70 degrees to 80 degrees. >80% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
AST Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Brownish black (5 YR 2/1). Friable. Some fractures. Slickensides run vertically on fractures. Fractures are irregular. Color change to olive gray (5 Y 4/1) in middle of interval and back to brownish black toward bottom. Trace carbonaceous material, trace iron staining. Slickensides on fractures at bottom of interval are at a 15 degree angle to horiz. Fracture angels 70 degrees and 40 degrees. >80% clay
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1). Mod. friable. Bedding not evident. Becomes less silty to Claystone, some silt at bottom of interval. Color change to olive gray (5 Y 4/1). >60% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-89R	LOG OF BORING NUMBER:
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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%	3.60 /4.00	5930 5929 5928	130 131 132				
				2.70 /4.00	5927 5926 5925 5924	133 134 135 136			CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable. Bedding not evident. Some possible slickensides on high angle fractures. Slicks orientation mostly vertical. Grades to Silty Claystone near middle of interval, color change to light olive gray (5 Y 6/1). Trace carbonaceous material. Vertical slickensides on high angle fracture toward bottom. Fracture angles 80 degrees to 70 degrees. >80% clay to >60% clay.
				3.70 /3.00	5923 5922 5921	137 138 139 140			CLAYSTONE	Olive gray (5 Y 4/1). Mod. to highly friable. Bedding not evident, trace silt >80% clay.

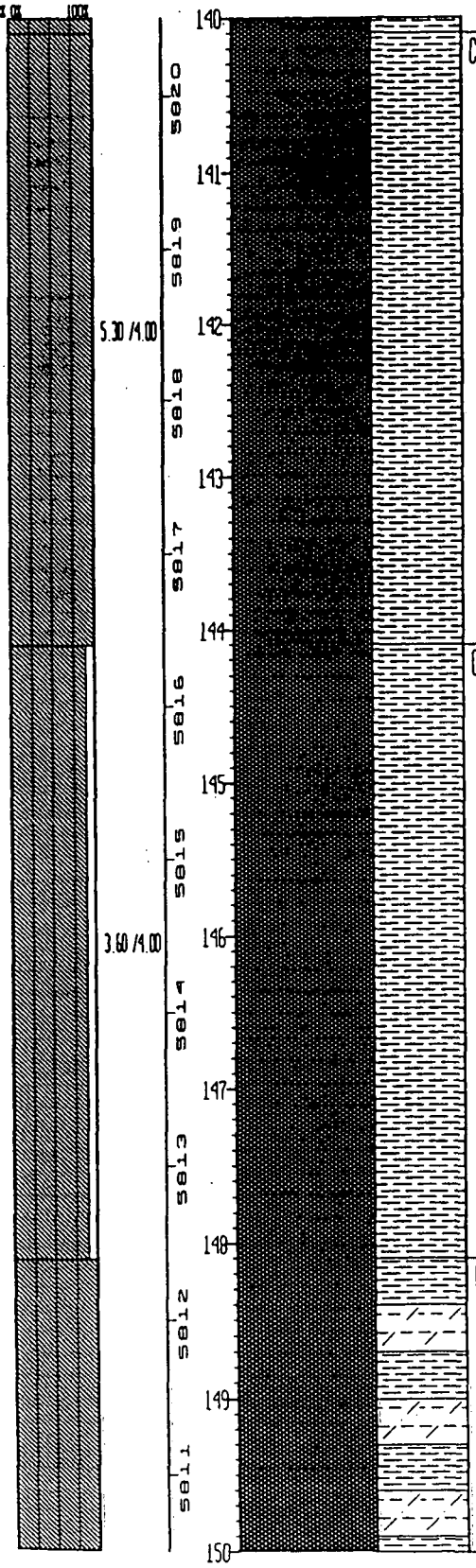
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.

ASI Log: GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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



CLAYSTONE:	Olive gray (5 Y 4/1). Mod. to highly friable. Bedding not evident, trace silt. Grades to Silty Claystone (light olive gray (5 Y 6/1)). Mod. to highly friable. Bedding not evident. Trace carbonaceous material, trace silt discoloration. >80% clay to >60% clay.
CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable to friable. Bedding not evident. Some silt, slickensides visible on fracture, verticle orientation. Trace carbonaceous material. (Claystone with some Silt). 20% silt, 80% clay.
CLAYSTONE:	Same as above - interbedded with Silty Claystone, olive gray (5 Y 4/1). Mod. friable to friable. Thinly laminated bedding with some layers of silt (<1 mm.). Some small wedge sets visible (approx. 1.5 cm.). Bedding appears to have dip in some areas. Bedding angle 20 degrees in some areas. >60% clay

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-898R	LOG OF BORING NUMBER:
NORTH: 749629.	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0'; Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
AST Log. Geotech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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
				4.20/4.00	5810	150				
					5809	151				
						152			SILTSTONE:	Interbedded Siltstone and Silty Claystone - mod. friable. Bedding at low angle to horiz. 30% silt, 60% clay.
				1.40/1.20	5808	153				
					5807	154			CLAYSTONE:	Grades to Claystone - olive gray (5 Y 4/1). Mod. friable. Bedding not evident, some silt. Fracture angles 30 degrees to 60 degrees. >80% clay.
				2.80/2.80	5806	155				
					5805	156				
					5804	157			CLAYSTONE:	Same as above - bedding not evident >80% clay.
				3.50/4.00	5803	158				
					5802	159				
					5801	160				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST:	2086746	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
AST Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

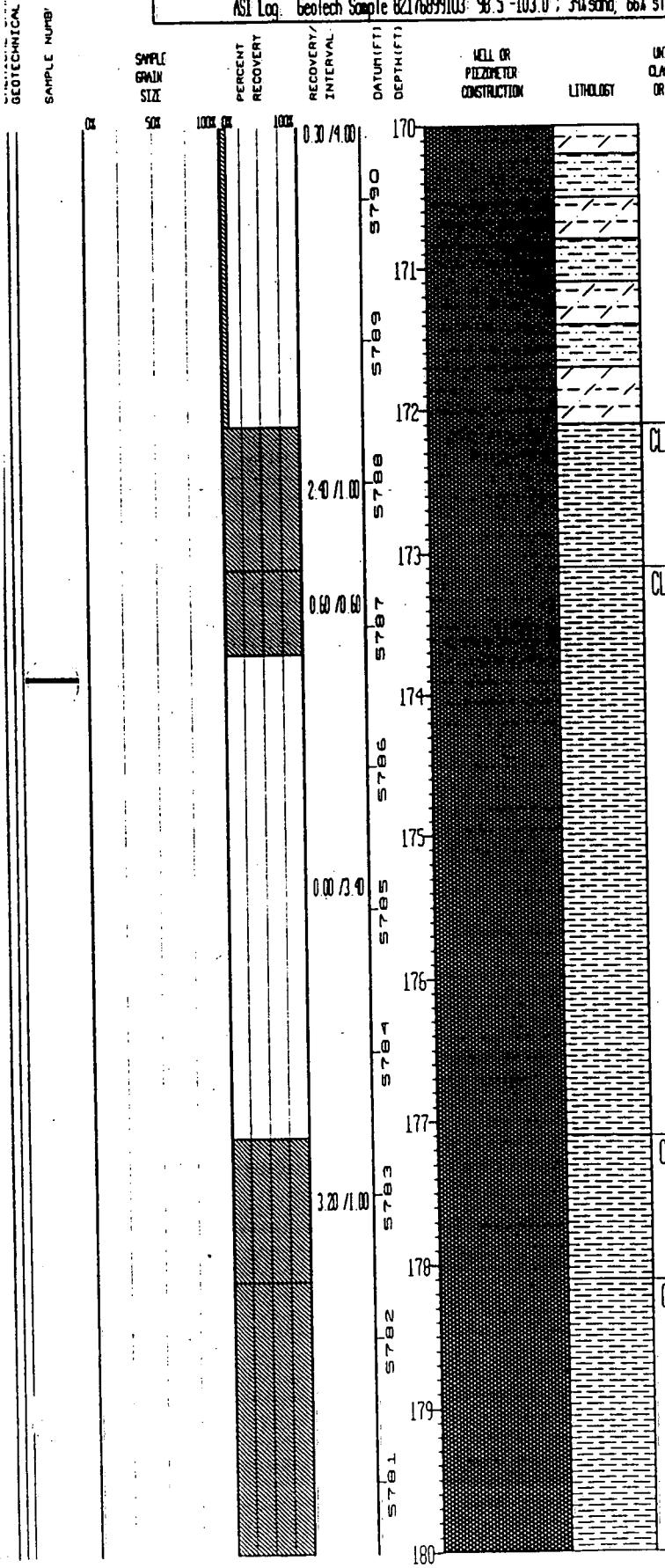
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 2.30/2.40; 1.40/1.60; 4.10/4.00
DATUM (FT): 5800, 5799, 5798, 5797, 5796, 5795, 5794, 5793, 5792, 5791
DEPTH (FT): 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable. Bedding not evident. Some silt. Becomes silty toward bottom. >80% clay to >60% clay.
SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable. Thinly laminated, irregular bedding visible, mostly in upper interval, gently sloping. Trace carbonaceous material. Some v.f.g. sand, trace iron staining. Healed fracture forms contact between above and v.f.g. Sandy Claystone. Fracture angle 50 degrees. Bedding angle 15 degrees to 30 degrees. 10-25% sand, 20% silt, >60% clay.
SILTY CLAYSTONE:	Same as above and Sandy Claystone - pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1). Slightly friable. Bedding not evident. Trace carbonaceous material. >60% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-898R	LOG OF BORING NUMBER:
NORTH: 749629	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST: 2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log: GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay

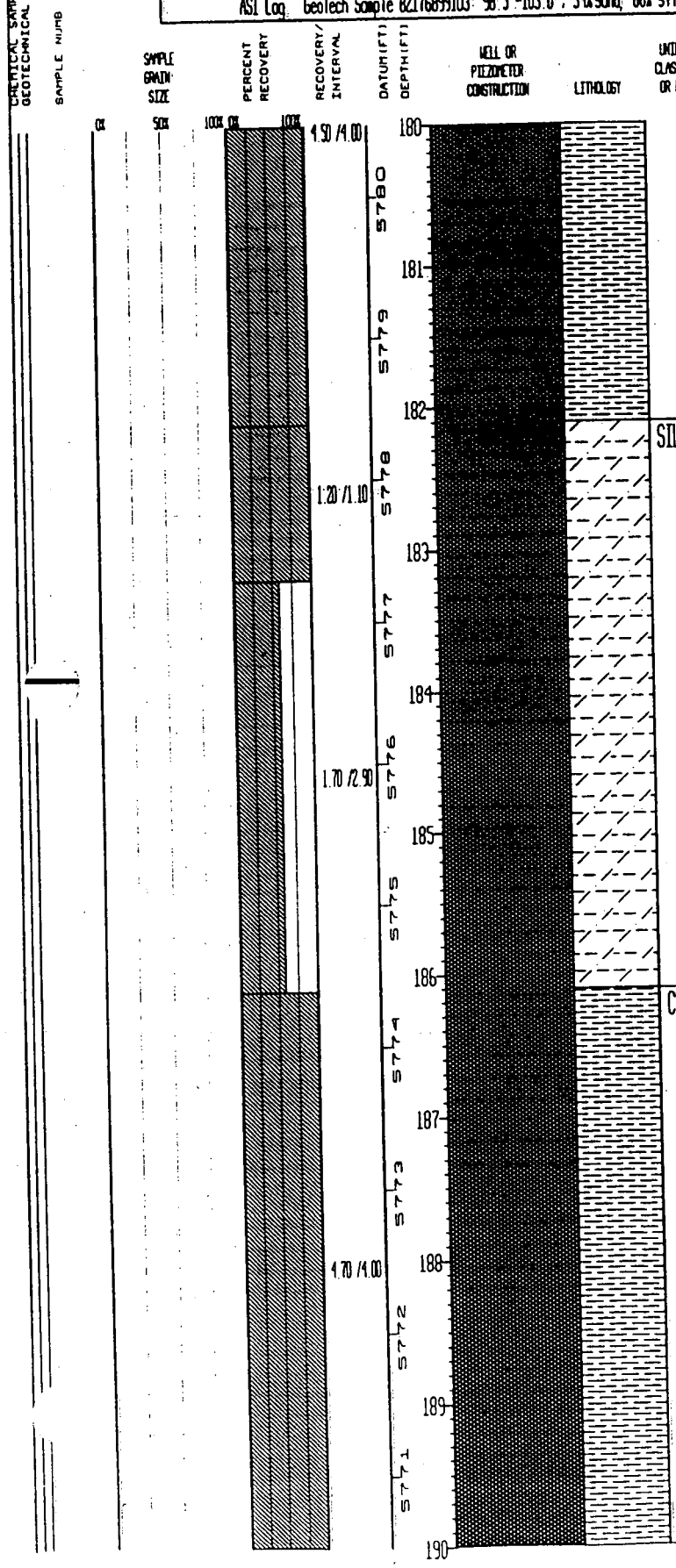


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Olive black (5 Y 2/1). Friable. Bedding not evident. Some silt in localized areas, trace iron staining. >80% clay.
CLAYSTONE	Same as above - high angle fracture. Bedding angle approx. 80 degrees. >80% clay.
CLAYSTONE	Same as above - Grades to Sandy Claystone, olive gray (5 Y 4/1). Slightly friable. Bedding not evident. V.f.g. sand, some silt. >60% clay.
CLAYSTONE	Same as above - grading from more sandy to less sandy, color grades from olive gray (5 Y 4/1) to light olive gray (5 Y 6/1). Healed fracture toward bottom separates a sandier sequence. Some thin laminations visible toward bottom of sequence (<1 mm.), trace carbonaceous material. >60% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-89BR	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.

ASI Log. GeoTech Sample 82176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.



SILTY CLAYSTONE: Olive gray (5 Y 4/1). Mod. friable. Bedding not evident, trace carbonaceous material. High angle, open, fracture toward bottom of interval has slickensides 80 degrees off vertical. Fracture angle 70 degrees. >70% clay.

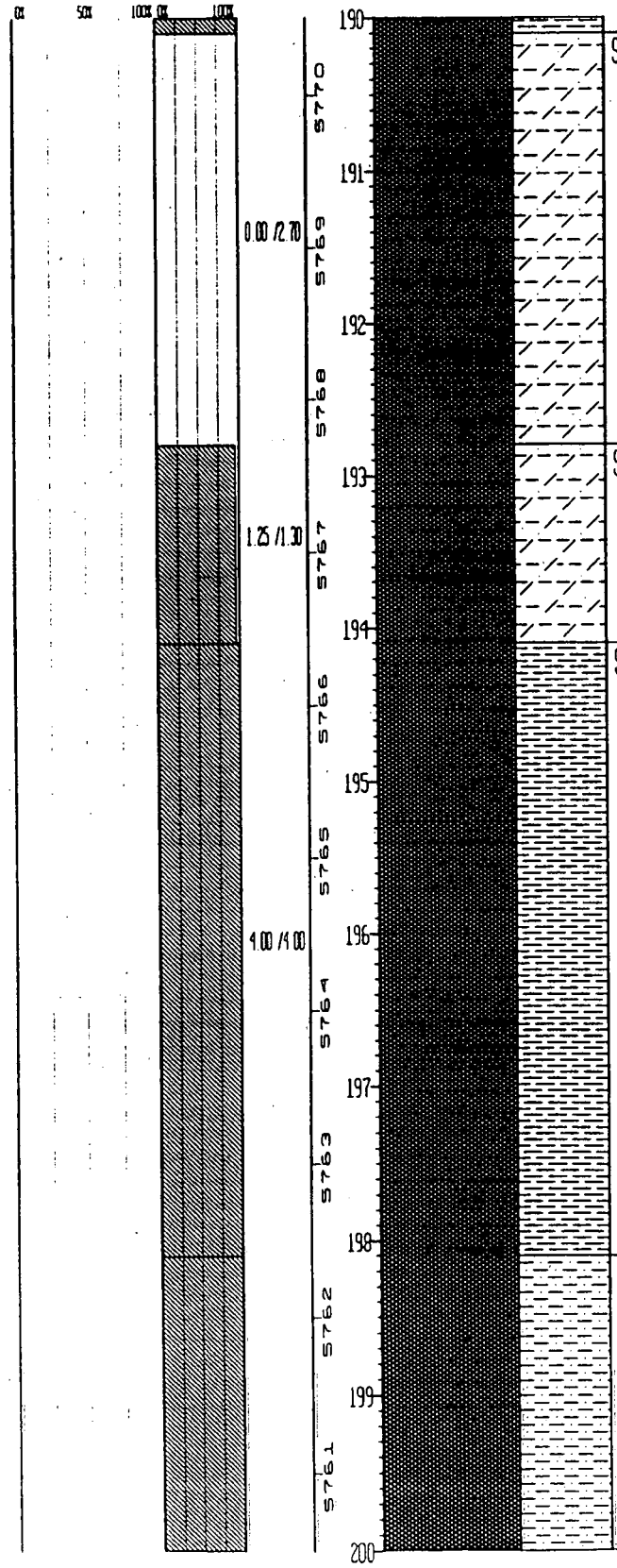
CLAYSTONE: Olive black (5 Y 2/1). Friable. Bedding not evident. Trace silt, trace carbonaceous material, low angle open fracture. Fracture angle 20 degrees. >80% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT)	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.

ASI Log: GeoTech Sample B2176899103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Friable. Bedding appears mildly dipping (approx. 10 degrees) and irregular from deposition of organic material. Some carbonaceous material, thin (<1 mm.) coal seams. (Silty Claystone with some Carbonaceous Material). 10% silt, 7% carbonaceous, >60% clay.
SILTY CLAYSTONE	Same as above - bedding not as evident. Mod. friable, low angle fracture at 30 degrees.
SITLY CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable to friable. Bedding laminated in thin layers, irregular. Silt layers (<1 mm.). Bedding has mild dip in lower part of sequence. Some localized areas of Sandy Claystone, v.f.g. sand. Bedding angle 15 degrees to 20 degrees. 20% sand, 30% silt, >50% clay.
SANDY CLAYSTONE	Same as above - bedding more irregular, probably soft sediment deformation. Some carbonaceous material middle of interval. (Sandy Claystone with some Silt). >20% sand, 20% silt, >50% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-89BR	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

CHEMICAL DEPTH
GEOTECHNICAL DEPTH
SAMPLE NUMBER

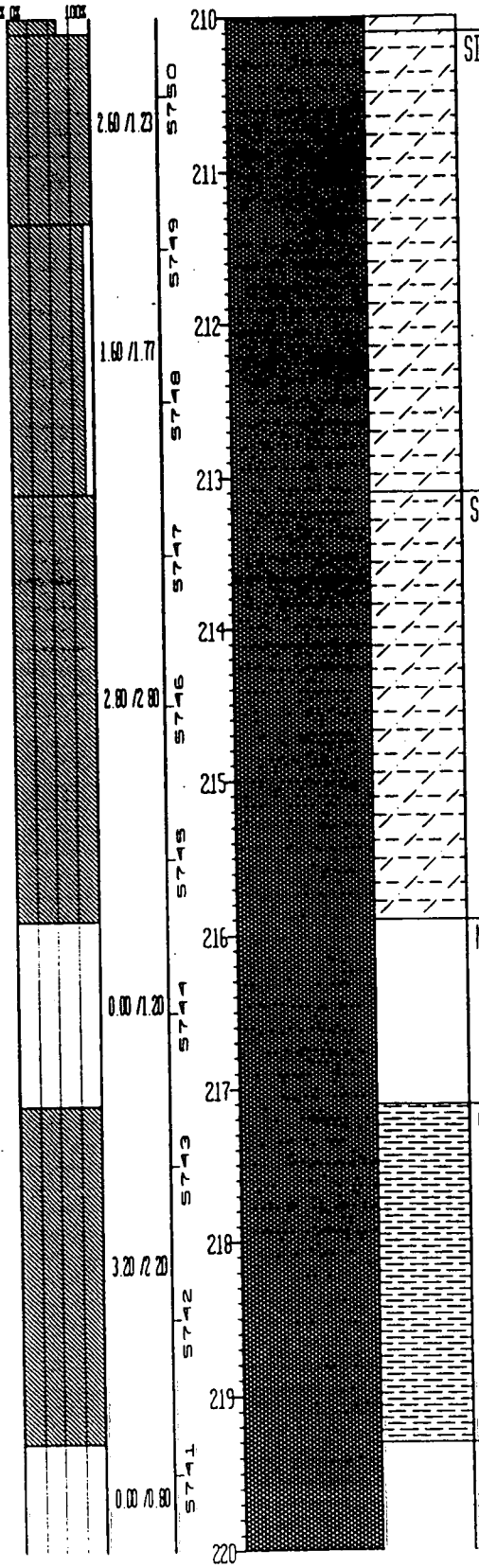
SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0% 50%	100% 0% 100%	4.10 /4.00	5760	200				
			5759	201				
				202			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Bedding appears dipping from deposition of carbonaceous material (some carbonaceous material and coal seams (<1mm)). Healed fracture provides sharp contact with a Clayey Sandstone, light olive gray (5 Y 6/1) to pinkish gray (5 YR 8/1). Bedding thinly laminated, deformed (soft sediment). V.f.g. sand, well sorted, mod. porous. Fracture angles 40 degrees to 45 degrees. 20% silt, >60% clay.
			5758	203				
			5757					
		3.90 /4.00		204				
			5756					
				205				
			5755					
				206			SILTY CLAYSTONE	Same as above - grades to Claystone. Claystone 0.7 in. down. Claystone friable, olive gray (5 Y 4/1) to olive black (5 Y 2/1). Bedding not evident, trace carbonaceous material. >50% sand, >80% clay.
			5754					
				207				
			5753					
		2.40 /4.00		208				
			5752					
				209				
			5751					
				210				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5960.50	OLD WELL NUMBER: 58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/07/89	

REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
ASI Log: GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUM.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive black (5 Y 2/1). Slightly friable. Bedding not evident, some carbonaceous material. Low angle fracture. Grades to Claystone as above, but friable. Grades to v.f.g. Sandy Claystone, light olive gray (5 Y 6/1). Slightly friable. Bedding not evident, trace carbonaceous material. Fracture angle 30 degrees. >60% clay.
SILTY CLAYSTONE	Same as above - grades to Clayey Sandstone, v.f.g., then is mottled with clay, irregular mottles, light gray (5 Y 6/1) to olive gray (5 Y 4/1). Some bedding dipping at 45 degrees, some carbonaceous organic material. Some thin laminations (approx. 1 mm.) visible, soft sediment deformation likely. Above 45 degrees, fracture was healed with carbon. Fracture angle 0 degrees to 45 degrees. >50% sand.
NO SAMPLE	NO SAMPLE.
CLAYSTONE	Olive black (5 Y 2/1). Mod. friable. Bedding not evident. Some carbonaceous material, some silt, grades to Silty Claystone and back to Claystone at bottom of interval. Trace iron staining. >50% clay.
NO SAMPLE	No sample - core missing.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5960.50	OLD WELL NUMBER:	58-898R	LOG OF BORING NUMBER:
NORTH:	749629	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH	B217689
EAST:	2086746	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/07/89	

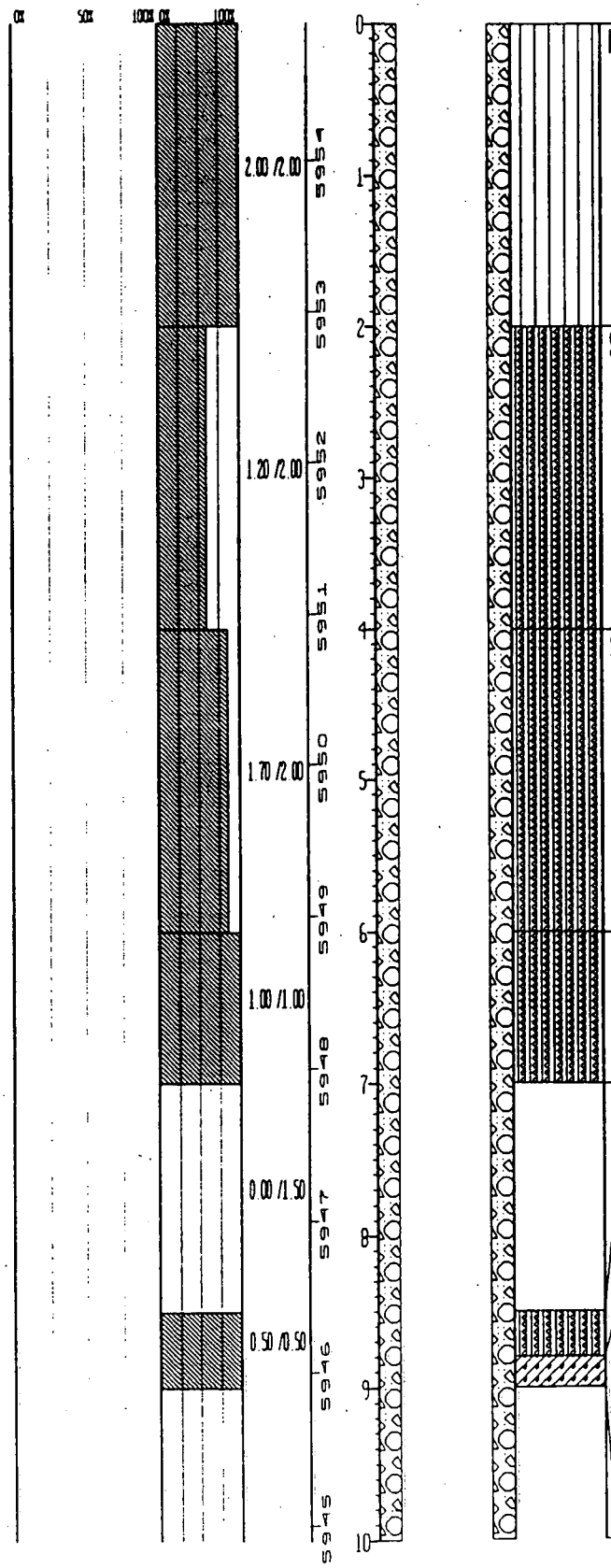
REMARKS: Hollow Stem Auger 0.0-69.0', Rotary Core 69.0'-220.1'. 5-5/8" Surface casing set to 69.0' on 10/25/89 by C. M. Morrow.
AST Log. GeoTech Sample B217689103: 98.5'-103.0'; 34% sand, 66% silt and clay.

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
		0% 50% 100%	0% 100%		5740 5739 5738 5737 5736 5735 5734 5733 5732 5731	220 221 222 223 224 225 226 227 228 229 230				Total Drilled Depth = 220.1'

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH: 749494		AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST: 2087341		LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

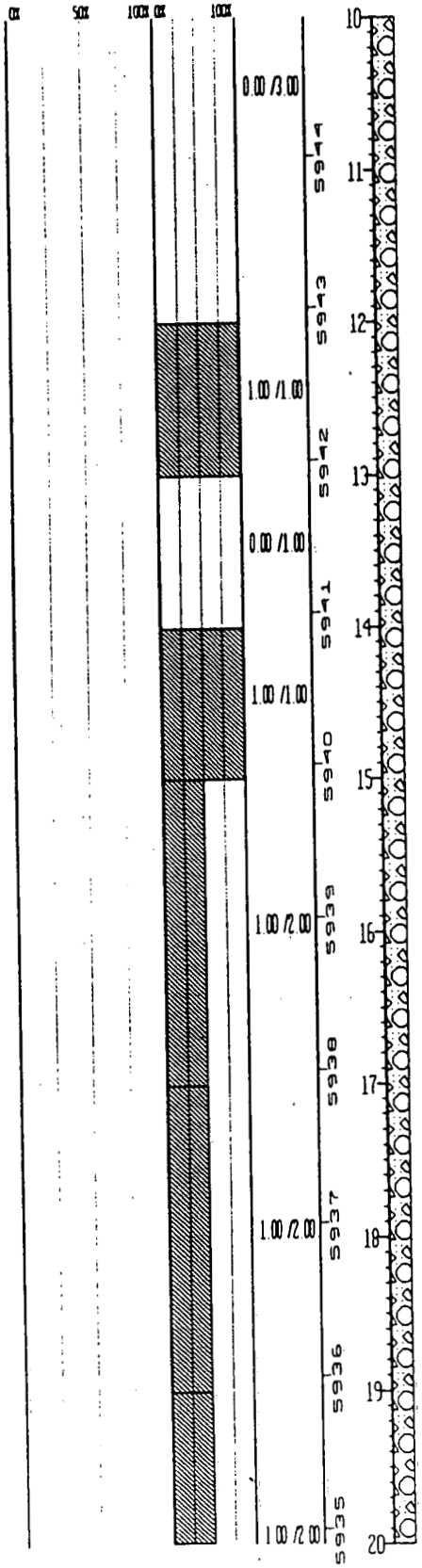


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
ML	Gravelly Sandy Silt - dusky yellowish brown (10 YR 2/2), organics, roots non-stratified. Fine to c.g. sand, sub-rounded to sub-angular. Quartzose, 1-4 cm. broken gravels, some sub-rounded. Trace clay, stiff, dry, grading to Gravelly Silty Sand. Caliche at 1.8', moderate orange pink (10 YR 2/2), mod. calcareous reaction. (ml/sm)
SM	Gravelly Silty Sand grading to Gravelly Sandy Silt. Same as above, mod. brown (5 YR 4/4) and light brown (5 YR 6/4) (sm/ml).
SM	Gravelly Silty Sand - same as above, trace to some clay. Iron staining, dark yellowish orange (10 YR 6/6).
SM	Gravelly Silty Sand - same as above.
NO SAMPLE	Drilled with center bit. No sample taken
SM	Gravelly Silty Sand - same as above (reference interval 6.0' to 7.0')
SC	Gravelly Clayey Sand - mod. reddish brown (10 YR 4/6) to pale brown (5 YR 5/2), non stratified. Fine to c.g. sand, sub-angular to sub-rounded, quartzose, 1-4 cm. broken quartzose gravels. Iron staining, no to low plasticity, stiff, dry
NO SAMPLE	Drilled with center bit. No sample taken

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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

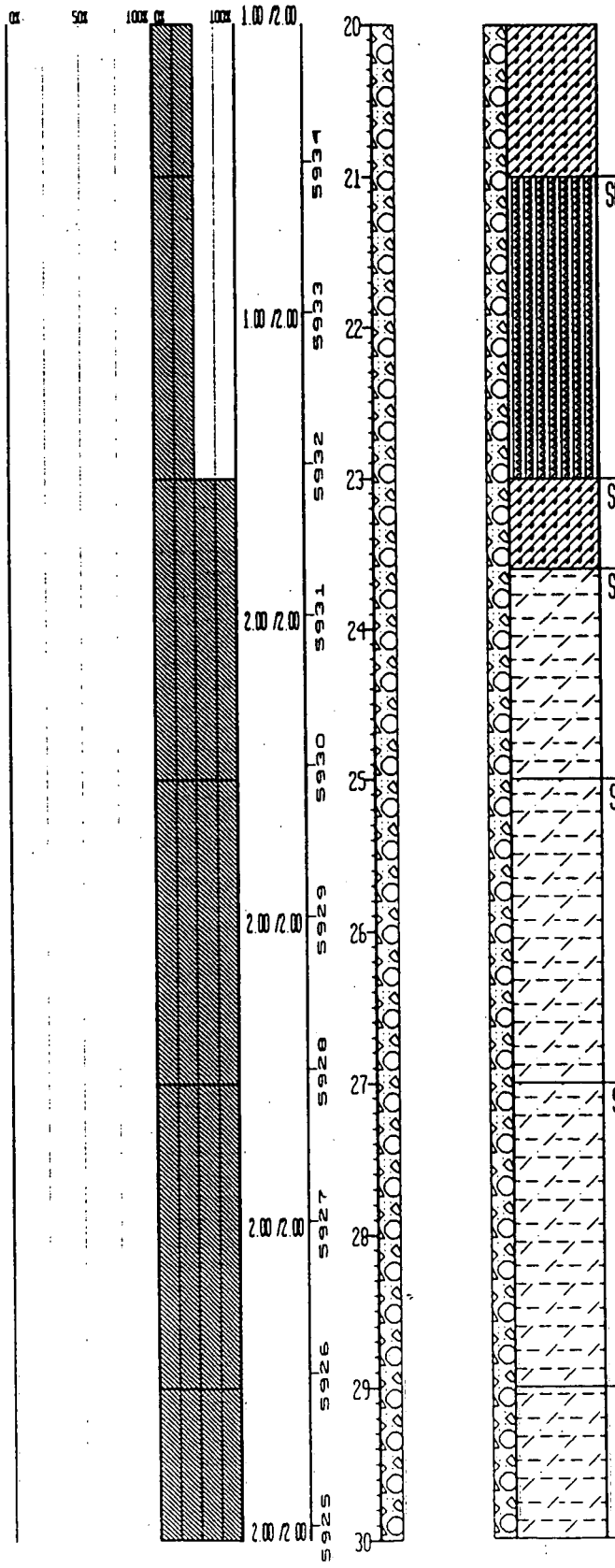


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC	Gravelly Clayey Sand - same as above (reference interval 8.8' to 9.0')
NO SAMPLE	Drilled with center bit. No sample taken.
SM	Gravelly Silty Sand grading to Gravelly Sandy Silt. Same as above, light red (5 R 6/6) and pale reddish brown (10 R 5/4) (ml)
SC	Gravelly Clayey Sand - same as above. Trace of caliche. Mod. calcareous reaction.
SC	Gravelly Clayey Sand - same as above.
SC	Gravelly Clayey Sand - same as above.
SC	Gravelly Silty Sand - same as 14.0' to 14.8'

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'. Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

CHEMICAL SAMP. DEPTH
GEOTECHNICAL DEPTH
SAMPLE NUMBER



SM:	Gravelly Silty Sand - same as above and Gravelly Clayey Sand, same as 17.0' to 19.0'.
SC:	Gravelly Clayey Sand - same as above.
SILTY CLAYSTONE:	Top of Bedrock. Silty Claystone - light brownish gray (5 YR 8/1) to pale yellowish brown (10 YR 6/2). Iron staining light brown (5 YR 5/6), non-stratified, blocky, high plasticity, dense, damp.
SILTY CLAYSTONE:	Same as above.
SILTY CLAYSTONE:	Same as above, carbonaceous material black (N 1/0)
SILTY CLAYSTONE:	Same as above

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log: Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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
				2.00/2.00		30				
				1.00/1.00	5924	31				SILTY CLAYSTONE: Same as above, 1-2 cm. iron banding, dark yellowish orange (10 YR 6/6).
				1.00/1.00	5923	32				SILTY CLAYSTONE: Same as above
				1.00/1.00	5922	33				SILTY CLAYSTONE: Same as above.
				1.00/1.00	5921	34				SILTY CLAYSTONE: Same as above.
				1.00/1.00	5920	35				SILTY CLAYSTONE: Same as above
				1.00/1.00	5919	36				SILTY CLAYSTONE: Same as above, iron nodules, (mod. brown (5 YR 4/4))
				1.00/1.00	5918	37				SILTY CLAYSTONE: Same as above, trace v.f.g. sand, very light gray (N 8/0).
				1.00/1.00	5917	38				SILTY CLAYSTONE: Same as above.
				1.00/1.00	5916	39				SILTY CLAYSTONE: Same as above
				1.00/1.00	5915	40				

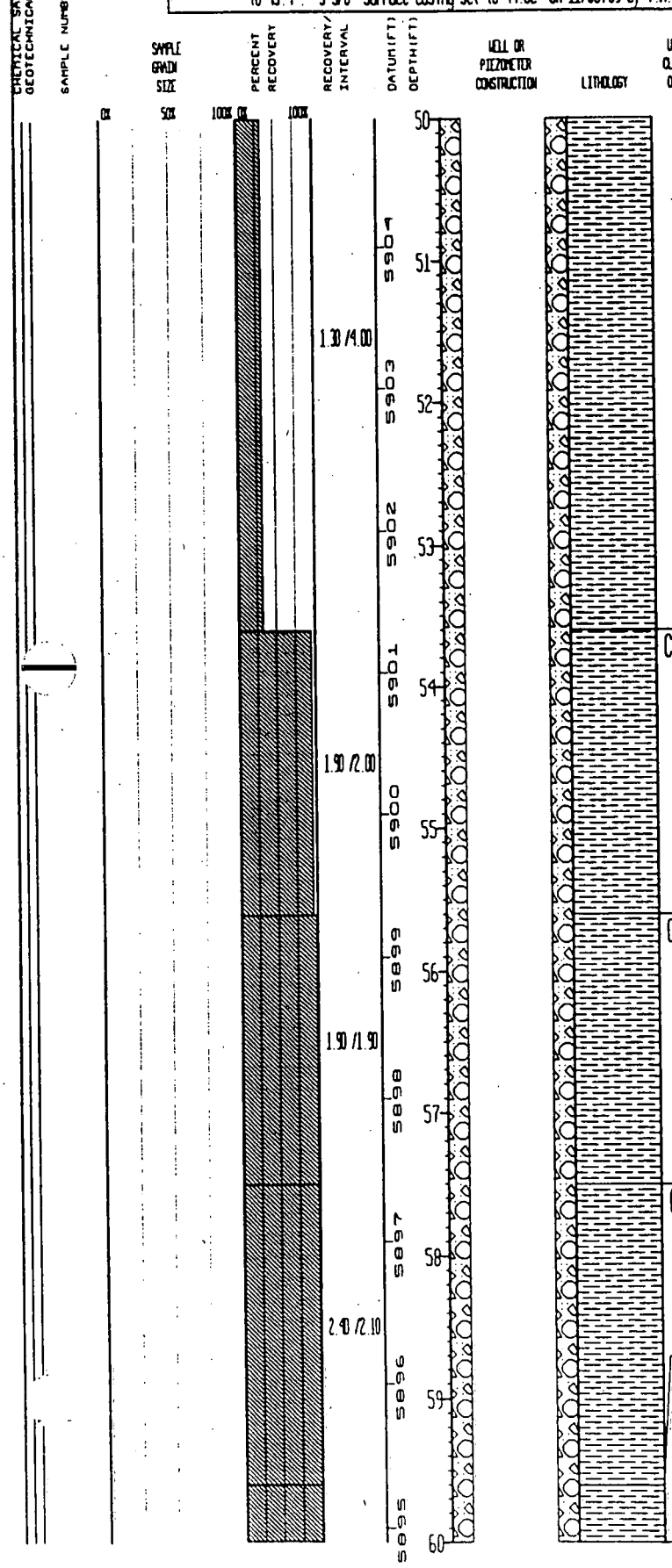
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1' ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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
				1.00/1.00	5914	40			SILTY CLAYSTONE	Same as above, trace of sand
				1.00/1.00	5913	41			SILTY CLAYSTONE	Same as above, trace of sand.
				1.00/1.00	5912	42			SILTY CLAYSTONE	Same as above, grayish black (N 2/0), unconsol.
				1.00/1.00	5911	43			SILTY CLAYSTONE	Same as above
				1.00/1.00	5910	44			SILTY CLAYSTONE	Same as above
				0.00/0.40	5909	45			NO SAMPLE	NO SAMPLE.
				1.30/1.20	5908	46			CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable to friable. Some thinly laminated bedding visible in upper part of interval. Faint slickensides visible on fracture. Some silty layers (dark yellowish orange (10 YR 6/6)). Color change toward bottom of interval to olive black (5 Y 2/1). Fracture angles 60 degrees, 35 degrees, 90 degrees, 50 degrees. >80% clay.
					5907	47				
					5906	48				
					5905	49			CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable to friable. Bedding not evident. Trace iron staining. Fractures mostly irreg., few are measurable. Fracture angle 35 degrees. >80% clay
						50				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval; from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above. Color change to olive black (5 Y 2/1) in the last 0.7' of interval. Some carbonaceous material (5-10%) in this section. >80% clay
CLAYSTONE:	Olive gray (5 Y 4/1) Mod. friable, bedding not evident. Trace carbonaceous material
CLAYSTONE:	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Mod. friable to friable slickensides. Trace of carbonaceous material (coal). Trace iron staining: Fracture angle 80 degrees. >80% clay
CLAYSTONE:	Dusky yellowish brown (10 YR 2/2) Mod. friable to friable, bedding not evident Trace iron staining in upper part of interval Color change to olive black (5 Y 2/1). Some carbonaceous material at bottom. Bedding appears irreg., horiz toward bottom from fissile flaking of core. >80% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log: Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer

CHEMICAL SAMP DEPTH
GEOTECHNICAL DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 4.50/4.00; 2.40/2.40; 1.70/1.60; 4.30/4.00

DATUM (FT): 5894, 5893, 5892, 5891, 5890, 5889, 5888, 5887, 5886, 5885

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

WELL OR PIEZOMETER CONSTRUCTION

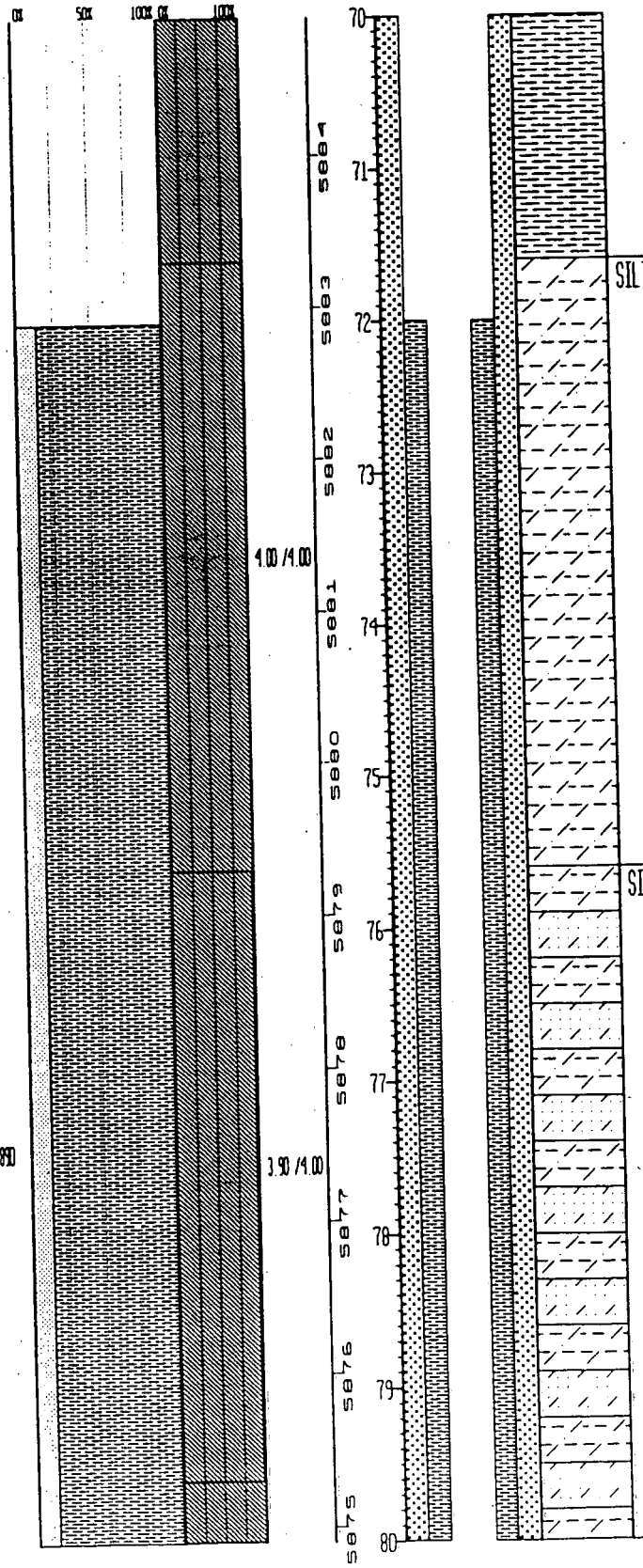
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Olive black (5 Y 2/1). Friable, bedding not evident. Trace carbonaceous material (coal).
CLAYSTONE	Same as above, trace to abundt. silt. Abrupt change at very bottom of interval (last 6 in.) to Silty Claystone. Slightly friable, yellowish gray (5 Y 8/1). Trace carbonaceous material. Some v.f.g. sand. Bedding not evident. >80% clay to 55% clay, 45% silt.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotory Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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

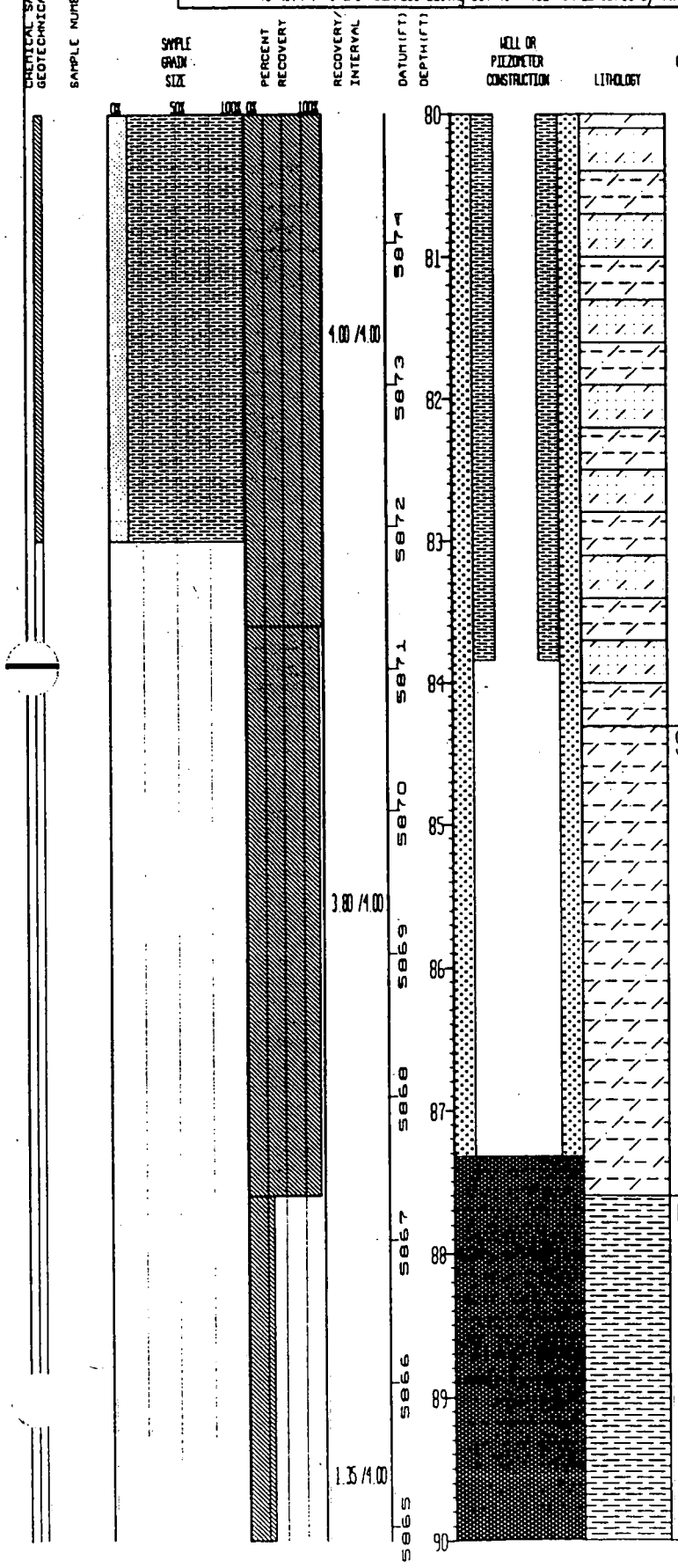


SILTY CLAYSTONE: Silty Sandy Claystone - yellowish gray (5 Y 8/1), slightly friable. Irreg. laminated bedding, partly horiz. Trace carbonaceous material, trace iron staining.
25% sand, 25% silt, 50% clay.

SILTY CLAYSTONE: Interbedded Silty Claystone and Silty Sandstone. Laminated thin bedding, mostly horiz. Sand v f g. Trace carbonaceous material, trace iron staining. Slightly to mod. friable. Some grayish orange (10 YR 7/4) Silt discolorations
Silty Claystone - >60% clay.
Silty Sandstone - 51% sand, 49% silt.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAW/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

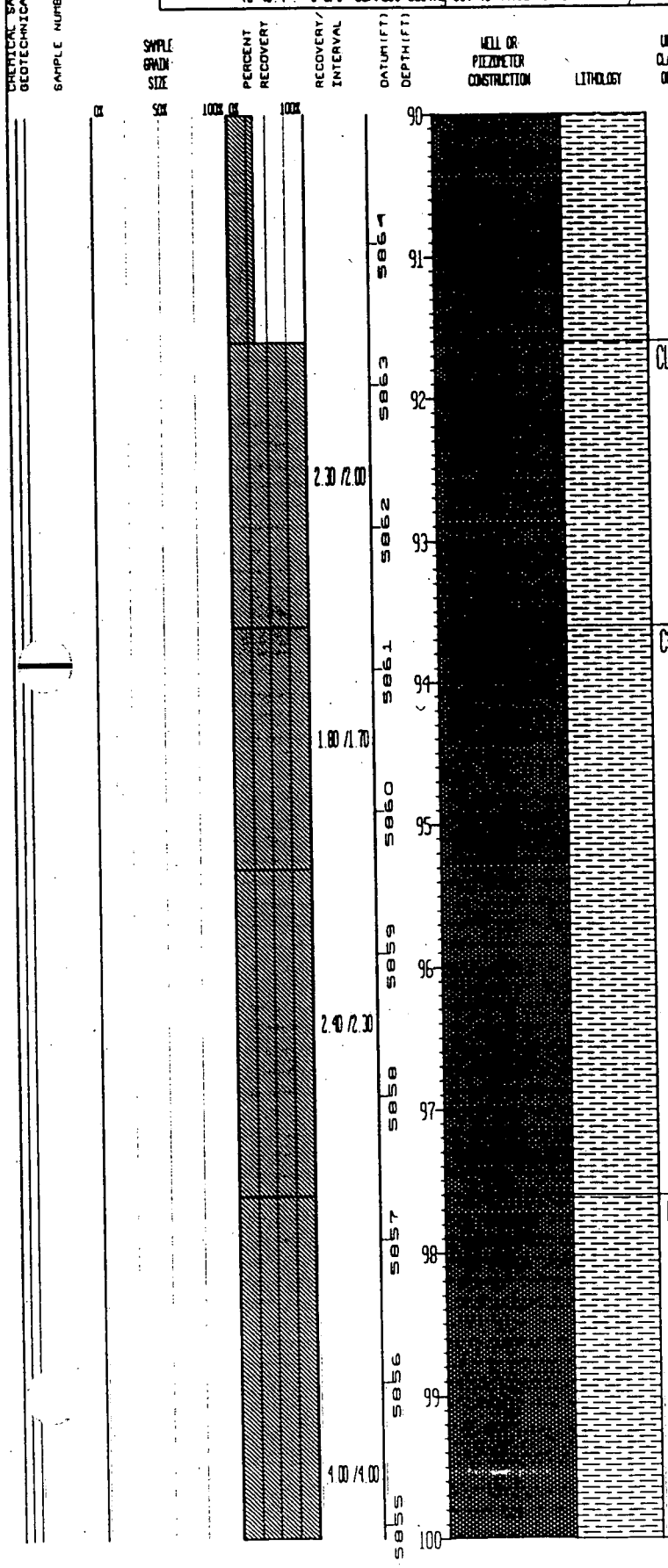
REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1', ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1), mod. friable to friable. Bedding not evident. Some carbonaceous material, some cross bedding visible in some areas. Some silt discoloration, grayish orange (10 YR 7/4). Some faint slickensides visible on high angle fractures. Fracture angle 80 degrees >60% clay
CLAYSTONE	Olive black (5 Y 2/1), bedding not evident. Friable, trace iron staining. High angle fractures show faint slickensides (core to friable to measure fracture). Fracture angle est. 75 degrees >90% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-89BR	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer

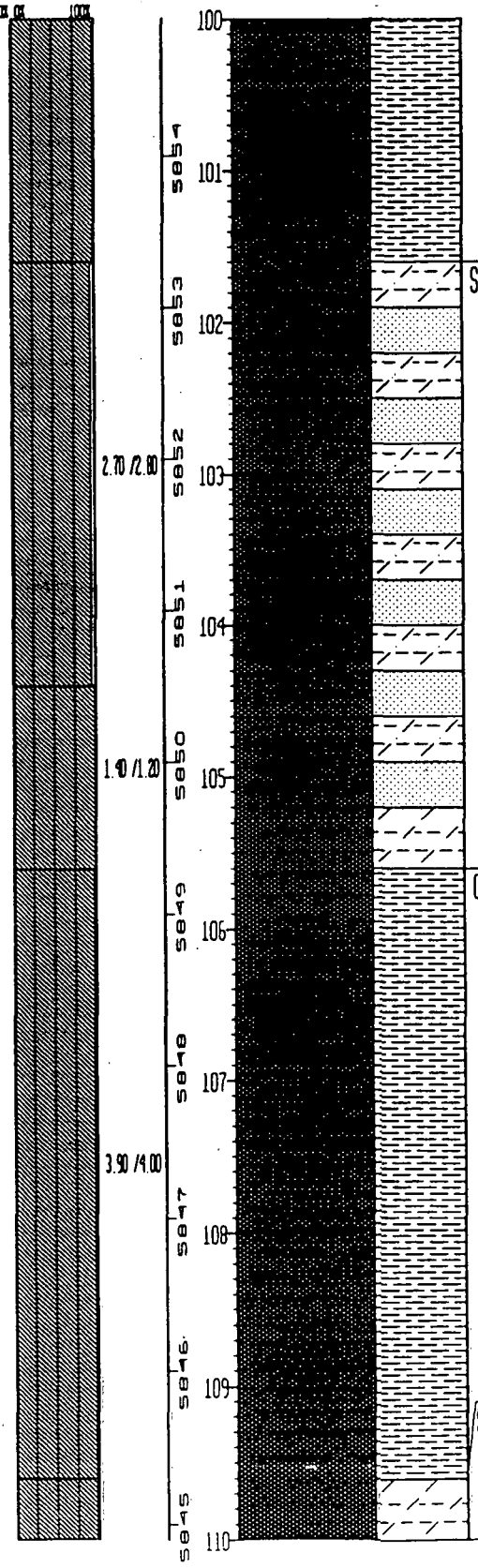


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Brownish gray (5 YR 4/1). Mod. friable. Bedding not evident. Some slickensides visible on high angle fracture. Some silt. Color grades to olive gray (5 Y 4/1) at bottom. Fracture angle approx. 80 degrees. (Claystone with some Silt). Approx. 10% silt, >80% clay.
CLAYSTONE	Same as above - color back to brownish gray (5 YR 4/1). Slickensides in high angle fractures. Mildly calcareous. Fracture angle approx. 80 degrees. >80% clay
CLAYSTONE	Same as above - color change to brownish black (5 YR 2/1) in small interval (1.0') in middle of interval. This area friable and with some carbonaceous material. Becomes silty at very bottom. Fracture angle 80 degrees. >80% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log: Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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



SILTY CLAYSTONE: Interbedded Silty Claystone and v.f.g. Sandstone - olive gray (5 Y 4/1) to yellowish gray (5 Y 8/1). Thinly laminated bedding (approx. 1 mm.), mostly horiz., some cross bedding visible. Mod. friable. Trace carbonaceous material. V.f.g. sand. Some dark yellowish orange silt discoloration. Becomes Silty Claystone toward bottom, brownish gray (5 Y 4/1). Bedding not evident. Trace coal in thin (1 mm.) seams. Friable. Some slickensides visible on high angle fractures. Fracture angle approx. 60 degrees. 30% sand, 20% silt, >50% clay.

CLAYSTONE: Brownish gray (5 YR 4/1). Bedding not evident. Mod friable to friable. Trace carbonaceous material including coal seams (1 mm. wide). Small silt nodule (approx. 2 cm.) 1/3 way down in interval. (Claystone with some Silt) 10% silt, 90% clay.

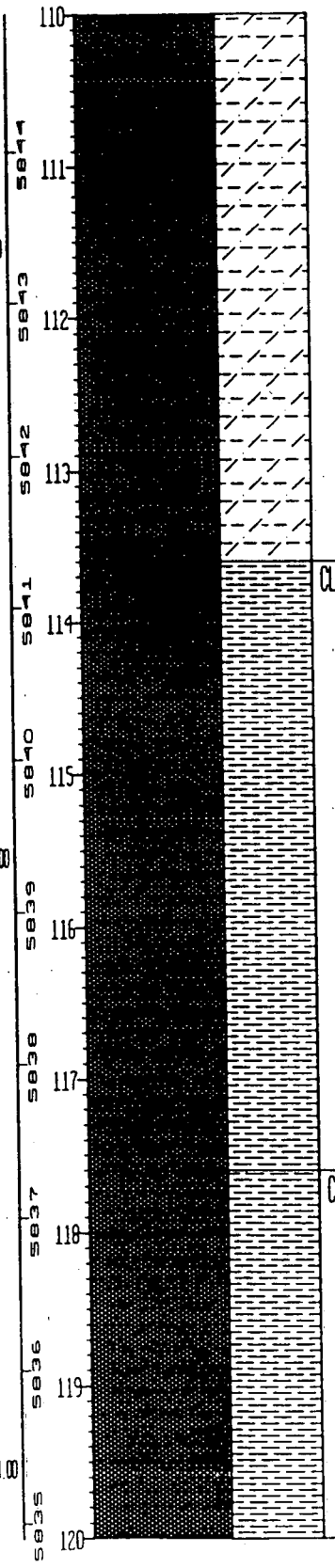
SILTY CLAYSTONE: Olive gray (5 Y 4/1). Mod. friable. Bedding appears slightly dipping from silt discoloration (grayish orange (10 YR 7/4)). Trace carbonaceous material 75% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

CHEMICAL SAMPLE, DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 3.90 /4.00; 4.10 /4.00; 4.30 /4.00



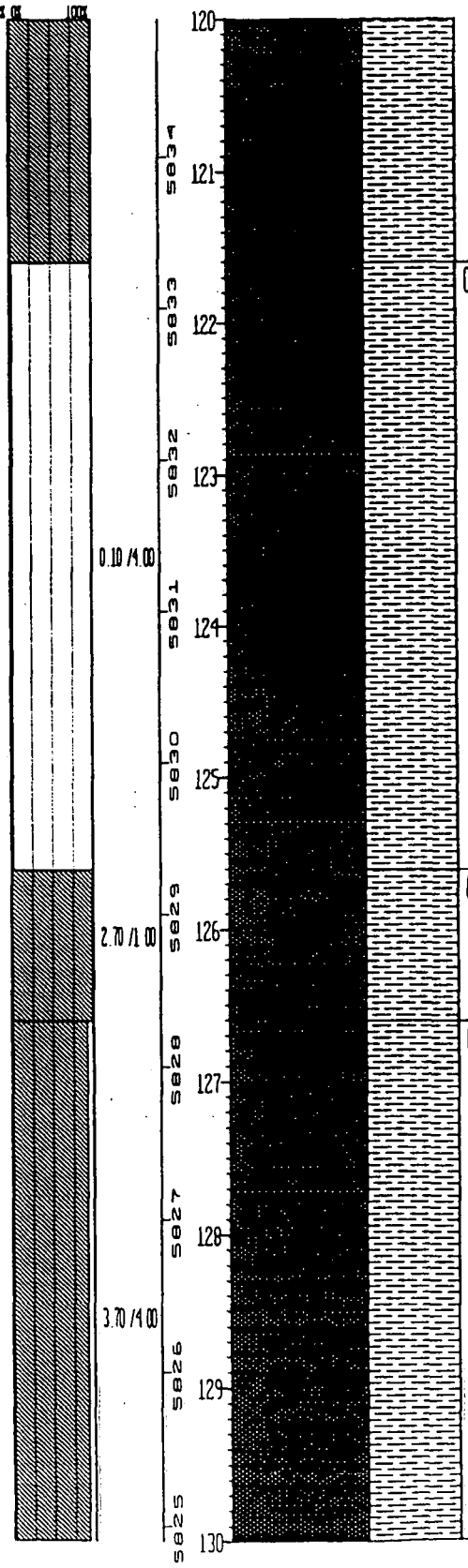
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Bedding not evident, mod. friable. Trace carbonaceous material. Faint slickensides visible on high angle fracture (vertically oriented). Fracture angle 80 degrees. 80% clay
CLAYSTONE	Same as above - color change to olive gray (5 Y 4/1). Silty in one localized area (approx. 4 in.). >80% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-89BR
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89

LOG OF BORING NUMBER: B217789

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL 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



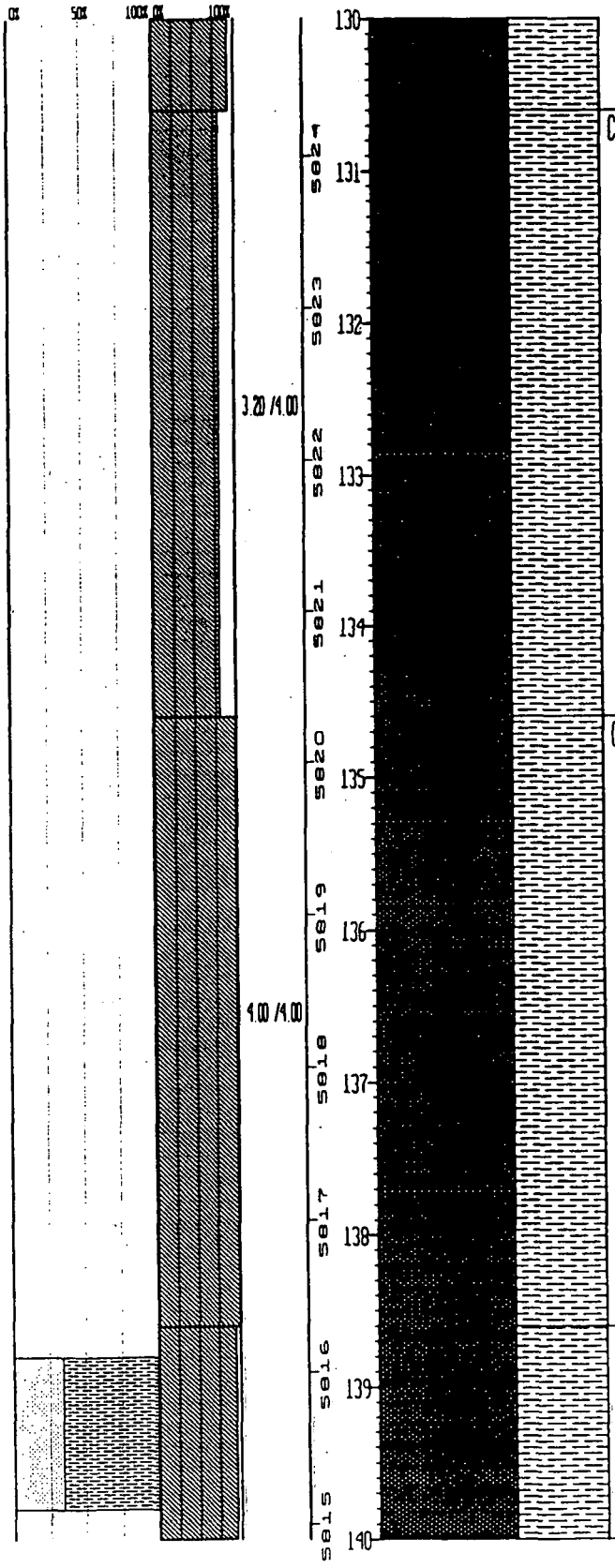
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Olive gray (5 Y 4/1) Not enough sample in this interval to properly describe.
CLAYSTONE	Olive gray (5 Y 4/1). Bedding not evident. Mod. friable. Faint slickensides visible in irregular fracture (high angle). Fracture angle approx. 80 degrees. >80% clay
CLAYSTONE	Same as above - friable. Some slickensides visible on fractures. Trace carbonaceous material. Color change to olive black (5 Y 2/1) in area near bottom, then to dark yellowish brown (10 YR 4/2) at very bottom. Core becomes harder, more consol. Some white mineralization in healed fractures (not CaCO3). Trace carbonaceous material. Fracture angles 75 degrees, 55 degrees. >80% clay

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

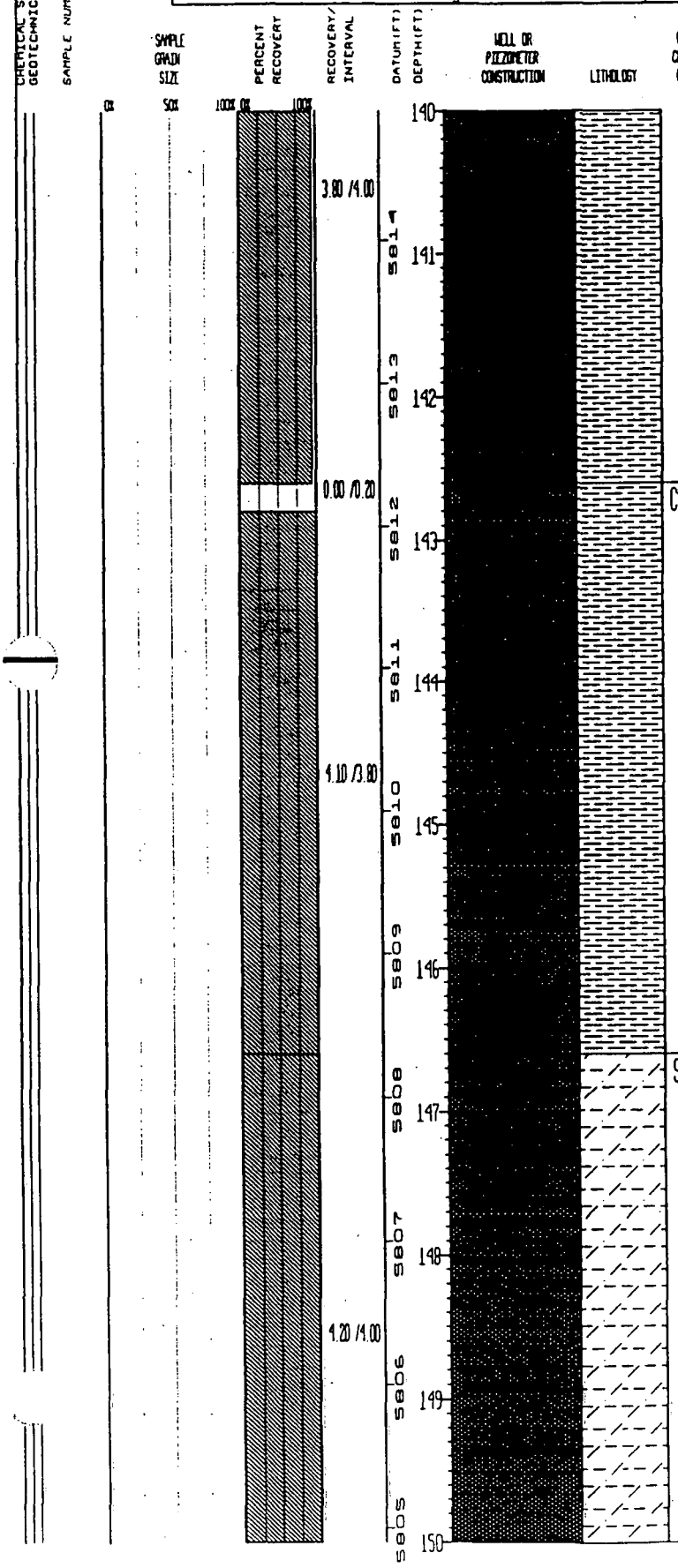
SAMPLE GRAIN SIZE | PERCENT RECOVERY | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Olive gray (5 Y 4/1). Very dense and non-friable at very top. Possibly cemented with iron precipitate. Some white mineralization in irreg. fractures. Iron staining visible. Trace carbonaceous material. At approx. 6 in. down in interval, grades back to Claystone (more typical of what is seen in this area), olive (5 YR 2/1) to brownish black (5 Y 2/1). Friable bedding not evident. Some carbonaceous material including coal. Ironstone nodule (approx. 5 cm.) at bottom. 5% carbonaceous material, >70% clay
CLAYSTONE	Light olive gray (5 Y 6/1) to olive black (5 Y 2/1). Color becomes progressively darker going down in interval. Bedding not evident. Some silt, trace carbonaceous material. >70% clay.
CLAYSTONE	Same as above - grades to Sandy Claystone, light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable. Thin laminations visible in very upper part of interval (<1 mm). Bedding not evident in rest. Abundt. v.f.g. sand well sorted. Localized areas of f.g. to m.g. sand. <50% sand, >50% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D	GEOLOGIST	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer



CLAYSTONE: Olive gray (5 Y 4/1) Mod friable. Laminated bedding, mostly horiz. One localized layer of v f g sand, well sorted (layer approx. 4 cm. wide). Trace iron staining, some silt (mostly localized) >70% clay.

SILTY CLAYSTONE: Light olive gray (5 Y 4/1) to grayish orange (10 YR 7/4), mottled. Non-friable. Bedding appears horiz. Some localized v f g sand. Calcareous cement. Trace coal in thin seams (approx. 1 mm), and other carbonaceous material. Some dark yellowish orange (10 YR 6/6) to light brown (5 YR 5/6) coloring, may be from silt or iron staining. (Silty Claystone with some Sand) 10% sand, 20% silt, >60% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 1.20/1.30; 2.60/2.70; 4.00/4.00
DATUM (FT): 5801, 5803, 5802, 5801, 5800, 5799, 5798, 5797, 5796, 5795
DEPTH (FT): 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Laminated bedding, irreg. laminations, probably soft sed. deformation. Some v.f.g. sand, silt, nodule (approx. 2.5 cm.). >60% clay.
CLAYEY SANDSTONE	Grades to Clayey Sandstone - light olive gray (5 Y 6/1). Mod. well sorted, slightly friable. Some silt. Irregular bedding. Some thin layers of Silty Claystone. Sand v.f.g. to m.g. >50% sand.
SILTY CLAYSTONE	Same as above - more Silty Claystone and Claystone interbedded. 50% sand, 40% clay.
SILTY CLAYSTONE	Interbedded Silty Claystone and Clayey Sandstone as above. Silty Claystone more predominant. Irregular bedding. Silt nodule (2 cm.) around 161.0'. Trace carbonaceous material. 50-60% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT)	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED	11/30/89	

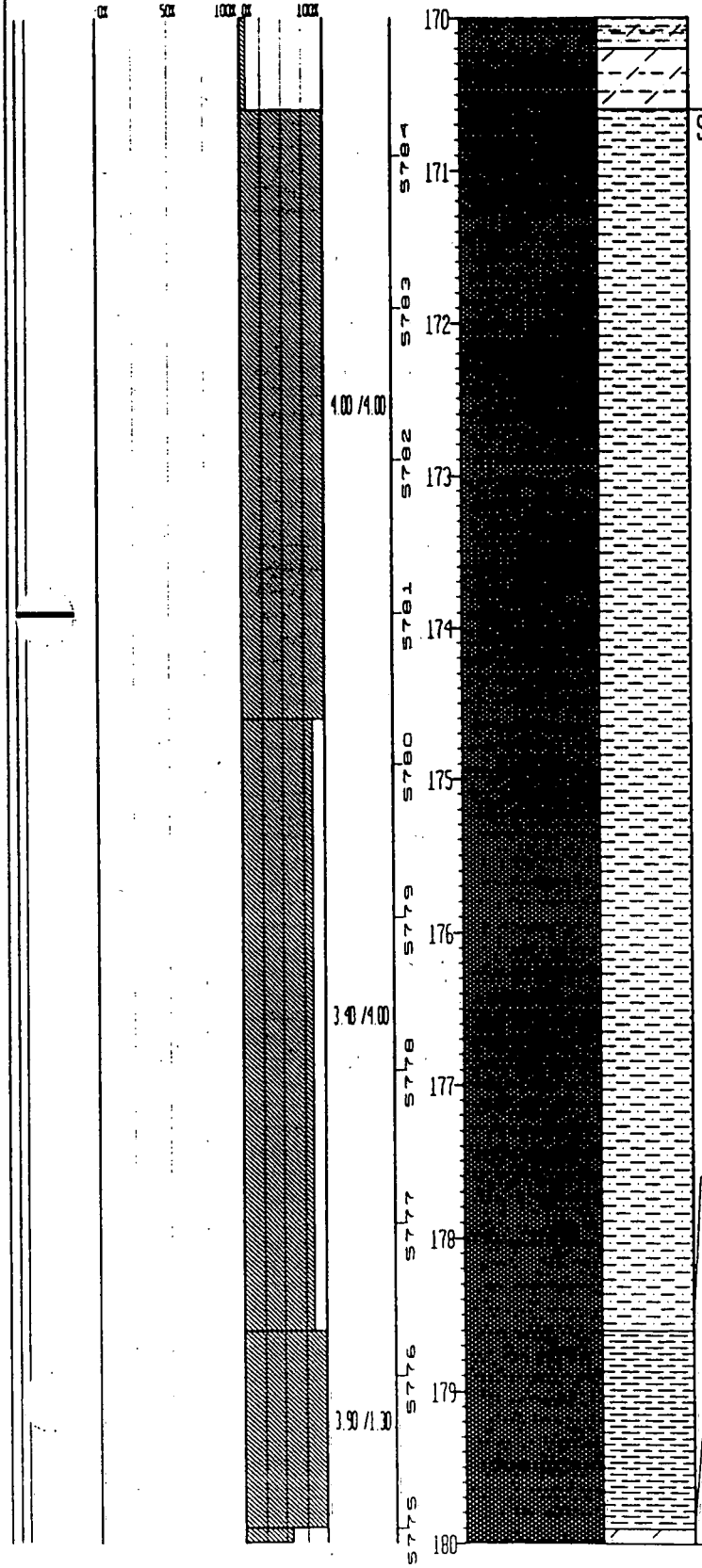
REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer

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
		0% 50% 100%	0% 100%	2.30 /4.00	5794	160				
					5793	161				
					5792	162				
					5791	163			SILTY CLAYSTONE	Interbedded Silty Claystone, Sandy Claystone and Clayey Sandstone - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Sand v.f.g. to m.g., mostly f.g., mod. sorted. Slightly friable. Trace carbonaceous material, irregular bedding (laminations appear deformed), some dipping (low angle) bedding. Some silt nodules (approx. 2 cm.), light brown (5 YR 5/6). 45% sand, 10% silt, 45% clay.
				4.00 /4.00	5790	164				
					5789	165				
					5788	166				
					5787	167			SILTY CLAYSTONE	Same as above - beds are thicker on the average, grades more subtle than above. Sands are more coarse (m.g.) mod. to poorly sorted, rounded to sub-rounded. One area around 169.0' of Sandstone (some clay) (approx. 6 in. wide). Below 169.5' thinly laminated bedding (approx. 1 mm.) 45% sand, 10% silt, 45% clay.
				0.30 /4.00	5786	168				
					5785	169				
						170				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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



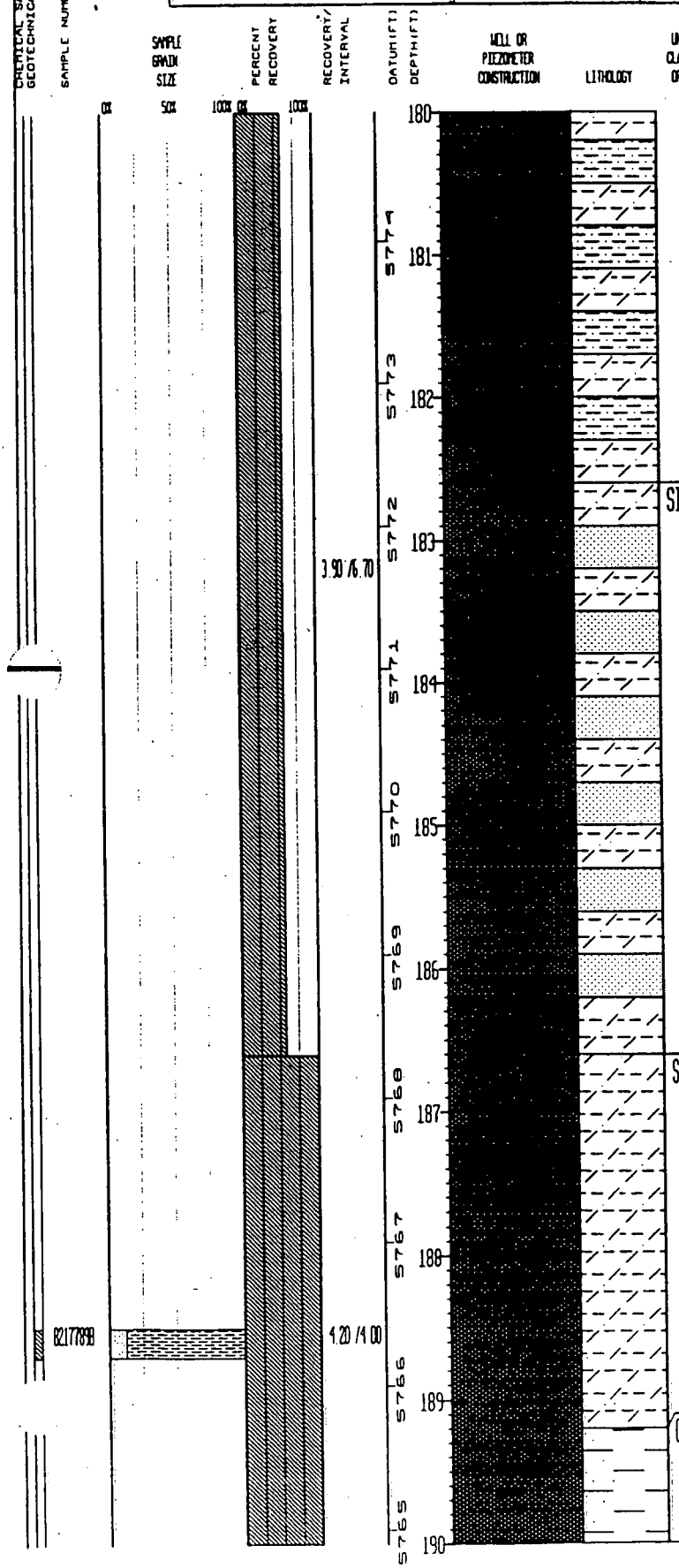
SANDY CLAYSTONE: Silty and Sandy Claystone - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable. Some sand, v f.g to m.g in thin layers (<1 mm. and localized). Trace carbonaceous material. Irregular laminated bedding. Some possible healed fractures (looks like cross bedding), dipping bedding near bottom of interval. Approx 6 in layer of f.g. porous Sandstone. Fracture angle 40 degrees. Bedding angle 40 degrees. (Sandy Claystone with some Silt) 40% sand, 10% silt, 50% clay.

CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Bedding not evident. Some v f.g sand. Trace carbonaceous material >80% clay.

SILTY CLAYSTONE: The above grades to interbedded Silty Claystone and Sandy Claystone. Bedding appears to be tilting. Fracture angle 30 degrees. Bedding angle 20 degrees to 30 degrees.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.



SILTY CLAYSTONE: Olive gray (5 Y 4/1). Slightly friable. Bedding dipping at top of interval. Some v.f.g. sand. Some Sandstone interbeds at approx. 184.0' and 186.0'. These beds approx. 3 in. wide. Fracture angle 40 degrees. Bedding angle 40 degrees. >60% clay.

SILTY CLAYSTONE: Olive gray (5 Y 4/1) to brownish gray (5 YR 4/1). Bedding not evident. Some v.f.g. sand, trace carbonaceous material. Fracture angle approx. 45 degrees to 50 degrees. 5-10% sand, >70% clay.

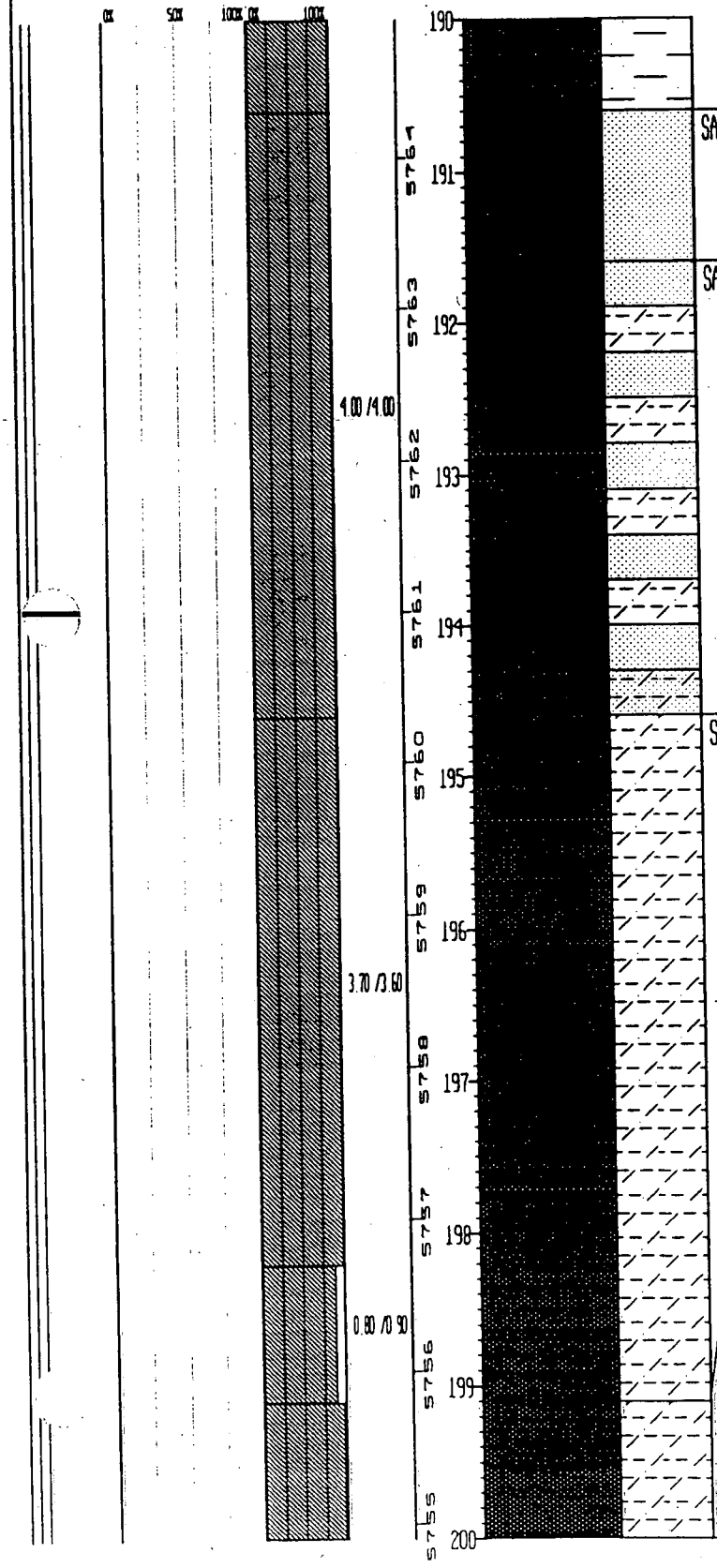
CLAYEY SANDSTONE: Yellowish gray (5 Y 8/1) to light olive gray (5 Y 6/1). F.g., mod. to poorly sorted, porous. Mod. friable, bedding not evident. 60% sand.

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-898R
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89

LOG OF BORING NUMBER: B217789

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

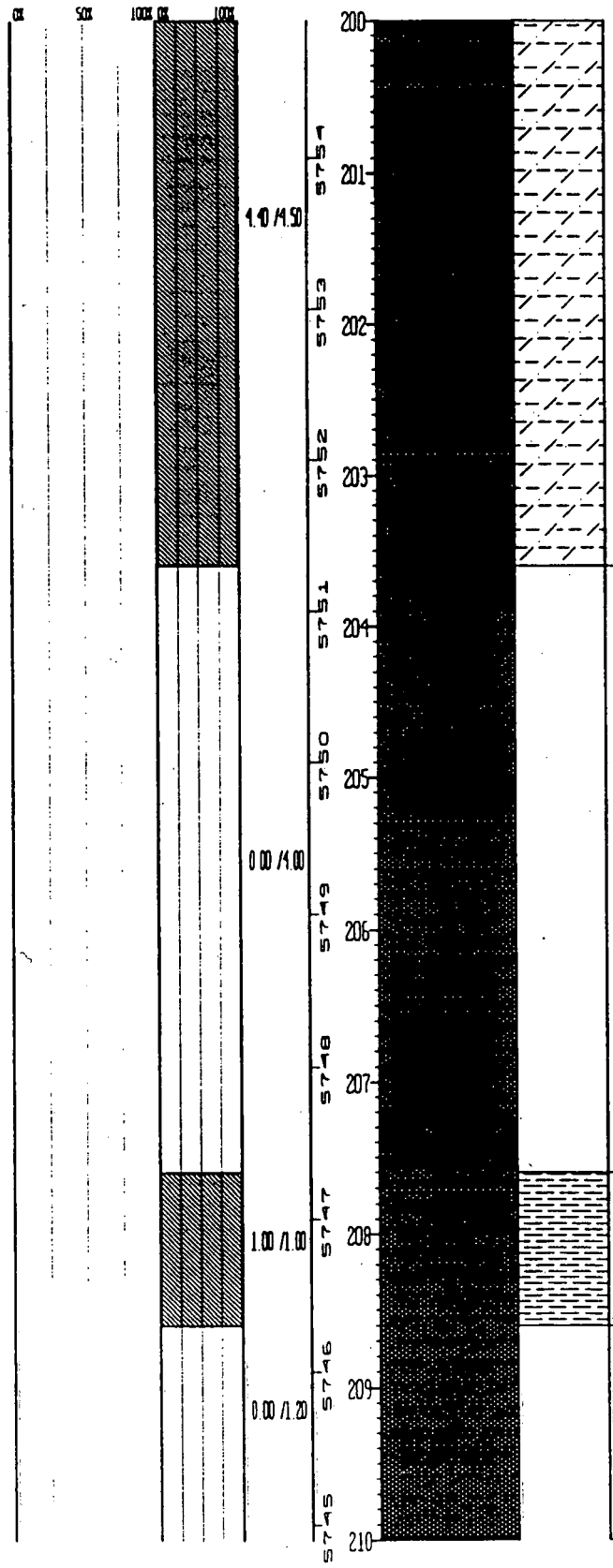
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE
PERCENT RECOVERY
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



SANDSTONE:	Same as above - with irregular laminated bedding visible in upper portion. Dipping.
SANDSTONE:	Same as above - interbedded with Silty Claystone. Bedding very irregular and convoluted. Sandstone is calcareous in this part of interval. Interval becomes Silty Claystone, brownish gray (5 YR 4/1). Bedding not evident. Slightly friable. Some v.f.g. sand.
SILTY CLAYSTONE:	Same as above - trace carbonaceous material.
SILTY CLAYSTONE:	Light olive gray (5 Y 6/1) to olive black (5 Y 2/1). Slightly friable. Bedding irregular. Laminations deformed in areas and dipping in areas. Some v.f.g. sand. Some silt discoloration, grayish orange (10 YR 7/4). Trace carbonaceous material. >70% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-89BR	LOG OF BORING NUMBER:	
NORTH: 749494	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789	
EAST: 2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89		

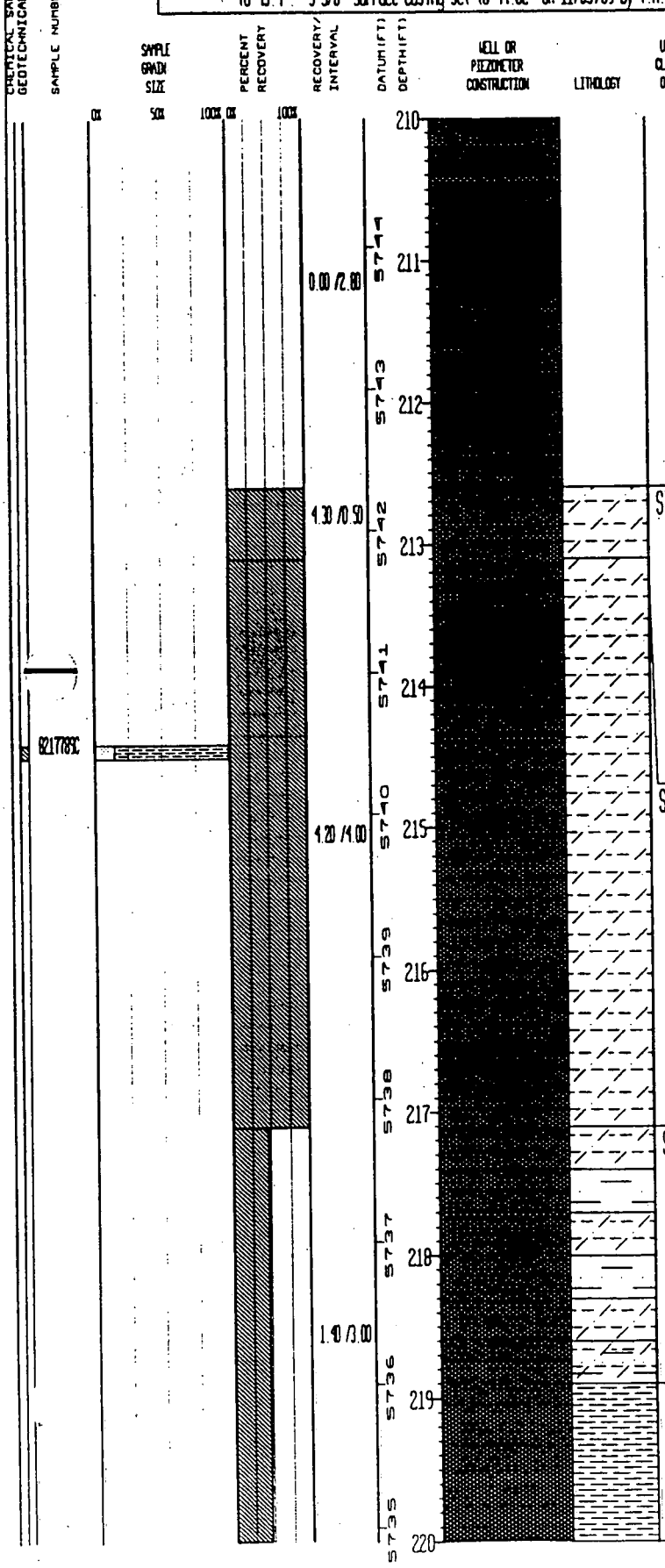
REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	NO SAMPLE.
CLAYSTONE:	Olive black (5 Y 2/1). Mod. to slightly friable. Bedding not evident. Some silt, some possible slickensides in irregular fractures.
NO SAMPLE	NO SAMPLE.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT): 5954.90	OLD WELL NUMBER: 60-898R	LOG OF BORING NUMBER:
NORTH:	749994	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 4	DATE DRILLED: 11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable. Bedding not evident. Trace carbonaceous material. Claystone color to brownish black (5 YR 2/1). Abundt. carbonaceous material including thin coal seam. Note: Excess recovery in this interval >70% clay.
SILTY CLAYSTONE	Same as above - grades to Silty Claystone - olive black (5 Y 2/1). Bedding not evident. Some carbonaceous material. Faint slicks present on irregular fracture. Block markers are very confusing in this area. They totally conflict with box markers. 60% clay
SILTY CLAYSTONE	Same as above - interbedded with light olive gray (5 Y 6/1) to yellowish gray (5 Y 8/1) Clayey Sandstone. Irregular interbeds, convoluted laminations. V.f.g., mod. sorted, sand. Some carbonaceous material (5%). 50% clay.
CLAYSTONE	Olive black (5 Y 2/1). Mod. friable. Bedding not evident. Trace carbonaceous material. Some slickensides visible on irregular fractures (not measurable). Some slicks are oriented perpendicular to fracture angle. >80% clay

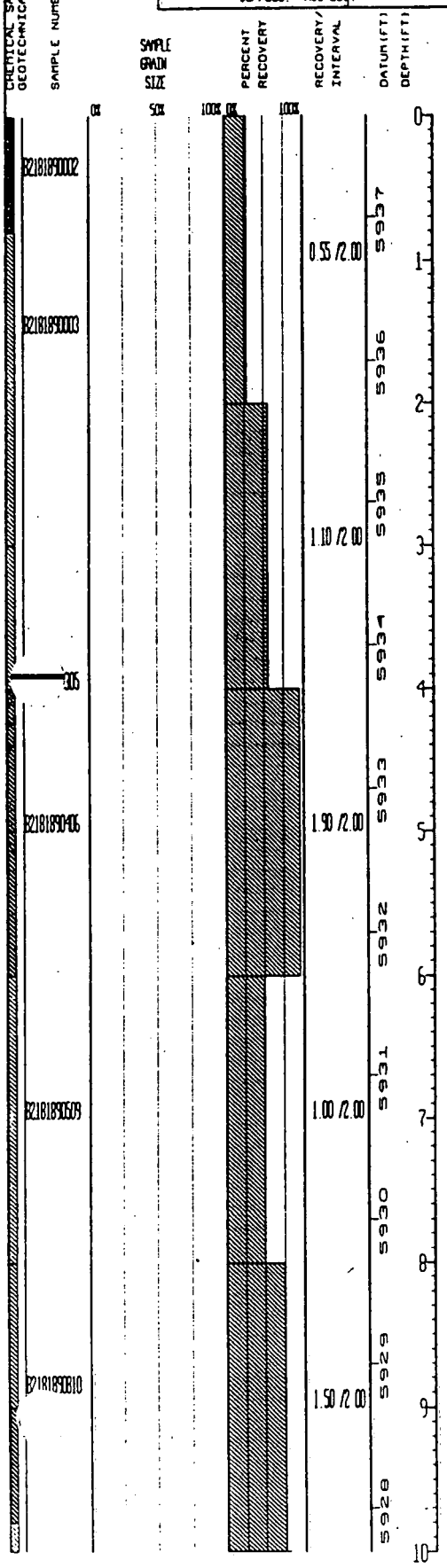
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5954.90	OLD WELL NUMBER:	60-899R	LOG OF BORING NUMBER:
NORTH:	749494	AREA: EAST TRENCHES	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	LAH/LUTHERER	B217789
EAST:	2087341	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	4	DATE DRILLED:	11/30/89	

REMARKS: Hollow Stem Auger 0.0'-45.0'; Rotary Core 45.0'-220.1'. ASI Log. Lithologic description from Weston Log used for interval, from 0.0' to 45.4'. 5 5/8" surface casing set to 44.62' on 11/03/89 by T.A. Lutherer.

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%		220				Total Drilled Depth = 220.1'
					5734	221				
					5733	222				
					5732	223				
					5731	224				
					5730	225				
					5729	226				
					5728	227				
					5727	228				
					5726	229				
					5725	230				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 53	GROUND ELEVATION (FT): 5937.70	OLD WELL NUMBER: 61-898R	LOG OF BORING NUMBER:		
NORTH: 749627	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218189		
EAST: 2088791	LOCATOR NUMBER: P9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/08/89			

REMARKS: Hollow Stem Auger. Surface casing set to 46.91' on November 9, 1989 by T.A. Lutherer. Borehole backfilled with volclay grout to surface. ASI Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	Sandy Clayey Gravel (topsoil) - dusky yellowish brown (10 YR 2/2). Gravel granules to 3 mm., angular to sub-rounded. Mod. graded matrix, low plasticity. Sand v.f.g. to m.g., some root material and grass at top of interval. Some silt, mod. calcareous. (Clayey Gravel with some Sand and Silt) 35% gravel, 20% sand, 15% silt, 30% clay.
CL:	Gravelly Clay - dark yellowish orange (10 YR 6/6) to dark yellowish brown (10 YR 4/2). Low to mod. plasticity. Sand v.f.g. to v.c.g. Some silt, some sand, mod. calcareous. (Gravelly Clay with some Sand and Silt) 30% gravel, 20% sand, 40% clay.
GC:	Same as above, grades to Sandy Clayey Gravel. Matrix light brown (5 YR 5/6). Gravel mod. to well graded, granules to 6 cm., angular to sub-rounded. Sand v.f.g. to v.c.g., well graded, mod. calcareous. (Clayey Gravel with some Sand and trace Silt) 40% gravel, 25% sand, 5% silt, 30% clay.
GC:	Same as above. 50% gravel, 20% sand, 30% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 53	GROUND ELEVATION (FT): 5937.70	OLD WELL NUMBER: 61-898R	LOG OF BORING NUMBER:
NORTH:	749627	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218189
EAST:	2088791	LOCATOR NUMBER: P9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/08/89	

REMARKS: Hollow Stem Auger.. Surface casing set to 46.91' on November 9, 1989 by T.A. Lutherer. Borehole backfilled with volclay grount to surface. AST 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
	B218189913			1.60 /2.00	5927	10–11			GC	Clayey Gravel - light brown (5 YR 5/6) matrix. Gravel angular to sub-rounded, well graded, granules to 5.5 cm. Sand v.f.g. to v.c.g., slightly calcareous. (Clayey Gravel with some Sand) 35% gravel, 25% sand, 30% clay.
					5926	11–12				
	B218189214			1.30 /2.00	5925	12–13				
					5924	13–14				
	B218189317			1.60 /2.00	5923	14–15			GC	Same as above, gravel to 6 cm., very slightly calcareous. (Clayey Gravel with some Sand) 35% gravel, 25% sand, 30% clay.
					5922	15–16				
	B218189618			0.70 /2.00	5921	16–17				
					5920	17–18				
				1.60 /2.00	5919	18–19				
	B218189721				5918	19–20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 53	GROUND ELEVATION (FT)	5937.70	OLD WELL NUMBER:	61-898R	LOG OF BORING NUMBER:
NORTH:	749627	AREA: EAST TRENCHES	CASING DIAMETER (IN):		GEOLOGIST:	LAH	B218189
EAST:	2088791	LOCATOR NUMBER: P9	BOREHOLE DIAMETER (IN):		DATE DRILLED:	11/08/89	

REMARKS: Hollow Stem Auger. Surface casing set to 46.91' on November 9, 1989 by T.A. Lutherer. Borehole backfilled with volclay grount to surface. ASI 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
	B218189202			1.70 /2.00	5917	20–21			SC:	Clayey Sand - light brown (5 YR 5/6), mod. to well graded V.f.g. to v.c.g. sand, sub-rounded. Very slightly calcareous. Some small gravel, granules to 4.5 cm. (Clayey Sand with some Gravel) 8% gravel, 47% sand, 45% clay.
				1.00 /1.00	5916	21–22				
					5915	22–23				
	B218189212			1.20 /1.00	5914	23–24			SC:	Same as above, sand size more coarse toward bottom. (Clayey Sand with some Gravel) 8% gravel, 47% sand, 45% clay.
				0.00 /1.00	5913	24–25			NO SAMPLE:	NO SAMPLE.
	B218189226			0.60 /1.00	5912	25–26			SC:	Same as interval 20.0' to 23.0'. 10% gravel, 45% sand, 45% clay
				1.20 /1.00	5911	26–27			GC:	Clayey Sand and Gravel - light brown (5 YR 5/6). Gravel mod. to well graded, granules to 7 cm., angular to sub-rounded. Sand v.f.g. to v.c.g. (Sandy Gravel with some Clay) (gc-sc) 40% gravel, 40% sand, 20% clay.
	B218189230			0.50 /2.00	5910	28–29				
	B218189231			1.20 /2.00	5908	29–30			GC:	Clayey Sand and Gravel - light brown (5 YR 5/6). Gravel poorly graded, 2 cm. to 7 cm., sub-angular to sub-rounded. Sand mod. graded, sub-angular to sub-rounded. (Sandy Gravel with some Clay) (gc-gp) 60% gravel, 30% sand

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 53	GROUND ELEVATION (FT): 5937.70	OLD WELL NUMBER: 61-89BR	LOG OF BORING NUMBER:	
NORTH: 749627	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218189	
EAST: 2088791	LOCATOR NUMBER: P9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/08/89		

REMARKS: Hollow Stem Auger. Surface casing set to 46.91' on November 9, 1989 by T.A. Lutherer. Borehole backfilled with volclay grout to surface. ASI 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
				1.20 /2.00		30				
					5907	31			NO SAMPLE:	NO SAMPLE.
	B2181893034			0.00 /2.00	5906	32				
					5905	33			GC:	Clayey Sand and Gravel - light brown (5 YR 5/6). Gravel angular to sub-rounded, poorly graded. Sand v.f.g. to v.c.g., angular to sub-angular. (Sandy Gravel with some Clay) (gc-gp) 70% gravel, 20% sand, 10% clay.
				0.60 /1.00	5904	34			NO SAMPLE:	NO SAMPLE.
				0.00 /1.00	5903	35			SC:	Clayey Sand and Gravel - light brown (5 YR 5/6). Mod. graded gravel, mod. to well graded sand. Gravel granules to 5 cm. Sand v.f.g. to v.c.g. Angular to sub-rounded gravel and sand. (Gravelly Sand with some Clay). 30% gravel, 40% sand, 20% clay
	B2181893536			0.90 /1.00	5902	36			NO SAMPLE:	NO SAMPLE.
					5901	37				
	B2181893540			0.00 /3.00	5900	38				
					5899	39			GC:	Same as interval 35.0' to 36.0', some silt. 40% gravel, 30% sand.
	B2181893940			1.10 /1.00	5898	40				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 53	GROUND ELEVATION (FT): 5937.70	OLD WELL NUMBER: 61-89BR	LOG OF BORING NUMBER:
NORTH: 749627	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218189
EAST: 2088791	LOCATOR NUMBER: P9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/08/89	

REMARKS: Hollow Stem Auger. Surface casing set to 46.91' on November 9, 1989 by T.A. Lutherer. Borehole backfilled with volclay grout to surface. ASI 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
				1.60 /2.00	5937	40–41			SC:	Clayey Sand - light brown (5 YR 5/6). Well graded sand, v.f.g. to v.c.g., angular to sub-angular. Some small gravel (to 1 cm.). (Clayey Sand with some Gravel). 10% gravel, 65% sand, 25% clay.
	B218189044				5936	41–42			SC:	Same as above, larger gravel to 4 cm. (Gravelly Clayey Sand) 20% gravel, 60% sand, 20% clay.
	B218189244			2.00 /2.50	5935	42–43			SC:	Same as above, becomes sandy clay at bottom of interval. (last 3 in.). (Gravelly Clayey Sand) 20% gravel, 60% sand, 20% clay.
	B218189446			1.90 /1.50	5934	43–44			CLAYSTONE:	Top of Bedrock at 44.7'. Claystone - mottled pale yellowish brown (10 YR 6/2) and dark yellowish orange (10 YR 6/6), highly weathered. Some sand at top of interval (v.c.g.), some staining. Bedding not evident. (Claystone with some Sand) Approx. 10% sand, >70% clay.
				0.00 /1.00	5933	44–45			NO SAMPLE:	NO SAMPLE.
				0.00 /1.00	5932	45–46				
					5931	46–47				
					5930	47–48				
	B218189649			1.60 /1.00	5929	48–49			CLAYSTONE:	Color between light olive gray (5 Y 6/1) and olive gray (5 Y 4/1). Friable, highly weathered, bedding not evident. Trace c.g. sand at top of interval. Trace of iron staining. >80% clay.
				1.90 /1.00	5928	49–50			CLAYSTONE:	Same as above, mod. friable, trace carbonaceous material. >80% clay.
	B218189852					50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 53	GROUND ELEVATION (FT): 5937.70	OLD WELL NUMBER: 61-89BR	LOG OF BORING NUMBER:	
NORTH: 749627	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218189	
EAST: 2088791	LOCATOR NUMBER: P9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/08/89		

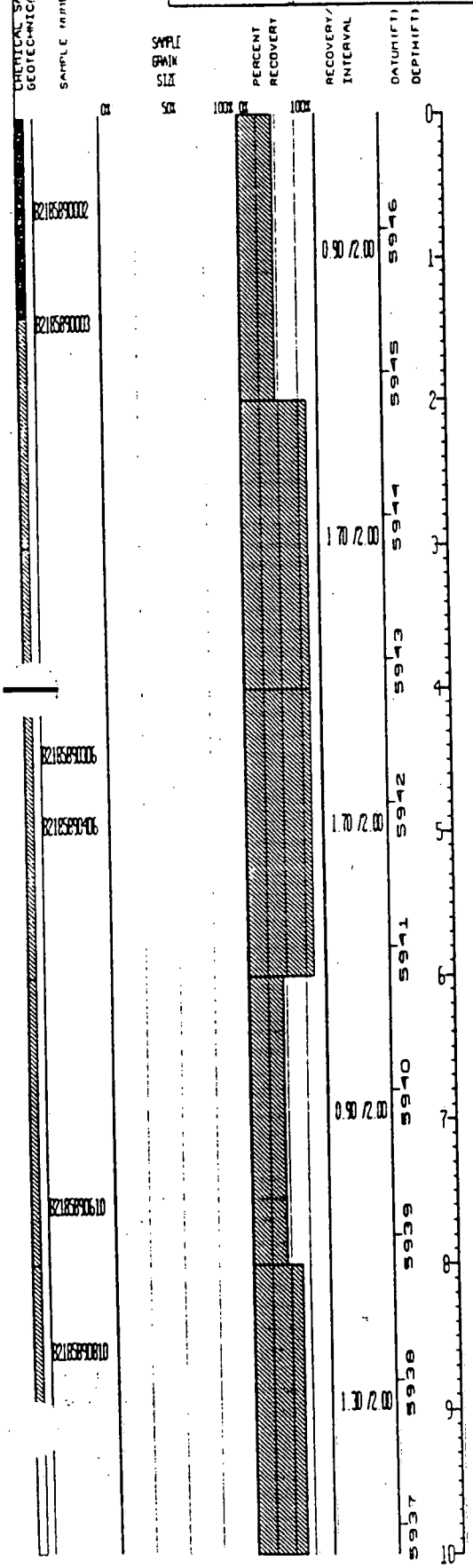
REMARKS: Hollow Stem Auger. Surface casing set to 46.91' on November 9, 1989 by T.A. Lutherer. Borehole backfilled with volclay grount to surface. ASI Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH / SAMPLE NUMBE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
B2181894852 0%	50%	100% 0% 100%	1.80 /1.00	5887	50			CLAYSTONE:	Olive gray (5 Y 4/1), mod. friable, mod. weathered, bedding not evident. Some silt, trace iron staining, trace carbonaceous material. (Claystone with some Silt). 10% silt, >70% clay.
			1.80 /1.00	5886	51			SILTY CLAYSTONE:	Olive gray (5 Y 4/1), mottled. Mod. friable, bedding not evident. Some carbonaceous material, trace v.f.g. sand. >60% clay
			1.80 /1.00	5885	52				
					53				Total Drilled Depth = 53.0'.
				5884	54				
				5883	55				
				5882	56				
				5881	57				
				5880	58				
				5879	59				
				5878	60				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER	628988	LOG OF BORING NUMBER:	
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST	LAH	B218589	
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED	01/11/90		

REMARKS Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer

ASI Log



WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		GC	Gravel - matrix dusky yellowish brown (10 YR 2/2). Mod. graded, granules to 7 cm., angular to sub-rounded. Some silty clay. Calcareous. (Silty Clayey Gravel with some Sand). 65% gravel, 10% sand, 25% silt and clay.
		CL	Sandy Gravelly Clay. Mod. orange pink (5 YR 8/4). Low to mod. plasticity. Sand, mod. to well graded, v.f.g. to granules, gravel poorly graded, granules to 6 cm., sub-angular, Calcareous. (Sandy Silty Clay with some Gravel) 20% gravel, 30% sand, 50% silt and clay.
		CL	Same as above, grades to Sandy Clayey Gravel toward bottom. All else same. (Clayey Gravel with some Sand). 40% gravel, 25% sand, 35% clay.
		GC	Sandy Clayey Gravel - same as interval 2.0' to 4.0'. (Clayey Gravel with some Sand) 40% gravel, 25% sand, 35% clay.
		GC	Clayey Sand and Gravel - matrix grayish orange (10 YR 7/4). Gravel mod. graded. Granules to 4 cm., mostly sub-angular. Sand v.f.g. to v.c.g., poorly to mod. graded. Mildly calcareous. (Sandy Gravel with abundt. Clay). 35% gravel, 35% sand, 30% clay.

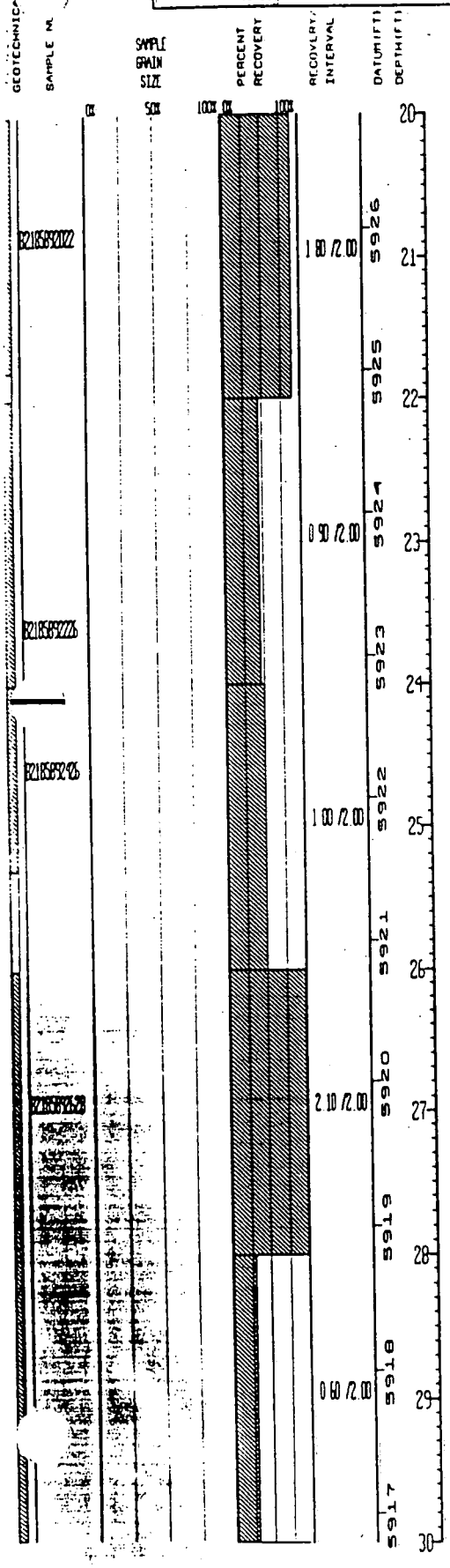
STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 628998	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Luthener.
AST Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNIC	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
	B218589 1012			1.00 /2.00	5936	10–11			GC	Clayey Sand and Gravel - matrix grayish orange (10 YR 7/4). Gravel mod. to poorly graded. Granules to 6 cm., mostly sub-angular. Sand v.f.g. to v.c.g., poorly graded. Non-calcareous, some silt. (Sandy Gravel with abundt. Clay) 35% gravel, 35% sand, 30% clay.
					5935	12				
	B218589 1214			0.40 /2.00	5934	13				
					5933	14				
				0.80 /2.00	5932	15			GC	Same as above - gravel mod. graded. Granules to 6 cm., rounded to sub-angular. Sand m.g. to v.c.g., mod. graded, sub-rounded to sub-angular. Some silt. (Sandy Gravel with some Clay and Silt). 35% gravel, 30% sand, 10% silt, 25% clay.
	B218589 1418				5931	16				
	B218589 1618			1.00 /2.00	5930	17			GC	Clayey Sand Gravel - grayish orange (10 YR 7/4 to 10 YR 5/4). Poorly to mod. graded. Granules to 5.5 cm., angular to sub-rounded. Sand m.g. to v.c.g. Some silt. (Sandy Clayey Gravel with some Silt) 40% gravel, 25% sand, 10% silt, 25% clay.
					5929	18			GC	Sandy Clayey Gravel - grayish orange (10 YR 7/4). Mod. graded, granules to 4.5 cm., angular to sub-rounded. Sand f.g. to v.c.g. (Clayey Gravel with some Sand and Silt). 35% gravel, 20% sand, 15% silt, 30% clay.
				1.00 /2.00	5928	19				
	B218589 1822				5927	20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT)	5996.80	OLD WELL NUMBER	628988	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90	

REMARKS Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer
ASI Log



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SC	Clayey Sand and Gravel - color between light brown (5 YR 5/6) and mod. reddish brown (10 R 4/6). Gravel mod. to well graded, sub-angular to angular, granules to 3.5 cm. Sand c.g. to granules, rounded to sub-angular. Poorly graded. (Gravelly Sand with some Clay). 40% gravel, 45% sand, 15% clay.
	GC	Clayey Sandy Gravel - grayish orange (10 YR 7/4). Poorly graded granules to 9 cm., sub-rounded to sub-angular. Sand v.f.g. to v.c.g. Some silt. (Sandy Gravel with some Silt and some Clay). 40% gravel, 25% sand, 15% silt, 20% clay.
	GC	Same as above. 40% gravel, 30% sand, 15% silt, 15% clay.
	SC	Clayey Sand and Gravel - mod. yellowish brown (10 YR 5/4). Gravel poorly graded, sub-angular to rounded, 2 cm. to 6 cm. Sand poorly graded, m.g. to v.c.g., mod. rounded to rounded. (Gravelly Sand with some Clay). Described as (sc/gc). 30% gravel, 50% sand, 20% clay.
	GC	Clayey Sandy Gravel - pale yellowish brown (10 YR 6/2). Mod. to poorly graded gravel, granules to 5 cm. (mostly 1-2 cm.). Sand f.g. to v.c.g. Gravel sub-angular, sand angular to sub-angular. Trace silt. (Sandy Gravel with some Clay trace Silt). 40% gravel, 30% sand, 5% silt, 25% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 628988	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90	

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer. ASI Log.

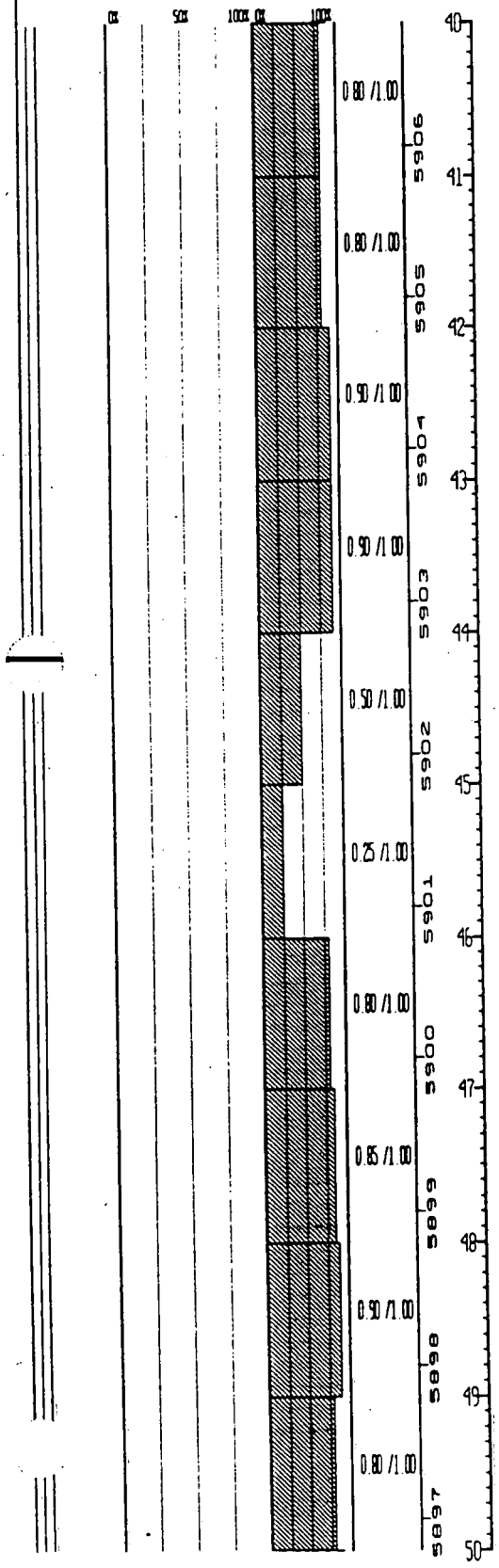
CHEMICAL SAMPLE DEPTH / GEOTECH SAMPLE DEPTH	SAMPLE	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						30			CLAYSTONE	Top of Bedrock. Pinkish gray (5 YR 8/1). Mod. friable, weathered. Bedding mostly horiz. laminations. Some silt. Large cobble (7 cm.) at top of interval. >80% clay.
	B218589034			1.50 /2.00	5916	31				
	B218589002				5915	32			CLAYSTONE	Same as above - trace iron staining. Claystone more mottled further down in interval. Pale yellowish brown (10 YR 6/2) to dark yellowish orange (10 YR 6/6). >80% clay.
				1.50 /2.00	5914	33				
					5913	34				
	B218589006			1.60 /1.60	5912	35				
				0.90 /0.90	5911	36			CLAYSTONE	Same as above - more friable. Claystone porous due to weathering or drying of core. >80% clay.
				0.80 /1.00	5910	37			CLAYSTONE	Same as above - friable, some iron staining. Bedding not evident. >80% clay.
				1.00 /0.50	5909	38				
				0.80 /1.00	5908	39				
				0.90 /1.00	5907	40				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER:	
NORTH: 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST: 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer.

ASI Log

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Light olive gray (5 Y 6/1). Friable, weathered, bedding not evident. Permeable, trace iron staining. >80% clay.
CLAYSTONE:	Same as above - bedding appears horiz., laminated. >80% clay.
CLAYSTONE:	Same as above - staining (iron) in fractures. >80% clay.
CLAYSTONE:	Same as above - color change to mottled pale yellowish brown (10 YR 6/2) and dark yellowish brown (10 YR 4/2). Mod. friable. >80% clay.
CLAYSTONE:	Same as above - color changes back to light olive gray (5 Y 6/1) and greenish gray (5 GY 6/1). >80% clay.
CLAYSTONE:	Same as above - friable. >80% clay.
CLAYSTONE:	Same as above - iron staining at top of interval. Iron stone or iron concretions (3-4 cm.) at top of interval. >80% clay.
CLAYSTONE:	Same as above (no iron concretions). >80% clay.
CLAYSTONE:	Same as above - trace carbonaceous material. >80% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT)	5996.80	OLD WELL NUMBER	628998	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90	

REMARKS Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer
ASI Log

CHEMICAL FILE DEPTH
GEOTECH SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

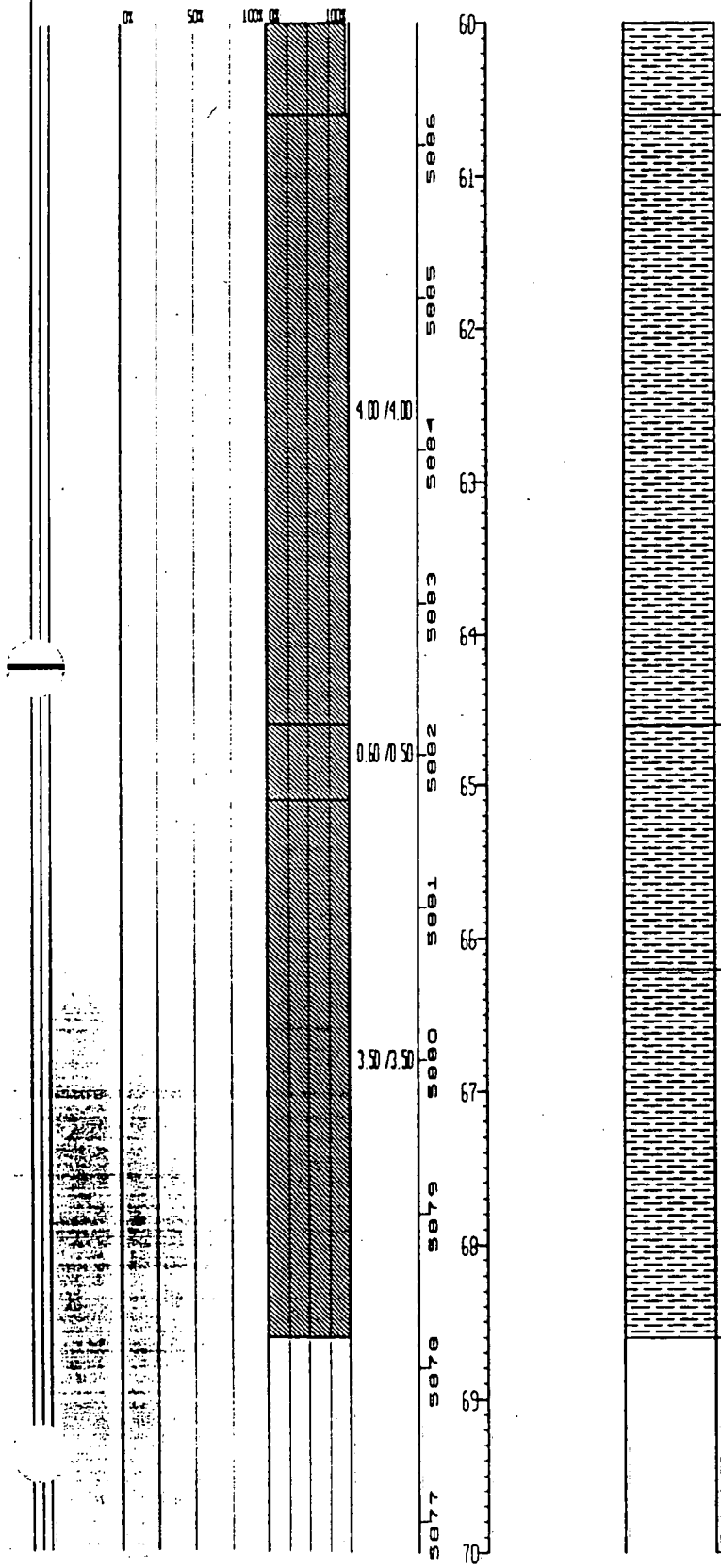
RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
0.50 /1.00	5996	50			CLAYSTONE:	Very pale orange (10 YR 8/2) to grayish orange (10 YR 7/4), mottled. Friable, permeable, some silt. Bedding not evident. Some iron concretions (1) and staining. Trace carbonaceous material. (Claystone with some Silt). 10% silt, >80% clay
0.80 /1.00	5995	51				
1.00 /1.00	5994	52				
0.80 /1.00	5993	53			CLAYSTONE:	Same as above - color change to olive gray (5 Y 4/1). (Claystone with some Silt). 10% silt, >80% clay.
1.10 /1.00	5992	54				
0.00 /0.60	5991	55			NO SAMPLE:	NO SAMPLE.
4.80 /5.00	5990	56			CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable to friable. Bedding not evident. Trace carbonaceous material and iron staining. Some CaCO3 (calcareous material). 90% clay.
	5989	57				
	5988	58				
	5987	59				
		60				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 62898R	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

REMARKS Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer.

ASI Log

CHEMICAL / GEOTECH / 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	Brownish gray (5 Y 4/1). Mod. friable. Bedding not evident. Some silt, trace carbonaceous material. Becomes silty in middle of interval. At approx. 63.5', an area about 2 in. thick has laminations of v.f.g. CaCO3 (calcareous) sand. (Claystone with some Silt) 10% silt, >80% clay.
CLAYSTONE	Brownish gray (5 YR 4/1). Mod. friable to friable. Some slickensides in irregular fractures. Bedding not evident. Some silt. 10-15% silt, >70% clay.
CLAYSTONE	Grades to Silty Claystone. Olive gray (5 Y 4/1). Bedding appears laminated, mostly horiz. Layer of v.f.g. Sandy Claystone around 66.0'. Mod. friable to friable. Trace carbonaceous material. Slickensides visible on fracture. Siltstone nodule. Fracture angle of 60 degrees. (Claystone with some Silt) 10-15% silt, >70% clay.
NO SAMPLE	NO SAMPLE.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90	

REMARKS: Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer

ASI Log

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NO.

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

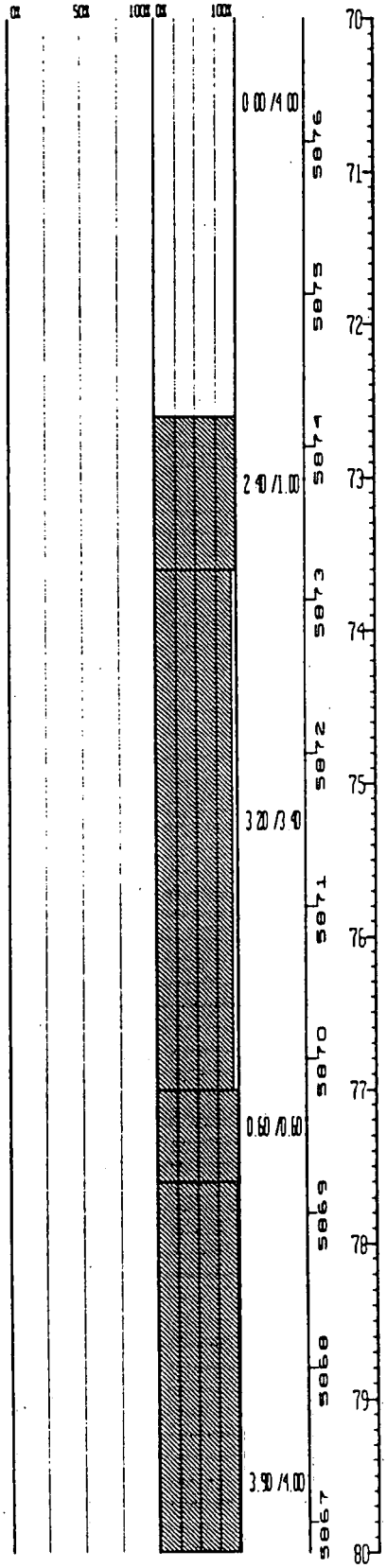
RECOVERY/INTERVAL: 0.00/4.00; 2.40/1.00; 3.20/3.40; 0.60/0.60; 3.90/4.00

DATUM (FT): 5876, 5875, 5874, 5873, 5872, 5871, 5870, 5869, 5868, 5867

DEPTH (FT): 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

SILTY CLAYSTONE: Olive gray (5 Y 4/1) to brownish gray (5 YR 4/1). Mod. friable to friable. Bedding irreg. laminations, slightly dipping. 15 degrees to 20 degrees. Calcareous area approx. 2/3 down in interval. Trace iron staining and carbonaceous materials.
>70% clay.

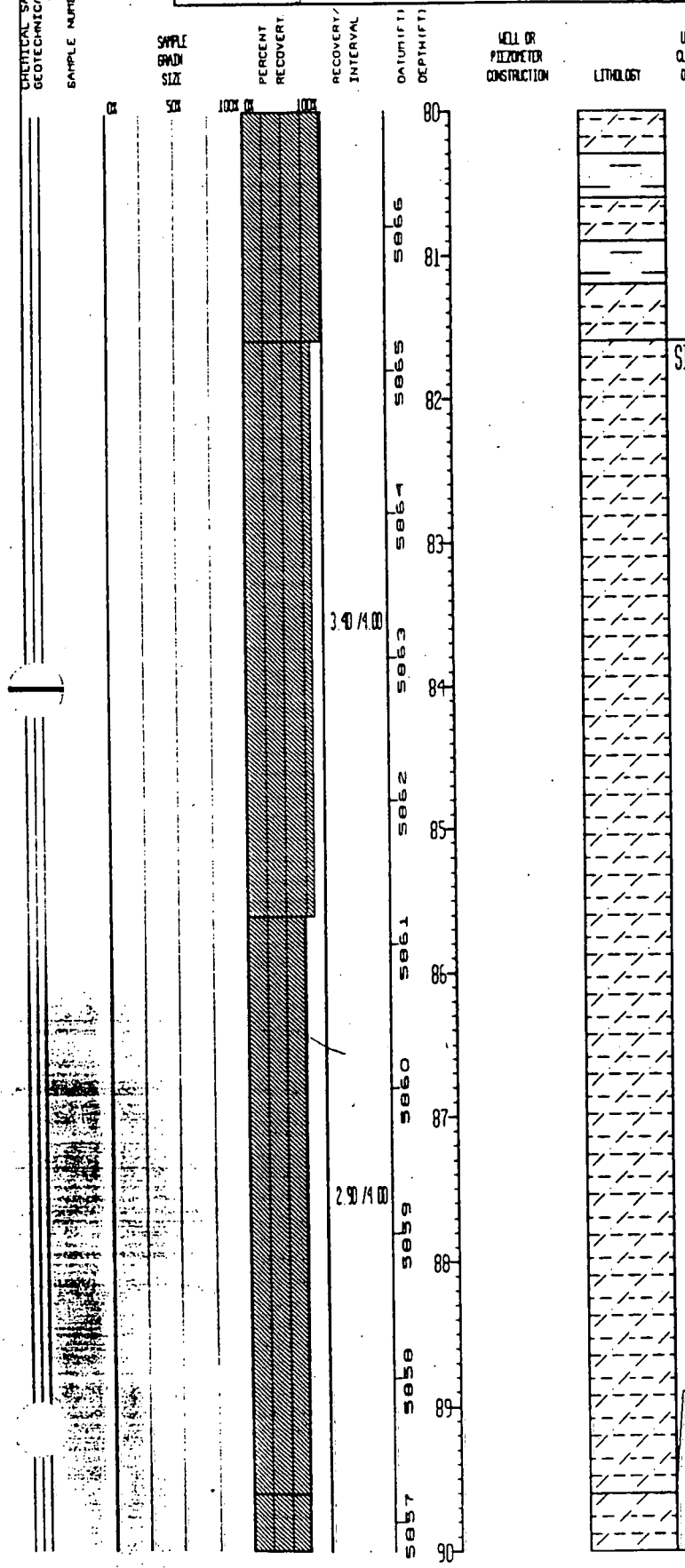
SILTY CLAYSTONE: Same as above - grades to Sandstone, color change to light olive gray (5 Y 6/1), with some Silty Claystone interbeds approx. 1.0' down in interval, thin laminated bedding (<1 mm.) Bedding dips in some areas to 30 degrees. Sand mod. to well sorted, f.g. to m.g. This area porous. Some clay, becomes Silty Claystone again, some carbonaceous material.
>50% sand.

SILTY CLAYSTONE: Interbedded Silty Claystone and Clayey Sandstone - Claystone is olive gray (5 Y 4/1), sandstone is pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1). Thin, laminated bedding (1 mm.). Some crossbedding visible. Some sand areas 1 in. to 2 in. thick. Some of the bedding dips, probably due to soft sed. sand, v.f.g to f.g., well sorted. 35% sand, 10% silt, 55% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER: 6289BR	LOG OF BORING NUMBER:	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer.

ASI Log



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

SILTY CLAYSTONE: Brownish gray (5 YR 4/1). Some interbeds (thin 4 mm.) of v.f.g. sand. Irreg. laminated bedding. Some iron staining and trace carbonaceous material. Grades to Claystone - brownish gray (5 YR 4/1) to olive black (5 Y 2/1). Friable Bedding not evident. Fracture angle of 40 degrees. >60% clay to >80% clay.

SILTY CLAYSTONE: Light olive gray (5 Y 6/1) to olive black (5 Y 2/1). Bedding irreg. laminated, mostly horizontal. Some areas of v.f.g. Sandy Claystone. Mod. friable to friable. Trace carbonaceous material, trace iron staining. >60% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5996.80	OLD WELL NUMBER 62898R	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

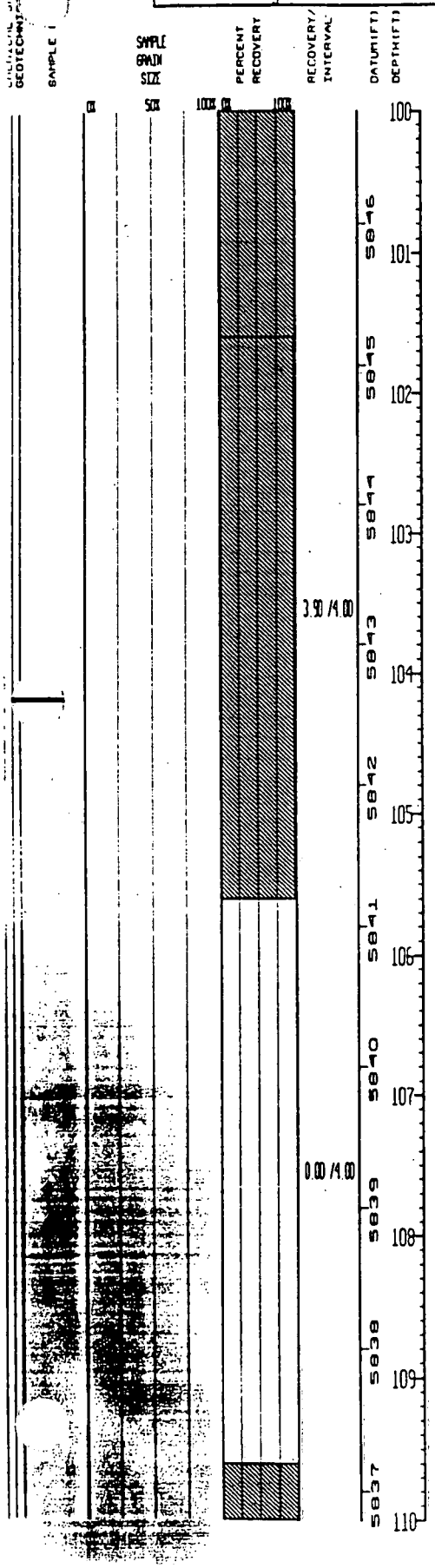
REMARKS Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer
AST Log

GEOTECH SAMPLE	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%		5956	90				
					5955	91				
				2.90 /4.00	5954	92				
					5953	93				
					5952	94			SILTY CLAYSTONE	Same as above - becomes more silty, less friable at bottom. >60% clay.
					5951	95				
				5.15 /4.00	5950	96				
					5949	97				
					5948	98			SILTY CLAYSTONE	Color between light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable. Thin, laminated, mostly horiz. bedding. Trace carbonaceous material. Grades to Sandy Claystone, v.f.g sand. All else the same. Grades back and forth, then to Silty Claystone at bottom. Some crossbedding visible toward bottom. >60% clay.
					5947	99				
				4.00 /4.00		100				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED 01/11/90		

REMARKS Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer.

ASI Log

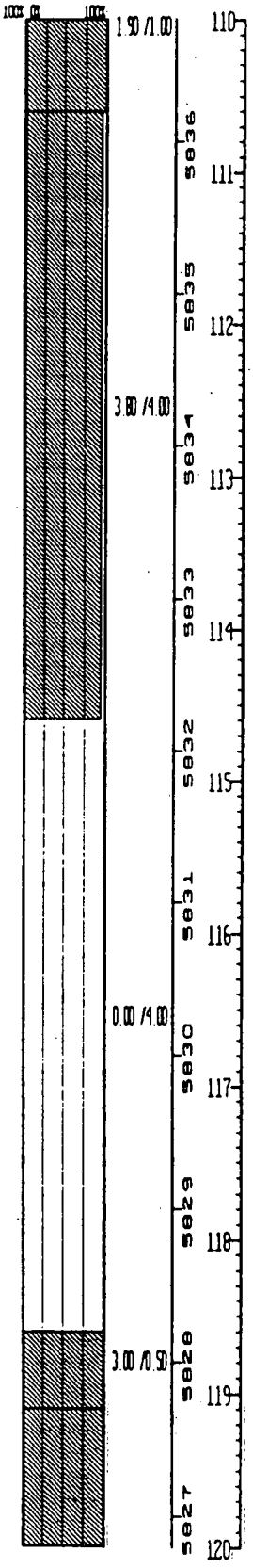


WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Thin, laminated bedding gently dipping in upper portion 25 degrees. Bedding appears horiz. lower in interval. Fractured angle 25 degrees.
		SILTY CLAYSTONE:	Grades to Silty Claystone - olive black (5 Y 2/1). Bedding not evident, appears horiz. Friable. Trace carbonaceous material.
		NO SAMPLE:	NO SAMPLE.
		SILTY CLAYSTONE:	Same as above (reference interval 101.6' to 105.6') - color change to olive gray (5 Y 4/1). Becomes Claystone, some silt at bottom of interval.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT)	5946.80	OLD WELL NUMBER	628918R	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90	

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer. AST Log

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



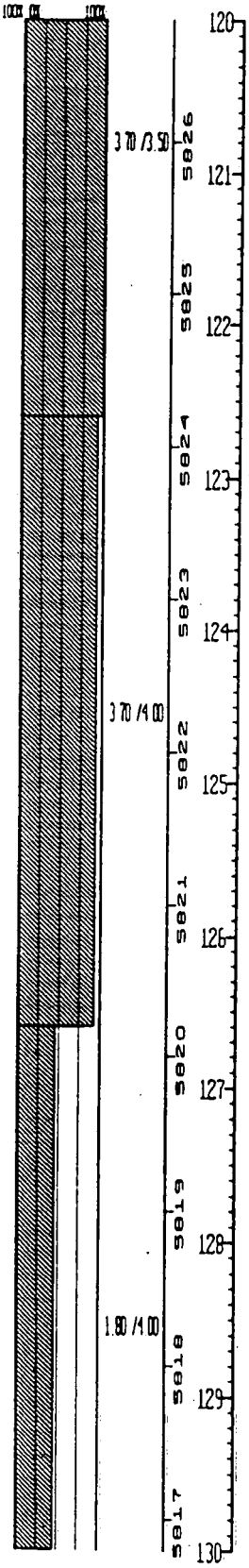
CLAYSTONE:	Brownish gray (5 YR 4/1). Mod. friable to friable, bedding not evident, fractures irreg. Some silt, trace carbonaceous material. Appears darker toward bottom. Still looks brownish gray, however. (Claystone with some Silt) Approx. 10% silt, >80% clay.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Same as above (reference interval 110.6' to 114.6'). (Claystone with trace Silt). Approx. 5% silt, >80% clay.
SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Slightly to mod. friable. Bedding not evident, fractures mostly horiz. Trace carbonaceous material. 20% silt, >60% clay.

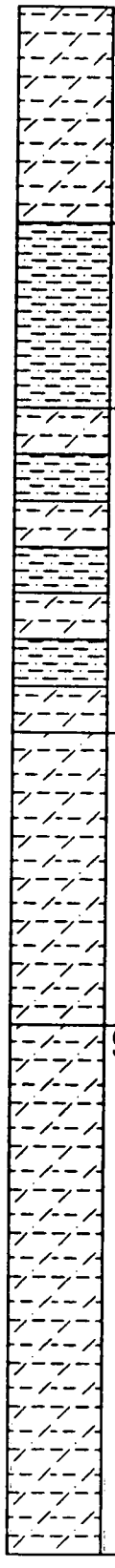
STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER:	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED: 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer

ASI Log

CHEMICAL/GEOTECH | 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





SANDY CLAYSTONE: Becomes laminated and layered with v.f.g. sand. Laminations approx. 1 mm. Laminations irreg. and dipping. Bedding angle 25 degrees.
Approx. 30% sand, >60% clay.

SILTY CLAYSTONE: Silty Claystone and Sandy Claystone interbedded - pinkish gray (5 Y 8/1) to light olive gray (5 Y 6/1). Laminated bedding dips at angles of 35 to 40 degrees. Slightly friable. Sand v.f.g., beds 1 mm. to 5 mm. thick.
25% sand, 15% silt, 60% clay.

SILTY CLAYSTONE: Same as above - grades to Silty Claystone. Olive gray (5 Y 4/1), slightly friable. Bedding not evident, some slickensides visible at an irreg. fracture. Trace carbonaceous material.
Approx. 20% silt, >60% clay.

SILTY CLAYSTONE: Same as above - slickensides present on fracture. Trace iron staining. Fracture angle 40 degrees.
20% silt, >70% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 628BBR	LOG OF BORING NUMBER
NORTH:	750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED: 01/11/90	

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer AST Log.

CHEMICAL SAMPLE DEPTH
GEOTECH SAMPLE DEPTH
SAMPLE #

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 100% 0% 100%
RECOVERY/INTERVAL: 1.60/3.00; 4.00/4.00; 1.30/4.00
DATUM (FT): 5816, 5815, 5814, 5813, 5812, 5811, 5810, 5809, 5808, 5807
DEPTH (FT): 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Olive gray (5 Y 4/1). Mod. friable, bedding not evident. Fractures irreg., trace carbonaceous material, trace v.f.g. sand, trace silt nodules (7 mm.). 25% silt, >70% clay.
SILTY CLAYSTONE:	Same as above except slightly friable. Color change to brownish black (5 YR 2/1) at center of interval. Color changes back to brownish gray (5 YR 2/1) toward bottom. Trace iron staining. 25% silt, >70% clay.
CLAYSTONE:	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Friable. Bedding not evident, trace carbonaceous material. >80% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT)	5946.80	OLD WELL NUMBER	6289BR	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90	

REMARKS Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer

ASI Log

CHEMICAL / GEOTECH / SAMPLE NUMBER / SAMPLE DEPTH

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 4.50 /2.00; 3.70 /4.00; 3.80 /4.00

DATUM (FT): 5806, 5805, 5804, 5803, 5802, 5801, 5800, 5799, 5798, 5797

DEPTH (FT): 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

CLAYSTONE: Same as above - color change toward bottom of interval. Coal or near coal runs approx. 0.6' along side of core in middle of interval. This seam approx. 2 to 3 mm. wide, becomes silty at bottom half of interval. Slickensides on near vertical angle.
>80% clay.

SILTY CLAYSTONE: Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Bedding appears horiz. from bedding organics. Some organic material. Color change to olive black (5 Y 2/1) in center of interval. Color changes back to light olive gray (5 Y 6/1). Mod. to slightly friable.
25% silt, >70% clay.

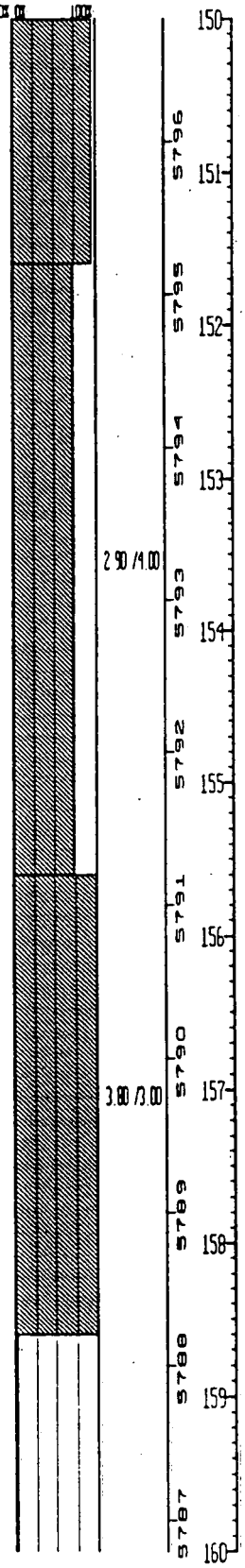
SILTY CLAYSTONE: Olive gray (5 Y 4/1). Bedding not evident, slightly friable, trace carbonaceous material.
25% silt, >70% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT)	5946.80	OLD WELL NUMBER	628998R	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90	

REMARKS Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer
ASI Log

CHEMICAL GEOTECH SAMPLE SAMPLE DEPTH

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



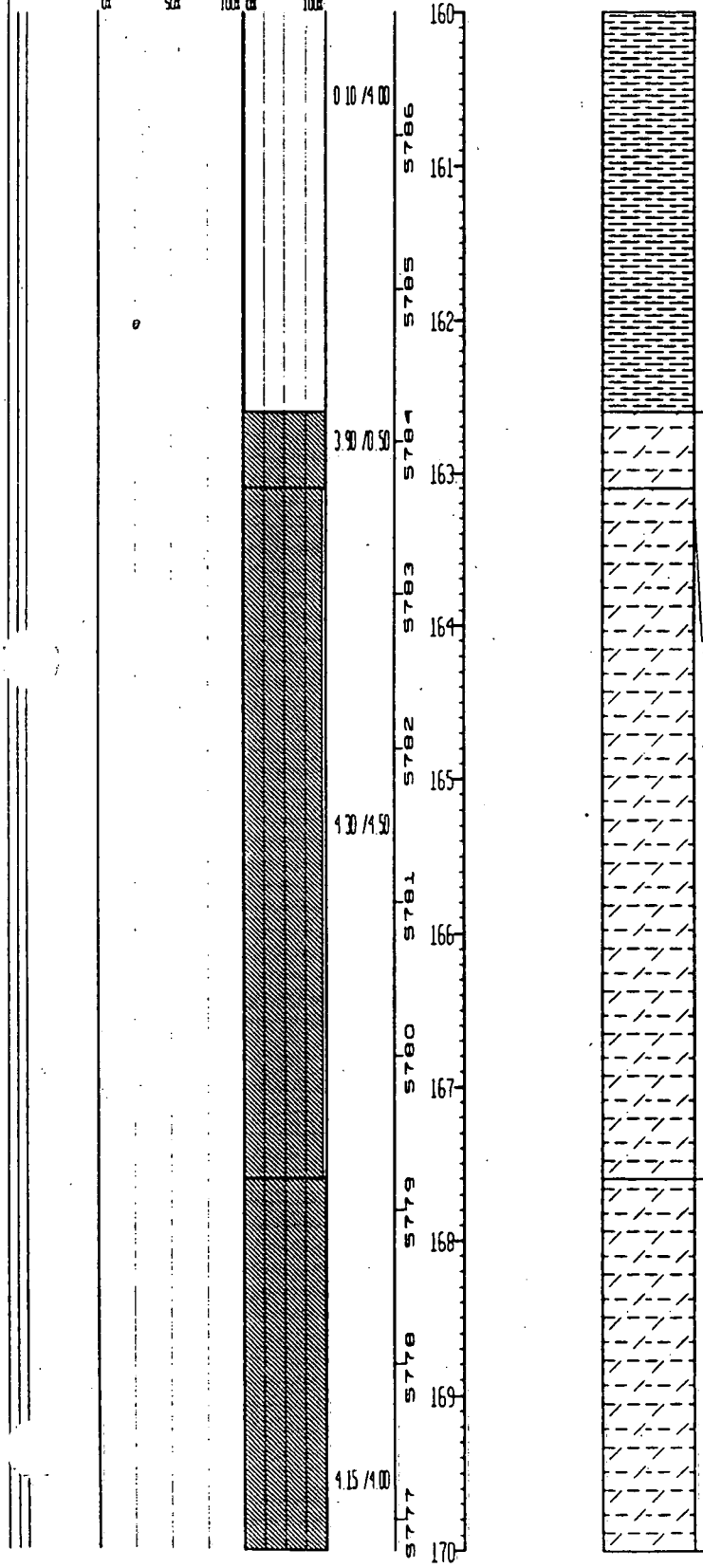
CLAYSTONE:	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Slightly to mod. friable, bedding not evident. Some silt, trace carbonaceous material. Some silt nodules visible (discolored, grayish orange). Approx. 10% silt, >70% clay.
SILTY CLAYSTONE:	Olive black (5 Y 2/1). Slightly friable, bedding not evident. Trace v.f.g. sand, trace carbonaceous material, trace iron staining. >25% silt, >70% clay.
CLAYSTONE:	All else as above - not enough core in this interval to properly describe/characterize. >80% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR		LOG OF BORING NUMBER	
NORTH:	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST:	LAH	B218589	
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED:	01/11/90		

REMARKS Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer.

ASI Log

CHEMICAL SAMPLE DEPTH | GEOTECH 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: Olive gray (5 Y 4/1). Mod. to slightly friable, dipping laminated bedding, approx. 10 mm thick. Some silt nodules, 30 mm. x 10 to 15 mm. Trace carbonaceous material, some slickensides on fracture, orientation 55 degrees from horiz. Some silt in matrix. Bedding angle 35 degrees. Fracture angle 50 degrees.
20% silt, >70% clay.

SILTY CLAYSTONE: Same as above - fewer Siltstone nodules. Bedding becomes thinly laminated with v.f.g. sand (sand <1 mm. thick), dipping 30 degrees, no silt nodules. Bedding not evident toward bottom of interval. Little to no v.f.g. sand.
20% sand, >70% clay.

SILTY CLAYSTONE: Olive gray (5 Y 4/1). Bedding not evident, slightly friable, some v.f.g. sand, sand becomes abundt. in some localized areas. Trace carbonaceous material, trace silt discoloration (grayish orange), trace iron staining. Grades to Silty Sandy Claystone. Pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1). Irreg. laminated bedding, slightly friable. Sand v.f.g. to f.g., slightly calcareous in middle of interval.
20% sand, 20% silt, 60% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

REMARKS Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer.

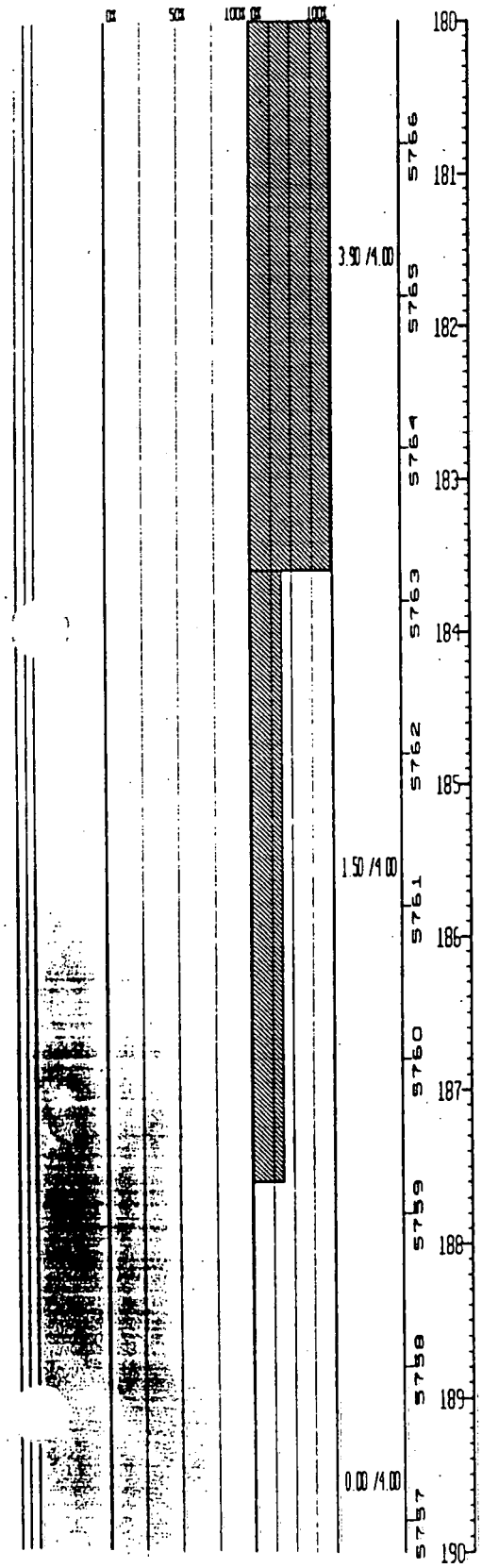
ASI Log

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%			170				
			5776	171				
			5775	172			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable. Some thin (4 mm.) laminations of v.f.g. sand. Bedding slightly dipping, some iron discoloration in some sandy areas. Bedding angle 20 degrees. (Silty Claystone with some Sand). 15% sand, 25% silt, 60% clay.
			5774	173				
		4.00 /4.00	5773	174				
			5772	175				
			5771	176			SILTY CLAYSTONE	Same as above - bedding does not appear to be dipping. Healed fracture near middle of interval. Fracture angle 60 degrees. (Silty Claystone with some Sand). 15% sand, 25% silt, 60% clay.
			5770	177				
		3.80 /4.00	5769	178				
			5768	179			SANDY CLAYSTONE	Pinkish gray (5 YR 8/1) to light olive gray (5 Y 6/1), slightly friable. Irreg. laminated bedding, some possible crossbedding visible. Bedding appears to dip in center of interval but becomes horiz. toward bottom. Some Silty Claystone interbeds. Sand v.f.g., some m.g. sand at bottom of interval. Bedding angle 30 degrees.
			5767	180				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300 1	GROUND ELEVATION (FT) 5946 80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55 6' Rotary Core 55 6'-300 1'. 5-5/8" Surface casing set to 55 6' on Nov 13, 1989 by T A Lutherer

ASI Log



WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

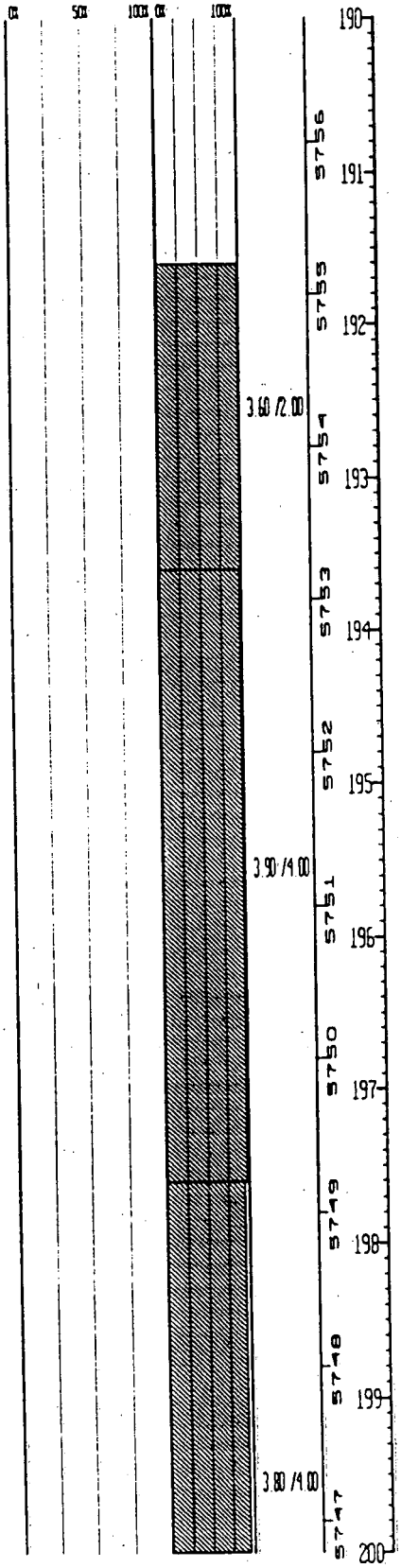
SANDSTONE: Pinkish gray (5 YR 8/1). V.f.g to m.g. sand, poorly sorted, abundt. silt. Mod. friable to friable. Some carbonaceous material in center of interval. Bedding near horiz. Some possible crossbedding, visibly porous. Becomes Silty Claystone, olive gray (5 Y 4/1). Mod. friable, bedding not evident. Some v.f.g. to m.g. sand. >60% sand, 30% silt to >50% clay, 20% sand.

NO SAMPLE: NO SAMPLE.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 628998	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Luthener. ASI Log.

GEOTECHNICAL 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



SANDY CLAYSTONE: Interbedded Sandy Claystone and Silty Claystone - pinkish gray (5 Y 8/1) to olive gray (5 Y 4/1). V.f.g. sand, irreg. laminated bedding, some crossbedding visible. Slightly friable. Trace iron staining, trace carbonaceous material. Becomes Silty Claystone, olive gray (5 Y 4/1). Bedding not evident. Trace carbonaceous material; v.f.g. sand. Fracture angle 55 degrees.
20% sand, 20% silt, 60% clay.

SANDY CLAYSTONE: Silty Sandy Claystone - yellowish gray (5 Y 8/1) to olive gray (5 Y 4/1). Some sand v.f.g., very steeply dipping. Trace iron staining. Slightly friable. Bedding irreg., <1 mm to 15 mm wide, bedding angle 70 degrees to 80 degrees. (Sandy Claystone with some Silt).
25% sand, 20% silt, 55% clay.

SANDY CLAYSTONE: Same as above - less silty, more sandy. Bedding angle 60 degrees to 70 degrees.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300 1		GROUND ELEVATION (FT)	5946 80	OLD WELL NUMBER	629988
NORTH	750002	AREA EAST TRENCHES		CASING DIAMETER (IN)		GEOLOGIST	LAH
EAST	2087812	LOCATOR NUMBER	010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90

LOG OF BORING NUMBER **B218589**

REMARKS: Hollow Stem Auger 0.0'-55 6' Rotary Core 55 6'-300 1' 5-5/8" Surface casing set to 55 6' on Nov 13, 1989 by T A Lutherer
ASI Log

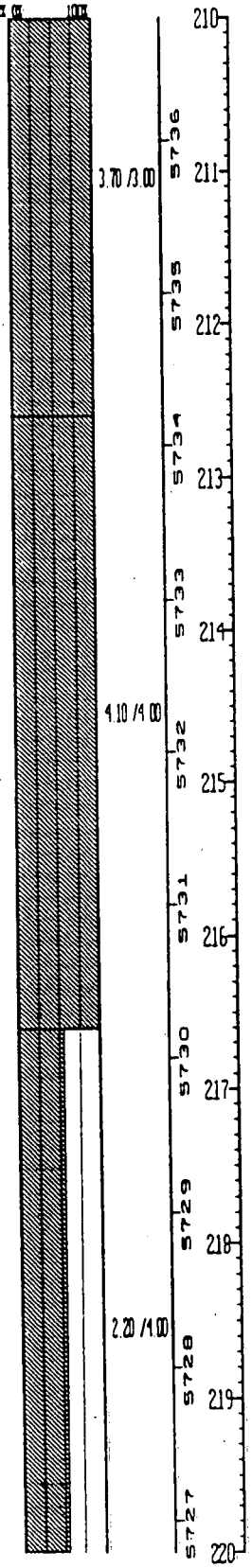
GRAPHIC/ GEOTECH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5746	200				
					5745	201				
					5744	202			SANDY CLAYSTONE	Interbedded Clayey Sandstone, Sandy Claystone and Silty Claystone - yellowish gray (5 Y 8/1 to 5 Y 4/1). Sand v.f.g. to f.g., mod. sorted, mod. to slightly friable. Trace carbonaceous material. High angle bedding, some small crossbeds visible. Bedding angle 70 degrees. 45% sand, 55% clay.
					5743	203				
				3.80 /4.00	5742	204			SILTY CLAYSTONE	Above becomes Silty Claystone - olive gray (5 Y 4/1). Mod. friable. Bedding not as evident toward bottom of interval. Trace carbonaceous material. >60% clay.
					5741	205				
					5740	206			SANDY CLAYSTONE	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Sand v.f.g. Thinly laminated bedding (4 mm.), high angle, irreg. bedding. Very unusual bedding, possibly very high angle off setting crossbeds. Healed fractures. Becomes Silty Claystone, slightly friable, more homogenous, bedding not evident toward bottom. 45% sand, 55% clay.
				2.60 /4.00	5739	207				
					5738	208				
					5737	209			SILTY CLAYSTONE	Olive gray (5 Y 4/1). Mod. friable to friable. Bedding not evident. Trace carbonaceous material. Grades to Claystone. All else as above. >80% clay.
						210				

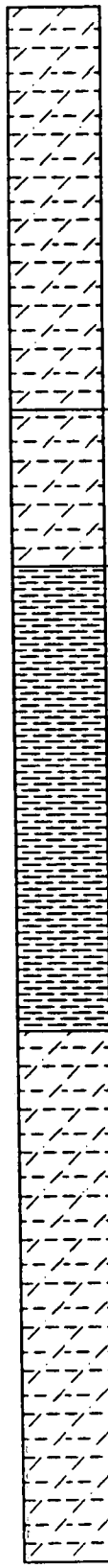
STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 62898R	LOG OF BORING NUMBER	
NORTH: 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6' Rotary Core 55.6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer

ASI Log

GEOTECHNICAL 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





SILTY CLAYSTONE: Light olive gray (5 Y 6/1). Slightly friable, bedding not evident. Trace carbonaceous material. >70% clay

CLAYSTONE: Same as above - some slickensides on high angle fractures toward bottom of interval. Oriented vertically. Becomes less silty toward bottom. Fracture angle 85 degrees. >80% clay.

SILTY CLAYSTONE: Olive gray (5 Y 4/1). Bedding dips at an angle of 35 degrees. Trace carbonaceous material. Slightly friable. Some small silt nodules light brown (5 Y 5/6), 5-10 mm. 25% silt, >70% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300 1		GROUND ELEVATION (FT)	5946 80	OLD WELL NUMBER	628988
NORTH	750002	AREA EAST TRENCHES		CASING DIAMETER (IN)		GEOLOGIST	LAH
EAST	2087812	LOCATOR NUMBER	010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90

LOG OF BORING NUMBER

B218589

REMARKS: Hollow Stem Auger 0 0'-55 6'. Rotary Core 55 6'-300 1' 5-5/8" Surface casing set to 55 6' on Nov. 13, 1989 by T. A. Lutherer.

ASI Log

CHEMICAL SAMPLE DEPTH
GEOTECH SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.50 /2.00; 3.90 /4.00; 1.30 /4.00

DATUM (FT): 5726, 5725, 5724, 5723, 5722, 5721, 5720, 5719, 5718, 5717

DEPTH (FT): 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

CLAYSTONE: Olive black (5 Y 2/1). Friable, bedding not evident. >80% clay.

CLAYSTONE: Same as above - color change to olive gray (5 Y 4/1). Trace carbonaceous material. >80% clay.

CLAYSTONE: Light olive gray (5 Y 6/1). Mod. friable, bedding not evident. >80% clay.

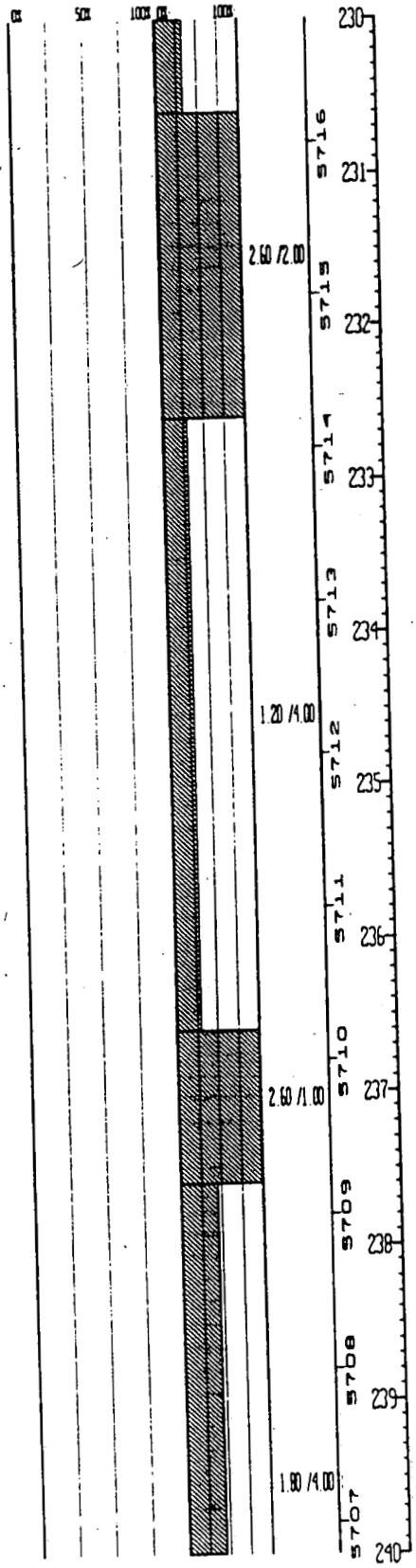
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 628998	LOG OF BORING NUMBER
NORTH	750002	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589
EAST	2087812	LOCATOR NUMBER: 010	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/11/90	

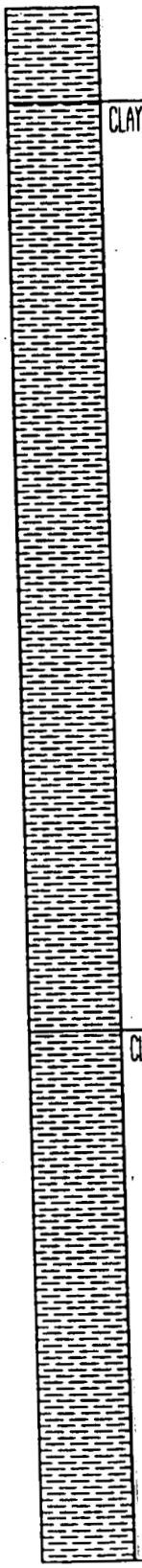
REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer. ASI Log.

GEOTECHNICAL 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



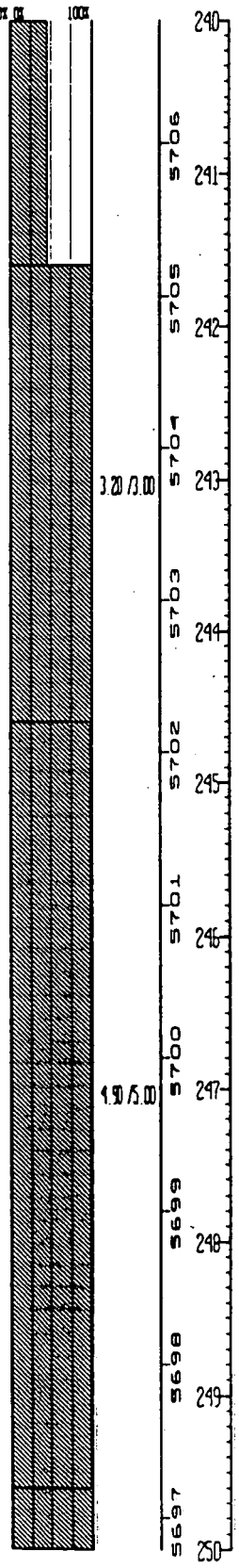


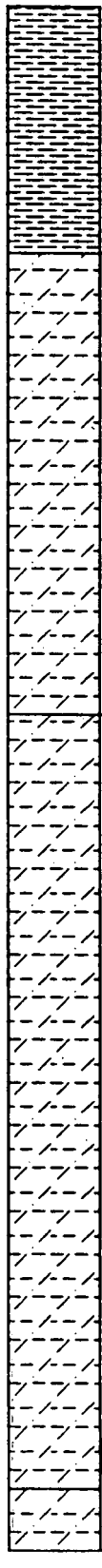
CLAYSTONE:	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Bedding not evident, friable, trace carbonaceous material. >80% clay.
CLAYSTONE:	Same as above - Slickensides on high angle fracture. Nearly horiz. orientation. Fracture angle 80 degrees. >80% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER	
NORTH 750002	AREA: EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST: LAH	B218589	
EAST 2087812	LOCATOR NUMBER: 010	BOREHOLE DIAMETER (IN)	DATE DRILLED: 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6': Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer.
ASI Log

CHEMICAL S DEPTH
GEOTECHNIC PLE 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: Olive gray (5 Y 4/1). Bedding horiz. to mildly dipping. Some layers of thinly laminated silt (approx. 1 mm.), especially toward bottom. Slightly friable. Trace carbonaceous material. Some slickensides on high angle fractures, oriented vertically. Bedding angle 0 degrees to 20 degrees.
20% silt, >60% clay.

SILTY CLAYSTONE: Same as above - some v.f.g. sand. Bedding mostly horiz., trace carbonaceous material. Bedding angle 0 degrees to 10 degrees.
30% silt, >60% clay.

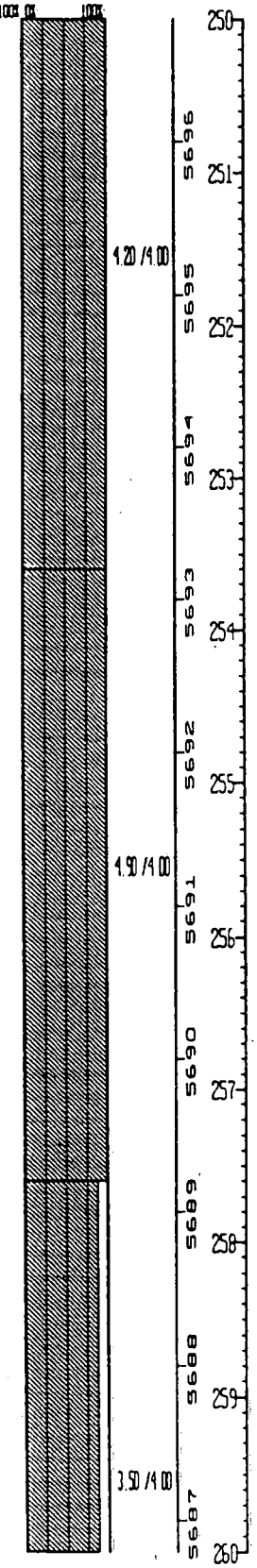
SILTY CLAYSTONE: Light olive gray (5 Y 6/1). Slightly friable. Trace v.f.g. sand localized. Bedding most horizontal (from thin silty layers and bedding plane of organics). Some carbonaceous material (some in coal form). Trace organics.
5% sand; 20% silt, 70% clay, 5% organics.

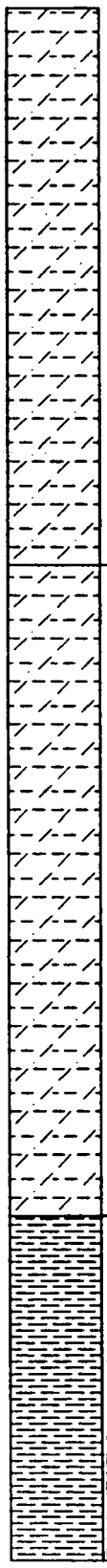
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT)	5946.80	OLD WELL NUMBER	6289BR	LOG OF BORING NUMBER
NORTH	750002	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	LAH	B218589
EAST	2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)		DATE DRILLED	01/11/90	

REMARKS Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer.

ASI Log.

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



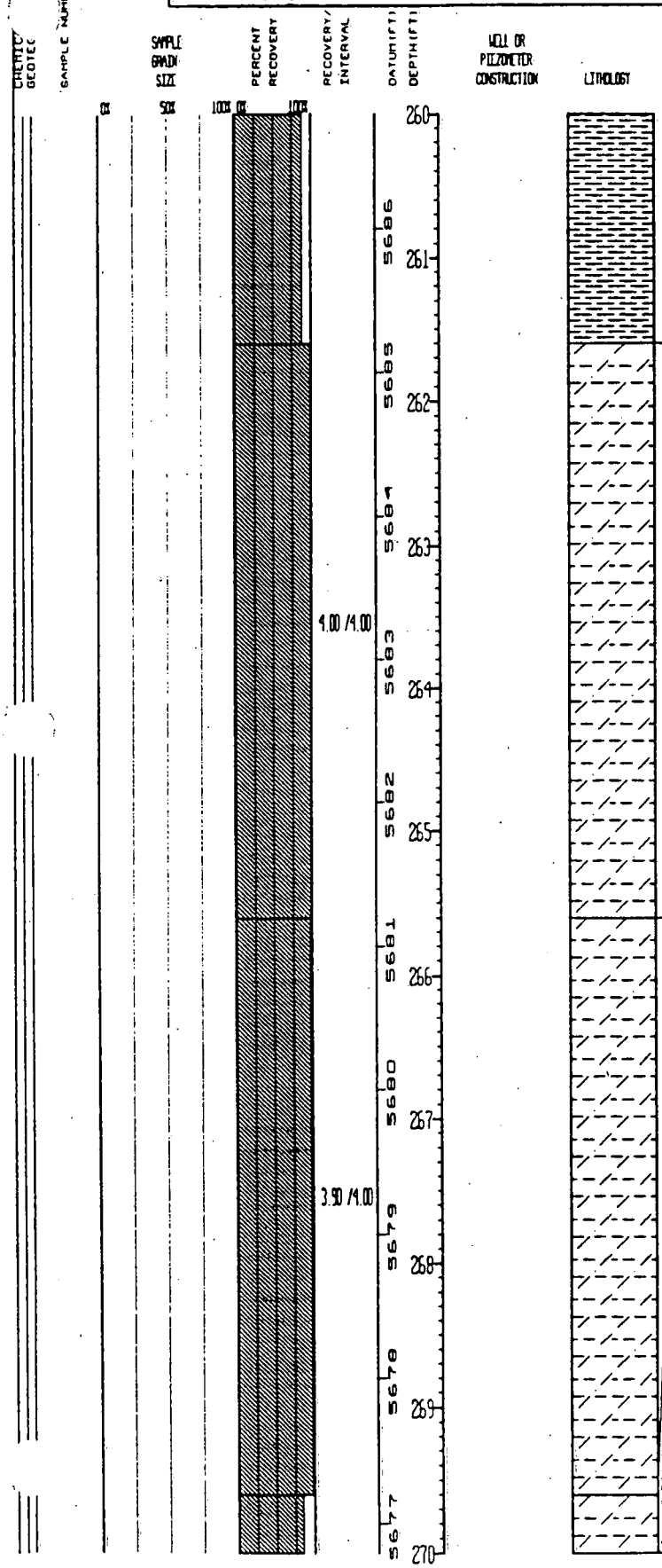


SILTY CLAYSTONE: Light olive gray (5 Y 6/1) and yellowish gray (5 Y 8/1). Slightly friable. Some v.f.g sand. Deformed, laminated bedding (probably soft sed. deformation), bed appears to have been horiz. before deformation. Trace silt nodules, approx. 7 mm. Trace carbonaceous material. Slightly calcareous in localized sandy areas. (Silty Claystone with some Sand).
10-15% sand, 35% silt, 50% clay.

CLAYSTONE: Interval becomes Claystone - olive gray (5 Y 4/1). Slightly to mod. friable. Bedding appears mostly horiz. Some silt, some small silt nodules (5 mm.). Abundt. carbonaceous material localized in a 0.5' interval close to bottom of interval (0.5' off bottom).
10-20% silt, >70% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300 1	GROUND ELEVATION (FT) 5946 80	OLD WELL NUMBER 62898R	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST LAH	B218589	
EAST 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55 6' Rotary Core 55 6'-300.1' 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T A Lutherer.
ASI Log



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Slightly friable, bedding appears horiz. but not entirely evident. One localized area of v.f.g. Sandy Claystone near middle of interval (approx. 0.4'). Trace carbonaceous material. >25% silt, >60% clay.
SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable, bedding not evident. Some v.f.g. sand. Trace carbonaceous material. Trace iron staining, especially toward bottom. (Silty Claystone with some Sand). 15% sand, 20% silt, >60% clay.
SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to olive black (5 Y 2/1). Slight to mod. friable, bedding not evident, trace carbonaceous material. Localized area of olive black Claystone (approx. 0.5'), 2/3 down in inerval. This section is mod. friable. Traces of silt discoloration or iron staining (light brown (5 Y 5/6)). >70% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER: 6289BR	LOG OF BORING NUMBER:	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589	
EAST: 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/11/90		

REMARKS Hollow Stem Auger 0.0'-55.6': Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer

ASI Log

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

0% 50% 100% 0% 100%

3.40/4.00

3.90/4.00

4.00/2.00

5676 5675 5674 5673 5672 5671 5670 5669 5668 5667

270 271 272 273 274 275 276 277 278 279 280

CLAYSTONE: Olive gray (5 Y 4/1). Mod. friable, bedding not evident. Some v.f.g. sand, some silt. (Claystone with some Sand and Silt).
10% sand, 10% silt, 80% clay.

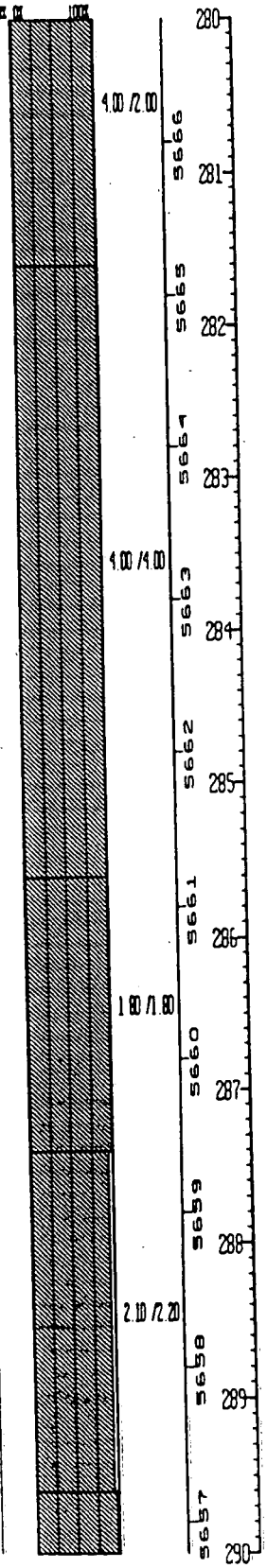
SILTY CLAYSTONE: Light olive gray (5 Y 6/1). Slightly friable, bedding not evident. Some v.f.g. sand, trace carbonaceous material. (Silty Claystone with some Sand).
15% sand, 35% silt, >50% clay.

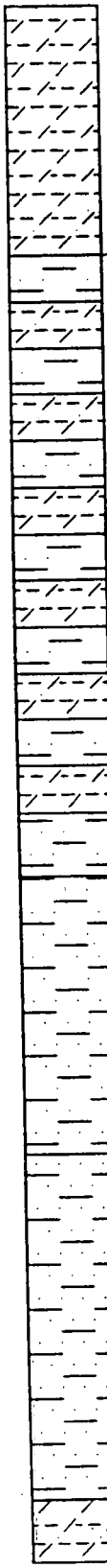
SILTY CLAYSTONE: Grades to v.f.g. Sandy Claystone near middle of interval. Color change to pinkish gray (5 YR 8/1). Some silt. All else same as above. Grades to Silty Claystone (color changes back to light olive gray).
35% sand, 15% silt, >50% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 628988	LOG OF BORING NUMBER
NORTH: 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589
EAST: 2087812	LOCATOR NUMBER: 010	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/11/90	

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov 13, 1989 by T. A. Lutherer
AST Log.

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





CLAYEY SANDSTONE: Pinkish gray (5 YR 8/1). Sand v.f.g. to f.g., trace m.g. sand, mod. sorted, mod. to slightly friable. Some silty Claystone in thin interbeds. Bedding mostly horiz. laminations (med. width) approx. 10 mm. Sandstone areas mod. porous to porous.
>60% sand.

CLAYEY SANDSTONE: Same as above, grades back to Silty Claystone - olive gray (5 Y 4/1). Bedding not evident, mod. friable, trace iron staining.
>60% sand in top of interval.
>70% clay in lower portion of interval.

CLAYEY SANDSTONE: Interval grades to Claystone at approx. mid. interval for 0.5' then back to Sandy Claystone as above at bottom.
>50% clay.

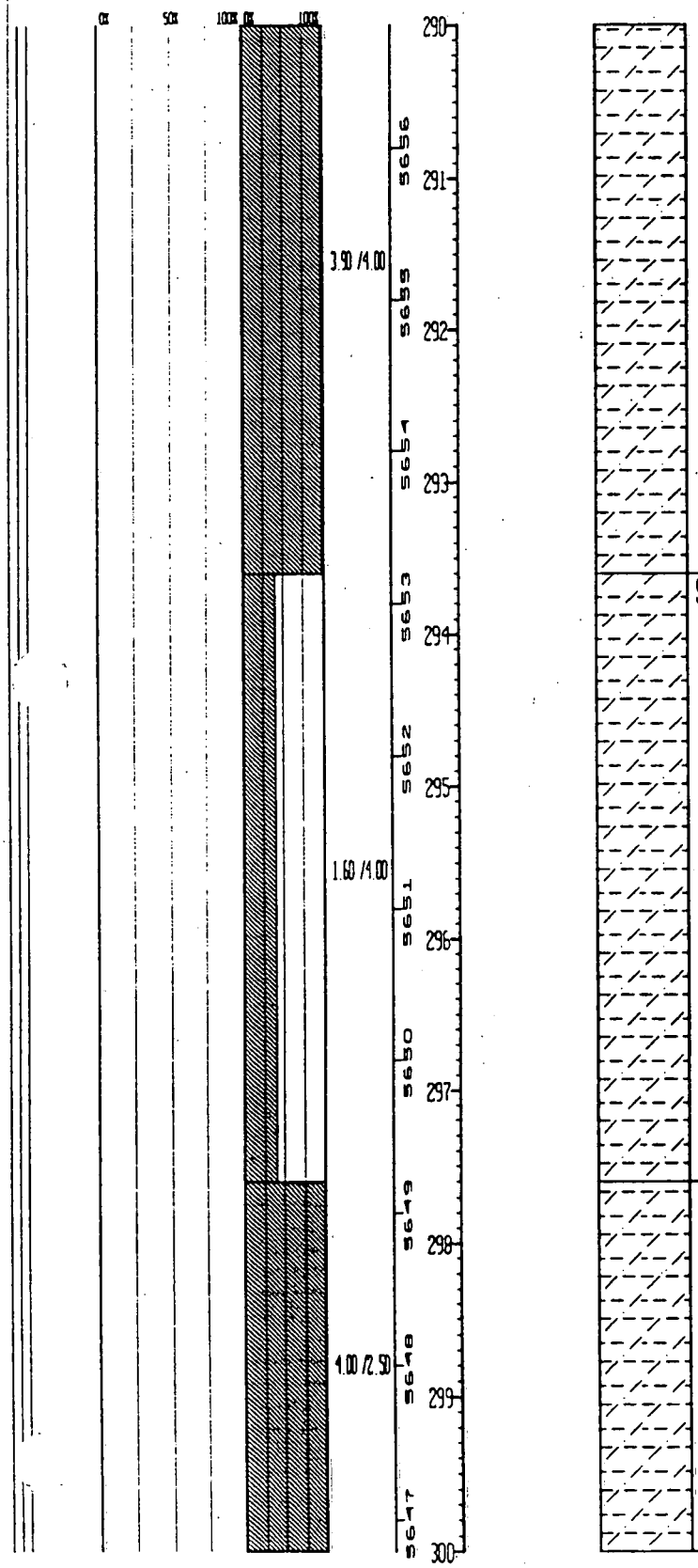
SILTY CLAYSTONE: Olive gray (5 Y 4/1). Mod. friable. Some silt in thin layers at top of interval. Thin, irregular laminations visible at top. Trace carbonaceous material, trace iron staining. Grades to Claystone in middle of interval. Color change to light olive gray (5 Y 6/1), bedding not evident. Slickensides visible on irreg. fracture, mod. friable to friable in this area. Grades back to Silty Claystone at bottom of interval.
>70% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 300.1		GROUND ELEVATION (FT) 5946.80		OLD WELL NUMBER: 6289BR		LOG OF BORING NUMBER:
NORTH	750002	AREA: EAST TRENCHES		CASING DIAMETER (IN):		GEOLOGIST: LAH		B218589
EAST:	2087812	LOCATOR NUMBER 010		BOREHOLE DIAMETER (IN):		DATE DRILLED: 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6'. Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer.

ASI 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



SILTY CLAYSTONE: Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Slightly friable, bedding not evident. Trace to some carbonaceous material.
>25% silt, >60% clay, 5% carbonaceous material.

SILTY CLAYSTONE: Light olive gray (5 Y 6/1). Slightly friable, bedding not evident. Trace carbonaceous material. Grades to Claystone, some silt. All else same.
>60% clay.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 300.1	GROUND ELEVATION (FT) 5946.80	OLD WELL NUMBER 6289BR	LOG OF BORING NUMBER	
NORTH 750002	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B218589	
EAST: 2087812	LOCATOR NUMBER 010	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/11/90		

REMARKS: Hollow Stem Auger 0.0'-55.6': Rotary Core 55.6'-300.1'. 5-5/8" Surface casing set to 55.6' on Nov. 13, 1989 by T. A. Lutherer

ASI Log

GEOTECHNICAL SAMPLE DEPTH	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
						300				Total Drilled Depth = 300.1'.
					5646	301				
					5645	302				
					5644	303				
					5643	304				
					5642	305				
					5641	306				
					5640	307				
					5639	308				
					5638	309				
					5637	310				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 55	GROUND ELEVATION (FT) 5949.00	OLD WELL NUMBER 63-898R	LOG OF BORING NUMBER
NORTH	749556	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST DAT	B21868S
EAST	2087828	LOCATOR NUMBER: I9	BOREHOLE DIAMETER (IN):	DATE DRILLED 11/14/89	

REMARKS: Hollow Stem Auger. Set protective casing to 55.0' on 11/15/89 by T.A. Lutherer. Borehole backfilled with volclay grout to surface.
AST 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
					5949	0			GC	Calcareous Clayey Gravel - pinkish gray (5 YR 8/4). Gravel is 6 mm. to granule size, mod. to well graded. Top of interval (3 in.) is pale brown (5 YR 5/2), with surficial roots.
	B21868S0002			1.40 /2.00	5948	1				
	B21868S0003									
					5947	2			GC	Same as above.
				1.10 /2.00	5946	3				
					5945	4			CL	Gravelly Clay - grayish orange (10 YR 7/4). Gravel is approx. 3 mm. to granule size, sub-rounded to sub-angular, calcareous. Some sand.
	B21868S0006			0.70 /1.30						
	B21868S0007				5944	5				
				0.00 /0.70	5943	6			NO SAMPLE	NO SAMPLE.
									CL	Same as above (reference interval 4.0' to 5.3'). Increase in gravel fraction.
				0.60 /2.00	5942	7				
					5941	8			CL	Same as above.
	B21868S0010			0.70 /1.50	5940	9				
	B21868S0011			0.00 /0.50					NO SAMPLE	NO SAMPLE.
						10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT) 55	GROUND ELEVATION (FT): 5949.00	OLD WELL NUMBER: 63-89BR	LOG OF BORING NUMBER:	
NORTH: 749556	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: DAT	B218689	
EAST: 2087828	LOCATOR NUMBER: I9	BOREHOLE DIAMETER (IN):	DATE DRILLED 11/14/89		

REMARKS: Hollow Stem Auger. Set protective casing to 55.0' on 11/15/89 by T.A. Lutherer. Borehole backfilled with volclay grout to surface.

ASI 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
					5939	10			CL:	Gravelly Clay - grayish orange (10 YR 7/4). Gravel is approx. 2 mm. to granule size, sub-rounded to sub-angular, slightly calcareous. Some sand.
				0.50 /2.00	5938	11				
					5937	12			CL:	Same as above.
	B2186891113									
	B2186891214			0.50 /2.00	5936	13				
					5935	14			CL:	Clay - very pale orange (10 YR 8/2). Some gravel, some sand, some Fe as c.g. nodules and mottles. Grades to claystone at base of interval.
	B2186891316								CLAYSTONE:	Top of Bedrock at 14.50'.
				1.80 /2.00	5934	15				
					5933	16			CLAYSTONE:	Pinkish gray (5 YR 8/1). Mod. to highly friable, trace of Fe as nodules and mottles.
	B2186891618			1.80 /2.00	5932	17				
	B2186891619									
					5931	18			SANDY CLAYSTONE:	Very pale orange (10 YR 8/2). Sand is v.f.g., sub-rounded to sub-angular, mod. friability. No apparent bedding. 45% sand, 55% clay.
	B218689A			1.70 /2.00	5930	19				
	B218689B					20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 55	GROUND ELEVATION (FT): 5949.00	OLD WELL NUMBER: 63-89BR	LOG OF BORING NUMBER:	
NORTH: 749556	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: DAT	B21868	
EAST: 2087828	LOCATOR NUMBER: I9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/14/89		

REMARKS: Hollow Stem Auger. Set protective casing to 55.0' on 11/15/89 by T.A. Lutherer. Borehole backfilled with volclay grout to surface.

ASI 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
	B218689C				5929	20			CLAYEY SANDSTONE	Very pale orange (10 YR 8/2). V.f.g. to f.g., mod. to well sorted, sub-rounded to sub-angular, mod. to highly friable (interval is partially unconsolidated), no apparent bedding. Some silt, some Fe. 55% sand, 45% clay.
	B218689D22			1.80 /2.00	5928	21				
					5927	22			SANDY CLAYSTONE	Very pale orange (10 YR 8/2). Sand is v.f.g., sub-angular to sub-rounded, mod. friable, no apparent bedding. Some silt, some Fe as nodules and modules, trace of carbonaceous material.
				1.70 /2.00	5926	23				
					5925	24			SANDY CLAYSTONE	Top 6 in. is same as above. Base of interval: Claystone - pale yellowish brown (10 YR 6/2). Mod. to poorly friable, no apparent bedding. Fe as mottles.
				1.90 /2.00	5924	25				
					5923	26			SANDY CLAYSTONE	Same as above - light brownish gray (5 YR 4/1).
				1.90 /2.00	5922	27				
					5921	28			SANDY CLAYSTONE	Same as above.
				1.80 /2.00	5920	29				
						30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT) 55	GROUND ELEVATION (FT) 5949.00	OLD WELL NUMBER: 63-89BR	LOG OF BORING NUMBER:	
NORTH: 749556	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: DAT	B218689	
EAST: 2087828	LOCATOR NUMBER: I9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/14/89		

REMARKS: Hollow Stem Auger. Set protective casing to 55.0' on 11/15/89 by T.A. Lutherer. Borehole backfilled with volclay grout to surface.

ASI Log

CHEMIC / GEOTEC	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
					5919	30			CLAYSTONE:	Olive gray (5 Y 4/1), mod. friable, no apparent bedding. Some Fe as mottles, trace of carbonaceous material.
				1.70 /2.00	5918	31				
					5917	32			CLAYSTONE:	Same as above - grayish orange (10 YR 7/4). Increase in Fe, color grades to light olive gray (5 Y 6/1) at base of interval.
				1.70 /2.00	5916	33				
					5915	34			CLAYSTONE:	Light brownish gray (5 YR 6/1). Mod. to highly friable at top of interval, no apparent bedding. Some Fe, decreasing at base. Some silt at base.
				1.80 /2.00	5914	35				
					5913	36			SILTY CLAYSTONE:	Brownish gray (5 YR 4/1), mod. friable, no apparent bedding, trace Fe and trace of carbonaceous material.
				1.90 /2.00	5912	37				
					5911	38			SILTY CLAYSTONE:	Same as above.
				1.80 /2.00	5910	39				
						40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 55	GROUND ELEVATION (FT)	5949.00	OLD WELL NUMBER	63-89BR	LOG OF BORING NUMBER:
NORTH	749556	AREA: EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	DAT	B21868
EAST:	2087828	LOCATOR NUMBER: I9	BOREHOLE DIAMETER (IN):		DATE DRILLED:	11/14/89	

REMARKS: Hollow Stem Auger. Set protective casing to 55.0' on 11/15/89 by T.A. Lutherer. Borehole backfilled with volclay grout to surface

ASI Log:

CHEMICAL SAMPLE DEPTH
GEOTECH. 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
	40	CLAYSTONE:	Light brownish gray (5 YR 6/1). Mod to highly friable, no apparent bedding. Abundt. Fe, trace of coal.
1.70 /2.00	41		
	42	CLAYSTONE:	Same as above - some silt. Fe along fracture planes.
1.90 /2.00	43		
	44	CLAYSTONE:	Same as above - increase in silt fraction (Claystone with some Silt). 20% silt, 80% clay.
1.80 /2.00	45		
	46	CLAYSTONE:	Same as above - abundt. to some Fe.
1.90 /2.00	47		
	48	CLAYSTONE:	Top of interval is same as above, unconsol. Base of interval - color grades to brownish gray (5 YR 4/1). Trace of coal, trace of Fe.
1.70 /2.00	49		
	50		

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 55	GROUND ELEVATION (FT) 5949.00	OLD WELL NUMBER 63-89BR	LOG OF BORING NUMBER:	
NORTH: 749556	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST DAT	B218689	
EAST: 2087828	LOCATOR NUMBER: I9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/14/89		

REMARKS: Hollow Stem Auger. Set protective casing to 55.0' on 11/15/89 by T.A. Lutherer. Borehole backfilled with volclay grout to surface.
ASI Log

CHEMICAL / GEOTECH	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
					3.60 /4.00	5899	50			CLAYSTONE:	Brownish gray (5 Y 4/1). Mod. to highly friable, no apparent bedding. Top of interval is partially unconsol., base is consol., some Fe. Coal lenses (approx. 0.1 cm.) at base of interval.
						5898	51				
						5897	52				
						5896	53				
						5895	54			CLAYSTONE:	Same as above - no apparent coal or Fe.
					1.00 /1.00						
						5894	55				Total Drilled Depth = 55.0'.
						5893	56				
						5892	57				
						5891	58				
						5890	59				
							60				

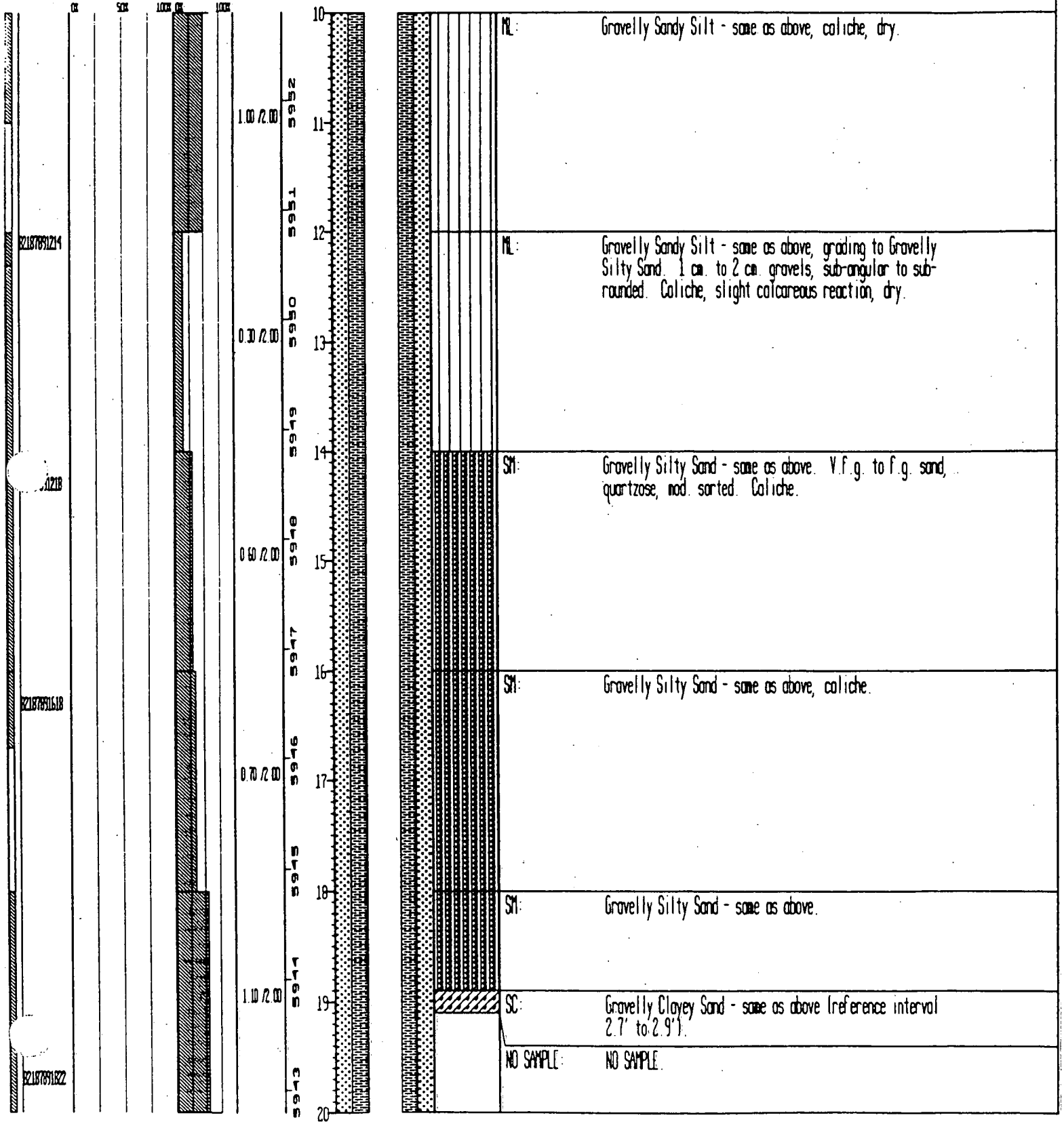
STATE PLANE COORDINATE:	TOTAL DEPTH (FT) 42.3	GROUND ELEVATION (FT): 5962.80	OLD WELL NUMBER: 64-89	LOG OF BORING NUMBER:
NORTH: 749425	AREA EAST TRENCHES	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: TAL	B218789
EAST: 2086720	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger. Weston Log

CHEMICAL GEOTECHN	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
	B218789002			1.50 /2.00	5962	0–1			ML:	Gravelly Sandy Silt - dusky brown (5 YR 2/2), non-laminated. F.g. to c.g. sand, sub-rounded to sub-angular, quartzose. 1 cm. to 4 cm. gravels, broken, quartzose. Trace clay, stiff, dry.
	B218789003				5961	1–2			ML:	Gravelly Silt - mod. orange pink (5 YR 8/4), non-laminated. Trace sand. Trace clay. 1 cm. to 3 cm. gravel, sub-rounded to sub-angular. Caliche high calcareous reaction, stiff, dry.
						2			NO SAMPLE:	NO SAMPLE.
									ML:	Gravelly Silt - same as above.
				0.90 /2.00	5960	3			SC:	Gravelly Clayey Sand - light brown (5 YR 6/4) to grayish orange (10 YR 7/4), mottled, non-laminated. 1 cm. to 3 cm. gravel, sub-angular to sub-rounded, quartzose. F.g. to c.g. sand, sub-angular to sub-rounded, quartzose. Some silt, clay, non to low plasticity, caliche, stiff, dry.
					5959	4			NO SAMPLE:	NO SAMPLE.
	B218789406			1.30 /2.00	5958	5			SC:	Gravelly Clayey Sand - same as above. Very pale orange (10 YR 8/2) and mod. yellowish brown (10 YR 7/4), caliche.
	B218789408				5957	6			SC:	Gravelly Clayey Sand - same as above, grading to Gravelly Sandy Silt, light brown (5 YR 5/6). Gravel and sand as above, loose, unconsol. Trace to some clay, non-plastic, caliche, stiff, dry.
				1.50 /2.00	5956	7				
					5955	8			SC:	Gravelly Clayey Sand - same as above, grading to Gravelly Sandy Silt. Predom. v.f.g. to f.g. sand, caliche, mod. calcareous reaction.
	B218789810			1.20 /2.00	5954	9				
	B218789812				5953	10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 42.3	GROUND ELEVATION (FT): 5962.80	OLD WELL NUMBER: 64-89	LOG OF BORING NUMBER:	
NORTH: 749425	AREA EAST TRENCHES	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: TAL	B218789	
EAST: 2086720	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/16/89		

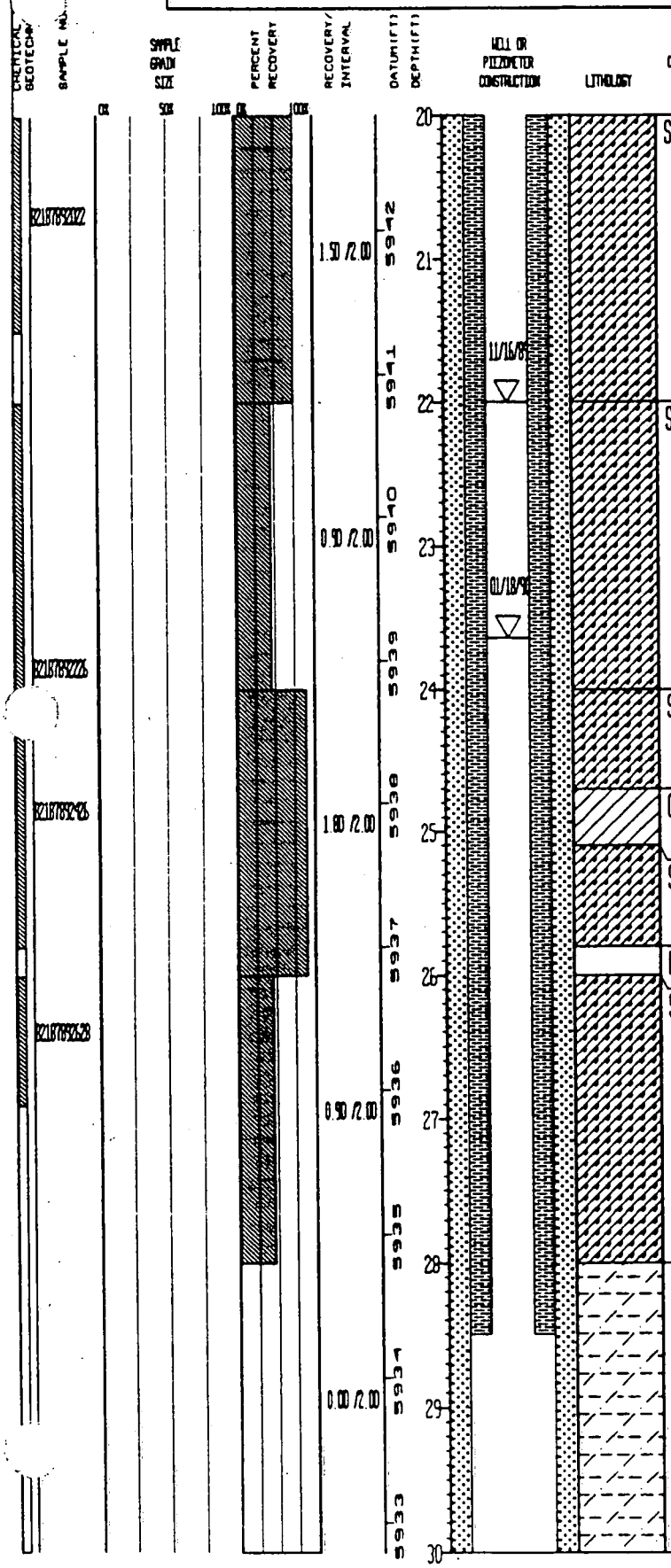
REMARKS: Hollow Stem Auger. Weston Log.



CHEMICAL SAMPLE DEPTH / GEOTECH / 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
						10			ML:	Gravelly Sandy Silt - same as above, caliche, dry.
				1.00 /2.00	5952	11				
					5951	12			ML:	Gravelly Sandy Silt - same as above, grading to Gravelly Silty Sand. 1 cm. to 2 cm. gravels, sub-angular to sub-rounded. Caliche, slight calcareous reaction, dry.
	B2187891214			0.30 /2.00	5950	13				
					5949	14			SM:	Gravelly Silty Sand - same as above. V.f.g. to f.g. sand, quartzose, mod. sorted. Caliche.
	...1218			0.60 /2.00	5948	15				
					5947	16			SM:	Gravelly Silty Sand - same as above, caliche.
	B2187891618			0.70 /2.00	5946	17				
					5945	18			SM:	Gravelly Silty Sand - same as above.
				1.10 /2.00	5944	19			SC:	Gravelly Clayey Sand - same as above (reference interval 2.7' to 2.9').
	B2187891822				5943	20			NO SAMPLE:	NO SAMPLE.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 42.3	GROUND ELEVATION (FT):	5962.80	OLD WELL NUMBER:	64-89	LOG OF BORING NUMBER:
NORTH:	749425	AREA: EAST TRENCHES	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	TAL	B218789
EAST:	2086720	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/16/89	

REMARKS: Hollow Stem Auger. Weston Log.



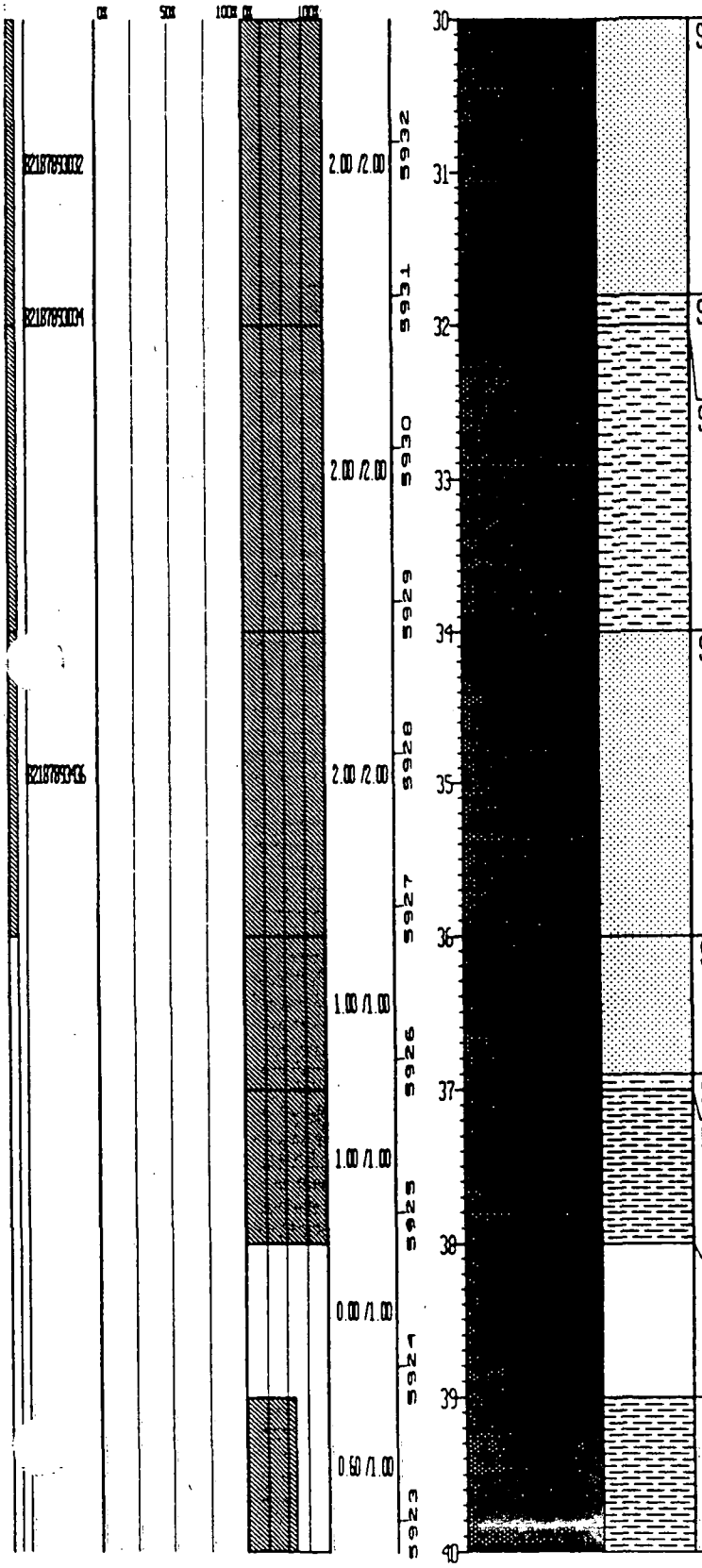
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Gravelly Clayey Sand - same as above (reference interval 2.7' to 2.9'). Caliche, slight calcareous reaction.
SC:	Gravelly Clayey Sand - same as above, wet.
SC:	Gravelly Clayey Sand - same as above.
CL:	Clay - med. light gray (N 6/0), non-laminated. Some silt, high plasticity, damp.
SC:	Gravelly Clayey Sand - same as above.
NO SAMPLE:	NO SAMPLE.
SC:	Gravelly Clayey Sand - same as above (reference interval 25.1' to 25.8'), moist.
SILTY CLAYSTONE:	Top of Bedrock. Silty Claystone - light gray (N 7/0) to pale yellowish brown (10 YR 6/2), mottled. High plasticity, damp.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 42.3	GROUND ELEVATION (FT): 5962.80	OLD WELL NUMBER: 64-89	LOG OF BORING NUMBER:	
NORTH: 749425	AREA EAST TRENCHES	CASING DIAMETER (IN): 4.5 O.D.	GEOLOGIST: TAL	B218789	
EAST: 2086720	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL SAMPLE DEPTH / GEOTECH 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
SANDSTONE:	Yellowish gray (5 Y 7/2), grading to dark yellowish orange (10 YR 6/6). Clayey Sandstone/Sandy Claystone, non-laminated. F.g. to m.g. sand, sub-angular to sub-rounded, mod. sorted. Trace silt, unconsol., moist.
SANDY CLAYSTONE:	Dark yellowish orange (10 YR 6/6) and dusky yellow (5 Y 6/4) mottled. Trace silt. Trace to some sand, high to med. plasticity, moist.
SANDY CLAYSTONE:	Same as above - light gray (N 7/0) to dusky yellow (5 Y 6/4), mottled, at times grading to Clayey Sandstone.
SANDSTONE:	Yellowish gray (5 Y 7/2) to dusky yellow (5 Y 6/4), mottled. Some 1 mm. iron stain laminations, mod. yellowish brown (10 YR 5/4). Trace silt. F.g. sand, sub-rounded to sub-angular, quartzose, well sorted. Some m.g. sand. Trace to some clay, no plasticity, unconsol., stiff, moist.
SANDSTONE:	Same as above - grading to Clayey Sandstone.
SANDY CLAYSTONE:	Grading to Claystone with some sand, low plasticity, moist.
CLAYSTONE:	Med. light gray (N 6/0) to dusky yellow (5 Y 6/4), mottled. Some iron staining, dark yellowish orange (10 YR 6/6). Some silt. Trace to some sand, f.g., quartzose. Low to med. plasticity, some blocky, stiff, moist.
NO SAMPLE:	NO SAMPLE.
CLAYSTONE:	Same as above (reference interval 37.0' to 38.0').

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 42.3	GROUND ELEVATION (FT):	5562.80	OLD WELL NUMBER:	64-89	LOG OF BORING NUMBER
NORTH:	749425	AREA: EAST TRENCHES	CASING DIAMETER (IN):	4.5 O.D.	GEOLOGIST:	TAL	B218789
EAST:	2086720	LOCATOR NUMBER: N9	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/16/89	

REMARKS: Hollow Stem Auger. Weston Log.

CHEMICAL DEPTH / GEOTECHN 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
				1.00 / 1.00	5922	40			SANDY CLAYSTONE	Same as above (reference interval 32.0' to 34.0'). 1 mm. to 2 mm. sand laminations, med. light gray (N 6/0). F.g. to m.g. sand, sub-rounded to sub-angular, mod. sorted, quartzose, grading to Clayey Sandstone at 40.98'.
				0.00 / 1.00	5921	41			NO SAMPLE	NO SAMPLE.
				0.30 / 0.30		42			SANDY CLAYSTONE	Same as above (reference interval 40.0' to 41.0').
									CLAYEY SANDSTONE	Same as above.
					5920	43				Total Drilled Depth = 42.3'.
					5919	44				
					5918	45				
					5917	46				
					5916	47				
					5915	48				
					5914	49				
					5913	50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 54	GROUND ELEVATION (FT) 5950.30	OLD WELL NUMBER 66-89BR	LOG OF BORING NUMBER:	
NORTH: 749510	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	B218989	
EAST 2087792	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED 11/27/89		

REMARKS: Hollow Stem Auger 5 5/8" surface casing set to 54.0' on 11/28/89 by S.P. Carpenter. Borehole backfilled with volclay grout to surface. ASI Log.

CHEMICAL 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
	B218989002 B218989003			1.30 /2.00	5950 5949	0 1			GW:	Well Graded Gravel - mod. brown (5 YR 3/4) to dark reddish brown (10 R 3/4). Gravel to max. size of 2 in., some appears to be crushed rock. Dom. lithology quartzite, some quartz and feldspar. Angular to sub-angular, some roots. (Gravel with some Sand and trace Fines). 80% gravel, >15% sand, <5% fines.
				1.30 /2.00	5948 5947	2 3			GW:	Well Graded Gravel - matrix (sand) - mod. reddish brown (10 R 4/6) in top 6 in., grading to grayish brown (5 YR 3/2) in middle of core, to grayish orange (10 YR 7/4) in bottom half of core (calcareous caliche). Gravel to 1.75 in. Dom. lithology quartzite, sub-angular to angular. V.c.g. sand, pred. angular to sub-angular quartzite with quartz and feldspar. Coarse to fine sand, sub-rounded. Pred. quartz, feldspar, some mica. Interval well weathered. (Sandy Gravel with trace Fines). 70% gravel, >25% sand, <5% fines.
	B218989406 B218989307			0.90 /2.00	5946 5945	4 5			SW:	Well Graded Sand with Gravel - mod. yellowish brown (10 YR 5/4). V.c.g. sand, sub-angular, pred. quartz and quartzite. Coarse to fine sand, sub-rounded, pred. quartz, some feldspar, trace mica. Gravel sub-angular to angular, pred. quartzite. One quartz pebble at 3 in., avg. size approx. 0.5 in. Interval calcareous, well weathered. Fines pred. silt, low plasticity. (sw-sm) (Gravelly Sand with some Fines) 45% gravel, <50% sand, >5% fines.
				0.90 /2.00	5944 5943	6 7			SW:	Well Graded Sand - same as above, color change to pred. light brown (5 YR 5/6), calcareous, well weathered. (sw-sm) (Gravelly Sand with some Fines). 40% gravel, <55% sand, >5% fines.
	B218989810 B218989711			0.90 /2.00	5942 5941	8 9			SW:	Well graded Sand - same as above, less gravel, calcareous, well weathered (Gravelly Sand with trace Fines) 30% gravel, >65% sand, <5% fines.
						10				

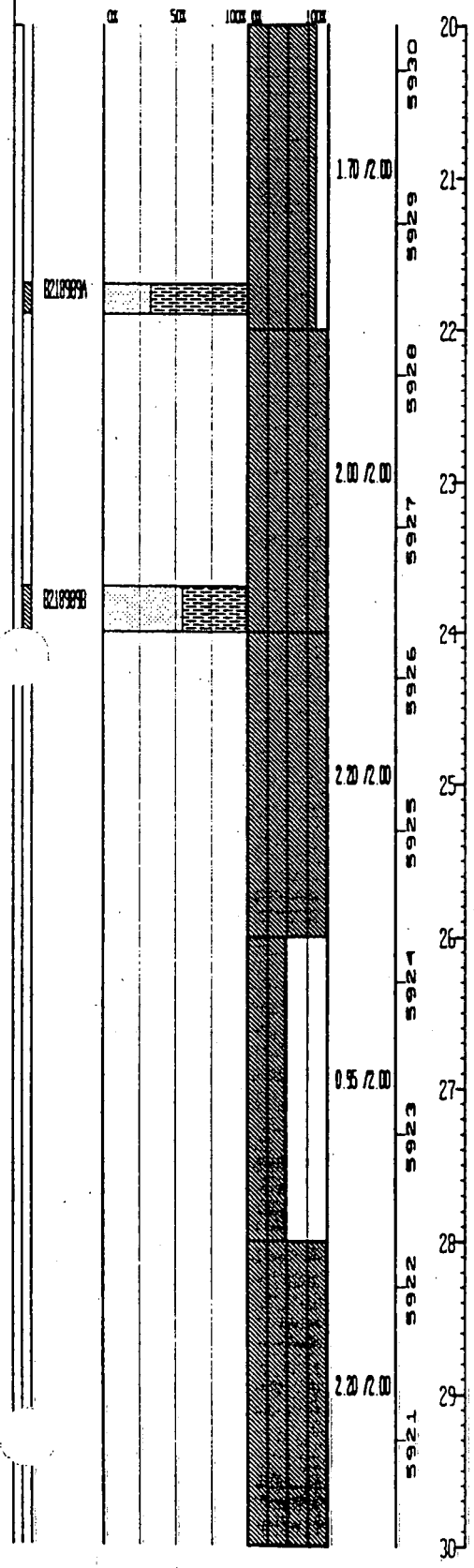
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 54	GROUND ELEVATION (FT): 5950.30	OLD WELL NUMBER: 66-89BR	LOG OF BORING NUMBER:	
NORTH: 749510	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: F.GRIGSBY	B218989	
EAST: 2087792	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/27/89		

REMARKS: Hollow Stem Auger. 5 5/8" surface casing set to 54.0' on 11/28/89 by S.P. Carpenter. Borehole backfilled with volclay grout to surface. ASI Log.

CHEMICAL SAMPLE DEPTH / GEOTECH 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
					5940	10			SW:	One 2.75 in. quartzite pebble and well sorted sand. Assuming this interval was same as 8.0' to 10.0'.
				0.10 /2.00	5939	11				
					5938	12			NO SAMPLE:	NO SAMPLE.
	B2189891214									
	B2189891115			0.00 /2.00	5937	13				
	[illegible]891518				5936	14				
				0.00 /2.00	5935	15				
					5934	16			SW:	Well graded Sand - mod. brown (5 YR 4/4), fragments of yellowish gray (5 Y 7/2) claystone at bottom of core. Same as interval from 8.0' to 10.0', but less gravel and non-calcareous, well weathered. Top of Bedrock at 17.4'. (Gravelly Sand with trace Fines). 25% gravel, >70% sand, <5% fines.
				1.20 /2.00	5933	17				
					5932	18			SILTY CLAYSTONE:	Yellowish gray (5 Y 7/2) with some dark yellowish orange (10 YR 6/6) mottling (Fe staining). Trace Mn, mod. friable when dry, very friable when wet. >95% fines.
	B2189891820			0.85 /1.00						
	[illegible]91920			0.80 /1.00	5931	19				
						20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 54	GROUND ELEVATION (FT)	5950.30	OLD WELL NUMBER	66-89BR	LOG OF BORING NUMBER
NORTH:	749510	AREA: EAST TRENCHES	CASING DIAMETER (IN):		GEOLOGIST:	F GRIGSBY	B218989
EAST:	2087792	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):		DATE DRILLED	11/27/89	

REMARKS: Hollow Stem Auger. 5 5/8" surface casing set to 54.0' on 11/28/89 by S.P. Carpenter. Borehole backfilled with volclay grout to surface. ASI Log.



CLAYEY SILTSTONE: Yellowish gray (5 Y 7/2) with dark yellowish orange (10 YR 6/6) mottling (Fe staining-hematite). Slightly friable when dry, mod. friable and sticky when wet. Porosity <15% (est). No apparent bedding, some drilling induced fractures. >95% fines.

CLAYEY SILTSTONE: Yellowish gray (5 Y 7/2), same as above grading to Clayey Sandstone, varying from yellowish gray (5 Y 7/2) to dusky yellow (5 YR 6/4) (due to hematite staining). Sand cross bedded, mod. friable when dry, friable when wet. Mod. abundt. dark minerals in sand. Sand v.f.g., est. porosity <20%. >95% fines grading to 60% sand, 40% fines.

CLAYSTONE: Light olive gray (5 Y 6/1) with heavy Mn staining. >95% fines.

CLAYEY SILTSTONE: Pale yellowish gray (5 Y 7/2) with dark yellowish orange (10 YR 6/6) Fe mottling. Some Mn staining. >95% fines.

CLAYEY SILTSTONE: Yellowish gray (5 Y 7/2) with mod. yellowish brown (10 YR 5/4) mottling (Fe staining). Est. porosity at approx. 15%, mod. friable when dry, mod. to friable when wet. >95% fines.

SILTY CLAYSTONE: Very light gray (N7) with grayish orange (10 YR 7/4) mottling (disseminated hematite staining). No apparent bedding. >95% fines.

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 54	GROUND ELEVATION (FT): 5950.30	OLD WELL NUMBER: 66-89BR	LOG OF BORING NUMBER:	
NORTH: 749510	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	B218989	
EAST: 2087792	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/27/89		

REMARKS: Hollow Stem Auger. 5 5/8" surface casing set to 54.0' on 11/28/89 by S.P. Carpenter. Borehole backfilled with volclay grout to surface. ASI Log.

CHEMIC/ GEOTEC	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
					5920	30			CLAYSTONE:	Some silt. Light olive gray (5 Y 6/1) with dark yellowish orange (10 YR 6/6) Fe staining and coating on bedding or fracture planes. Possible very poorly defined bedding planes. Indication of healed vertical fractures with hematite filling or coatings. Trace of carbon and Mn. >95% fines.
				2.10 /2.00	5919	31				
					5918	32				
				1.90 /2.00	5917	33			CLAYSTONE:	Color change to grayish orange (10 YR 7/4) to pale yellowish brown (10 YR 6/2) with dark yellowish orange zones. >95% fines.
									SILTY CLAYSTONE:	Very light gray (N7), sparse Fe staining. Trace carbon near upper contact. >95% fines.
					5916	34			SILTY CLAYSTONE:	Light olive gray (5 Y 6/1) with dark yellowish orange (10 YR 6/6) mottling from Fe (hematite) staining and coatings. Abundt. carbon, some Mn staining. No apparent bedding. Drilling induced fractures. >95% fines.
				1.80 /2.00	5915	35				
					5914	36			CLAYSTONE:	Pale yellowish brown (10 YR 6/2) to pale brown (5 YR 5/2) to approx. 39.0'. Color changes to light olive gray (5 Y 6/1), trace carbon. Some slightly silty zones, no apparent bedding. Drilling induced fractures, some very spotty Fe stains. >95% fines.
				2.00 /2.00	5913	37				
					5912	38				
				2.00 /2.00	5911	39				
						40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 54	GROUND ELEVATION (FT): 5950.30	OLD WELL NUMBER: 66-898R	LOG OF BORING NUMBER:
NORTH:	749510	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: F.GRIGSBY	B218989
EAST:	2087792	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/27/89	

REMARKS: Hollow Stem Auger. 5 5/8" surface casing set to 54.0' on 11/28/89 by S.P. Carpenter. Borehole backfilled with volclay grout to surface. ASI Log.

CHEMICAL GEOTECH	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
				1.00/1.00	5910	40			CLAYSTONE:	Light olive gray (5 Y 6/1) with dark yellowish orange (10 YR 6/6), mottling (hematite staining). Heavy Fe staining at 40.0' to 40.6', 41.0' to 42.0', 43.3' to 44.0'. Trace carbon, no apparent bedding. Heavy drilling induced fracturing. >95% fines.
				1.00/1.00	5909	41				
				0.85/1.00	5908	42				
				1.00/1.00	5907	43				
				1.00/1.00	5906	44				
				0.40/0.40	5905	45				
				0.40/0.60					CLAYSTONE:	Olive gray (5 Y 4/1) to approx. 45.8'. Color change to light olive brown (5 Y 5/6) to 48.2'. Dark yellowish orange (10 YR 6/6) mottling prevalent in lower section (45.8' to 48.2'). Prominent color change to grayish orange (10 YR 7/4) with dark yellowish orange (10 YR 6/6) (iron stained).
				0.55/1.00	5904	46				
				1.00/1.00	5903	47			CLAYSTONE:	Color change to grayish orange (10 YR 7/4) with dark yellowish orange (10 YR 6/6) to 49.0'. Iron stained.
				0.50/1.00	5902	48				
				1.00/1.00	5901	49			CLAYSTONE:	Dusky yellowish brown (10 YR 2/2) from 49.0' to 54.0'. Possible poorly developed flat bedding planes and convoluted structure. Trace carbon, drilling induced fractures/slickensides.
						50				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT) 54	GROUND ELEVATION (FT): 5950.30	OLD WELL NUMBER: 66-89BR		LOG OF BORING NUMBER:
NORTH: 749510		AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: F.GRIGSBY		B218989
EAST: 2087792		LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/27/89		

REMARKS: Hollow Stem Auger. 5 5/8" surface casing set to 54.0' on 11/28/89 by S.P. Carpenter. Borehole backfilled with volclay grout to surface. ASI Log.

CHEMICAL DEPTH / GEOTECH. 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% OR 100%	1.00 /1.00	5900	50				
				1.00 /1.00	5899	51				
				1.00 /1.00	5898	52				
				1.00 /1.00	5897	53				
					5896	54				Total Drilled Depth = 54.0'
					5895	55				
					5894	56				
					5893	57				
					5892	58				
					5891	59				
						60				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 52.0	GROUND ELEVATION (FT)	5948.00	OLD WELL NUMBER:	67898R	LOG OF BORING NUMBER
NORTH:	749548	AREA: EAST TRANCHES	CASING DIAMETER (IN):		GEOLOGIST:	SPC	B219789
EAST:	2087980	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):		DATE DRILLED:	01/22/90	

REMARKS: Hollow Stem Auger. Borehole was grouted to surface with volclay bentonite grout and abandoned on January 24, 1990. Weston Log.

GEOTECHNICAL 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			CL:	Gravelly Sand and Clay - dark reddish brown (10 R 3/4), mod. brown (5 YR 3/4). Non-stratified, f.g. to c.g. quartzose sand. 1-4 cm. gravels, poor sorting, sub-rounded, low plasticity, stiff, moist.
	B3197890002			2.00 /2.00	5947	1				
	B2197890003				5946	2			ML:	Gravelly Sandy Silt - mod. orange pink (5 YR 8/4), mod. brown (5 YR 4/4). f.g. to c.g. quartzose sand. 1-6 cm. gravels, poor sorting, sub-rounded to sub-angular, non-plastic, calcareous, dense, dry.
				2.00 /2.00	5945	3			SW:	Gravelly Silty Sand - light brown (5 YR 5/6), mod. orange pink (5 YR 8/4). Non-stratified, f.g. to v.c.g. quartzose sand. 1 - 4 cm. gravels, some clay, poor sorting, sub-angular, calcareous, dense, dry to damp.
					5944	4				
	B3197890006								SW:	Gravelly Silty Sand - same as above.
	B3197890007			1.00 /2.00	5943	5				
					5942	6			SW:	Gravelly Sand - mod. yellowish brown (10 YR 5/4), light brown (5 YR 5/6). Non-stratified, f.g. to v.c.g. sand. 1-7 cm. gravels, some silt, some clay, poor sorting, sub-angular to sub-rounded, quartzose, low to no plasticity, dense, moist to damp.
				1.60 /2.00	5941	7				
					5940	8			SW:	Gravelly Sand - same as above with light brown (5 YR 4/4) to mod. brown (5 YR 4/4). 1-4 cm. gravels, low plasticity, f.g. to v.c.g. sand, some clay, some silt, poorly sorted, dense, damp to moist.
	B3197890009									
	B3197890011			1.10 /2.00	5939	9				
						10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 52.0	GROUND ELEVATION (FT):	5948.00	OLD WELL NUMBER:	67898R	LOG OF BORING NUMBER
NORTH:	749548	AREA: EAST TRANCHES	CASING DIAMETER (IN):		GEOLOGIST:	SPC	B219789
EAST:	2087980	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):		DATE DRILLED:	01/22/90	

REMARKS: Hollow Stem Auger. Borehole was grouted to surface with volclay bentonite grout and abandoned on January 24, 1990. Weston Log.

CHEMICAL GEOTECH	SAMPLE	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%		5938	10			SM:	Silty Sand - grayish orange (10 YR 7/4), pale red (10 R 6/2). Banded, non-stratified, f.g. to v.c.g. sand, some 1 - 2 cm. gravels, trace clay, poorly sorted, sub-angular, granitic to quartzose, low to no plasticity, some iron staining, trace caliche, dense, dry.
					1.00 /2.00	5937	11				
						5936	12			SC:	Clayey Sand - light brown (5 YR 5/6), mod. reddish brown (10 R 4/6). Non-stratified, f.g. to v.c.g. sand, some 1-4 cm. gravels, some to trace silt, poor sorting, sub-angular, quartzose, low plasticity, dense, moist
	03197891214				2.00 /2.00	5935	13				
	03197891115					5934	14			SW:	Gravelly Sand - light brown (5 YR 5/6), dark yellowish orange (10 YR 6/6). Banded, f.g. to v.c.g. sand, 1-5 cm. gravels, some silt, some clay, poorly sorted, sub-angular, quartzose to granitic, non-plastic, iron staining, dense, damp to moist.
					1.60 /2.00	5933	15				
						5932	16			SC:	Clayey Sand - pale reddish brown (10 YR 5/4), mod. reddish brown (10 YR 5/4). Mottled, f.g. to v.c.g. quartzose sand, some 1-3 cm. gravels, some silt, poorly sorted, sub-angular, low plasticity, some iron staining, dense, moist.
	03197891518										
	03197891618				1.50 /2.00	5931	17				
						5930	18			CL:	Sandy Clay - mod. reddish brown (10 R 4/6), yellowish gray (5 Y 7/2). Mottled, f.g. to v.c.g. quartzose sand, some gravels, poor sorting, sub-angular, low to med. plasticity, very stiff, moist.
					2.00 /2.00	5929	19				
	03197891822						20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 52.0	GROUND ELEVATION (FT) 5948.00	OLD WELL NUMBER 678998	LOG OF BORING NUMBER
NORTH	749548	AREA EAST TRANCHES	CASING DIAMETER (IN)	GEOLOGIST SPC	B219789
EAST	2087980	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/22/90	

REMARKS: Hollow Stem Auger. Borehole was grouted to surface with volclay bentonite grout and abandoned on January 24, 1990. Weston Log.

CHEMICAL GEOTECH	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
	B3197891822				5928	20			CL	Sandy Clay - same as above. Some gravel to gravelly, trace cobbles.
	B3197892022			2.00 /2.00	5927	21				
					5926	22			CL	Gravelly Sandy Clay - same as above. Light brown (5 YR 5/6).
				2.00 /2.00	5925	23			SC	Clayey Sand to Clay and Sand - light brown (5 YR 5/6). Non-stratified, f.g. to some v.c.g. quartzose sand, trace gravels, some silt, poorly sorted, sub-rounded, low to med. plasticity, dense, moist.
	B3197892226				5924	24			SC	Sandy Clay to Sand and Clay - light brown (5 YR 5/6), mod. brown (5 YR 4/4), and yellowish gray (5 Y 7/2). Mottled, f.g. to trace c.g. sand, trace gravels, claystone inclusions, med. plasticity, stiff, moist.
	B3197892426			2.00 /2.00	5923	25				
					5922	26			CL	Sandy Clay - same as above.
				0.20 /2.00	5921	27				
					5920	28			CL	Sandy Clay - light brown (5 YR 6/4), pale yellowish brown (10 YR 6/2). Mottled, grading from some sand to sandy. Some 1-2 cm. gravels, poorly sorted, sub-angular, quartzose, low to med. plasticity, stiff to very stiff, moist.
	B3197892830			2.00 /2.00	5919	29				
	B3197892632					30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT) 52.0	GROUND ELEVATION (FT) 5948.00	OLD WELL NUMBER: 67898R	LOG OF BORING NUMBER:	
NORTH: 749548	AREA: EAST TRANCHES	CASING DIAMETER (IN):	GEOLOGIST: SPC,	B219789	
EAST: 2087980	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/22/90		

REMARKS: Hollow Stem Auger. Borehole was grouted to surface with volclay bentonite grout and abandoned on January 24, 1990. Weston Log.

GEOTECHNICAL 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
	B3197892632	0% 50% 100%	0% 100%		5918	30			CL:	Sandy Clay - same as above.
				2.00 /2.00	5917	31			CL:	Sandy Clay - light olive gray (5 Y 6/1), light gray (N 7/0), grayish orange (10 YR 7/4). Mottled, f.g. to c.g. sand. Some 1-4 cm. gravels, poorly sorted, sub-angular, granitic med. plasticity, reworked claystone, very stiff to hard, moist.
					5916	32			CL:	Sandy Clay - same as above. Light brown (5 YR 5/6), yellowish gray (5 Y 8/1). Abundt. iron staining.
	B3197893234			2.00 /2.00	5915	33				
	B3197893236				5914	34			CL:	Sandy Clay - same as above. Light olive gray (5 Y 6/1), light brown (5 YR 5/6).
				2.00 /2.00	5913	35				
					5912	36			CL:	Sandy Clay - same as above.
				0.00 /2.00	5911	37				
					5910	38			SC:	Gravelly Clayey Sand - dark yellowish orange (10 YR 6/6), light brown (5 YR 5/6), pale yellowish brown (10 YR 5/6). Mottled, f.g.-v.c.g. quartzose sand, 1-4 cm. gravels, trace clay to silt in wet layers, poorly sorted, sub-rounded, low to no plasticity, claystone inclusions, iron staining, med. hard, damp.
	B3197893840			2.00 /2.00	5909	39	01/22/90 ▽			
						40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 52.0	GROUND ELEVATION (FT) 5948.00	OLD WELL NUMBER 678988	LOG OF BORING NUMBER
NORTH	749548	AREA EAST TRANCHES	CASING DIAMETER (IN)	GEOLOGIST SPC	B219789
EAST	2087980	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)	DATE DRILLED 01/22/90	

REMARKS: Hollow Stem Auger. Borehole was grouted to surface with volclay bentonite grout and abandoned on January 24, 1990. Weston Log.

CHEMICAL SAMPLE DEPTH | GEOTECH 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)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
2.00 /2.00	5907	41	SILTY CLAYSTONE	Silty Claystone - brownish gray (5 YR 4/1), light olive gray (5 Y 5/3), light gray (N 7/0). Blocky, non-stratified, some v.f.g. to f.g. sand to sandy, med. plastic, dark yellowish orange (10 YR 6/6), iron staining, med. hard, damp.
1.00 /1.00	5906	42	SILTY CLAYSTONE	Silty to Sandy Claystone - same as above, with sand.
0.00 /1.00	5905	43	SILTY CLAYSTONE	Silty Claystone - same as above.
1.00 /1.00	5904	44	CLAYSTONE	Claystone - olive gray (5 Y 4/1), light brownish gray (5 YR 6/1). Blocky, trace silt, trace sand, med. to high plasticity, scattered iron staining in bands, med. hard, damp.
1.00 /1.00	5903	45	CLAYSTONE	Claystone - same as above. Light olive gray (5 Y 6/1).
0.00 /1.00	5902	46	CLAYSTONE	Claystone - same as above.
0.00 /1.00	5901	47	CLAYSTONE	Claystone - same as above.
0.00 /1.00	5900	48	CLAYSTONE	Claystone - same as above.
1.00 /1.00	5899	49	SILTY CLAYSTONE	Silty Claystone - dark gray (N 3/0), brownish gray (5 YR 4/1). Mottled, blocky, med. plasticity, hard, damp.

50

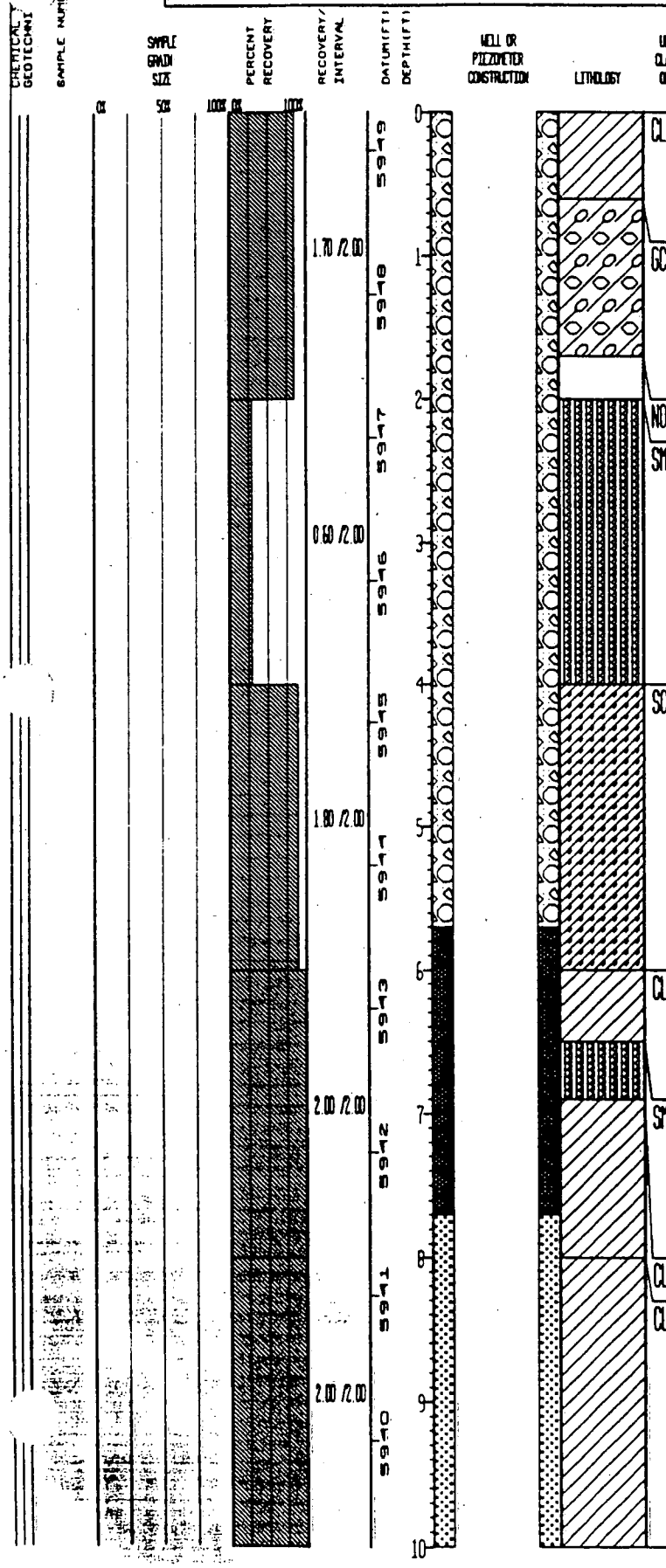
STATE PLANE COORDINATE	TOTAL DEPTH (FT) 52.0	GROUND ELEVATION (FT): 5948.00	OLD WELL NUMBER: 6789BR	LOG OF BORING NUMBER:	
NORTH: 749548	AREA EAST TRANCHES	CASING DIAMETER (IN):	GEOLOGIST: SPC	B219789	
EAST: 2087980	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 01/22/90		

REMARKS: Hollow Stem Auger. Borehole was grouted to surface with volclay bentonite grout and abandoned on January 24, 1990. 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
				1.00/1.00	5898	50			SILTY CLAYSTONE	Silty Claystone - same as above. Brownish black (5 YR 2/1). Slightly carbonaceous, trace iron staining.
				1.00/1.00	5897	51			SILTY CLAYSTONE	Silty Claystone - same as above. Med. gray (N 5/0), med. dark gray (N 4/0), no iron staining.
					5896	52				Total Drilled Depth = 52.0'.
					5895	53				
					5894	54				
					5893	55				
					5892	56				
					5891	57				
					5890	58				
					5889	59				
						60				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 18.0	GROUND ELEVATION (FT)	5949.27	OLD WELL NUMBER	71-89	LOG OF BORING NUMBER
NORTH	749938	AREA EAST TRENCHES	CASING DIAMETER (IN)	2 3/8 O.D.	GEOLOGIST	TAL	B220189
EAST	2087001	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)	11	DATE DRILLED	02/08/90	

REMARKS: Hollow Stem Auger. Weston Log.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.
GC:	Clayey Sandy Gravel - pale red (10 R 6/2) to grayish red (10 R 4/2), non-laminated, mottled. 1 cm. to 5 cm., sub-rounded to broken, lithic and quartzite gravels. F.g. to c.g. quartzose sand, sub-angular to sub-rounded. Trace to some clay, non to low plasticity, very stiff, dry.
NO SAMPLE:	NO SAMPLE.
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.
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, stiff, dry.
CL:	Clay - light olive gray (5 Y 6/1) to light brownish gray (5 YR 6/1), non-laminated, mottled, med. plastic. Caliche, yellowish gray (5 Y 8/1), strong HCl reaction. Trace gravel, dry.
SM:	Clayey Silty Sand - light brown (5 YR 6/4) to light brown (5 YR 5/6), non-laminated, mottled. F.g. to m.g. sand, sub-angular to sub-rounded. Caliche, mod. orange pink (5 YR 8/4), strong HCl reactions. Silty, trace to some clay, no plasticity, stiff, dry.
CL:	Clay - same as above (reference interval 6.0' to 6.5').
CL:	Clay - light olive gray (5 Y 6/1) to greenish gray (5 GY 6/1), non-laminated, mottled. Trace silt, iron staining, med. plastic. Caliche, bluish white (5 B 9/1), strong HCl reaction. Dense, dry.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 18.0	GROUND ELEVATION (FT): 5949.27	OLD WELL NUMBER: 71-89	LOG OF BORING NUMBER:	
NORTH 749938	AREA: EAST TRENCHES	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: TAL		
EAST: 2087001	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN): 11	DATE DRILLED: 02/08/90	B220189	
REMARKS: Hollow Stem Auger. Weston Log.					

CHEMICAL SAMPLE DEPTH / GEOTECH SAMPLE DEPTH	SAMPLE GRADE SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			2.00 /2.00	5939	10			CL:	Clay - same as above. Reworked Claystone
				5938	11				
			2.00 /2.00	5937	12			CL:	Clay - same as above.
				5936	13				
			1.00 /2.00	5935	14			CL:	Silty Clay - light olive gray (5 Y 6/1) to light brownish gray (5 YR 6/1), non-laminated, mottled. Reworked Claystone. Trace to some silt. Trace v.f.g. sand. Iron staining, grayish orange (10 YR 7/4). Trace to some caliche, slight to mod. HCl reaction, dense, dry.
				5934	15			CL:	Silty Clay - same as above. No caliche. Trace f.g. quartzose sand.
								NO SAMPLE:	Top of Bedrock.
			2.00 /2.00	5933	16			SILTY SANDSTONE:	Silty Clayey Sandstone - light olive gray (5 Y 6/1) to grayish orange (10 YR 7/4), some very pale orange (10 YR 8/2), mottled. Fine laminations, iron staining. Silty. V.f.g. to f.g. sand, sub-rounded to sub-angular. Clayey, low plasticity, dense, mod. consol., trace calcareous, mod. HCl reaction, some fractures, locally to Silty Sandy Claystone, dry.
				5932	17				
				5931	18				Total Drilled Depth = 18.0'
				5930	19				
					20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 28.6	GROUND ELEVATION (FT): 5958.19	OLD WELL NUMBER: 74-89	LOG OF BORING NUMBER:	
NORTH: 749555	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: TAL	B220489	
EAST: 2087096	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 02/22/90		

REMARKS: Hollow Stem Auger. Borehole not lithologically logged per E&G (02/20/90) Weston Log.

CHEMICAL / GEOTECHN	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
					54	0			NO SAMPLE:	NO SAMPLE.
					53	1				
					52	2				
					51	3				
					50	4				
				0.00 /10.00	49	5				
					48	6				
					47	7				
					46	8				
					45	9				
						10				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 28.6	GROUND ELEVATION (FT): 5958.19	OLD WELL NUMBER: 74-89	LOG OF BORING NUMBER:	
NORTH: 749555	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: TAL		
EAST 2087096	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 02/22/90		

REMARKS Hollow Stem Auger. Borehole not lithologically logged per EG&G (02/20/90). Weston Log.

B220489

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE #	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%			10			NO SAMPLE	NO SAMPLE
						11				
						12				
						13				
						14				
				0.00 /10.00		15				
						16				
						17				
						18				
						19				
						20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 28.6	GROUND ELEVATION (FT): 5958.19	OLD WELL NUMBER: 74-89	LOG OF BORING NUMBER:	
NORTH: 749555	AREA EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: TAL	B220489	
EAST: 2087096	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):	DATE DRILLED: 02/22/90		

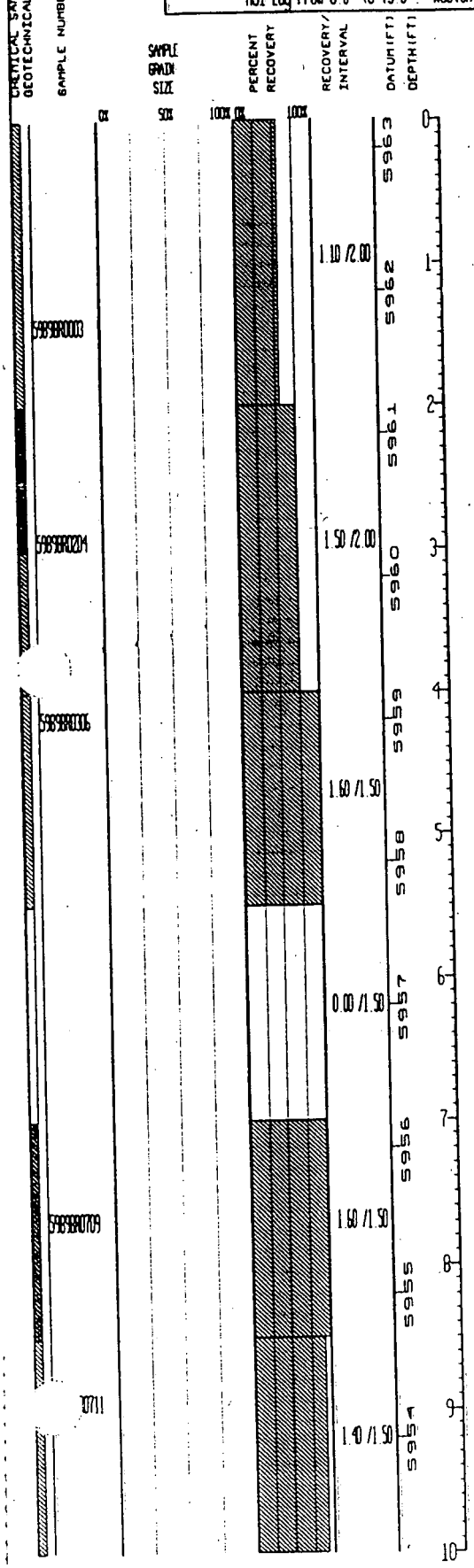
REMARKS: Hollow Stem Auger. Borehole not lithologically logged per EG&G (02/20/90). Weston Log.

CHEMICAL/ GEOTECHN	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
					34	20			NO SAMPLE:	NO SAMPLE.
					33	21				
					32	22				
					31	23				
				0.00 /8.60	30	24				
					29	25				
					28	26				
					27	27				
					26	28				
					25	29				
						30				

Total Drilled Depth = 28.6'.

STATE PLANE COORDINATE	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer
AST Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	GC	Gravel - Silty Clay matrix. Dark yellowish brown (10 YR 4/2). Gravel is granule size to 5 cm., angular to sub-angular. Some sand, v.f.g. to f.g., some silt. >50% gravel.
	GC	Gravel - matrix as above. Grades to caliche matrix. >50% gravel.
	GC	Gravel, caliche matrix. >50% gravel.
	NO SAMPLE	NO SAMPLE.
	GC	Clayey Gravel - matrix grayish orange (10 YR 7/4). Silty clay. Some CaCO3 (calcareous), gravel granule size to 5 cm. >50% gravel.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5953.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:
NORTH:	749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST:	2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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
	59898R1012				5953	10			GC:	Gravel - (clayey sandy) matrix - grayish orange (10 YR 7/4). Gravel poorly to mod. graded, angular to sub-angular, granules to 1 cm. Sand v.f.g. to c.g. >50% gravel.
				1.10 /2.00	5952	11				
					5951	12				
	59898R1115			0.70 /2.00	5950	13				
					5949	14			CL:	Silty Clay - very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 7/4). Some carbonaceous material, some CaCO3 (calcareous). >50% clay.
	59898R1416			1.50 /2.00	5948	15				
					5947	16				
	59898R1518			1.80 /2.00	5946	17				
					5945	18			CL:	Silty Clay - same as above.
				1.90 /2.00	5944	19			SILTY CLAYSTONE:	Top of Bedrock. Silty Claystone - color grades to mod. yellowish brown (5 YR 5/4). Highly friable, highly weathered. Some carbonaceous material, some CaCO3 (calcareous). Large silt content. Bedding appears irregular, horiz. Approx. 45% silt, approx. 50% clay.
						20				

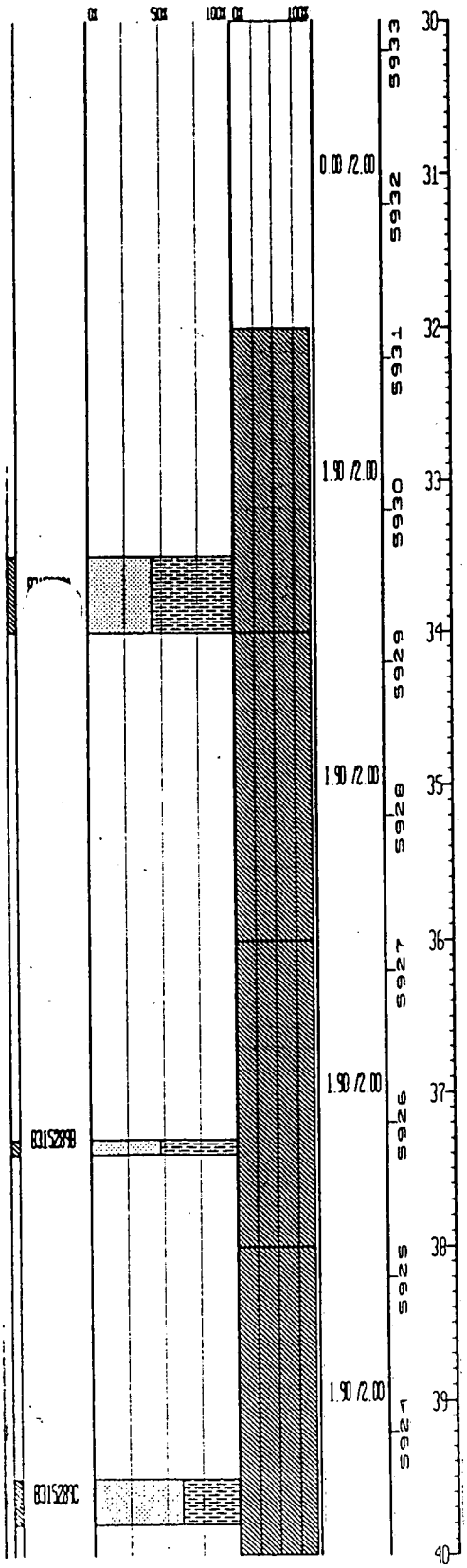
STATE PLANE COORDINATE	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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
					5943	20			SILTY CLAYSTONE:	Same as above - color grades very pale orange (10 YR 8/2) and dark yellowish orange (10 YR 6/6). Mod. friable, weathered. Bedding not evident. <45% silt, >50% clay.
				1.90 /2.00	5942	21				
					5941	22			SANDSTONE:	Very pale orange (10 YR 8/2) and dark yellowish orange (10 YR 6/6). Highly weathered, friable, porous. Sand v.f.g. to f.g., some clay. Bedding not evident. Some silt. (Sandstone with some Silt and Clay). 80% sand, 10% clay.
				1.90 /2.00	5940	23				
					5939	24				
				1.90 /2.00	5938	25				
					5937	26				
				1.90 /2.00	5936	27				
					5935	28				
				1.90 /2.00	5934	29				
						30				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

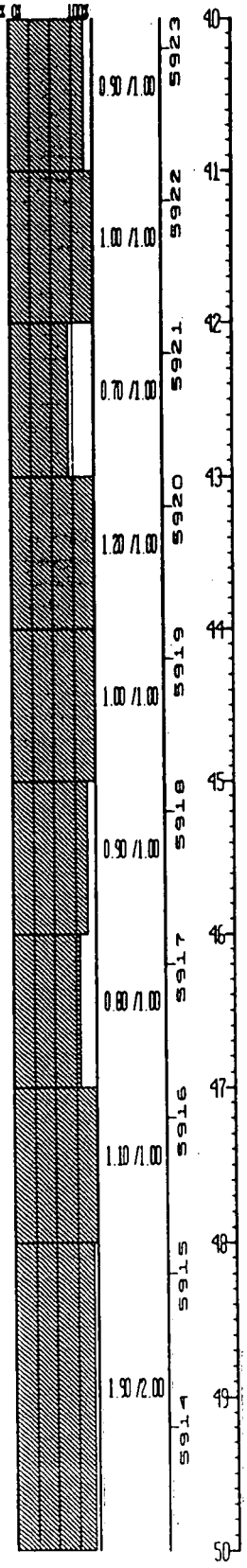


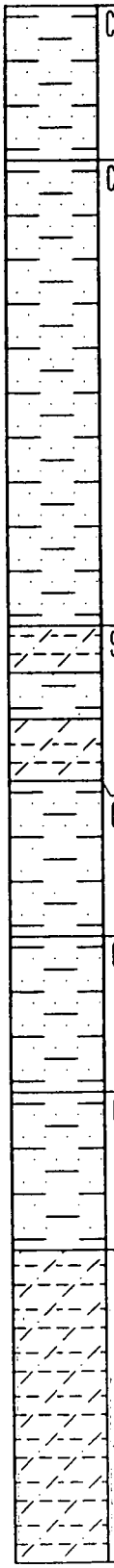
LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	NO SAMPLE:	NO SAMPLE.
	SANDSTONE:	Very pale orange (10 YR 8/2) to dark yellowish orange (10 YR 6/6). Highly weathered, friable. Bedding not evident. V.f.g. sand, some clay, some silt. (Sandstone with some Clay and Silt). 80% sand, 10% clay.
	SILTSTONE:	Very pale orange (10 YR 8/2). Bedding not evident. Mod. friable to friable. Some iron staining, some clay. Grades to v.f.g. Sandstone. Irregular, laminated bedding. All else the same. Sand v.f.g. to f.g., mod. porous. (Siltstone with some Clay). >80% silt, <10% clay.
	SILTSTONE:	Same as above. 80% silt, >10% clay.
	SILTSTONE:	Same as above - grading to Clayey Sandstone, f.g. to c.g. rounded grains.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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



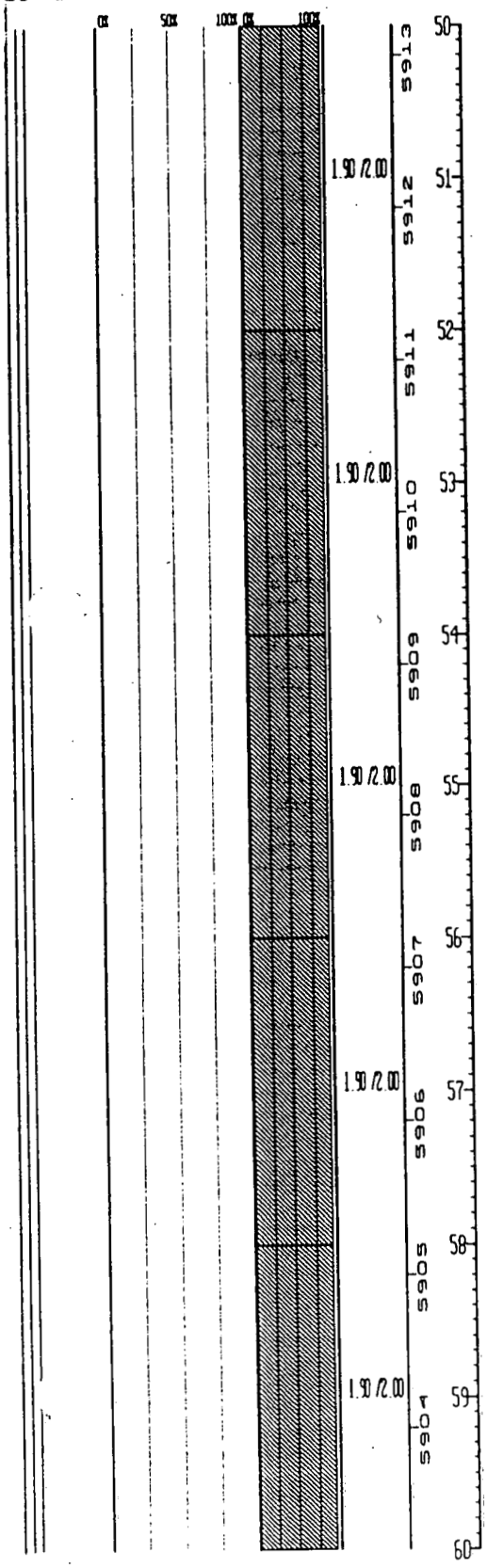


CLAYEY SANDSTONE	Very pale orange (10 YR 8/2) to grayish orange (10 YR 7/4). Poorly sorted, rounded grains, v.f.g. to m.g.
CLAYEY SANDSTONE	Same as above - some silt, mod. porous to porous. >50% sand, >20% clay.
SILTY CLAYSTONE	Light brownish gray (5 YR 8/1). Highly weathered, friable, interbedded (irregularly mottled) with Clayey Sandstone, v.f.g. to f.g. Some silt. Sandstone dark yellowish orange (10 YR 6/6). Some Fe staining. >70% clay.
CLAYEY SANDSTONE	Very pale orange (10 YR 6/6) to dark yellowish orange (10 YR 8/2). Highly weathered, friable. Bedding not evident. >50% sand.
CLAYEY SANDSTONE	Same as above - some carbonaceous material.
CLAYEY SANDSTONE	Same as above - grading to Silty Claystone, olive gray (5 Y 4/1). Weathered, irregular, horiz. laminations. Mod. friable, trace carbonaceous material. >50% clay.
SILTY CLAYSTONE	Same as above. >50% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

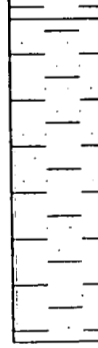
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE
PERCENT RECOVERY
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION



SILTY CLAYSTONE: Olive gray (5 Y 4/1). Mod. weathered, mod. friable. Trace carbonaceous material. Bedding not evident, some localized areas of silt.
>50% clay.

CLAYEY SANDSTONE: Light olive gray (5 Y 6/1). Sand v f.g. to m.g., mod. to well graded, rounded grains. Thinly laminated bedding. Some cross-stratification, trace carbonaceous material.
>50% sand.

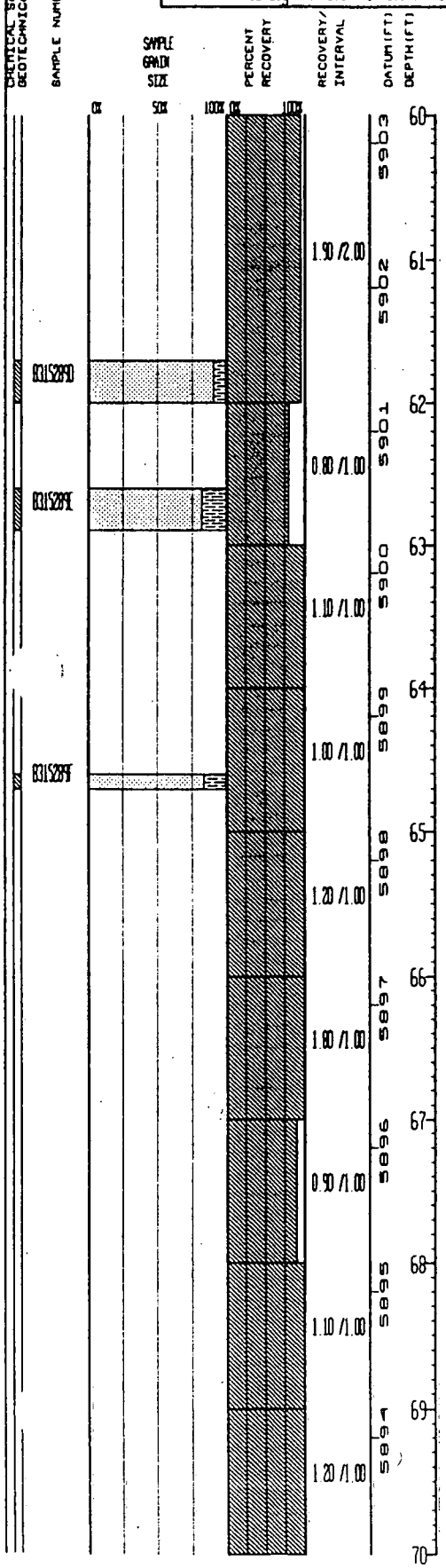
CLAYEY SANDSTONE: Same as above - color change to very pale orange (10 YR 8/2) and dark yellowish orange (10 YR 6/6).
0.3' of weathered Claystone at bottom of interval.
>50% sand.



CLAYEY SANDSTONE: Same as above - Clayey Sandstone, some iron staining.
>50% sand.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.



LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	CLAYEY SILTSTONE:	Grayish orange (10 YR 7/4). Friable, highly weathered. Bedding not evident. Grades to Clayey Sandstone. V.f.g. sand, well graded, rounded grains to f.g., porous. >50% silt.
	SILTY SANDSTONE:	Same as above - Silty Sandstone instead of Clayey. Some iron staining. >50% sand.
	SILTY SANDSTONE:	Silty Clayey Sandstone with Silty Claystone areas. Sandstone as above. Claystone brownish gray (2 Y 4/1). Irreg. bedding, laminated, friable. 50% sand.
	SANDSTONE:	Grayish orange (10 YR 7/4). Med. size grains, poorly graded, rounded grains. Bedding not evident, porous, friable. Some iron staining. >50% sand.
	CLAYSTONE:	Abrupt change to brownish gray (5 Y 4/1). Slightly friable. Bedding not evident, trace carbonaceous material. >70% clay.
	CLAYSTONE:	Same as above - .1 in. area of abundt. organic (carbonaceous material).
	CLAYSTONE:	Same as above - color change to light olive gray (5 Y 6/1), fewer organics.
	CLAYSTONE:	Same as above - some black carbonaceous material.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5963.20	OLD WELL NUMBER:	59-898R	LOG OF BORING NUMBER:
NORTH:	749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):		GEOLOGIST:	LAH	B315289
EAST:	2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):		DATE DRILLED:	11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50%	100% 0% 100%	0.90 /1.00	5893	70			CLAYSTONE:	Brownish gray (5 YR 4/1). Bedding not evident. Slightly to mod. friable. Some carbonaceous material, trace silt (Claystone with trace Silt). 5% silt, >70% clay.
			0.90 /1.00	5892	71				
			1.00 /1.00	5891	72			CLAYSTONE:	Same as above - grading to Silty Claystone, light olive gray (5 Y 6/1). Bedding not evident. Mod. friable, trace carbonaceous material. >50% clay.
			2.00 /2.00	5890	73			CLAYSTONE:	Same as above - some silty areas. >50% clay.
			0.30 /0.30	5889	74				
			1.70 /1.70	5888	75			SILTY SANDSTONE:	Med. dark gray (N 4/0) to olive gray (5 Y 4/1), laminated. Trace carbonaceous laminations. V.f.g. (4.0 to 3.5 phi), well sorted. Sub-rounded to sub-angular, quartzose sand. Very hard, well cemented. Calcareous with a weak HCl reaction, dry. 35% silt
			0.50 /0.50	5887	76			CLAYEY SILTSTONE:	Dark greenish gray (5 GY 4/1). Massive, trace siderite nodules and laminations, trace sand, clay to 30%, trace carbonaceous laminations and fracture fill, mod. hard to hard. No HCl (calcareous) reaction.
			4.20 /4.00	5886	77			CLAYSTONE:	Dark greenish gray (5 GY 4/1). Trace silt, trace carbonaceous fragments, soft, low plasticity, no HCl (calcareous) reactions, damp.
				5885	78			SILTY CLAYSTONE:	Med. dark gray (N 4/0) to dark greenish gray (5 GY 4/1). Black, 2 mm. to 7 mm. thick siderite laminations, fractured and slickensided at various orientations. Silt to 35%. Trace carbonaceous material, mod. hard, no HCl (calcareous) reactions, damp.
				5884	79				
					80				

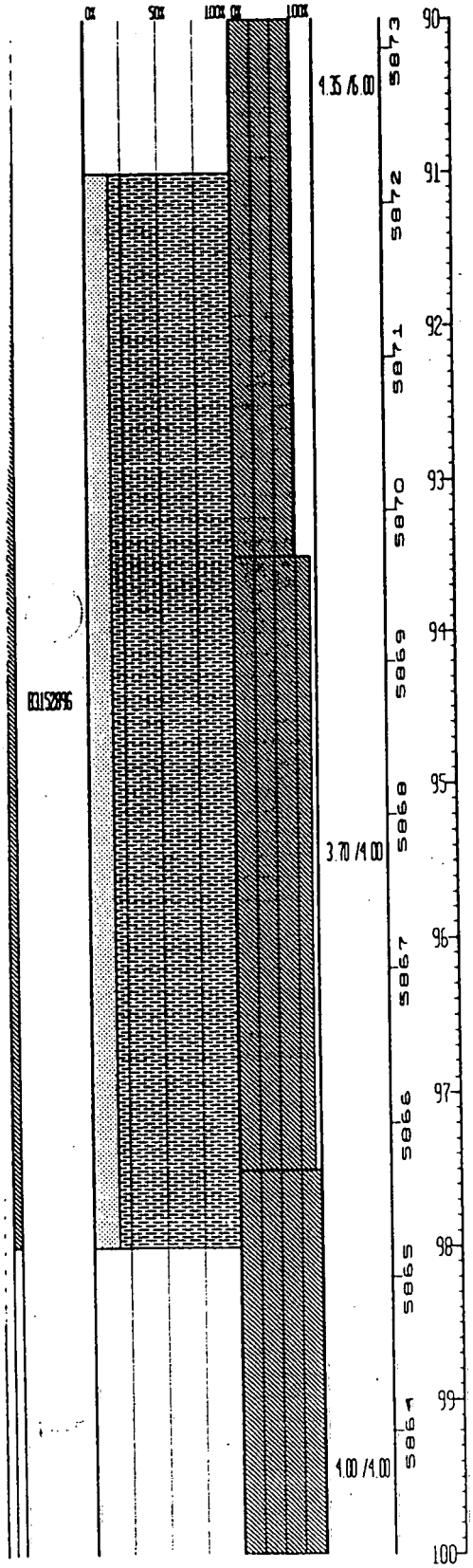
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH		
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		B315289

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

CHEMICAL SAMPLE / 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
					5883	80				
					5882	81				
					5881	82			SILTY CLAYSTONE	Same as above - with no siderite laminations, some slickensides to 70 degree orientation.
				3.70 /4.00	5880	83				
					5879	84				
					5878	85				
					5877	86			SILTY CLAYSTONE	Greenish black (5 G 2/1). Massive, some fractures to 20 degree orientation, silt to 35%. Trace carbonaceous material, hard, no HCl (calcareous) reactions, fresh, dry to damp.
				3.60 /2.00	5876	87				
					5875	88			CLAYSTONE	Med. dark gray (N 4/0) to med. gray (N 5/0). Blocky, trace silt to 10%, soft, high plasticity, no HCl (calcareous) reaction, wet.
					5874	89			SANDSTONE	Dark greenish gray (5 G 4/1). Laminated, some soft sediment deformation structures. Trace clay to 10%, trace silt to 10%, trace carbonaceous laminations. Predom. v.f.g. (4.0-3.0 phi), well sorted, rounded, quartzose sand, trace f.g. (3.0-2.5 phi), hard, no HCl (calcareous) reactions, damp to moist.
						90				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

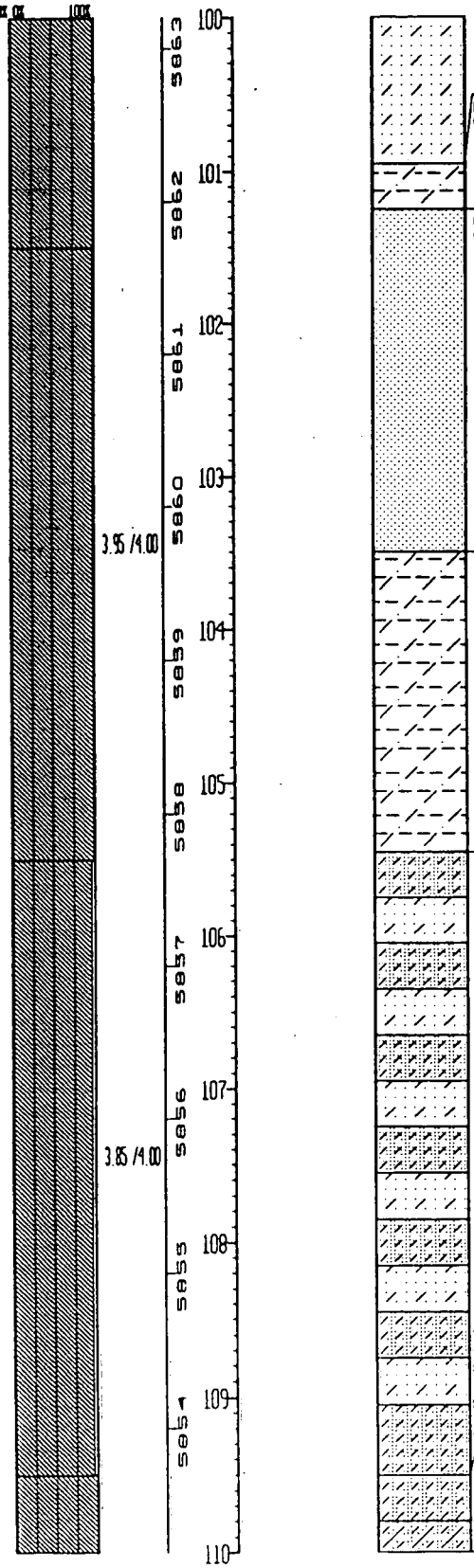


LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	SANDSTONE:	Same as above.
	SANDY SILTSTONE:	Dark greenish gray (5 G 4/1). Laminated, some soft sediment deformation structures, trace carbonaceous laminations, trace siderite laminations, silt to 35% grading to Siltstone with depth, some clay to 20%, v.f.g. (4.0-3.5 phi), well sorted, rounded, quartzose sand, well cemented, no HCl (calcareous) reaction, fresh, damp to moist.
	SILTY CLAYSTONE:	Dark greenish gray (5 G 4/1). Massive, blocky in part, silt to 35%, trace sand to 10%, trace carbonaceous material, soft, non-plastic, no HCl (calcareous) reactions, fresh.
	SILTY SANDSTONE:	Same as 94.05' to 97.2', with some clay to 20%. Grades to Siltstone with depth, no siderite.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

CHEMICAL SAMP GEOTECHNICAL 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: Medium dark gray (N 4/0). Massive, silt to 35%, trace carbonaceous material, mod. soft, non to low plasticity, no HCl (calcareous) reactions, fresh, damp.

SANDSTONE: Sandstone and Silty Sandstone - med. dark gray (N 4/0) to dark greenish gray (5 G 4/1). Laminated and interbedded, predom. v.f.g. to f.g. (4.0-3.0 phi), well sorted, sub-rounded, quartzose sand, well cemented, hard, no HCl (calcareous) reactions. Abundt. carbonaceous plant leaves and stems. Damp, becoming f.g., well sorted, sub-rounded, well cemented, calcareous with a weak to mod. HCl (calcareous) reaction at 103.01' to 103.5', very hard, damp.

SILTY CLAYSTONE: Dark greenish gray (5 G 4/1). Laminated to 10 mm. with siderite, blocky in part, some interbedded with Sandy Silty Claystone decreasing with depth, silt to 35%, trace carbonaceous plant material, hard, no HCl reactions, fresh, dry.

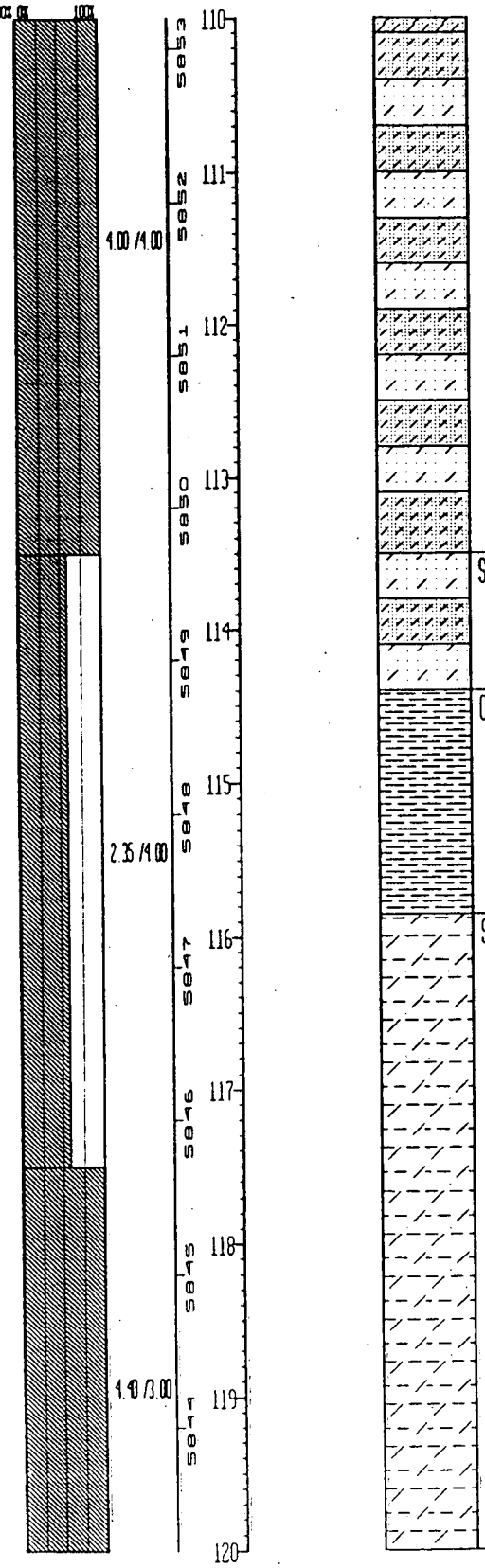
SANDY SILTSTONE: Sandy Siltstone and Silty Sandstone interbedded. Med. dark gray (N 4/0) to dark greenish gray (5 G 4/1), interbedded. Trace plant fossils, some clay to 20%, v.f.g. to f.g. (4.0-3.0 phi) well sorted, sub-angular to sub-rounded sand. Trace brown glossy mineral grains and weathered iron grains, well cemented, hard, no HCl (calcareous) reactions, fresh damp.

SANDY SILTSTONE: Sandy Siltstone and Silty Sandstone - same as above - predom. Sandstone, trace siderite nodules, trace carbonaceous laminations.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0' 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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



SILTY SANDSTONE: Same as above.

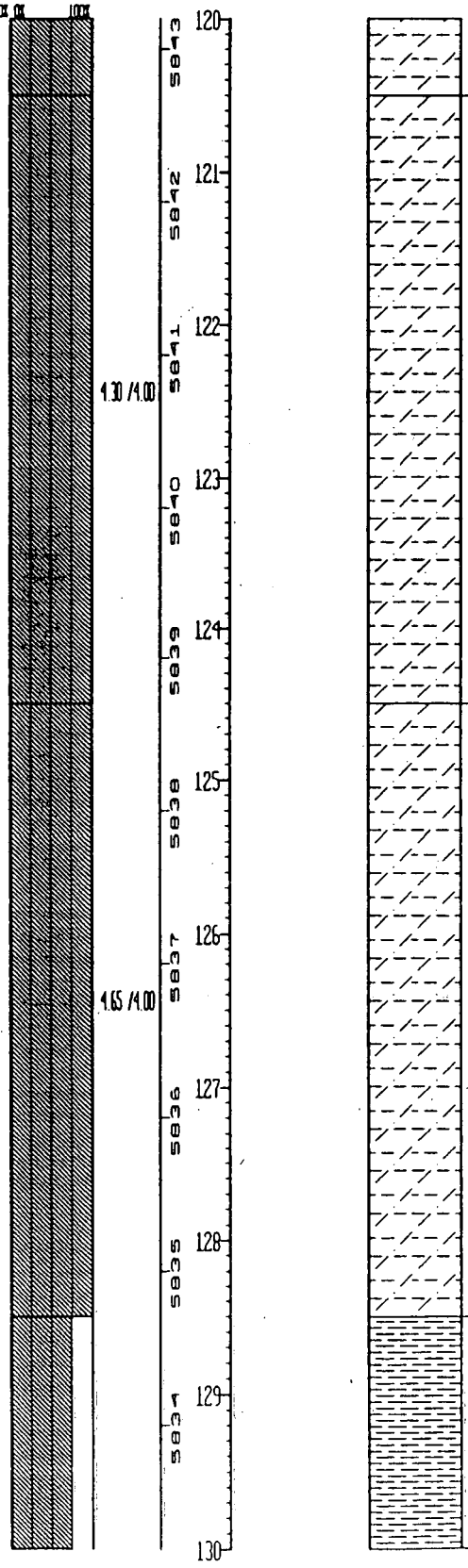
CLAYSTONE: Dark gray (N 3/0). Massive, blocky, abundt. slickensides at various orientations, some to trace silt, non-plastic, no HCl (calcareous) reactions, fresh, damp.

SILTY CLAYSTONE: Greenish black (5 G 2/1) to olive black (5 Y 2/1). Massive, slickensided from 70 degree to 90 degree orientations, silt to 30%, trace carbonaceous plant material, mod. hard to hard, no HCl (calcareous) reactions, fresh, damp to dry.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT):	5963.20	OLD WELL NUMBER:	59-898R	LOG OF BORING NUMBER:
NORTH:	749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):		GEOLOGIST:	LAH	B315289
EAST:	2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):		DATE DRILLED:	11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. AST Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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

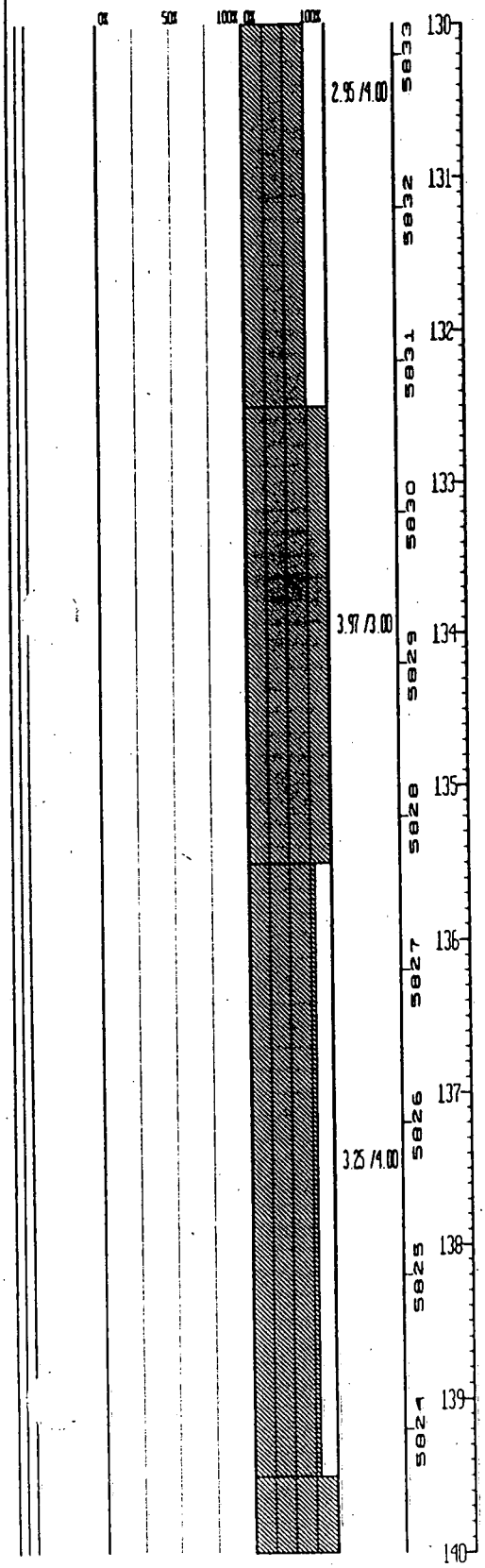


Unified Soils Classification or Rock Type	Description
SILTY CLAYSTONE	Predom. same as above with siderite nodules of 10 mm. to 15 mm. down to 121.6'. Some brownish black (5 YR 2/1) carbonaceous Silty Claystone. Massive, silt to 35%, mod. hard, no HCl reactions (calcareous), fresh, damp.
SILTY CLAYSTONE	Med. dark gray (N 4/0). Blocky, silt to 35%, trace carbonaceous plant material, mod. hard, no plasticity, no HCl (calcareous) reactions, dry to damp.
CLAYSTONE	Med. dark gary (N 4/0) to dark gray (N 3/0). Massive, blocky in part, slickensides and fractures at various orientations, some silt to 20%. Trace siderite nodules, trace carbonaceous inclusions, mod. hard to soft, predom. non-plastic, trace mod. to highly plastic, no HCl (calcareous) reactions, damp.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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



SILTY CLAYSTONE: Dark gray (N 3/0). Massive, some grayish orange (10 YR 7/4) siderite laminations and nodules. Trace slickensides at 70 degree orientations, silt to 35%, sometimes grades to Clayey Siltstone, trace carbonaceous material, mod. hard to hard, no HCl (calcareous) reactions, dry to damp.

SILTSTONE: Dark gray (N 3/0). Massive, trace grayish orange (10 YR 7/4). Siderite laminations, some carbonaceous fern leaves and plant stems, some clay to 20%, hard, no HCl (calcareous) reactions, fresh, dry to damp. (Siltstone with some Clay).

CLAYEY SILTSTONE: Clayey Sandy Siltstone - dark gray (N 3/0). Massive, trace siderite nodules and laminations. Clay to 25%, v.f.g. (3.5-3.0 phi), well sorted, sub-rounded to rounded quartzose sand with clay and silt matrix to 25%, hard to very hard, no HCl (calcareous) reactions, fresh, damp to dry.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

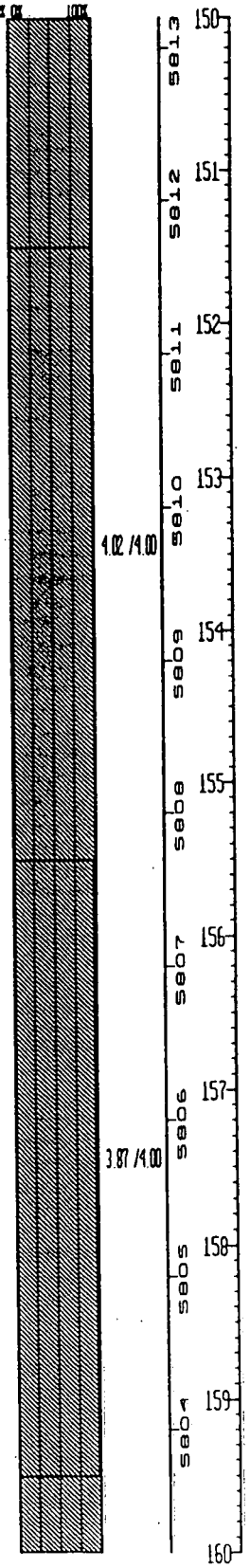
REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

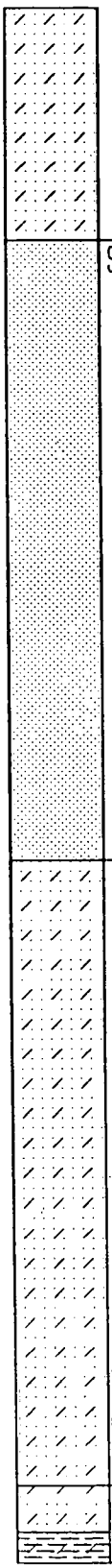
CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				5.20 /4.00	5923 5922 5921 5920	140 141 142 143				
				3.80 /4.00	5919 5918 5917 5916 5915	144 145 146 147 148			SILTY SANDSTONE	Dark gray (N 3/0). Massive, silt to 35%, some clay to 15%, trace siderite nodules. Some grades to Sandy Siltstone, v.f.g. (4.0-3.0 phi), mod. sorted, rounded, quartzose sand, hard, no HCl (calcareous) reaction, fresh, dry to damp.
				4.13 /4.00	5914	149 150			SILTY SANDSTONE	Same as above - with some siderite laminations and nodules, extremely hard, some are calcareous with a mod. HCl (calcareous) reaction when dry.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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





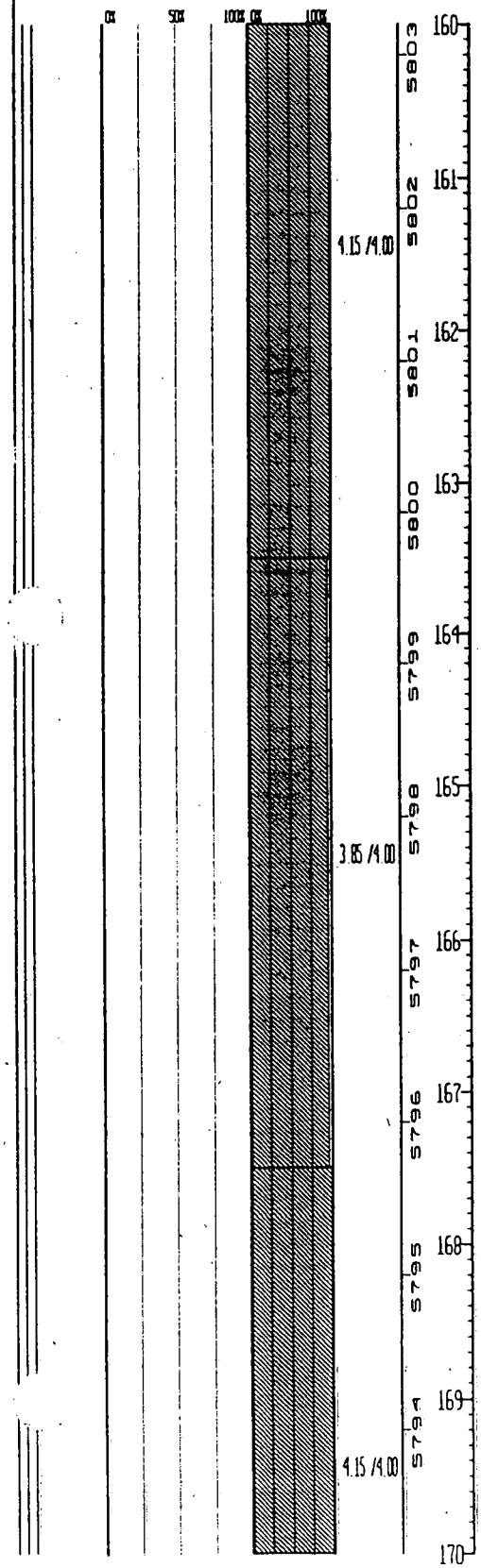
SANDSTONE: Med. dark gray (N 4/0). Massive, some silt to 20%, trace clay, trace carbonaceous plant fragments. Trace m.g. (2.5-2.0 phi), predom. v.f. to f.g. (4.0-2.5 phi), mod. sorted, sub-rounded to rounded, quartzose sand, hard to very hard. No HCl (calcareous) reaction, damp to dry, trace moist.

SILTY SANDSTONE: Med. dark gary (N 4/0). Massive, trace siderite nodules, silt to 35%, sometime grading to Sandy Siltstone. V f.g (4.0-3.5 phi), well sorted, sub-rounded, quartzose sand. Hard to very hard. No HCl (calcareous) reaction, damp.

SILTY SANDSTONE: Same as above - with some clay to 20%, trace interbedded with Claystone, some grades to Siltstone.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTSTONE:	Siltstone and Silty Sandstone - med. dark gray (N 4/0) to dark gray (N 3/0). Interbedded. Grades to predom. Siltstone with depth. Laminated, trace siderite nodules increasing with depth. Trace clay, occasionally very fossiliferous with large carbonaceous leaf imprints and plant stem fragments. V.f.g. (4.0-3.0 phi), mod. sorted, sub-rounded to rounded. Quartzose sand, well cemented, hard to very hard, no HCl (calcareous) reaction, damp to dry.
SILTSTONE:	Dark gray (N 3/0). Trace interbedded with Silty Sandstone, trace to some clay, trace carbonaceous plant material, trace siderite nodules, hard to very hard, no HCl (calcareous) reactions, damp to dry.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

CHEMICAL SAMP DEPTH
GEOTECHNICAL DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 3.87 /4.00; 3.90 /4.00
DATUM (FT): 5793, 5792, 5791, 5790, 5789, 5788, 5787, 5786, 5785, 5784
DEPTH (FT): 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDSTONE:	Med. dark gray (N 4/0) to med. gray (N 5/0). Laminated, some crossbedding, trace siderite nodules and laminations, trace clay and silt laminations. F.g. (2.5-2.0 phi), sub-rounded to rounded, well sorted, quartzose sand. Well cemented, extremely hard, calcareous with a weak to mod. HCl (calcareous) reaction, some very light gray (N 8/0) with a strong HCl (calcareous) reaction, dry to damp.
SILTSTONE:	Dark gray (N 3/0). Homogeneous, some clay to 20%, some v.f.g. (4.0-3.5 phi), hard, no HCl (calcareous) reactions, dry.
SILTSTONE:	Dark gray (N 3/0), homogeneous. Trace grayish orange (10 YR 7/4) siderite laminations. Trace clay to 10%. Hard. No HCl (calcareous) reactions, dry.
SILTSTONE:	Olive black (5 Y 2/1) to dark gray (N 3/0), trace to med., dark gray (N 4/0), homogeneous. Trace v.f. to f.g. (3.5-2.5 phi) sub-rounded sand. Hard. No HCl (calcareous) reaction, dry.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:
NORTH:	749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST:	2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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
				4.00 /4.00	5783 5782 5781 5780	180 181 182 183				
				3.95 /4.00	5779 5778 5777 5776	184 185 186 187			SANDY SILTSTONE	Olive black (5 Y 2/1) to dark gray (N 3/0), trace med. dark gray (N 4/0). Homogeneous, trace soft sediment deformation structures, trace carbonaceous plant material. Predom. same as above with a trace grading to Sandstone.
				3.90 /4.00	5775 5774	188 189 190			CLAYEY SILTSTONE	Clayey Siltstone and Siltstone - med. dark gray (N 4/0) to dark gray (N 3/0). Massive, blocky in part, clay to 35% decreasing with depth. Trace carbonaceous inclusions, some v.f.g. (3.5-3.0 phi) quartzose sand, mod. hard to hard, no HCl (calcareous) reactions, dry to damp.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89	

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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%		5773	190				
					5772	191				
					5771	192			SANDSTONE:	Sandstone and Sandy Siltstone interbedded. Med. gray (N 5/0) to dark gray (N 3/0). Interbedded, trace siderite laminations, trace clay to 10%. V.f.g. to f.g (3.5-2.0 phi) poorly to mod. sorted, sub-rounded to well rounded, quartzose sand, well cemented, very hard, damp to dry.
				4.05 /4.00	5770	193				
					5769	194				
					5768	195				
					5767	196			SANDSTONE:	Sandstone and Silty Sandstone - med. gray (N 5/0) to dark gray (N 3/0). Laminated, silt to 35%, trace to some siderite laminations, trace carbonaceous plant material. V.f.g (4.0-3.0 phi), mod. sorted, rounded, quartzose sand. Well cemented, non-calcareous, some grades to Sandy Siltstone, dry to damp.
				4.00 /4.00	5766	197				
					5765	198				
					5764	199			SANDY SILTSTONE:	Sandy Siltstone and Silty Sandstone - med. gray (N 5/0) to dark gray (N 3/0). Soft sediment deformation structures, lithologies are gradational becoming predom. Siltstone with depth. Sand is as above, hard, no HCl (calcareous) reactions, dry.
						200				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-89BR	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

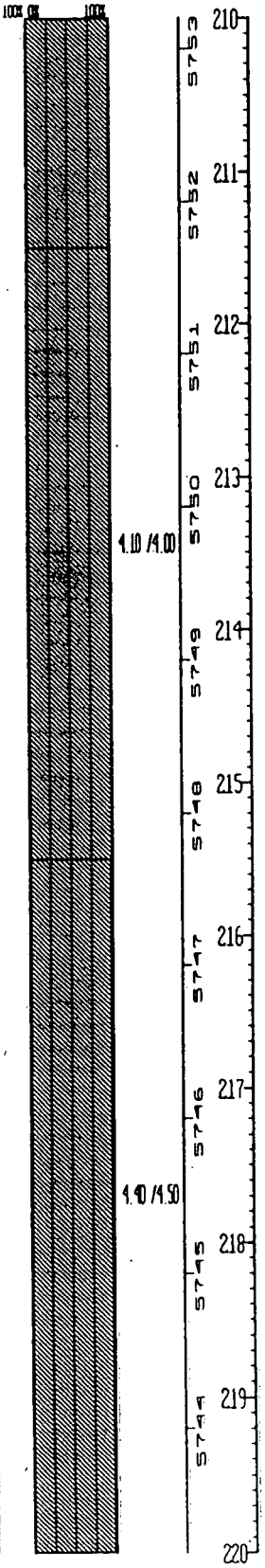
REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer.
ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

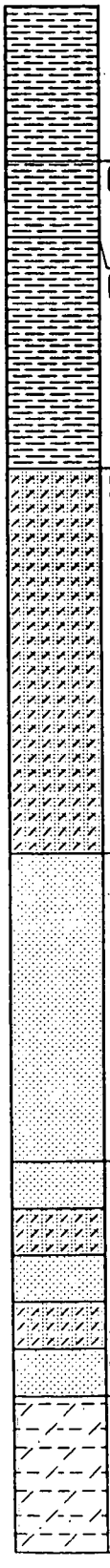
CHEMICAL SAMPLE / GEOTECHNICAL P	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5763	200				
					5762	201				
				4.00 /4.00						
					5761	202				
					5760	203				
					5759	204			CLAYSTONE:	Dark gray (N 3/0) to med. dark gray (N 4/0). Grades to med. bluish gray (5 B 5/1) with depth. Massive, very blocky, very fractured at various orientations, trace to some silt, mod. hard to soft, predom. non-plastic, trace mod. plastic, no HCl (clacareous) reactions, damp to moist.
					5758	205				
				4.15 /4.00						
					5757	206				
					5756	207				
					5755	208			CLAYSTONE:	Interbedded med. bluish gray (5 B 5/1) and dark gray (N 3/0). Massive, blocky, some slickensides at 45 degree orientations, trace carbonaceous plant fragments and laminations, soft to hard, non-plastic, no HCl (calcareous) reactions, damp.
					5754	209				
				4.30 /4.00						
						210				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.0	GROUND ELEVATION (FT): 5963.20	OLD WELL NUMBER: 59-898R	LOG OF BORING NUMBER:	
NORTH: 749225	AREA: EAST TRENCHES	CASING DIAMETER (IN):	GEOLOGIST: LAH	B315289	
EAST: 2086766	LOCATOR NUMBER: N8	BOREHOLE DIAMETER (IN):	DATE DRILLED: 11/16/89		

REMARKS: Hollow Stem Auger 0.0-75.0'; Rotary Core 75.0-220.0'. 5-5/8" Surface casing set to 75.0' on 10/31/89 by T. A. Lutherer. ASI Log from 0.0' to 75.0'. Weston Log from 75.0' to 220.0'.

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:	Carbonaceous Claystone - brownish black (5 YR 2/1). Massive blocky, grades to Clayey Lignite, soft to mod. hard, no HCl (calcareous) reactions, damp.
CLAYSTONE:	Clayey Lignite and Carbonaceous Claystone - brownish black (5 YR 2/1). Massive, trace fossil, increasing clay with depth. Soft, non to low plasticity, no HCl (calcareous) reactions, damp.
SANDY SILTSTONE:	Olive black (5 Y 2/1). Massive, trace carbonaceous laminations, some clay to 20% with trace grayish brown (5 YR 3/2). Claystone v.f.g., sub-rounded. Quartzose sand, hard, no HCl (calcareous) reactions, dry.
SANDSTONE:	Med. light gray (N 8/0) to med. gray (N 5/0). Laminated, some soft sediment deformation structures, trace carbonaceous plant material, some silt to 20%, v.f.g. to f.g. (3.5-2.0 phi), mod. to well sorted, sub-rounded. Quartzose sand, well cemented, hard, no HCl (calcareous) reactions, damp.
SANDSTONE:	Sandstone and Sandy Siltstone - med. gray (N 5/0) to med. dark gray (N 4/0). Interlaminated, soft sediment deformation structures, some carbonaceous laminations. Sand is as above, hard, no HCl (calcareous) reactions, dry to damp.
SILTY CLAYSTONE:	Med. dark gray (N 4/0). Massive, blocky, silt to 35%, some grading to Siltstone, hard, no HCl (calcareous) reaction, dry. Total Drilled Depth = 220.0'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-899R	LOG OF BORING NUMBER:
NORTH:	749807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

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
					5725	0			CL:	Silty Clay (topsoil) - mod. brown (5 YR 3/4). Mod. to poorly sorted. Mod. plasticity. Some sand, v.f.g. to granules. Some root material.
				1.50 /2.00	5724	1			CL:	Caliche (Silty Calcareous Clay) - very pale orange (10 YR 8/2). Mod. plasticity. Some sand, v.f.g. to c.g. trace root material.
					5723	2			CL:	Same as above, less calcareous - some light brown (5 YR 5/6) coloring. Becomes gravelly toward bottom. Gravel size granules to 4 cm.
				1.50 /2.00	5722	3				
					5721	4			NO SAMPLE:	NO SAMPLE
				0.00 /2.50	5720	5				
					5719	6				
				1.80 /1.50	5718	7			CL:	Same as interval 2.0' to 4.0'.
				0.00 /0.50	5717	8			NO SAMPLE:	NO SAMPLE.
				1.70 /1.50	5716	9			CLAYSTONE:	Top of Bedrock. Interval grades to highly calcareous Claystone, then to Claystone. Light olive gray (5 Y 6/1). Mod. to high plasticity. Some dark yellowish orange (10 YR 6/6) mottles.
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-898R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRADI 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

RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	5715	10	CLAYSTONE:	Mottled - light olive gray (5 Y 6/1) and dark yellowish orange (10 YR 6/6). Some Caliche at top of interval. >80% clay.
1.90 /2.00	5714	11		
	5713	12	CLAYSTONE:	Light brownish gray (5 YR 6/1). Highly weathered. Mod. friable. Trace CaCO3 (calcareous). Trace carbonaceous material. >50% clay.
1.90 /2.00	5712	13		
	5711	14	CLAYSTONE:	Same as above - trace silt. Some dark yellowish orange (10 YR 6/6) mottling.
1.80 /2.00	5710	15		
	5709	16	CLAYSTONE:	Same as above - some iron staining.
1.80 /2.00	5708	17		
	5707	18	CLAYSTONE:	Same as above - color change to olive gray (5 Y 4/1).
1.80 /2.00	5706	19		
		20		

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89R	LOG OF BORING NUMBER:
NORTH:	749807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: 17	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

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
				1.60 /2.00	5704	21			CLAYSTONE:	Light brownish gray (5 YR 6/1). Highly weathered, mod. friable. Trace CaCO3 (calcareous). Some iron staining in irreg. fractures. Bedding not evident.
				1.70 /2.00	5702	23				
				3.20 /4.00	5699	26				
				1.60 /2.00	5696	29				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR
NORTH: 748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89

LOG OF BORING NUMBER: B317189

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL 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
	5695	30			CLAYSTONE:	Light brownish gray (5 YR 6/1). Some dark yellowish orange (10 YR 6/6), mottles/staining. Highly weathered. Mod. friable. Trace CaCO3.
1.90 /2.00	5694	31				
	5693	32			CLAYSTONE:	Pale yellowish brown (10 YR 6/2). Highly weathered, slightly friable. Bedding not evident. Trace iron staining.
1.00 /2.00	5692	33				
	5691	34			CLAYSTONE:	Same as above. Color change to light brownish gray (5 YR 6/1). Trace carbonaceous material.
1.80 /2.00	5690	35				
0.00 /0.20	5689	36			NO SAMPLE:	NO SAMPLE.
					CLAYSTONE:	Dark yellowish brown (10 YR 4/2). Vertically fractured with hematite stain in fractures. Trace silt and clay, med. plasticity. Dessicated crack from drying of core. Mn staining - some carbon. Fracture angle 70 degrees and 90 degrees. 1-3% silt, clay.
1.90 /1.80	5688	37				
0.50 /0.50	5687	38				
					NO SAMPLE:	NO SAMPLE.
0.00 /0.90	5686	39			CLAYSTONE:	Dark yellowish brown (10 YR 4/2) to yellowish gray (5 Y 7/2) with dark yellowish orange (10 YR 6/6). Fe oxide on fracture surfaces, Mn and carbon as above. Severely dessicated, cracked because of drying. (Claystone with trace Silt and Clay) 1-3% silt, clay.
		40				

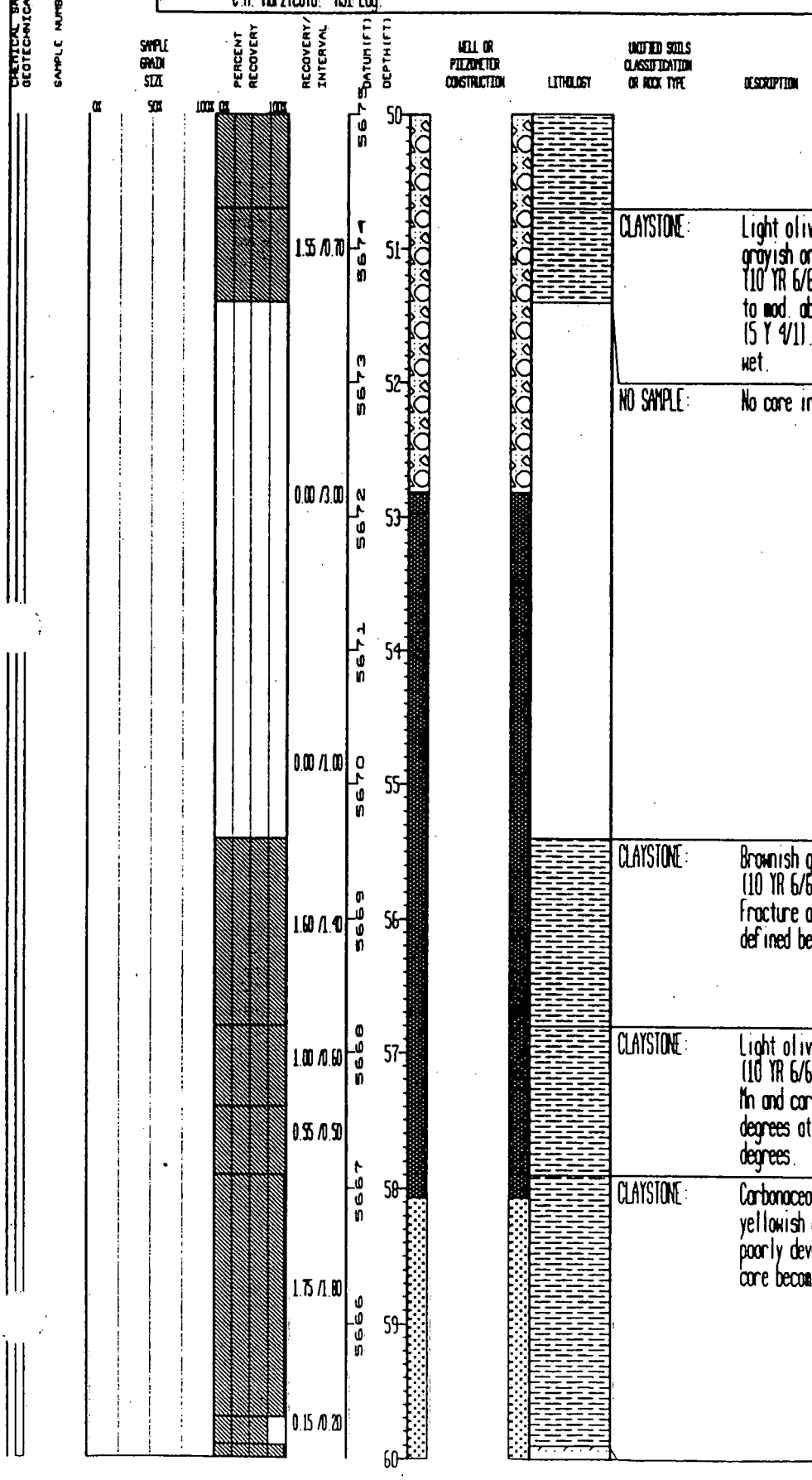
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.1	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

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
				1.20 /1.40	5685	40				
					5684	41			CLAYSTONE:	Same as above - except much less Fe Oxide staining and more carbon. Slight color change to light olive gray (5 Y 6/1) to some olive gray (5 Y 4/1). Some pale yellowish orange (10 YR 8/6) mottling (Fe Oxide). Very heavy carbon at 43.6' to 43.8'.
				1.70 /2.00	5683	42				
				0.70 /0.60	5682	43				
				0.55 /1.00	5681	44				
				1.65 /1.60	5680	45			CLAYSTONE:	Same as above - except heavy fracturing with abundt. Fe Oxide in this interval.
					5679	46			CLAYSTONE:	Slightly silty - predom. pale yellowish brown (10 YR 6/2) with dark yellowish orange (10 YR 6/6) and grayish orange (10 YR 7/4) Fe oxide mottling (and some Fe oxide on fracture planes). Horiz. fracturing to approx. 13 degrees. Mod. abundt. carbon (as carbonaceous clay), core severly dessicated from drying in box.
				1.30 /1.40	5678	47				
				0.20 /0.30	5677	48			CLAYSTONE:	Brownish gray (5 YR 4/1) with dark yellowish orange (10 YR 6/6) Fe oxide on fracture surfaces. Clay sticky when wet, high plasticity. Mod. abundt. carbon, some very poorly defined bedding planes, some fracture planes to approx. 60 degrees. Possible vertical slickensides. Some Mn. staining.
				1.70 /1.50	5676	49			CLAYSTONE:	Same as above except slightly less plastic. Some vertical slickensides. Some carbon.
				1.60 /1.50		50				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-898R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicolo. AST Log.

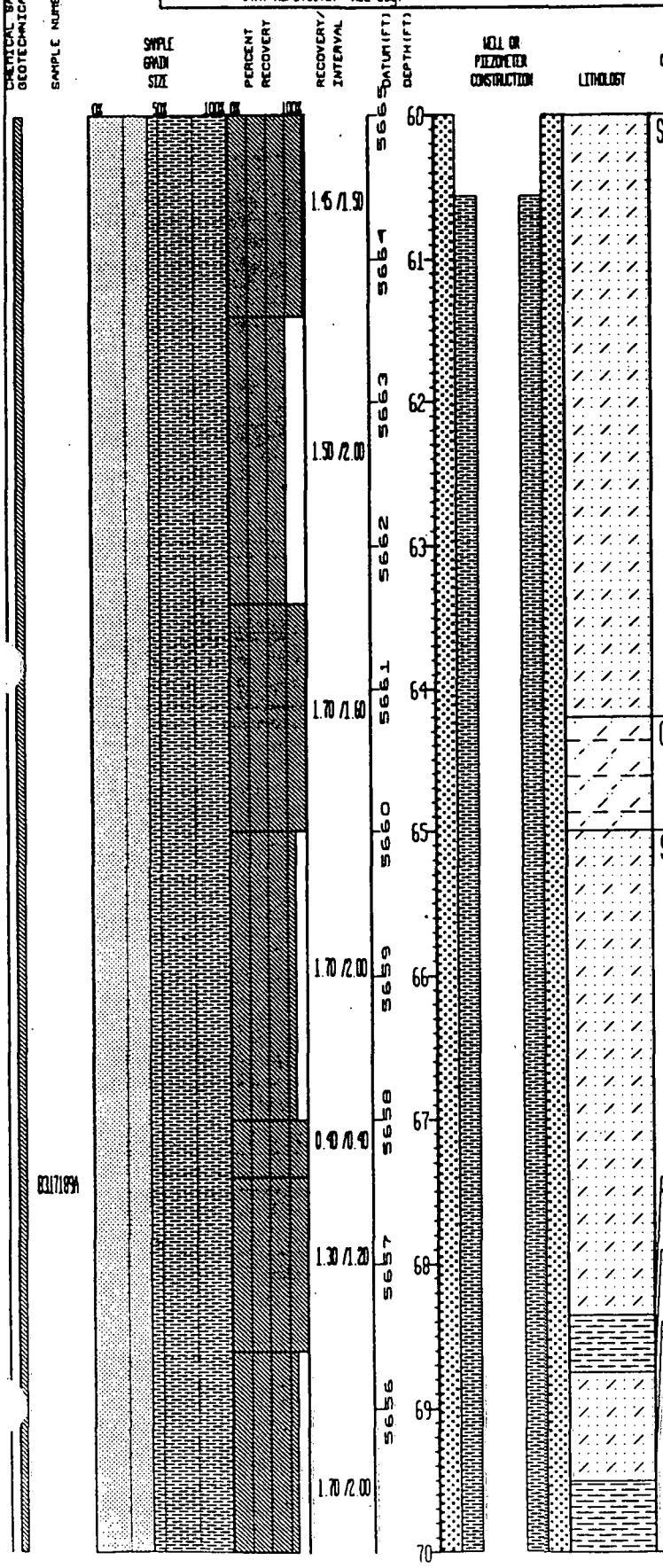


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Light olive gray (5 Y 6/1) to yellowish gray (5 Y 7/2) with grayish orange (10 YR 7/4) to dark yellowish orange (10 YR 6/6). Fe Oxide staining on fracture surfaces. Some to mod. abundt. carbon. Bottom 0.2' of core olive gray (5 Y 4/1). Claystone carbonaceous (slightly), sticky when wet.
NO SAMPLE:	No core in box.
CLAYSTONE:	Brownish gray (5 YR 4/1) with dark yellowish orange (10 YR 6/6). Fe Oxide staining on fracture surfaces. Fracture angle approx. 45 degrees, and some very poorly defined bedding planes. Some carbon.
CLAYSTONE:	Light olive gray (5 Y 5/2) with some dark yellowish orange (10 YR 6/6). Fe oxide on fracture planes (remnants). Some Mn and carbonaceous material. Fracture angle approx. 80 degrees at approx. 57.4' to 57.9'. Bedding angle approx. 5 degrees.
CLAYSTONE:	Carbonaceous - dark yellowish brown (10 YR 4/2), some dark yellowish orange (10 YR 6/6) mottling (Fe Oxide). Some poorly developed horiz. bedding planes. Bottom of core becoming silty.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR
NORTH: 748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89

LOG OF BORING NUMBER: B317189

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

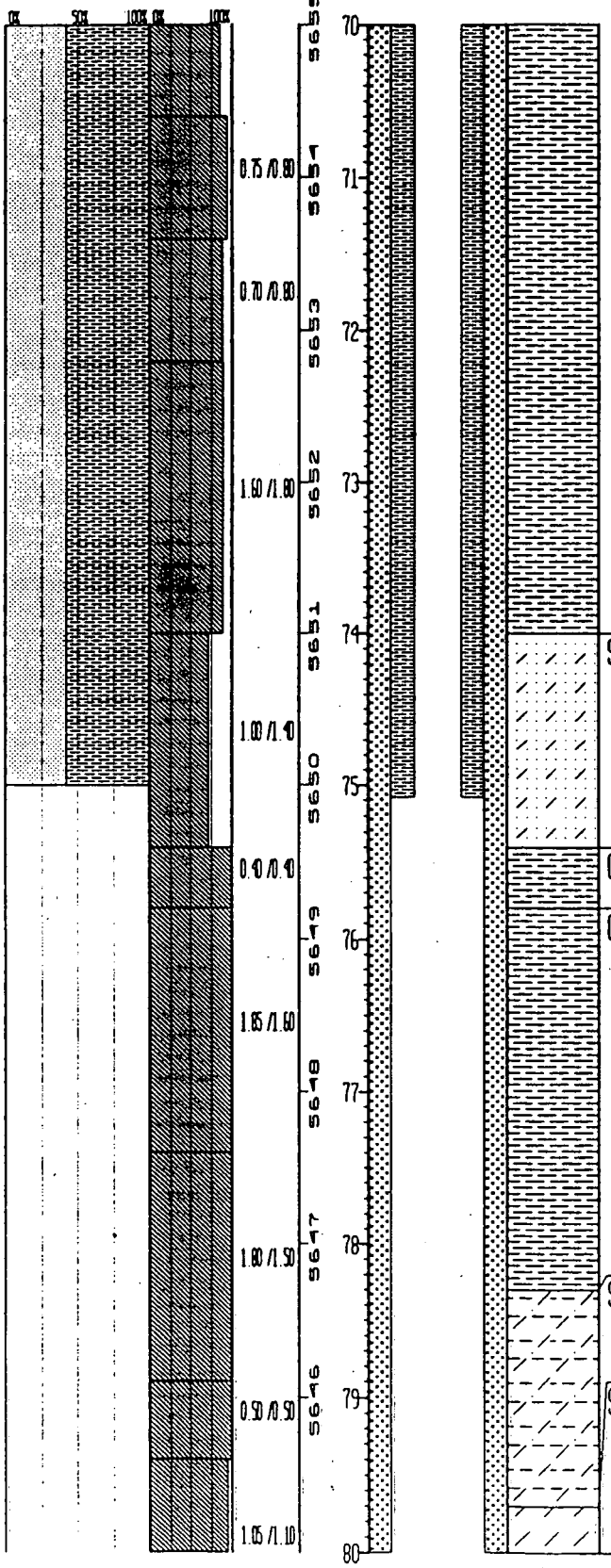


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY SANDSTONE:	Light olive gray (5 Y 6/1) to pale yellowish brown (10 YR 6/2) with dark gray (N3). Carbonaceous clay breaks. Composite sample all - 40 mesh - Sand v.f.g., pred. quartz, 5-10% black mineralization, probably sub-angular to angular. Porosity approx. 15%+ in sandiest intervals. Some dark yellowish orange (10 YR 6/6) Fe Oxide on clay surfaces and disseminated in Sandstone. Very heavy carbonaceous zones. Carbonaceous clay zones at top 0.2' of interval, approx. 61.0' to 61.4' and approx. 62.8' to 63.4'. Interval mod. well cemented (non-calcareous). Probably argillaceous Sandstone, slightly oxidized. +/-50% silt, <50% clay.
CLAYEY SILTSTONE:	Pred. mod. yellowish brown (10 YR 5/4). Mod. well indurated (argillaceous cemented?). Some heavy carbon concentrations. Porosity <10% to nil.
SILTY SANDSTONE:	Light olive gray (5 Y 5/2) to dark yellowish brown (some screen ratio as Sandstone above). Sand predom. quartz, well sorted, sub-angular, v.f.g., 5-10% dark minerals. Possibly fining up with depth. Some carbon - possibly cross bedded. Porosity <15% (?). Interval slightly oxidized. Some interbedded Clay zones in bottom 0.5'. Mod. well cemented (argillaceous). +/-55% sand, +/- 45% silt.
CLAYSTONE:	Dark yellowish brown (10 YR 4/2). Some silt and v.f.g. sand. Clay.
SILTY SANDSTONE:	V.f.g., same as interval from 65.0' to 68.35' +/-55% sand, +/-45% silt.
CLAYSTONE:	Pred. olive gray (5 Y 4/1). Some light olive gray (5 Y 6/1). Sand lenses, mod. yellowish brown (10 YR 5/4). Fe Oxide as coatings on surfaces and disseminated in sand lenses. Interval very carbonaceous. Possibly some very poorly developed bedding planes. Fracturing indicated but not well defined. Some slickensides on some surfaces, probably drilling induced.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-898R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'. Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

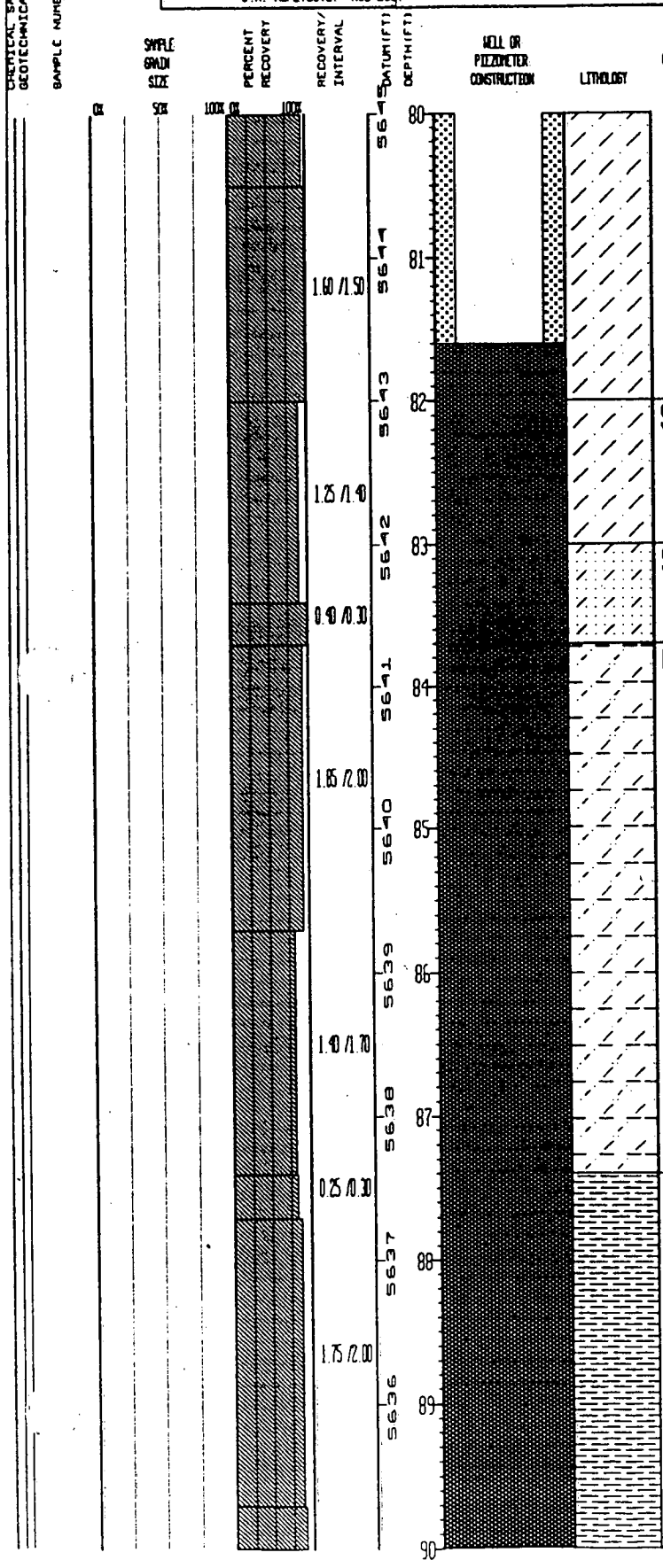
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY SANDSTONE:	V.f.g. to f.g. - pale yellowish brown (10 YR 6/2), with thin interbedded Clay zones. Horiz. bedding indicated in lower 0.8' of core. Sand well sorted, fining with depth. Lower 0.3' of core is dark yellowish brown (10 YR 4/2) Silty Claystone. 60% sand, 40% silt.
CLAYSTONE:	Dusky yellowish brown (10 YR 2/2). Sticky when wet.
CLAYSTONE:	Dusky yellowish brown (10 YR 2/2). Very carbonaceous. Silty in some zones.
SILTY CLAYSTONE:	Dark yellowish brown (10 YR 4/2) to dusky yellowish brown (10 YR 2/2). Trace carbon, trace mod. brown (5 YR 4/4) Fe Oxide on some Claystone partings.
SILTSTONE:	Pred. pale yellowish brown (10 YR 6/2) with thin interbedded grayish black (N2) carbonaceous clays. Siltstones vary from clayey to slightly sandy, bedding angle of approx. 10 degrees infers crossbedding. Thick (.2') clay near bottom of interval.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR	LOG OF BORING NUMBER:	
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189	
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89		

REMARKS: Hollow Stem Auger 0.0-36.0': Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

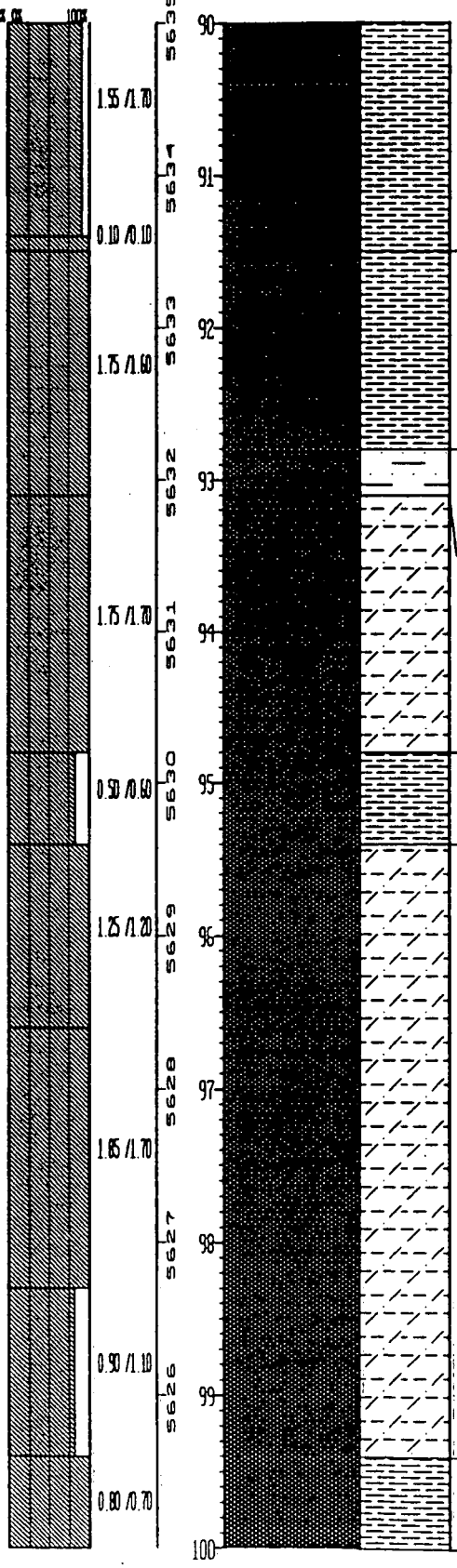


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTSTONE:	Same as above - with thick or interbedded clays and silty clay.
SILTY SANDSTONE:	With interbedded Silty Clay lenses. Bedding or shear planes of approx. 25 degrees prevalent in top foot of interval.
CLAYEY SILTSTONE:	Pred. olive gray (5 Y 4/1). Shear planes to approx. 45 degrees, some vertical slickensides in interbedded clays. Mod. well cemented, argillaceous.
CLAYSTONE:	Pred. dark yellowish brown (10 YR 4/2) clay. Slightly silty in some zones, some thin interbedded f.g. Sandstone lenses and Siltstone lenses. Bedding planes essentially flat to approx. 3 degrees.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-898R	LOG OF BORING NUMBER:	
NORTH: 749807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189	
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89		

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

CHEMICAL BAR 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



CLAYSTONE:	Dark yellowish brown (10 YR 4/2), slightly silty. Well developed bedding planes, approx. 5 degrees. Entire interval mod. well indurated, very homogeneous.
CLAYEY SANDSTONE:	Olive gray (5 Y 4/1). Apparent shear planes at approx. 45 degrees. V.f.g., sub-rounded to rounded. >50% sand, <50% clay.
SILTY CLAYSTONE:	Dark yellowish brown (10 YR 4/2). Shear planes at approx. 45 degrees, trace of carbon.
CLAYSTONE:	Same silt - same as above (92.5' to 92.8' interval).
SILTY CLAYSTONE:	Dusky yellowish brown (10 YR 2/2) to dark yellowish brown (10 YR 4/2). Apparent bedding at 3 degrees to 5 degrees and shear planes a approx. 45 degrees. Trace carbon.
CLAYSTONE:	Olive gray (5 Y 4/1). Slightly silty in places, trace carbon. Dessication cracks from drying.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-898R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. AST Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADE SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5625	100			CLAYSTONE:	Slightly silty (some intervals) - color olive gray (5 Y 4/1) to dusky yellowish brown (10 YR 2/2). Shear planes from 20 degrees to approx. 45 degrees, bedding approx. 5 degrees. Trace carbon with some mod. heavy concentrations. Numerous planes with vertical slickensides 104.0' to 105.8' slightly calcareous, mod. well indurated.
				1.80 /2.10	5624	101				
					5623	102				
				1.15 /1.20	5622	103				
				0.55 /0.60	5621	104				
	B317189B			1.80 /1.80	5620	105				
					5619	106			CLAYSTONE:	Carbonaceous Claystone - pred. dusky yellowish brown (10 YR 2/2). Fractures from nearly flat to approx. 45 degrees. Some slickensides.
				1.80 /2.00	5618	107				
				0.60 /0.60	5617	108			CLAYSTONE:	Pred. olive gray (5 Y 4/1). Very carbonaceous (less than above). Several burrow casts (one well preserved). Slightly calcareous.
				1.10 /1.00	5616	109			SILTY CLAYSTONE:	Light olive gray (5 Y 5/2) to olive gray (5 Y 4/1). Slightly calcareous, abundt. carbonaceous clay zones. Trace to abundt. carbon. Mod. well cemented (calcareous?). Horiz. to approx. 15 degree fractures, some slickensides
						110				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-898R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

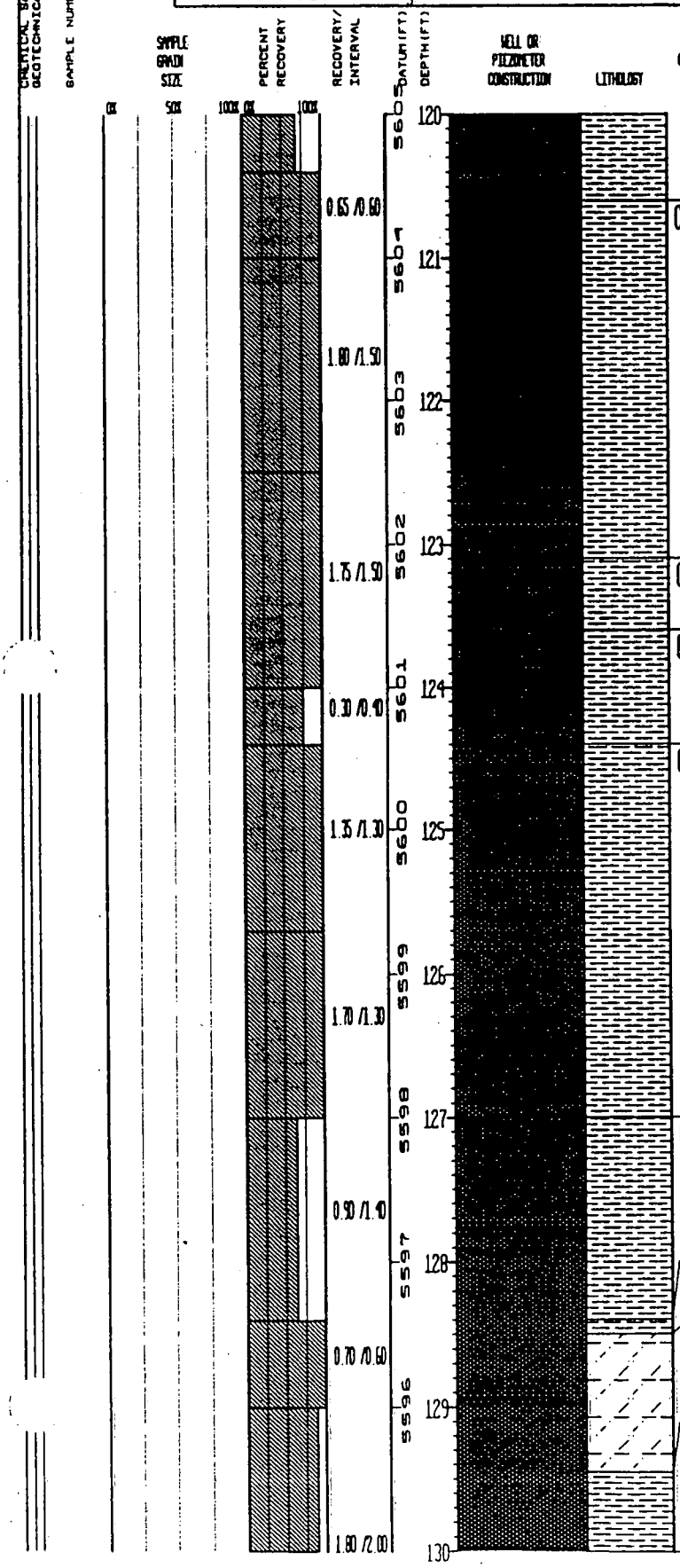
REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

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
				1.85 /2.00	5615	110				
					5614	111				
				1.10 /1.00	5613	112			CLAYSTONE:	Pred. olive gray (5 Y 4/1). Some mod. yellowish brown (10 YR 5/2). Fe oxide staining on fracture faces. Abundt. carbon.
				0.55 /0.60	5612	113				
				1.70 /2.00	5611	114			SILTY CLAYSTONE:	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Silty (friable) lense in middle of interval. Abundt. to mod. abundt. carbon.
					5610	115			CLAYSTONE:	Pred. olive gray (5 Y 4/1). Very carbonaceous. Fractured, some slickensides.
				1.45 /1.40	5609	116			CLAYEY SILTSTONE:	With thin interbedded Clay layers, cross bedded - color from light olive gray (5 Y 5/2) to olive gray (5 Y 4/1), with mod. yellowish brown (10 YR 5/4). Fe oxide mottling.
				0.30 /0.40	5608	117			CLAYSTONE:	Olive gray (5 Y 4/1) to light olive gray (5 Y 6/1). Very carbonaceous, fractured with slickensides.
				1.85 /2.20	5607	118				
					5606	119			CLAYSTONE:	Olive gray (5 Y 4/1). Very carbonaceous, some slickensided surfaces, generally same as above interval. Mod. well indurated.
				0.95 /1.40		120				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR
NORTH: 748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89

LOG OF BORING NUMBER: **B317189**

REMARKS: Hollow Stem Auger 0.0-36.0': Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

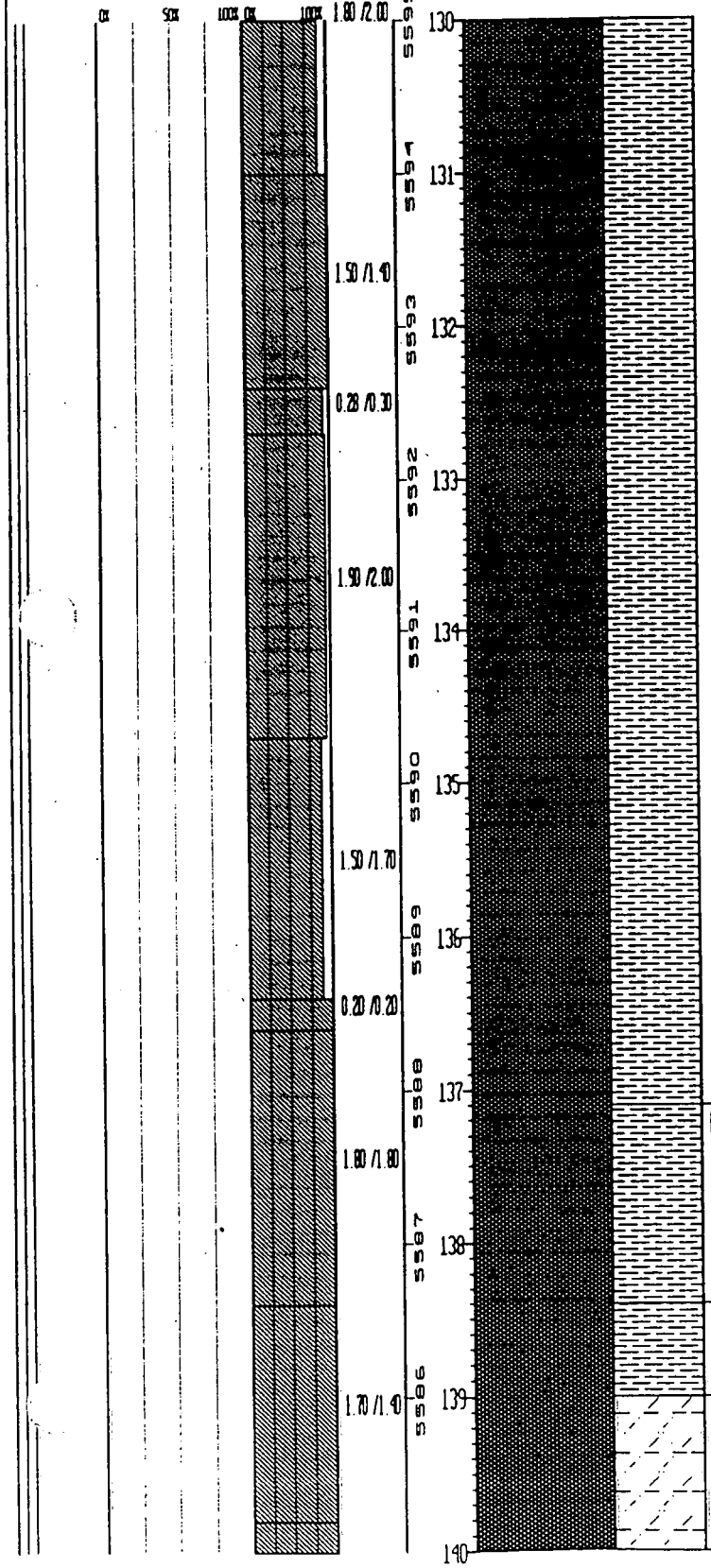


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Olive gray (5 Y 4/1). Mod. abundt. carbon in some areas. Pred. spotty throughout interval. Some silt. (Claystone with some Silt). <15% silt, >85% clay.
CLAYSTONE:	Carbonaceous Claystone - some silty with clay - Claystone.
CLAYSTONE:	Pred. olive gray (5 Y 4/1), carbonaceous zones grayish black (N6). Bedding pred. flat with bedding planes occuring along carbon rich layers.
CLAYSTONE:	Same as from 120.6' to 123.1' interval. Some fracture planes at approx. 25 degrees to approx. 30 degrees. Carbon mod. abundt. but spotty. (Claystone with some Silt). 20% silt, 80% clay.
CLAYSTONE:	Same as above - becomes more silty with depth. (Claystone with some Silt).
CLAYSTONE:	Top of core is Claystone - olive gray (5 Y 4/2). Sticky when wet (approx. .1').
CLAYEY SILTSTONE:	Light olive gray (5 Y 5/2). 70 degree shear plane at bottom of interval, face coated with carbonaceous material. >60% silt, <40% clay.
CLAYSTONE:	Silty in top 6 in. - color from light olive gray (5 Y 5/2) to olive black (5 Y 2/1). Very carbonaceous. Fractures from approx. 30 degrees to near vertical, slickensides (vertical).

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4		GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST		CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7		BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0': Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI 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

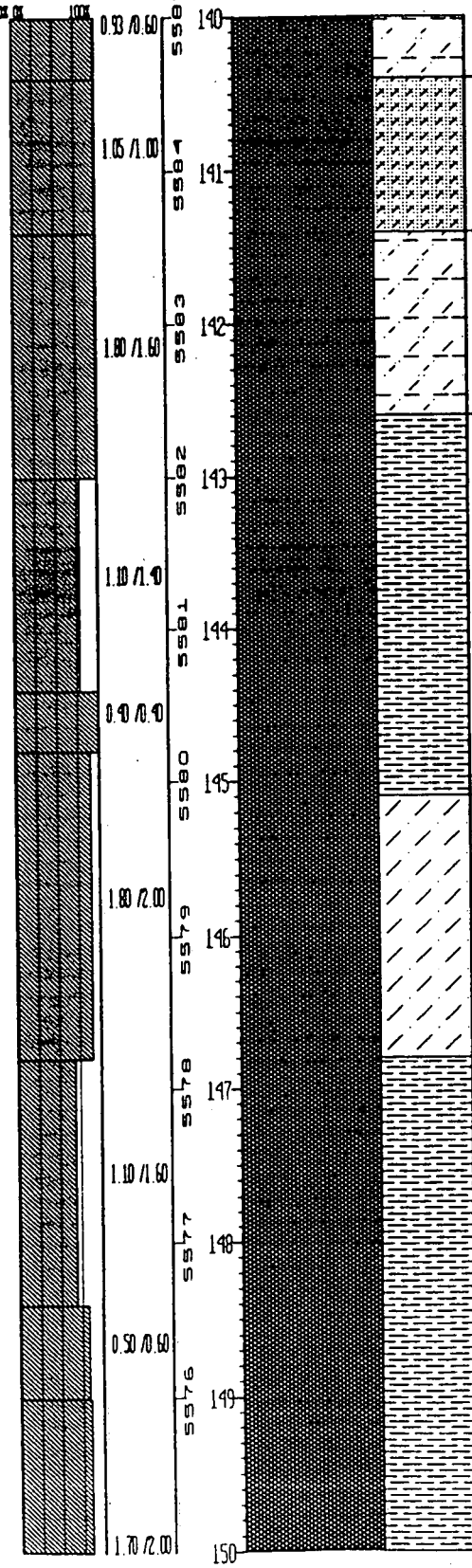


CLAYSTONE:	Carbonaceous Claystone - olive black (5 Y 2/1). Vertically fractured and slickensides. Waxy texture.
CLAYSTONE:	Same as above, but color grades to olive gray (5 Y 4/1) at bottom of interval.
CLAYEY SILTSTONE:	Olive gray (5 Y 4/1). Mod. well cemented (argillaceous), carbonaceous, heavy in some areas.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0': Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

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



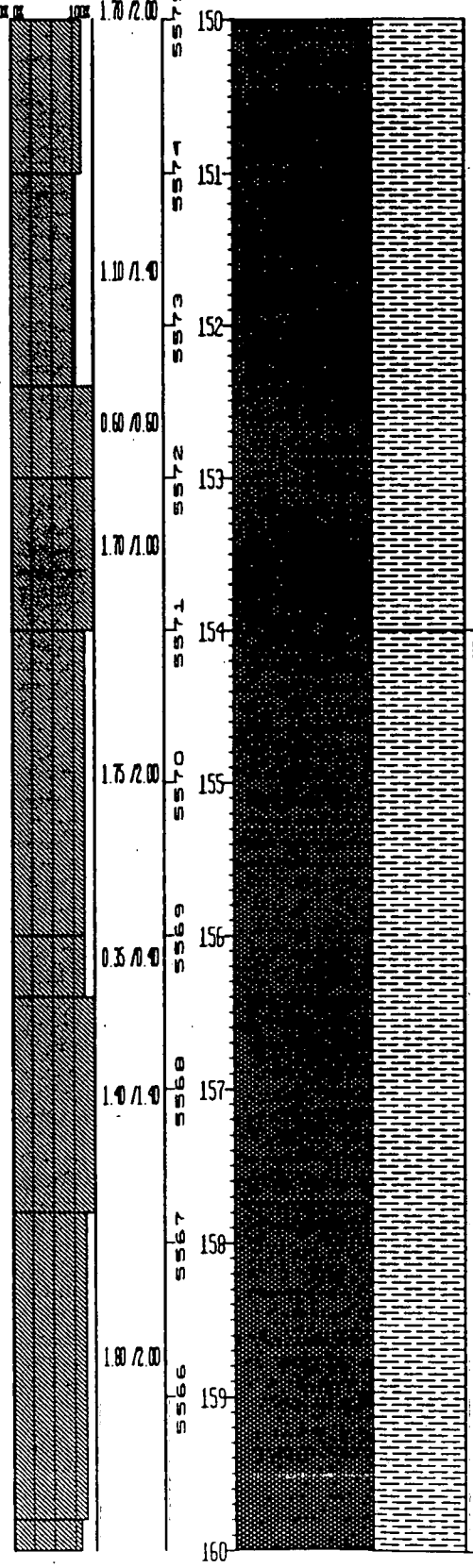
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDY SILTSTONE:	With some Clay - light olive gray (5 Y 6/1). Mod. friable. Sand v.f.g., becomes clayey toward bottom of interval. 40% sand, 60% silt.
CLAYEY SILTSTONE:	Pred. olive gray (5 Y 4/1). Interbedded clay beds, cross bedded stratification, abundt. carbon.
CLAYSTONE:	Olive black (5 Y 2/1). Slightly silty at top, waxy texture at bottom of interval. Carbon abundt. and concentrated in some zones.
SILTSTONE:	Pred. olive gray (5 Y 4/1) with light olive gray (5 Y 6/1) and mod. yellowish brown (10 YR 5/4) mottling. Some Fe Oxide. Interval mod. well cemented (argillaceous). Cross bedded appearance. Mod. abundt. to abundt. carbon concentrated in some zones. Some Mn. (sparse). (Siltstone with some Clay). >90% silt, <10% clay.
CLAYSTONE:	Olive black (5 Y 2/1) to olive gray (5 Y 4/1). Extensively fractured and slickensided. Carbon heavy to mod. abundt. Interval well indurated, possibly from drying of core in box. Interval from 148.4' to 154.0' severely dessicated. Cracked from drying.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR
NORTH: 748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89

LOG OF BORING NUMBER: **B317189**

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI 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

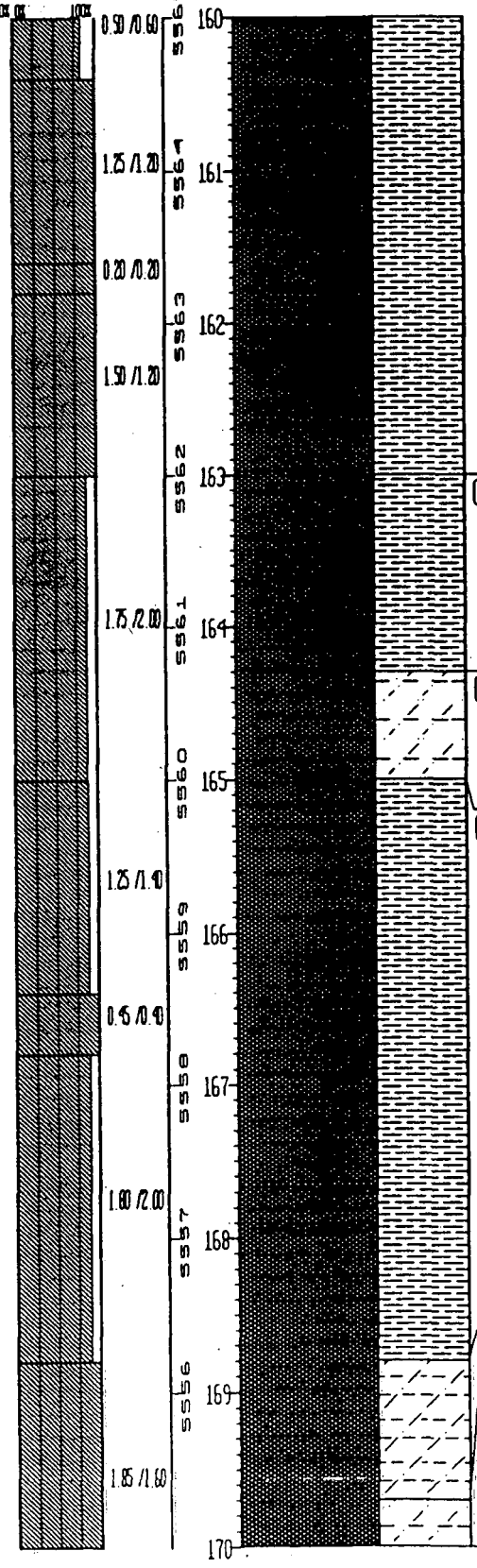


CLAYSTONE: Some Silty Claystone intervals. Pred. olive black (5 Y 2/1) with some olive gray (5 Y 4/1). Mod. fractured to heavy in some intervals. Abundt. carbon, concentrated in some zones. Bedding planes pred. flat, some mod. yellowish brown (10 YR 5/4) stained Silty Claystone, Fe Oxide stained.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-898R	LOG OF BORING NUMBER:
NORTH:	749807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	F&/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: F7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'. Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI 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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Trace silt - olive gray (5 Y 4/1). Indurated, fractured, possibly drilling induced. Some carbon. <5% silt, 95% clay.
CLAYEY SILTSTONE	Olive gray (5 Y 4/1). Breaks along bedding planes flat to approx. 2 degrees, mod. well cemented. Argillaceous. Grades to Silty Claystone at 165.0'. 70% silt, <30% clay.
CLAYSTONE	Slightly silty - olive gray (5 Y 4/1). Breaks along bedding planes, flat to approx. 3 degrees, some possible drilling induced fractures.
SILTY CLAYSTONE	Olive gray (5 Y 4/1). Mod. well indurated. Fractures, probably drilling induced. Carbonaceous.
CLAYEY SILTSTONE	Olive gray (5 Y 4/1). Mod. well cemented, argillaceous. Carbon zones 170.1' to 170.2' - ASI sieve sample. 2.00 mesh screen, composite sample. Approx 70% silt, approx. 30% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR
NORTH: 748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89

LOG OF BORING NUMBER: **B317189**

REMARKS: Hollow Stem Auger 0.0-36.0': Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH / SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.70 /1.60; 1.80 /1.80; 0.40 /0.60; 1.15 /1.00; 1.80 /2.00; 1.05 /1.00; 0.70 /0.60; 1.80 /2.00

DATUM (FT): 5555, 5554, 5553, 5552, 5551, 5550, 5549, 5548, 5547, 5546

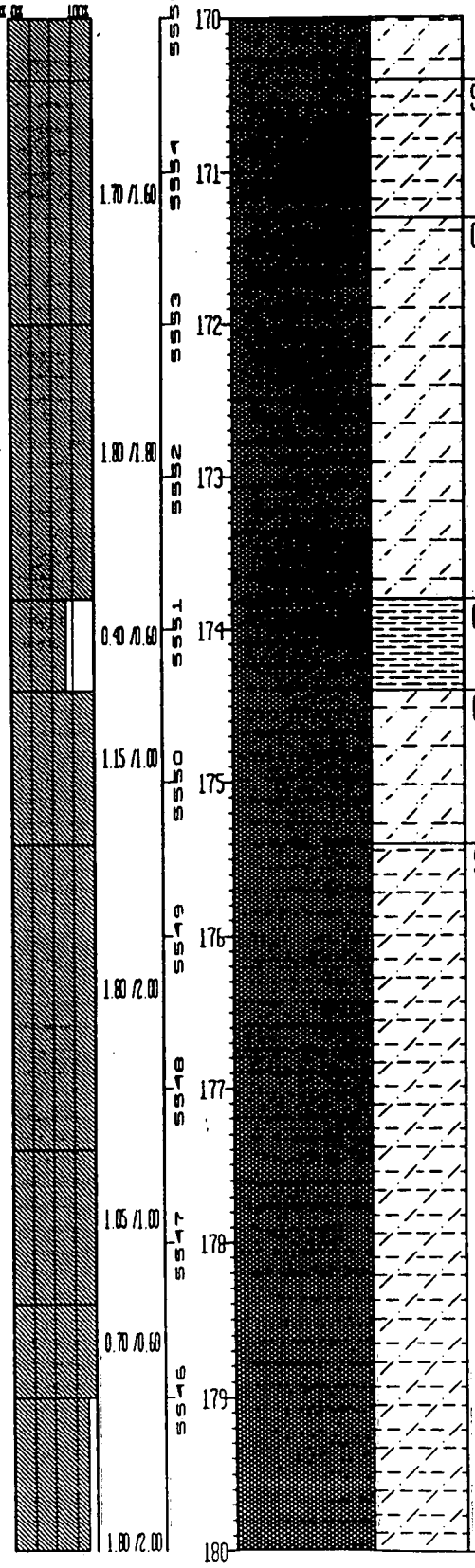
DEPTH (FT): 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION



SILTY CLAYSTONE: Olive gray (5 Y 4/1). Same as 168.0' to 169.7'.

CLAYEY SILTSTONE: Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Mod. well cemented, argillaceous. Porosity approx. 10%. 70% silt, 30% clay.

CLAYSTONE: Med. dark gray (N4) and dark yellowish brown (10 YR 4/2), mottled. Sticky when wet.

CLAYEY SILTSTONE: Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Mod. well cemented. High clay content (argillaceous). Carbonaceous.

SILTY CLAYSTONE: Pred. olive gray (5 Y 4/1) with olive black (5 Y 2/1). Mod. well to well indurated. Some concentric breaks along bedding planes (flat to approx. 2 degrees to 3 degrees). Some fractures, possibly drilling induced. Some intervals very silty. Entire interval carbonaceous (trace to concentrated).

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-89R	LOG OF BORING NUMBER:
NORTH: 749807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST: 2093921	LOCATOR NUMBER: I7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. AST Log.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: GR SAN

PERCENT RECOVERY: 100% GR 100%

RECOVERY/INTERVAL: 1.80/2.00; 1.70/1.40; 0.13/0.10; 1.80/1.60; 0.30/0.30; 1.20/1.20; 1.80/1.80; 1.60/1.60; 1.80/1.80

DATUM (FT): 5514, 5513, 5512, 5511, 5510, 5539, 5538, 5537, 5536

DEPTH (FT): 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE	Box 17 apparently dropped or spilled, remaining intervals cannot be measured. Core is all Silty Claystone in this box. Some light brown (5 YR 5/6) to mod. brown (5 YR 4/4). Ironstone (hematite nodules present below 184.4').
CLAYSTONE	Dark yellowish brown (10 YR 4/2) to yellowish gray (5 Y 7/2). Abundt. carbon. Some fracture faces with slickensides. No well developed bedding planes (massive). Slightly calcareous. Fracture angle approx. 30 degrees.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT):	5725.00	OLD WELL NUMBER:	53-89BR	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN):	2 3/8 O.D.	GEOLOGIST:	FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN):	4.0	DATE DRILLED:	09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0': Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%
PERCENT RECOVERY: 0% 100%
RECOVERY/INTERVAL: 1.80/1.60; 1.75/1.80; 1.80/1.80; 0.30/0.40; 1.45/1.60; 1.75/2.00
DATUM (FT): 5535, 5534, 5533, 5532, 5531, 5530, 5529, 5528, 5527, 5526
DEPTH (FT): 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SILTY CLAYSTONE:	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Carbonaceous, fractures to approx. 40 degrees. Some mod. well developed bedding planes, mod. indurated. Bedding angle approx. 1 degree to 3 degrees.
CLAYSTONE:	Brownish black (5 YR 2/1). Carbonaceous, heavily fractured with slickensides. Fracture angle approx. 70 degrees.
SILTY CLAYSTONE:	Dark yellowish brown (10 YR 4/2) to dusky yellowish brown (10 YR 2/2). Fault at contact between Claystone (above) and at this interval. Fracture angle approx. 45 degrees.
CLAYSTONE:	Pale yellowish brown (10 YR 6/2) to dark yellowish brown (10 YR 4/2). Heavily fractured with slickensides in top 1'. Very severly dessicated, cracked from 196.4' to 199.0'. Poorly developed bedding in bottom 0.5' of interval.
CLAYSTONE:	Becomes slightly silty to silty at bottom interval. Uniformly olive gray (5 Y 4/1). Trace of carbon. Mod. well indurated. Dessicated cracks in top half of interval. Slightly calcareous. Bedding angle - "approx. flat".

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-858R	LOG OF BORING NUMBER:
NORTH: 749807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI 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
				0.30 /0.40	5525	200			CLAYSTONE:	Olive gray (5 Y 4/1). Fracture at approx. 60 degrees with slickensides. Parallel fracture with slickensides on side of core. Clay mod. well indurated. Slightly calcareous.
				1.30 /1.10	5524	201			CLAYSTONE:	Pred. olive black (5 Y 2/1) with some olive gray (5 Y 4/1). Very carbonaceous. Severely dessication cracked in top of interval. Generally mod. friable. Slightly calcareous.
				1.80 /1.50	5523	202			CLAYSTONE:	Pred. olive gray (5 Y 4/1) with less olive black (5 Y 2/1) than above. Less carbon than above, and generally decreases with depth. Interval from 201.5' to 203.0' severely dessication cracked (from drying). Only trace carbon in lower .3' of core. Slightly calcareous.
					5522	203				
				1.6 /1.40	5521	204			SILTY CLAYSTONE:	Dark yellowish brown (10 YR 4/2). Trace carbon, slightly calcareous. Mod. well cemented.
				0.30 /0.30	5520	205			CLAYSTONE:	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Top half fractured (approx. 50 degrees) with slickensides. Trace carbon, slightly calcareous.
				1.75 /1.80	5519	206			CLAYSTONE:	Pred. olive black (5 Y 2/1) with some olive gray (5 Y 4/1). Very carbonaceous. Some drilling induced fractures, slightly calcareous.
				1.75 /1.70	5518	207			CLAYSTONE:	Dark gray (N3) to med. dark gray (N4). Carbonaceous. Slightly calcareous, mod. fissile. Severe dessication cracking from drying. Spotty Fe Oxide as mod. brown (5 YR 4/4) mottled staining. Poorly defined bedding planes. (Angle?) Extensively fractured (horiz. and vertical), likely drilling induced.
				0.20 /0.20	5517	208				
				1.35 /1.10	5516	209			CLAYSTONE:	Pred. light olive gray (5 Y 6/1). Similar to above except less carbon. Slightly calcareous. Note: Starting at 214.5', core is slightly calcareous on surface of core, but not on fresh surface. Core appears to have coating of calcareous mod. or clay from drilling.
						210				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-898R	LOG OF BORING NUMBER:
NORTH:	748807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST:	2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. AST 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
				1.75 /1.50	5515	210				
				1.15 /1.40	5514	211			CLAYSTONE	Slightly silty - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Non-calcareous, mod. indurated.
				0.60 /0.60	5513	212			CLAYSTONE	Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Mod. extensively fractured (to 80 degrees) with slickensides. Trace carbon in upper part of interval to abundt. in lower part (approx. .6').
				1.65 /1.50	5512	213				
				1.80 /1.50	5511	214			CLAYSTONE	Carbonaceous - grayish black (N2) to olive black (5 Y 2/1). Severe dessicant cracks from drying. Poorly defined bedding planes. Drilling induced horiz. fracturing. Clays mod. to easily friable.
				0.80 /0.40	5510	215			CLAYSTONE	Olive gray (5 Y 4/1). Much less carbon than above. Severely dessication cracking.
				0.50 /0.60	5509	216			CLAYSTONE	Olive black (5 Y 2/1). Indurated, carbonaceous. Partially silty.
				1.90 /2.00	5508	217			SILTY CLAYSTONE	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Some mod. well developed bedding planes at approx. 6 degrees to 8 degrees. Mod. indurated, vertically fractured with slickensides in middle of interval (approx. 80 degrees).
				1.60 /1.40	5507	218				
					5506	219			SILTY CLAYSTONE	Silty Claystone to 219.7' - pred. light olive gray (5 Y 6/1). Claystone 219.7' to T.D. - light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Viterous texture. Entire interval badly mixed when opened, reassembled core for description.
						220				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 220.4	GROUND ELEVATION (FT): 5725.00	OLD WELL NUMBER: 53-898R	LOG OF BORING NUMBER:
NORTH: 749807	AREA: BUFFER EAST	CASING DIAMETER (IN): 2 3/8 O.D.	GEOLOGIST: FG/LAH	B317189
EAST: 2093921	LOCATOR NUMBER: T7	BOREHOLE DIAMETER (IN): 4.0	DATE DRILLED: 09/13/89	

REMARKS: Hollow Stem Auger 0.0-36.0'; Rotary Core 36.0'-220.0'. Set steel surface casing to 36.0' below ground surface on Sept. 5, 1989 by C.M. Marzicola. ASI Log.

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
		0% 50%	100% 0% 100%		5505	220				
					5504	221				
					5503	222				
					5502	223				
					5501	224				
					5500	225				
					5499	226				
					5498	227				
					5497	228				
					5496	229				
						230				

Total Drilled Depth = 220.4'.

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 57	GROUND ELEVATION (FT)	5954.10	OLD WELL NUMBER	65-898R	LOG OF BORING NUMBER
NORTH: 749255	AREA EAST TRENCHES	CASING DIAMETER (IN):		GEOLOGIST:	F GRIGSBY	B318889
EAST: 2087482	LOCATOR NUMBER: 09	BOREHOLE DIAMETER (IN):		DATE DRILLED:	11/20/89	

REMARKS: Hollow Stem Auger. Set 5 5/8" surface casing to 57.0' on 11/21/89 by R.D. Morrow. Borehole backfilled with volclay grout to surface. AST Log.

CHEMICAL & 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
B318889D002			0.80 /1.00	5954	0			GW:	Gravel with Silty Sand, trace Clay - dusky yellowish brown (10 YR 2/2). Max. pebble size 2 in. Dom. lithology quartzite, sub-angular to angular. Sand well graded, consists of quartz, feldspar, quartzite, sub-angular to sub-rounded, low plasticity. Color change at 0.3' to very pale orange due to coliche (calcareous). (gw-gc) (Sandy Gravel with trace Fines). 55% gravel, 40% sand, 5% fines
B318889D003			0.00 /1.00	5953	1				
				5952	2			NO SAMPLE:	NO SAMPLE.
			1.80 /2.00	5951	3			SC:	Well Graded Sand with Clay, Silt and some Gravel - pale yellowish brown (10 YR 6/2) to very pale orange (10 YR 8/2). Calcareous (coliche). Sand lithology quartz, feldspar and some quartzite, sub-angular to sub-rounded. Gravel approx. 1/2 in., sub-angular quartzite. Fines, med. to low plasticity, well weathered. (Clayey Sand with some Gravel and some Silt). 10% gravel, 60% sand, 30% fines, (clay 50%+ of fines).
				5950	4				
B318889D006								SW:	Well Graded Sand with Clay and Silt, increase in Gravel content. Color change to grayish orange (10 YR 7/4). Lithology same as above. Fines, low plasticity, calcareous, well weathered. (Gravelly Sand with trace Fines). (sw-sc) 20% gravel, 75% sand, 5% fines.
B318889D007			0.70 /2.00	5949	5				
				5948	6			SW:	Well Graded Sand same as above. Color change to pred. mod. yellowish brown (10 YR 5/4), calcareous. Very little sample from 8.0' to 10.0', well weathered. (Gravelly Sand with trace Fines). >20% gravel, 75% sand, <5% fines.
			0.50 /2.00	5947	7				
				5946	8				
B318889D010			0.40 /2.00	5945	9				
					10				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 57	GROUND ELEVATION (FT) 5954.10	OLD WELL NUMBER 65-89BR	LOG OF BORING NUMBER	
NORTH 749255	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST F GRIGSBY	B318889	
EAST 2087482	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)	DATE DRILLED 11/20/89		

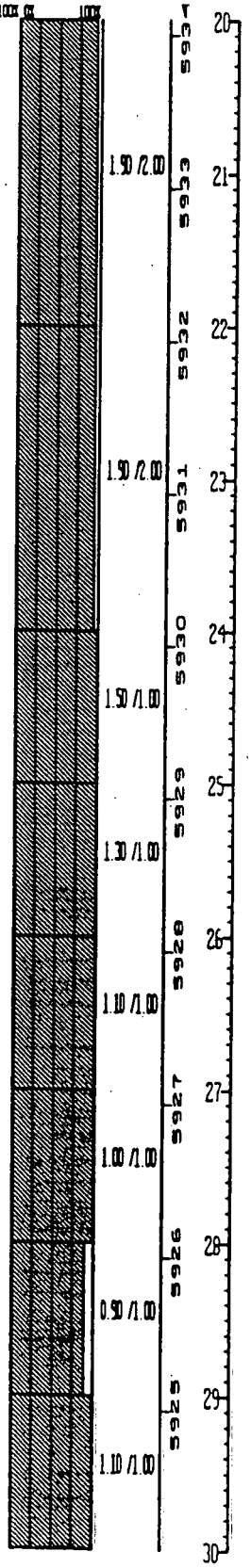
REMARKS Hollow Stem Auger. Set 5 5/8" surface casing to 57.0' on 11/21/89 by R.D. Morrow. Borehole backfilled with volclay grout to surface.
ASI Log

CHEMICAL / GEOTECH	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%		5944	10			GW:	Well Graded Gravel with Sand and Clay. Pale yellowish brown (10 YR 6/2) with some dark yellowish orange (10 YR 6/6) mottling. Gravel pred. quartzite to max. size of 2.5 in., subrounded to angular. Sand well graded, sub-angular to subrounded. Dom. lithology quartz, feldspar, some quartzite, some mica. Fines pred. silt, low plasticity. Bottom 0.3' of core is clay with gravel. Possible top of scour surface (bedrock). Interval partly calcareous. (Sandy Gravel with trace Fines) (gw-gc) 50% gravel, 45% sand, 5% fines.
				1.20 /2.00	5943	11				
					5942	12			GC:	Well Graded Gravel with Clay. Light olive gray (5 Y 6/1) with grayish orange mottling (Fe staining). (Clayey Gravel) >50% gravel, <50% clay.
	B3188891114									
	B3188891214			1.65 /2.00	5941	13			CL:	Clay - light olive gray (5 Y 6/1), very dense clay. Trace of iron staining. Some gravel imbedded in top 1-2 in. Interval partially calcareous. >95% fines.
					5940	14			CLAYSTONE:	Top of Bedrock at 14.3'. Pred. light olive gray with trace of Fe staining (sparse) of dark yellowish orange. Some intervals slightly silty. White calcareous nodule at approx. 1.2'. Entire interval partially calcareous. No apparent bedding or fractures. >95% fines.
				1.55 /2.00	5939	15				
					5938	16			CLAYSTONE:	Color grades from light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Possible silty intervals (less than 10% silt). Some indurated clays, possibly subtle bedding planes (horiz. to very low angle). Some hematite coating on apparent fracture surfaces. Some drilling induced fractures. >95% fines.
	B3188891418									
	B3188891618			1.50 /2.00	5937	17				
					5936	18				
				1.75 /2.00	5935	19				
						20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 57	GROUND ELEVATION (FT) 5954.10	OLD WELL NUMBER 65-898R	LOG OF BORING NUMBER
NORTH	749255	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST F GRIGSBY	B318889
EAST	2087482	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)	DATE DRILLED 11/20/89	

REMARKS: Hollow Stem Auger. Set 5 5/8" surface casing to 57.0' on 11/21/89 by R.D. Narrow. Borehole backfilled with volclay grout to surface.
AST Log

CHEMICAL DEPTH / GEOTECH 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

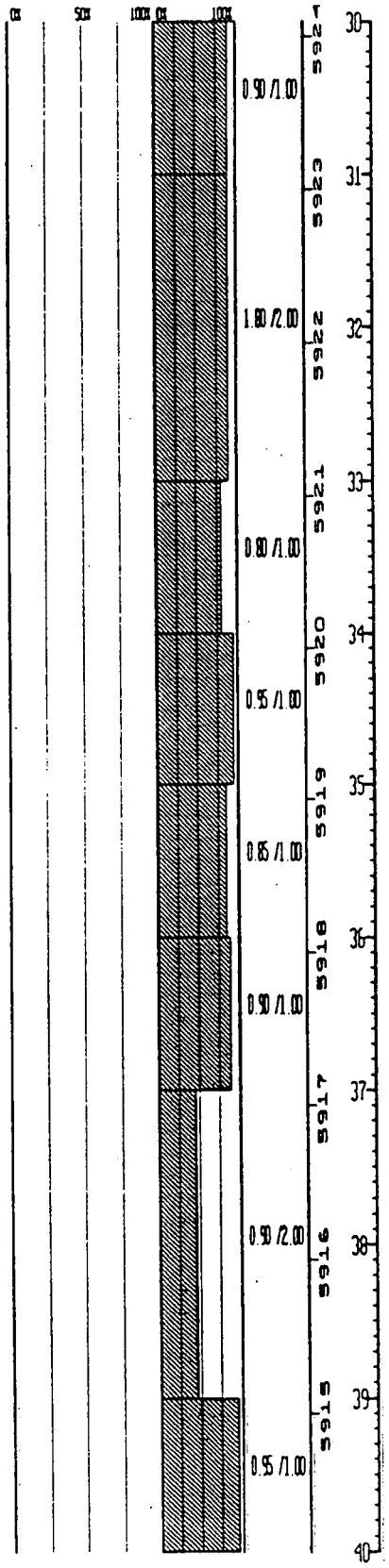


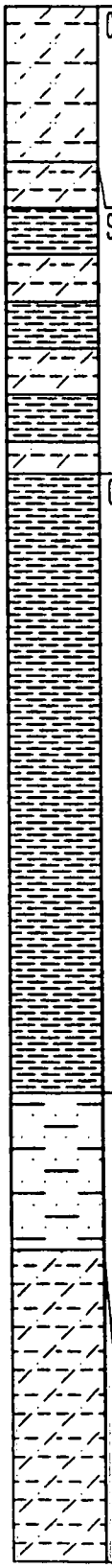
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Grades from light olive gray (5 Y 6/1) at top of interval to light olive gray (5 Y 5/2) at bottom. Becomes heavily mottled with Fe staining (mod. yellowish brown (10 YR 5/4)) with depth. Indications of both horiz. and vertical fracturing with iron oxide fracture fillings and coatings on surfaces. Trace of carbonaceous material. >95% fines.
CLAYEY SILTSTONE	Yellowish gray (5 Y 7/2) with grayish orange mottling (Fe staining). Mod. friable, porosity est. 10%. Heavy Fe (hematite) coatings may occur along horiz. fractures or bedding planes. >95% fines.
CLAYEY SILTSTONE	Clayey Siltstone grading to Silty Claystone grading to Claystone. Pred. yellowish gray (5 Y 7/2) with dark yellowish orange (10 YR 6/6) mottling (Fe staining). Siltstone mod. friable, apparent drilling induced fractures. >95% fines.
CLAYSTONE	Pale yellowish brown (10 YR 6/6) with dark yellowish orange (10 YR 6/6) mottling (Fe staining). Mn staining on some fracture surfaces. Clay indurated when dry, sticky when wet. Some poorly developed bedding, drilling induced fractures. >95% fines.
SILTY CLAYSTONE	Silty Claystone to approx. 28.5' then grades into Clayey Siltstone and Siltstone to approx. 29.5' then to Claystone to approx. 30.0'. Color pale yellowish brown (10 YR 6/2) with mod. brown (10 YR 4/4) and dark yellowish orange (10 YR 6/6) mottling (Fe staining). Siltstone mod. friable. Clay indurated when dry. Becomes silty at 30.0'.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 57	GROUND ELEVATION (FT)	5954.10	OLD WELL NUMBER	65-898R	LOG OF BORING NUMBER
NORTH	749255	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	F. GRIGSBY	B318889
EAST	2087482	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)		DATE DRILLED	11/20/89	

REMARKS: Hollow Stem Auger. Set 5 5/8" surface casing to 57.0' on 11/21/89 by R.D. Morrow. Borehole backfilled with volclay grout to surface.
AST Loc

GEOTECHNICAL 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





CLAYEY SILTSTONE: Clayey Siltstone with some very silty intervals. Color pred. pale yellowish brown (10 YR 6/2), with mod. yellowish orange (10 YR 6/6) and mod. yellowish brown (10 YR 5/4), mottling (Fe staining). Some carbon and some Mn staining. Siltstone mod. friable.
>95% fines.

SILTY CLAYSTONE: Interbedded Silty Claystone and Claystone. Light olive gray (5 Y 6/1) with dark yellowish orange (10 YR 6/6) mottling (Fe staining). 31.0' to 31.2' and 31.8' to 32.3' Silty Claystone. Trace Mn staining, some small hematite nodules. Drilling induced fractures, possibly poorly developed bedding (horiz.-flat).
>95% fines.

CLAYSTONE: Light olive gray (5 Y 6/1) to approx. 34.0'. Color change brownish gray (5 YR 4/1) from 34.0' to approx. 37.0'. Dark yellowish orange mottling (10 YR 6/6) throughout. Heavy from 33.0' to 34.0' (Fe staining). Some slightly silty intervals. Drilling induced fractures. Poorly defined flat bedding, some concentric fractures.
>95% fines.

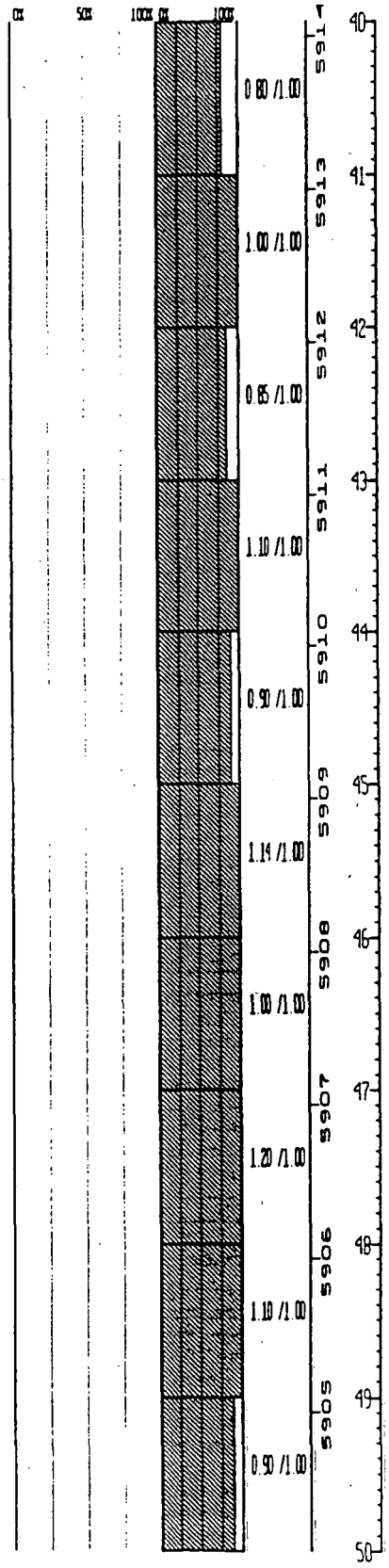
CLAYEY SANDSTONE: Clayey Sandstone v.f.g., 37.2' to 37.8' with Silty Claystone at top and bottom of interval. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Sandstone mod. friable. Poorly defined bedding (flat) with hematite staining along bedding planes (dark yellowish orange (10 YR 6/6) zones). Drilling induced fractures.
55% sand, 45% fines.

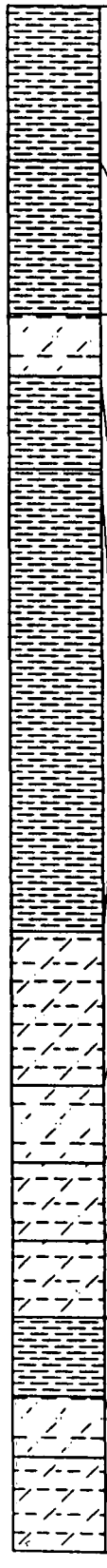
SILTY CLAYSTONE: Pale yellowish brown (10 YR 6/2) to light olive gray (5 Y 5/2). Amount of silt varies, some mottling due to Fe staining. Poorly defined flat bedding. Drilling induce fractures.
>95% fines.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 57	GROUND ELEVATION (FT) 5954.10	OLD WELL NUMBER 65-898R	LOG OF BORING NUMBER
NORTH	749255	AREA EAST TRENCHES	CASING DIAMETER (IN)	GEOLOGIST F GRIGSBY	B318889
EAST	2087482	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)	DATE DRILLED 11/20/89	

REMARKS: Hollow Stem Auger Set 5 5/8" surface casing to 57.0' on 11/21/89 by R D Morrow Borehole backfilled with volclay grout to surface
ASI Log

CHEMICAL SAMPLE DEPTH
GEOTECH 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	Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1) with dark yellowish orange (10 YR 6/6) mottling (hematite coating and staining). Drilling induced fractures. Indurated when dry, friable and sticky when wet. >95% fines.
CLAYSTONE	Some silt. Dark yellowish brown (10 YR 4/2) with some dark yellowish orange (10 YR 6/6) mottling (hematite staining). Indurated when dry, sticky and slightly friable when wet. >95% fines.
CLAYEY SILTSTONE	Light olive gray (5 Y 6/1) with some dark yellowish orange (10 YR 6/6) mottling (hematite coating and staining). Trace Mn. >95% fines.
CLAYSTONE	Claystone with some Silt from 42.4' to bottom of core. Pred. dark yellowish brown (10 YR 4/2) less Fe staining than above. >95% fines
CLAYSTONE	Some silt. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1) with dark yellowish orange (10 YR 6/6) mottling (hematite staining). Iron staining mod. heavy 45.0' to 46.0'. Sharp color change to dusky yellow (5 Y 6/4) in bottom 2 in of core (probably due to disseminated hematite). Bedding poorly defined (flat?). Drilling induced fractures. Clay indurated when dry, sticky and mod. friable when wet. >95% fines.
SILTY CLAYSTONE	Dark yellowish brown (10 YR 4/2) in top 3 in of core with some dark yellowish orange (10 YR 6/5) mottling (Fe staining). Changes to alternating layers of pale yellowish brown (10 YR 6/2). Silty clays with dark yellowish orange (10 YR 6/6), pred. silty layers. >95% fines.
CLAYEY SILTSTONE	Dark yellowish brown (10 YR 4/2) with heavy hematite rich zones, dark yellowish orange (10 YR 6/6). >95% fines.
SILTY CLAYSTONE	Same as 46.0' to 47.0' interval, with carbon. >95% fines.
SILTY CLAYSTONE	Pale yellowish brown (10 YR 6/2) to dark yellowish brown (10 YR 4/2). Much less hematite staining. >95% fines.
CLAYSTONE	Brownish gray (5 YR 4/1) convoluted structure. Possible poorly developed bedding. No Fe staining. >95% fines.
CLAYEY SILTSTONE	Abundt. hematite staining, light olive gray (5 Y 6/1) with dark yellowish orange (10 YR 6/6) coating and staining as mottles. Slightly friable. >95% fines.

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 57	GROUND ELEVATION (FT)	5954.10	OLD WELL NUMBER	65-89BR	LOG OF BORING NUMBER
NORTH	749255	AREA EAST TRENCHES	CASING DIAMETER (IN)		GEOLOGIST	F GRIGSBY	B318889
EAST	2087482	LOCATOR NUMBER 09	BOREHOLE DIAMETER (IN)		DATE DRILLED	11/20/89	

REMARKS Hollow Stem Auger. Set 5 5/8" surface casing to 57.0' on 11/21/89 by R.D. Morrow. Borehole backfilled with volclay grout to surface

ASI Log

CHEMICAL SAMPLE DEPTH / GEOTECH SAMPLE DEPTH / SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	0% 50% 100%	0% 100%	1.10 /1.00	5904	50			SILTY CLAYSTONE	Pred dusky yellowish brown (10 YR 2/2) No significant Fe staining. Calcareous at 51.6' to 51.85' Very carbonaceous in some zones with trace of carbon throughout. All fractures and slickensides appear to be drilling induced. Possible poorly developed bedding planes. Clay indurated when dry, sticky to slightly friable when wet (depending on silt content).
			1.20 /1.00	5903	51				
			1.60 /1.00	5902	52				
			1.20 /1.00	5901	53				
			1.00 /1.00	5900	54				
			1.00 /1.00	5899	55				
			1.50 /1.00	5898	56				
				5897	57				Total Drilled Depth = 57.0'
				5896	58				
				5895	59				
					60				

1990
BOREHOLES/MONITORING WELLS

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 4

Borehole/Well Id:	B300190	Drilling Company:	Boyles Bros.
Northing (ft):	35074.9	Driller:	DVStyles
Easting (ft):	22315.7	Helper:	ALBoday
Ground Surface Elev (ft):	5916.3	Rig Type:	B-57
Total Depth (ft):	10.0/28.0	Drilling Method:	HS Auger/NX Core
Logged By:	SPCarpenter/RMSengebush	Drilling Fluid:	None/Water
Checked By SM:		Date Started:	2/2/90
Checked By PM:		Date Completed:	2/7/90
QA By / Date:	JEM 02/08/90	Well Type:	BH
Comments:	French drain geotechnical study. Surface casing set to 10.0' below ground surface on 02/05/90.		

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0–1					60		**TOPSOIL** 0.0 to 2.0': RUN RECOVERED 1.2/2.0 0.0 to 0.7': SANDY GRAVELLY CLAY; dusky yellowish brown (10YR 4/2); fine to very coarse grained sand; 1 to 6 cm gravels; clayey; silty; poor sorting; subrounded to subangular; quartzose; low plasticity; medium dense; moist. **COLLUVIUM** 0.7 to 1.2': SANDY GRAVELLY CLAY: same as above; moderate yellowish brown (10YR 5/4).	Monitoring Instrument Background Levels: HNu: 0.0 OVA: 20.0 All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. TRIP BLANK SAMPLE TB0202901
2–3					90		2.0 to 4.0': RUN RECOVERED 1.8/2.0' SILTY SANDY CLAY; light brown (5YR 5/6); moderate yellowish brown (10YR 5/4); grading to yellowish gray (5Y 7/2); nonstratified; very fine to very coarse grained sand; some 1 to 3 cm gravels; poor sorting; subangular; quartzose; low to medium plasticity; calcareous grading to caliche in lower zone; stiff; moist to damp	0.0 to 1.2': SAMPLE (VOA'S ONLY) B3001900002 2.0 to 3.8': SAMPLE (VOA'S ONLY) B3001900204 0.0 to 6.0': SAMPLE B3001900006 B3001900006D
4–6					100		4.0 to 6.0': RUN RECOVERED 2.0/2.0' CLAYEY SANDY SILT; medium dark gray (N 4/0), light olive gray (5Y 6/1), grading to moderate yellowish brown (10YR 5/4), dark yellowish orange (10YR 6/6); mottled to banded; nonstratified; very fine to some medium grained sand; inclusions of claystone; very calcareous; some root hairs; iron staining; low to medium plasticity; dense to medium dense; damp.	4.0 to 6.0': SAMPLE (VOA'S ONLY) B3001900406 B3001900406D

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300190

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
7					100		**BEDROCK** 6.0 to 8.0': RUN RECOVERED 2.0/2.0' SILTY CLAYEY SANDSTONE; very light gray (N 8/0), grayish orange (10YR 7/4), light brown (5YR 5/6); mottled to banded; lensed with silty claystone at 6.8 to 7.0' and 7.4 to 7.6'; very fine to trace medium grained sand; moderate to well sorted; subrounded; quartzose; low to medium plasticity in claystone lenses; iron stained; trace caliche lenses; slightly cemented; weathered; medium to hard; damp.	6.0 to 8.0': SAMPLE (VOA'S ONLY) B3001900608
8					95		8.0 to 10.0': RUN RECOVERED 1.9/2.0' SILTY CLAYEY SANDSTONE: same as above; medium gray (N 5/0); very light gray (N 8/0); olive gray (5Y 4/1); claystone lens at 9.0 to 9.4'. TOTAL AUGERED DEPTH = 10.0'	8.0 to 9.9': SAMPLE (VOA'S ONLY) B3001900810
9								
10					40	0	10.0 to 12.5': RUN RECOVERED 1.0/2.5' RQD = 0/2.5 SILTY CLAYEY SANDSTONE: dark yellowish orange (10YR 6/6); mottled with gray and patches of white clay to 2.5 cm in diameter; irregular shapes; blocky; indistinct bedding; very fine to fine grained sand; very well sorted; abundant muscovite grains; trace to some clay; heavily weathered; stiff to hard; damp.	10.5 to 10.8': SAMPLE (GEOTECHNICAL) GTB300190105108 10.2': 45 deg.; 10.4': 45 deg.; 10.6': 45 deg.; 10.8': 45 deg.;11.0': 45 deg. 10.0 to 11.0': LITHOLOGY Field interpertation changed from SANDY SILTYSTONE to SILTY CLAYEY SANDSTONE based on grain size analysis. 12.8': 45 deg.; 13.0': 45 deg.; 13.2': 45 deg.
11								
12								
13					100	64	12.5 to 15.0': RUN RECOVERED 2.5/2.5' RQD 1.6/2.5 12.5 to 12.9': SILTY CLAYSTONE; dark yellowish orange (10YR 6/6); blocky; iron nodules at 12.5' and 12.9'; weathered; low to medium plasticity; stiff; damp. 12.9 to 13.0': SANDY SILTSTONE; same as 10.0 to 12.5'. 13.0 TO 14.4': SILTY CLAYSTONE; same as 12.5 to 12.9'.	
14								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 3 of 4

Borehole/Well Id: B300190

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
							14.4 to 14.7': CLAYEY SILTSTONE; same as 10.0 to 12.5'; interbedded with silty claystone; low plasticity. 14.7 to 15.0': SANDY SILTSTONE; same as 10.0 to 12.5'; interbedded with silty sandstone 2 to 5 mm thick.	PACKER TEST: 13.00 to 20.25'
15					100	57	15.0 to 19.0': RUN RECOVERED 3.6/4.0' RQD 2.3/4.0' 15.0 to 15.6': CLAYEY SILTSTONE; pale yellowish brown (10YR 6/2); light olive gray (5Y 5/2); trace gravel and iron concretions; low to medium plasticity; stiff; damp. 15.6 to 15.8': SANDY SILTSTONE; very fine grained sand; low plasticity; soft; damp. 15.8 to 16.4': CLAYEY SILTSTONE; same as 15.0 to 15.6'. 16.4 to 16.8': SANDY SILTSTONE; sand as 15.6 to 15.8': up to 5 mm laminations of silty sandstone; very fine to fine grained. 16.8 to 17.2': SILTY SANDSTONE: very fine grained; well sorted; round; quartzose; trace clay; low to nonplastic; noncemented. 17.3 to 17.6': SANDY SILTSTONE; same as 15.6 to 15.8'; trace to some clay. 17.6 to 18.6': SILTY CLAYSTONE; interbedded with siltstone; some clay to some sand.	15.2': 45 deg.; 15.4': 45 deg.; 15.6': 45 deg. 16.3': 45 deg.; 16.4': 45 deg.; 16.6': 45 deg. PACKER TEST: 16.11 to 22.37' 16.8 to 17.3': SAMPLE (GEOTECHNICAL) GTB3001902168173 17.1': 45 deg.; 17.3': 45 deg. 18.4': 45 deg. PACKER TEST: 18.82 to 25.08'
16								
17								
18								
19					100	73	19.0' to 23.0': RUN RECOVERED 4.0/4.0' RQD = 2.9/4.0' CLAYSTONE: dark yellowish orange (10YR 6/6) and medium dark gray (N 4/0); interlayered beds of siltstone 0.05' thick; as described in 10.0 to 12.5'; gravel lenses to 0.17' thick; 0.08' apart; 0.01 to 0.1' in diameter; subrounded to subangular; clast are siltstone; one iron nodule; very hard; not calcareous.	19.2': 45 deg. 19.4': 45 deg. 19.6'; 45 deg. 20.3': 45 deg. 21.3': 30-45 deg.; 21.7': 30-45 deg.; 22.4': 30-45 deg.
20								
21								
22								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300190

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
23					100	80	23.0 to 27.0': RUN RECOVERED 4.0/4.0' RQD = 3.2/4.0' CLAYSTONE AND SILTSTONE; as described in 19.0 to 23.0; mottled gray and orange; no gravel; moderately weathered.	23.0 to 23.4': SAMPLE (GEOTECHNICAL) GTB300190323234 23.4': 45 deg.; 28.6': 45 deg.; 23.8': 45 deg.; 24.3': 45 deg. 25.1': 45 deg. 25.3': 45 deg. 25.7': 45 deg. 26.1 to 26.7': SAMPLE (GEOTECHNICAL) GTB3001904271277
24								
25								
26								
27					100	0	27.0 to 28.0': RUN RECOVERED 1.0/1.0' RQD = 0.0/1.0' CLAYEY SILTSTONE; interbedded with silty claystone; moderate yellowish brown (10YR 5/4); limonite to 10%; dark yellowish orange (10YR 6/6); blocky; broken; iron oxide nodules to 0.08' thick in 3 zones in 1.0'; moderately weathered; stiff to hard; damp.	27.0': 45 deg.; 27.2': 45 deg.; 27.4': 45 deg. 27.6': 45 deg.; 27.8': 45 deg.; 28.0': 45 deg.
28							TOTAL BOREHOLE DEPTH = 28.0'.	
29								
30								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 4

Borehole/Well Id:	B300290	**Drilling Company:**	Boyles Bros.
Northing (ft):	35031.7	**Driller:**	DVStyles
Easting (ft):	22227.9	**Helper:**	ALBoday
Ground Surface Elev (ft):	5909.4	**Rig Type:**	B-57
Total Depth (ft):	10.0/28.0	**Drilling Method:**	HS Auger/NX Core
Logged By:	SPCarpenter/RMSengebush	**Drilling Fluid:**	None/Water
Checked By SM:	JEMarks 7/10/90	**Date Started:**	2/5/90
Checked By PM:		**Date Completed:**	2/7/90
QA By / Date:	SPC 03/26/90	**Well Type:**	BH
Comments:	French drain geotechnical study. Surface casing set to 10.0' below ground surface on 02/05/90.		

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0–1					50		0.0 to 2.0': RUN RECOVERED 1.0/2.0' TOPSOIL 0.0 to 0.4': GRAVELLY SANDY CLAY. COLLUVIUM 0.4 to 1.01' GRAVELLY SANDY CLAY: pale brown (5YR 5/4); moderate brown (5YR 4/4); nonstratified; fine to very coarse grained sand; 1 to 5 cm gravels; poor sorting; subangular; sandstone to quartzose; low plasticity; stiff; damp.	Monitoring Instrument Background Levels: HNu: 0.0 OVA: 20.0 All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. TRIP BLANK SAMPLE TB020590 0.0 to 1.0': SAMPLE (VOA'S ONLY) B3002900002 0.0 to 3.0': SAMPLE B3002900004
2–3					55		2.0 to 4.0': RUN RECOVERED 1.1/2.0' SANDY CLAY: grayish orange (10YR 7/4); dark yellowish brown (10YR 4/2); mottled; nonstratified; fine to very coarse grained sand; some 1 to 3 cm gravels; some silt; scattered claystone pieces less than 1 cm; poor sorting; subangular; quartzose; medium plasticity; calcareous; very stiff; damp to dry.	2.0 to 3.1': SAMPLE (VOA'S ONLY) B3002900024
4–5					95		4.0 to 6.0': RUN RECOVERED 1.9/2.0' SILTY SANDY CLAY: pale brown (5YR 5/2); dusky yellow (5Y 6/4); light olive gray (5YR 5/2); very mottled; nonstratified; reworked claystone; some sand to sandy; trace gravels; very calcareous to caliche zones; medium plasticity; very stiff; damp.	4.0 to 5.9': SAMPLE (VOA'S ONLY) B3002900406 4.0 to 7.5': SAMPLE B3002900408
6								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300290

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
					75		**BEDROCK** 6.0 to 8.0': RUN RECOVERED 1.5/2.0' 6.0 to 7.0': SILTY SANDSTONE: yellowish gray (5Y 7/2); dusky yellow (5Y 6/4); mottled; nonstratified; fine to medium grained sand; well sorted; rounded; quartzose; scattered claystone inclusions; very fractured; scattered iron staining; very calcareous; low to nonplastic; weathered; firm; damp. 7.0 to 7.5': CLAYSTONE: olive gray (5Y 6/4); nonstratified; blocky; silty; very fractured with iron staining; some caliche; medium plasticity; weathered; firm; damp to moist.	6.0 to 7.5': SAMPLE (VOA'S ONLY) B3002900608
7								
8					100		8.0 to 10.0': RUN RECOVERED 2.0/2.0' SILTY CLAYSTONE: light olive gray (5Y 6/1); medium dark gray (N 4/0); blocky; fractured; filled with iron staining and occasional caliche; medium plasticity; slightly weathered; hard; damp. TOTAL AUGERED DEPTH = 10.0'	8.0 to 10.0': SAMPLE (VOA'S ONLY) B3002900810
9								
10					100	0	10.0 to 10.75': RUN RECOVERED 0.75/0.75' RQD = 0.0/0.75' CLAYSTONE: brownish gray (5YR 4/1); slightly blocky; some silt; homogeneous; trace orange iron oxide staining in fractures; medium plasticity; heavily weathered; stiff; damp to dry.	10.2'; vertical 10.4'; vertical 10.6'; vertical Fractures are near vertical; ~~irregular; limonite filled; 1%~~
11					15	0	10.75 to 14.0': RUN RECOVERED 0.50/3.25' RQD = 0.0/3.25' CLAYSTONE: light olive gray (5Y 5/2); no structure or bedding; pieces up to 0.17' long mixed with smaller chunks; heavily weathered; firm; damp. NOTE: drill cuttings only recovered.	
12								
13								
14								

GROUNDWATER

	DEPTH	HOUR	DATE
∇		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300290

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
15					100	100	14.0 to 16.0': RUN RECOVERED 2.0/2.0' RQD = 2.0/2.0' CLAYEY SILTSTONE: light olive gray (5Y 5/2) with trace of iron oxide stain; dark yellowish orange (10YR 6/6); trace white (N 9/0); mottled; slightly banded; thinly laminated or varved; interbedded with 1 to 2 mm laminations of sandy siltstone and silt sandstone; very fine grained limonite 1 to 2 %; trace of black (N 1/0) manganse oxide or carbonaceous debris; not plastic; moderately weathered; stiff; damp to dry.	Mechanical fractures only, No apparent natural fractures PACKER TEST: 14.95 to 21.25'
16					83	77	16.0 to 19.0': RUN RECOVERED 2.5/3.0' RQD 2.3/3.0' 16.0 to 18.3': SILTY CLAYSTONE: light olive gray (5Y 5/2); trace to some iron oxide dark yellowish orange (10YR 6/6); mottled with trace carbon 18.3 to 18.5'; black (N 1/0); trace to some sand; very fine grained.	16.9 to 17.2': SAMPLE (GEOTECHNICAL) GTB30029011169172
17								
18							18.3 to 18.5': SANDY SILTSTONE; platy; laminated or varved; blocky fracture when broken moderately weathered; stiff to hard; damp to dry.	PACKER TEST: 18.09 to 24.35' 18.3'; 10 deg.
19					78	71	19.0 to 23.5': RUN RECOVERED 3.5/4.5' RQD = 3.2/4.5' SILTY CLAYSTONE: light olive gray (5Y 5/2) with trace to some iron oxide stain; dark yellowish orange (10YR 6/6) and trace black (N 1/0) manganse stained; grading to clayey siltstone; thinly laminated; blocky fractured when broken; moderately weathered; hard to cemented; dry.	19.9 to 20.5': SAMPLE (GEOTECHNICAL) GTB3002902199205
20								
21								21.0'; vertical fracture mangenese nodule to 1" in diameter
22								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300290

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
23								22.2'; 10 deg.
24					100	93	23.5 to 26.5': RUN RECOVERED 3.0/3.0' RQD = 2.8/3.0' SILTY CLAYSTONE: light olive gray (5Y 5/2) with orange and black as in 19.0 to 23.5'; thinly laminated clay and silty clay; some sand to sandy; with pockets of silty sand up to 1 cm; possible flame structure or bioturbation in beddings (0.08 to 0.17'); siltstone nodules to 1 cm in diameter; calcareous; effervesce in HCL; moderately weathered; stiff to hard; dry.	Water loss at 24.0'
25								24.5 to 25.0': SAMPLE (GEOTECHNICAL) GTB300290324525
26								25.4'; 10 deg. 26.2'; 10 deg.
27					100	100	26.5 to 28.0': RUN RECOVERED 1.5/1.5' RQD = 1.5/1.5' SILTY CLAYSTONE: same as in 23.5 to 26.5'.	26.7 to 27.0': SAMPLE (GEOTECHNICAL) GTB3002904267270 27.0'; 10 deg. 27.5'; 10 deg.
28							TOTAL BOREHOLE DEPTH = 28.0'.	
29								
30								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id:	B300390	Drilling Company:	Boyles Bros.
Northing (ft):	34990.4	Driller:	DVStyles
Easting (ft):	22134.6	Helper:	ALBoday
Ground Surface Elev (ft):	5904.6	Rig Type:	B-57
Total Depth (ft):	13.0/31.7	Drilling Method:	HS Auger/NX Core
Logged By:	SPCarpenter/RMSengebush	Drilling Fluid:	None/Water
Checked By SM:		Date Started:	2/7/90
Checked By PM:		Date Completed:	2/12/90
QA By / Date:	JEM 02/14/90	Well Type:	BH

Comments: French drain geotechnical study. Surface casing set to 13.0' below ground surface on 02/07/90.

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0					0		0.0 to 2.0': RUN RECOVERED 0.0/2.0 = 0%	Monitoring Instrument Background Levels: HNu: 0.0 OVA: 20.0 All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. TRIP BLANK SAMPLE TB020791
1								
2					90		COLLUVIUM 2.0 to 3.0': RUN RECOVERED 0.9/1.0 2.0 to 2.5': GRAVELLY SANDY CLAY; grayish brown (5YR 3/2); nonstratified; fine to very coarse grained sand; gravels to cobbles; some silt; poor sorting; subangular; granite to quartzose; low to medium plasticity; stiff; damp.	2.0 to 2.9': SAMPLE, (VOA'S ONLY) B3003900203 2.0 to 4.0': SAMPLE B3003900004
3					85		2.5 to 2.9': SANDY SILTY CLAY; dark yellowish orange (10YR 6/6), moderate brown (5YR 4/4); mottled; nonstratified; trace fine to coarse grained sand; poor sorting; subrounded; quartzose; claystone inclusions; calcareous; medium plasticity; stiff; damp.	3.0 to 4.7': SAMPLE (VOA'S ONLY) B3003900305
4							3.0 to 5.0': RUN RECOVERED 1.7/2.0' SANDY CLAY: moderate brown (5YR 4/4); yellowish gray (5Y 7/2); banded; stratified; fine to very coarse grained sand; some gravels; poor sorting; subrounded; quartzose; claystone inclusions at 3.6 to 4.2'; calcareous; low to medium plastic; stiff; damp.	4.0 to 6.3': SAMPLE B3003900408
5					65		5.0 to 7.0': RUN RECOVERED 1.3/2.0' 5.0 to 5.4': CLAY; yellowish gray (5Y 7/2); light olive gray (5Y 5/2); dusky yellow (5Y 6/4); mottled; nonstratified; reworked claystone; calcareous; stiff; damp. 5.4 to 5.6': CLAYEY SAND; moderate yellowish brown	5.0 to 6.3': SAMPLE (VOA'S ONLY) B3003900050
6								

GROUNDWATER

DEPTH	HOUR	DATE
	None	

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300390

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
							(10YR 5/4); fine to very coarse grained sand; some silt; poor sorting; subrounded; quartzose; low plasticity; medium dense; moist. 5.6 to 6.3': SANDY CLAY; moderate yellowish brown (10YR 5/4); nonstratified; fine to very coarse grained sand; some silt; trace gravel; poor sorting; subrounded; quartzose; medium plasticity; very stiff; moist.	
7							7.0 to 8.0': RUN RECOVERED 0.0/1.0'	
8					100		8.0 to 10.0': RUN RECOVERED 2.0/2.0 SANDY CLAY; light olive gray (5Y 5/2); dark yellowish orange (10YR 6/6); medium gray ((N 5/0); mottled; nonstratified; fine to coarse grained sand; trace gravel; moderate to poor sorting; subrounded; quartzose and granite; reworked claystone in parts, calcareous in parts; trace iron staining; medium plasticity; very stiff; damp.	8.0 to 10.0': SAMPLE (VOA'S ONLY) B3003900810
9								
10					80		10.0 to 10.5': SAMPLE Center bit run. No sample taken.	
11							BEDROCK 10.5 to 12.0': RUN RECOVERED 1.2/1.5' SILTY CLAYSTONE; light brown (5YR 5/6) moderate brown (5YR 3/4); olive gray (5Y 4/1); blocky; 1 to 3 cm iron nodules; medium plasticity; very weathered; firm; damp.	
12					100		12.0 to 13.0': RUN RECOVERED 1.0/1.0 SILTY CLAYSTONE: same as above; olive gray (5Y 411); yellowish gray (5Y 7/2). TOTAL AUGERED DEPTH = 13.0'.	
13					0		13.0 to 14.5': RUN RECOVERED 0.0/1.5'	
14								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 3 of 5

Borehole/Well Id: B300390

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
15					60	52	14.5 to 18.7': RUN RECOVERED 2.5/4.2' RQD = 2.2/4.2' CLAYSTONE: light olive gray (5Y 5/2); blocky; no apparent bedding; some silt to silty; trace gravel at 15.5', 15.6', and 16.8'; clasts to 2 cm in diameter; siltstone; subangular to subrounded; nodules at 16.5' to 1 cm in diameter; trace of limonite stain in fractures; dark yellowish orange (10YR 6/6); trace of iron oxide nodules to 2 cm in diameter; loose, not cemented together; moderately weathered; stiff to hard; damp.	15.2 to 15.8': SAMPLE (GEOTECHNICAL) GTB3003901152158 15.50'; 30 deg.; Fe oxide 15.60'; 45 deg.; Fe oxide and nodules
16								
17								16.80'; 45 deg.; Fe oxide and gravel
18								
19					63	47	18.7 to 22.7': RUN RECOVERED 2.5/4.0' RQD = 1.9/4.0' CLAYSTONE: light olive gray (5Y 5/2) and dark yellowish orange (10YR 6/6); some silty to silty; blocky; trace gravel at 21.0 to 21.7', 0.5 to 3 cm in diameter; clasts siltstone; subangular to subrounded; loosely compacted with no cement; limonite 5 to 10% in clay and in nodules to 3 cm in diameter; moderately weathered; stiff to hard; damp.	19.0'; 30 deg. 19.4'; 10 deg.
20								
21								21.0'; 30 deg.; gravel and Fe nodules
22								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B300390

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
23					27	0	22.7 to 25.7': RUN RECOVERED 0.80/3.0' RQD = 0.0/3.0' CLAYSTONE: light olive gray (5Y 5/2) and dark yellowish orange (10YR 6/6) in fractures; blocky; no apparent bedding; trace gravel 0.1 to 4 cm in diameter; one 4 cm clast is hard and calcareous; effervesce in HCL; clasts of siltstone and iron oxide nodules; slightly weathered; stiff to hard; damp.	23.0'; 45 deg. 23.1'; 45 deg. 23.3'; 45 deg. NOTE: Fe oxide in all fractures; calcareous gravel in 23.3'
24								
25								
26					15	0	25.7 to 27.7': RUN RECOVERED .30/2.0' RQD = 0.0/2.0' SILTY CLAYSTONE: same as interval 22.7 to 25.7'; with trace of iron nodules; extremely weathered; stiff; damp.	25.8'; 45 deg. 26.0'; 45 deg. trace siltstone gravel NOTE: lost 1.7' of core; loosing water in hole
27								
28					60	60	27.7 to 28.7': RUN RECOVERED 0.60/1.0' RQD = 0.6/1.0' CLAYSTONE: light olive gray (5Y 5/2) with a trace of dark yellowish orange (10YR 6/6); blocky; mottled; claystone is as in 22.7 to 25.7'; trace to some silt; trace of iron oxide nodules to 2 cm in diameter; manganese staining; moderately weathered; stiff; damp.	Micro Fracture
29					83	80	28.7 to 31.7': RUN RECOVERED 2.5/3.0' RQD = 2.4/3.0' CLAYSTONE: as in 22.7 to 25.7'; except no gravel; thinly laminated from 28.7 to 29.3'; moderately weathered; stiff; damp.	28.8'; 45 deg.; Fe oxide 29.5 to 30.0': SAMPLE (GEOTECHNICAL) GTB300390229530
30								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 5 of 5

Borehole/Well Id: B300390

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
31								30.4'; 45 deg. 31.1'; 45 deg. 31.5'; 45 deg.; leached
32							TOTAL BOREHOLE DEPTH = 31.7'.	
33								
34								
35								
36								
37								
38								

GROUNDWATER

	DEPTH	HOUR	DATE
▽		None	
▼			

WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 2

Borehole/Well Id:	B303390	Drilling Company:	Boyles Bros.
Northing (ft):	35123.2	Driller:	DVStyles
Easting (ft):	22405.6	Helper:	KParker
Ground Surface Elev (ft):	5916.4	Rig Type:	B-57
Total Depth (ft):	10.8	Drilling Method:	HS Auger
Logged By:	RWeed	Drilling Fluid:	None
Checked By SM:		Date Started:	7/11/90
Checked By PM:		Date Completed:	7/11/90
QA By / Date:	JDL 07/26/90	Well Type:	BH/Piezometer
Comments:	French drain geotechnical study. French drain extension. Piezometer installed on 07/11/90.		

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0–1					45		**TOPSOIL** 0.0 to 2.0': RUN RECOVERED 0.9/2.0 SILTY SANDY CLAY: dusky yellowish brown (10YR 2/2); nonstratified; trace gravel up to 3 cm; subrounded; quartzose and calcareous; low plasticity; slight limonite stain; calcareous flecks; grass and roots throughout; soft to firm; dry to damp. **COLLUVIUM**	Monitoring Instrument Background Levels: HNu: 0.2 units All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. Inside auger: 20 PPM HNu: 20 PPM TRIP BLANK SAMPLE TB071190
2–3					100		2.0 to 3.6': RUN RECOVERED 1.6/1.6' 2.0 to 2.5': SILTY SANDY CLAY: as above; dark yellowish brown (10YR 4/2); soft; damp. 2.5 to 3.6': SILTY CLAY: dark yellowish brown (10YR 4/2); nonstratified; some sand; trace gravel up to 4 cm; subangular; quartzose; feldspathic; calcareous; low plasticity; calcareous coatings; very stiff; damp.	0.0 to 0.9': SAMPLE (VOA'S ONLY) B3033900002 B3033900002D 2.0 to 3.6': SAMPLE (VOA'S ONLY) B3033900204
3–5					100		3.6 to 5.5': RUN RECOVERED 1.9/1.9' SILTY SANDY CLAY: as above; more sand; dry to damp.	HNu: 25 on core 0.0 to 5.5': SAMPLE (CUTTINGS) 3033900006
5–6					60		5.5 to 8.0': RUN RECOVERED 1.5/2.5' SANDY SILTY CLAY: light olive gray (5YR 5/2) to pale	HNu: 3 on auger HNu: 12 on core

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 2 of 2

Borehole/Well Id: B303390

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
7							yellowish brown (10YR 6/2); nonstratified; trace gravel to 1 cm.; subangular to subrounded; low plasticity; calcareous coatings; trace roots; stiff; dry.	5.5 to 7.0': SAMPLE (VOA'S ONLY) B3033900608 0.0 to 7.0': SAMPLE B3033900008 B3033900008D
8					100		**BEDROCK** 8.0 to 10.0': RUN RECOVERED 2.0/2.0' SILTY CLAYSTONE: dark yellowish brown (10Y 6/6) and light olive brown (5Y 5/6) banded; blocky; trace to some sand; medium plasticity; abundant limonite stain; trace manganese oxide; intermittent caliche; stiff; dry to damp.	
9								
10					100		10.0 to 10.8': RUN RECOVERED 0.8/0.8' SILTY CLAYSTONE: as above; light olive gray (5Y 5/2) yellowish gray (5Y 7/2) and moderate yellowish brown (10YR 5/4); trace fine to medium grained sand.	
11							TOTAL BOREHOLE DEPTH = 10.8'.	
12								
13								
14								

GROUNDWATER

	DEPTH	HOUR	DATE
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▼			

WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 2

Borehole/Well Id:	B303490	Drilling Company:	Boyles Bros.
Northing (ft):	35168.3	Driller:	DVStyles
Easting (ft):	22492.4	Helper:	KParker
Ground Surface Elev (ft):	5913.6	Rig Type:	B-57
Total Depth (ft):	11.2	Drilling Method:	HS Auger
Logged By:	RWeed	Drilling Fluid:	None
Checked By SM:		Date Started:	7/11/90
Checked By PM:		Date Completed:	7/12/90
QA By / Date:	JDL 07/26/90	Well Type:	BH/Piezometer
Comments:	French drain geotechnical study. French drain extension. Piezometer installed on 07/11/90.		

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0					70		**TOPSOIL** 0.0 to 2.0': RUN RECOVERED 1.4/2.0 SILTY CLAY: olive gray (5Y 3/2); nonstratified; some sand; trace gravel; low plasticity; grass and roots; soft; damp.	Monitoring Instrument Background Levels: HNu: 0.0 units All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. HNu: 26 in auger TRIP BLANK SAMPLE TB071190 TB071290 0.0 to 1.4': SAMPLE (VOA'S ONLY) B3034900002 B3034900002D
1								
2					95		**COLLUVIUM** 2.0 to 4.0': RUN RECOVERED 1.9/2.0' 2.0 to 2.2': SILTY CLAY: light olive brown (5Y 5/2); nonstratified; trace sand and gravel; medium plasticity; calcareous flecks and coatings; very stiff; damp to moist. 2.2 to 3.9': SILTY CLAY: as above; moderate olive brown (5Y 4/4); more stiff; moist.	HNu: 160 in auger HNu: 190 on core HNu: 10 on cuttings 2.0 to 3.9': SAMPLE (VOA'S ONLY) B3034900204
3								
4					0		4.0 to 5.5': RUN Center bit run. No sample taken.	
5								
					100		5.5 to 7.2': RUN RECOVERED 1.7/1.7' 5.5 to 6.3': SANDY SILTY GRAVELLY CLAY: light olive	
6								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B303490

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
7							gray (5Y 5/2) and light olive brown (5Y 5/6); nonstratified; poorly sorted; medium plasticity; limonite stain; stiff; damp. 6.3 to 7.2': SILTY CLAY: light olive gray (5Y 5/2); nonstratified; very stiff; moist.	
8					100		7.2 to 9.2': RUN RECOVERED 2.0/2.0' 7.2 to 7.5': SILTY CLAY: as above; trace gravel 1 to 2 cm; angular. BEDROCK 7.5 to 9.2': SILTY CLAYSTONE: light olive gray (5Y 5/2); slightly blocky; medium plasticity; abundant limonite stain; calcareous veining; stiff; moist.	0.0 to 9.2': SAMPLE B3034900008 B3034900008D
9								
10					100		9.2 to 11.2': RUN RECOVERED 2.0/2.0' SILTY CLAYSTONE: as above; dusky yellow (5Y 6/4); damp to moist.	
11								
12							TOTAL BOREHOLE DEPTH = 11.2'.	
13								
14								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 3

Borehole/Well Id:	B303590	Drilling Company:	Boyles Bros.
Northing (ft):	35212.9	Driller:	DVStyles
Easting (ft):	22579.2	Helper:	KParker
Ground Surface Elev (ft):	5911.9	Rig Type:	B-57
Total Depth (ft):	17.8	Drilling Method:	HS Auger
Logged By:	RWeed	Drilling Fluid:	None
Checked By SM:	[signature]	Date Started:	7/12/90
Checked By PM:		Date Completed:	7/12/90
QA By / Date:	JDL 07/26/90	Well Type:	BH/Piezometer
Comments:	French drain geotechnical study. French drain extension. Piezometer installed on 07/12/90.		

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0–1					65		**TOPSOIL** 0.0 to 2.0': RUN RECOVERED 1.3/2.0 0.0 to 0.4': SILTY CLAY: dusky yellowish brown (10YR 2/2); nonstratified; trace sand; low plasticity; grass and roots; soft; damp. 0.4 to 1.3': SILTY CLAY: grayish brown (5YR 3/2); nonstratified; some gravel up to 9 cm; subrounded and subangular; trace sand; low plasticity; firm roots; calcareous coatings; firm; damp.	Monitoring Instrument Background Levels: OVA: 0.0 ppm All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. TRIP BLANK SAMPLE TB071290 0.0 to 1.3': SAMPLE (VOA'S ONLY) B3035900002 B3035900002D
2–3					60		**COLLUVIUM** 2.0 to 4.0': RUN RECOVERED 1.2/2.0' SILTY CLAY: as above; some sand; slight limonite stain; calcareous nodules; soft.	2.0 to 3.2': SAMPLE (VOA'S ONLY) B3035900204 B3035900204D
					0		3.2 to 3.8': RUN RECOVERED 0.0/0.6'	
4–5					0		3.8 to 5.4': RUN Center bit run. No sample taken.	5.4 to 7.4': SAMPLE B3035900507 B3035900507D
5–6					87		5.4 to 7.7': RUN RECOVERED 2.0/2.3'	

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 2 of 3

Borehole/Well Id: B303590

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
7							SILTY CLAY: light olive gray (5Y 5/2) and moderate brown (5Y 3/4) in upper 0.3'; lensed; trace to some fine to coarse grained sandy lenses; medium plasticity; calcareous lenses; very stiff; moist.	7.7 to 9.7': SAMPLE (VOA'S ONLY) B3035900709 B3035900709D
8					50		7.7 to 9.7': RUN RECOVERED 1.0/2.0' SILTY CLAY: moderate yellowish brown (10YR 5/4); nonstratified; trace to some sand; trace gravel up to 6 cm; subangular and subrounded; quartzose; schistose; feldspathic; firm to stiff; damp.	0.0 to 9.7': SAMPLE B3035900709 B3035900709D
9								9.7 to 11.5': SAMPLE B3035900911 B3035900911D
10					90		BEDROCK 9.7 to 11.7': RUN RECOVERED 1.8/2.0' SILTY CLAYSTONE: light olive gray (5Y 5/2); nonstratified to horizontal partings; trace sand; medium plasticity; calcareous veins, flecks, nodules; limonite stain; stiff; moist.	
11								11.7 to 12.6': SAMPLE B3035901213 B3035901213D
12					50		11.7 to 13.5': RUN RECOVERED 0.9/1.8 SILTY CLAYSTONE: as above; some fine laminations; abundant limonite stain; damp.	
13								
14					0		13.5 to 15.5': RUN RECOVERED 0.0/2.0	

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B303590

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
15								
					0		15.5 to 16.1': RUN Center bit run. No sample taken.	
16								16.1 to 17.8': SAMPLE
					100		16.1 to 17.8': RUN RECOVERED 1.7/1.7 SILTY CLAYSTONE: as above; trace calcareous veins; very stiff.	B3035901618 B3035901618D
17								
18							TOTAL BOREHOLE DEPTH = 17.8'.	
19								
20								
21								
22								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 3

Borehole/Well Id:	B303690	Drilling Company:	Boyles Bros.
Northing (ft):	35260.2	Driller:	DVStyles
Easting (ft):	22668.2	Helper:	KParker
Ground Surface Elev (ft):	5912.2	Rig Type:	B-57
Total Depth (ft):	20.8	Drilling Method:	HS Auger
Logged By:	RWeed	Drilling Fluid:	None
Checked By SM:		Date Started:	7/13/90
Checked By PM:		Date Completed:	7/13/90
QA By / Date:	JDL 07/26/90	Well Type:	BH/Piezometer

Comments: French drain geotechnical study. French drain extension. Piezometer installed on 07/13/90.

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0–1					85		**TOP SOIL** 0.0 to 2.0': RUN RECOVERED 1.7/2.0 0.0 to 0.8': SILTY GRAVELLY CLAY: dusky brown (5YR 2/2); nonstratified; gravel up to 7 cm; subrounded and subangular; quartzose; low plasticity; grass and roots; soft; moist. **COLLUVIUM** 0.8 to 1.7': SILTY GRAVELLY CLAY: as above; no grass.	Monitoring Instrument Background Levels: HNu: 0.0 units All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. TRIP BLANK SAMPLE TB071390
2–3					90		2.0 to 4.0': RUN RECOVERED 1.8/2.0' 2.0 to 2.3': GRAVELLY SANDY CLAY: as above; calcareous coatings. 2.3 to 3.8': SILTY CLAY: olive gray (5Y 3/2); nonstratified; trace to some fine to coarse grained sand; low plasticity; calcareous veins; fine roots throughout; very stiff; damp.	0.0 to 1.7': SAMPLE (VOA'S ONLY) B3036900002 B3036900002D 2.0 to 3.8': SAMPLE (VOA'S ONLY) B3036900204 B3036900204D
4–6					100		4.0 to 6.0': RUN RECOVERED 2.0/2.0' SANDY SILTY CLAY: as above; more micaceous; less calcareous veining.	4.0 to 6.0': SAMPLE (VOA'S ONLY) B3036900406 0.0 to 6.0': SAMPLE B3036900006 B3036900006D

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 2 of 3

Borehole/Well Id: B303690

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
7					95		6.0 to 8.1': RUN RECOVERED 2.0/2.1' SANDY SILTY CLAY: dark yellowish brown (10YR 4/2) grading to moderate brown (10YR 5/4) otherwise as above.	6.0 to 8.0': SAMPLE (VOA'S ONLY) B3036900608
8					100		8.1 to 10.0': RUN RECOVERED 1.9/1.9' SILTY SANDY CLAY: as above; moderate brown (10YR 5/4); trace gravel 1 to 2 cm; subrounded; damp to moist.	8.0 to 9.9': SAMPLE (VOA'S ONLY) B3036900810
9								
10					100		10.0 to 11.9': RUN RECOVERED 1.9/1.9' SILTY SANDY CLAY: as above.	10.0 to 11.9': SAMPLE (VOA'S ONLY) B3036901012
11								
12					95		11.9 to 14.0': RUN RECOVERED 2.0/2.1' 11.9 to 13.0': SANDY SILTY CLAY: as above.	11.9 to 14.0': SAMPLE (VOA'S ONLY) B3036901214
13							13.0 to 13.9': GRAVELLY SANDY SILTY CLAY: moderate brown (10YR 5/4); nonstratified; gravels to 7 cm; subrounded to rounded; quartzose; schistose; low plasticity; calcareous coatings; moist.	
14								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 3 of 3

Borehole/Well Id: B303690

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
					0		14.0 to 15.0': RUN Center bit run. No sample taken.	
15					60		15.0 to 16.5': RUN RECOVERED 0.9/1.5': SANDY SILTY CLAY: as above; moderate brown (10YR 5/4) and light olive gray (5Y 5/2); more clayey material at base; disturbed by pushing gravels.	15.0 to 15.9': SAMPLE (VOA'S ONLY) B3036901517
16								
					0		16.5 to 17.2': RUN Center bit run. No sample taken.	
17								
					100		BEDROCK 17.2 to 18.8': RUN RECOVERED 1.6/1.6' SILTY CLAYSTONE: light olive gray (5Y 5/2) and pale olive (10YR 6/2) and light olive brown (5Y 5/6); medium plasticity; carbonaceous fragments; stiff; moist.	17.2 to 18.8': SAMPLE (VOA'S ONLY) B3036901718
18								
					100		18.8 to 20.8': RUN RECOVERED 2.0/2.0' SILTY CLAYSTONE: as above; more carbonaceous fragments; less stiff.	
19								
20								
21							TOTAL BOREHOLE DEPTH = 20.8'.	
22								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 1 of 5

Borehole/Well Id:	B303790	Drilling Company:	Boyles Bros.
Northing (ft):	35025.6	Driller:	DVStyles/PBushkouski
Easting (ft):	22176.8	Helper:	KParker/BO'Connor
Ground Surface Elev (ft):	5913.3	Rig Type:	B-57
Total Depth (ft):	11.3/32.0	Drilling Method:	HS Auger/NX Core
Logged By:	RWeed/SPCarpenter	Drilling Fluid:	None/Water
Checked By SM:		Date Started:	7/16/90
Checked By PM:		Date Completed:	7/19/90
QA By / Date:	JDL 07/26/90	Well Type:	BH
Comments:	French drain geotechnical study. Surface casing set to 11.3' below ground surface on 07/16/90. Alluvial geotechnical samples collected. French drain alignment.		

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
0–1					45		**TOPSOIL** 0.0 to 2.0': RUN RECOVERED 0.9/2.0 SILTY SANDY CLAY: moderate brown (5YR 3/4); nonstratified; some gravel up to 5 cm; subrounded and subangular; roots and grass throughout; soft; dry to damp.	Monitoring Instrument Background Levels: HNu: 0.0 units All readings inside auger; in breathing zone; on cuttings; and on core at background unless otherwise noted below. TRIP BLANK SAMPLE TB071690
2–3					100		**COLLUVIUM** 2.0 to 3.5': RUN RECOVERED 1.5/1.5' 2.0 to 2.1': SILTY SANDY CLAY: as above. 2.1 to 3.5': SILTY CLAY: light olive brown (5Y 5/6) and light olive gray (5Y 5/2); nonstratified; trace sand, gravel; medium plasticity; calcareous lenses to 2 cm thick; locally laminated; very stiff; damp.	2.0 to 3.5': SAMPLE (VOA'S ONLY) B3037900204 0.0 to 3.5': SAMPLE B3037900004
4–5				8 13 27	33		3.5 to 5.0': RUN RECOVERED 0.5/1.5' SILTY SANDY CLAY: dark yellowish brown (10YR 4/2); some gravel up to 7 cm; poorly sorted; quartzose; subrounded; low plasticity; calcareous flecks; roots; soft; dry to damp.	5.3 to 6.3': SAMPLE (VOA'S AND GEOTECHNICAL) B3037900507 5.3 to 6.3': LITHOLOGY Field interpretation change from SILTY CLAY to SANDY CLAY based on grain size analysis
5–6				23 34 62	67		5.3 to 6.8': RUN RECOVERY 1.0/1.57 SANDY CLAY: light olive brown (5Y 5/6) and white (N9/0); nonstratified; trace to some sand; trace gravel;	HNu: 250 on core; 220 in cuttings; 0 - 5 in auger

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG

Rocky Flats: 881 Hillside

Project Number: 2029-33-09-0020

Borehole/Well Id: B303790

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
							subangular; low plasticity; abundant calcareous lenses coatings; very stiff; damp.	
7					0		6.8 to 10.3': RUN Center bit run. No sample taken.	
8								
9								
10								HNu: 30-40 in hole
11				10 28 49	100		10.3 to 11.3': RUN RECOVERED 1.0/1.0' SILTY CLAYSTONE: light olive brown (5YR 5/6); blocky; trace sand; calcareous nodules; limonite on fractures, partings; very stiff; moist. TOTAL AUGERED DEPTH = 11.3'.	
12					116		11.3 to 13.2': SAMPLE RECOVERED 2.2/1.9' CLAY: yellowish gray (5Y 7/2); some to trace silt; iron staining; trace caliche; scattered sand size iron nodules; iron cementing; calcareous veining; claystone pieces; medium plasticity; soft; moist.	
13					79		13.2 to 16.0': RUN RECOVERED 2.2/2.8' CLAY: light olive gray (5Y 5/2); medium gray (N5/0); some silt; some coarse to very coarse grained sand; moderately sorted; subangular; quartzose trace gravels up	
14								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 3 of 5

Borehole/Well Id: B303790

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
15							to 2 cm; scattered calcareous nodules and granules; iron staining; medium plasticity; stiff; moist.	
16					95	45	16.0 to 18.0': RUN RECOVERED 1.9/2.0 RQD = 0.9/2.0' 16.0 to 17.0': CLAY: yellowish gray (5Y 7/2); pale yellowish brown (10YR 6/2); dark yellowish orange (10YR 6/6); mottled; silty; trace gravels; trace sand; reworked claystone; iron staining; slight calcareous; medium plasticity; stiff; moist. BEDROCK 17.0 to 17.9': SILTY CLAYSTONE: dusky yellow (5Y 6/4); light olive gray (5Y 5/2); lenses of .1 to 2 cm of clayey siltstone; iron and manganese staining; weathered; calcareous veining; medium to low plasticity; soft to firm; moist.	PACKER TEST: 17.0 to 22.0'
17								
18					93	93	18.0 to 21.0': RUN RECOVERED 2.8/3.0' RQD = 2.8/3.0' SILTY CLAYSTONE: same as above.	
19								
20								19.7': 90 deg.; Healed; Fe
21					100	100	21.0 to 22.0': RUN RECOVERED 1.0/1.0' RQD = 1.0/1.0' SILTY CLAYSTONE: same as above; moderate yellowish brown (10YR 5/4); dusky yellow (5Y 6/4); calcareous veins to inclusions.	21.5': 60 deg.; Healed; Fe/Ca
22								

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 4 of 5

Borehole/Well Id: B303790

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
23					108	108	22.0 to 23.2': RUN RECOVERED 1.3/1.2' RQD = 1.3/1.2' SILTY CLAYSTONE: moderate yellowish brown (10YR 5/4); light olive gray (5Y 5/2); .1 to 2 cm lenses of clayey siltstone; blocky; trace very fine grained sand; iron and manganese; medium plasticity; soft to firm; moist.	PACKER TEST: 22.0 to 27.0' 22.8': 70 deg.; Healed; Fe
24 25 26					110	110	23.2 to 27.0': RUN RECOVERED 4.2/3.8' RQD 4.2/3.8' CLAYSTONE: light olive gray (5Y 5/2); grayish orange (10YR 7/2); stained dark yellowish orange (10YR 6/6); mottled to banded; gradationally some silt to silty; calcareous nodules and caliche lenses up to 2 cm; manganese and iron staining; some iron and calcareous cementing; medium plasticity; soft to firm; moist.	Note: expansive claystone 24.3': 70 deg.; Healed/Open; Ca/Fe 24.5': 70 deg.; Healed/Open; Fe/Mn
27 28					100	100	27.0 to 28.2': RUN RECOVERED 1.2/1.2' RQD 1.2/1.2' SILTY CLAYSTONE: moderate yellowish brown (10YR 5/4); dusky yellow (5Y 6/4); lense; mottled; trace very fine grained sand; iron and manganese; medium to low plasticity; firm; damp to moist.	PACKER TEST: 27.0 to 32.0'
29 30					126	126	28.2 to 32.0': RUN RECOVERED 4.8/3.8' RQD = 4.8/3.8' CLAYEY SILTSTONE: same as above; .5 to 4 cm lenses of clayey siltstone to silty sandstone; very fine grained sand; well sorted; round; quartzose; some clay; iron and manganese staining; calcareous in part; medium to low plasticity; soft to firm; moist to damp.	Note: expansive claystone 28.2 to 32.0': LITHOLOGY Field interpretation changed from SILTY CLAYSTONE to CLAYEY SILTSTONE based on grain size analysis. 29.2': 80 deg.; Healed; Fe 29.4': 80 deg.; Healed; Fe

GROUNDWATER

	DEPTH	HOUR	DATE
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WESTON

GEOLOGIC LOG	Rocky Flats: 881 Hillside	Project Number: 2029-33-09-0020	PAGE: 5 of 5

Borehole/Well Id: B303790

Depth (ft)	Graphic Log	Sample T	Sample ID	SPT N-Val	REC %	RQD %	Lithologic Description	Notes:
31								29.9': 80 deg.; Healed; Fe 30.8 to 31.5': SAMPLE (GEOTECHNICAL) B302790308315 30.9': 60 deg.; Healed; Fe 31.1': 80 deg.; Healed; Fe
32							TOTAL BOREHOLE DEPTH = 32.0'.	
33								
34								
35								
36								
37								
38								

GROUNDWATER

	DEPTH	HOUR	DATE
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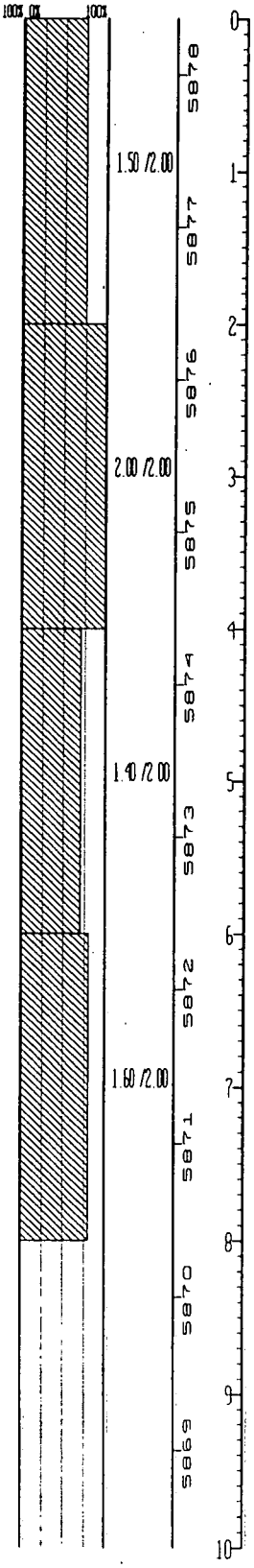
WESTON

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 8.0	GROUND ELEVATION (FT):	5878.37	PROJECT NUMBER:	EMAD:	LOG OF BORING NUMBER:
NORTH:	747967	AREA: OU1	CASING DIAMETER (IN):		GEOLOGIST:	JFU/KJT	31191
EAST:	2085733	LOCATOR NUMBER: M7	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	08/21/91	
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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	Clay with some Sand: Olive brown (2.5Y 4/3). Clay (85%) and silt (15%) matrix (cl) supports fine to med. sand and fine to coarse gravel. Mean sand=med., mean gravel = 3/4"-1". Subrounded to subangular gravel composed of quartzite, granite, schist. Sand is subangular to angular. Dry. 5% Gravel, 7% Sand, 13% Silt, 75% Clay.
CH:	Clay with some Silt and some Sand: Dark yellowish brown (10YR 4/6). Clay and silt matrix is med. to high plasticity (CH), and supports some sand and trace of gravel. Gravel is well graded, max diameter = 1 1/4", avg. <1/2", subrounded. Sand is very fine to coarse, mean=med., subangular to subrounded. Caliche within matrix and coating gravel. Dry. 5% Gravel, 15% Sand, 20% Silt, 60% Clay
SANDY CLAYSTONE:	Sandy Claystone: Light yellowish brown (2.5Y 6.3). Claystone containing very fine to f.g. sand. Porosity <5%. Carbonate cement and thick zones (3"-4") of abundant caliche are present. Slightly to mod. friable. Sand composed dom. of quartz with some feldspar, trace mafic minerals and possibly biotite. Strongly weathered. Caliche growth along possible relict bedding laminae. Laminae are very thin and wavy, discontinuous. Dry. 35% Sand, 13% Silt, 52% Clay. Top of bedrock = 4.7 ft
	Total Depth = 8.0 ft

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 8.6	GROUND ELEVATION (FT): 5962.42	PROJECT NUMBER: EMAD	LOG OF BORING NUMBER
NORTH: 748456	AREA: OU1	CASING DIAMETER (IN):	GEOLOGIST: DAB/KJT	32691
EAST: 2085466	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/05/91	
REMARKS:				

CHEMICAL SAMPLE / GRADATIONAL S	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
	BH0024EBU1	0% 50%	100% 0% 100%		5962	0			ML	Sandy Gravelly Silt: Very dark grayish brown (10YR 3/2) Low plasticity silt and clay matrix supports well graded sand and gravel. Sand is fine to coarse, mean=med., angular to subrounded, composed pred. of quartz, quartzite, feldspar. Gravel is angular (freshly broken) to subangular, fine to coarse, mean size=1/2", max. size = 1 1/2" diameter, composed of rock fragments of granite, quartzite, schist, plus quartz, feldspar. Dry. 20% Gravel, 25% Sand, 55% Silt.
	BH0027EBU1			1.20 /2.00	5961	1				VOA sample obtained from this interval.
									ML	Same as above.
					5960	2			SM	Gravelly Silty Sand: Dark yellowish brown (10YR 4/6) Well graded sand and gravel. Sand is very fine to coarse, mean=med., angular to subangular, composed of quartz, feldspar, granite, schist, quartzite. Gravel mean size=1/2", max. size = 2" diameter, angular to subangular, composed of granite, quartzite, feldspar, quartz, other rock fragments. Some gravel clasts highly weathered. Caliche coats some gravel as well. Dry. 33% Gravel, 45% Sand, 22% Fines.
	BH0029EBU1			2.00 /2.00	5959	3				
					5958	4			CLAYEY SANDSTONE	Clayey Sandstone: Light yellowish brown (2.5Y 6/3) to olive yellow (2.5Y 6/6). Very fine to f.g. sand, well sorted, subangular, <5% porosity, clay cement, highly friable. Composed of quartz, mafic (heavy) minerals, feldspar. No bedding apparent. Dry. 75% Sand, 5% Silt, 20% Clay. Top of bedrock = 3.3 ft.
				2.00 /2.00	5957	5			CLAYSTONE	Claystone: Grayish brown (2.5Y 5/2) to olive yellow (2.5Y 6/6). Clay with trace of silt and some organic (black -- carbonaceous) fragments. Porosity < 5%. Some carbonate present but no cement. No bedding apparent. Weathered. Mottled appearance with Fe-oxide stains at 7.8' to 8' and at 4.7' to 5.7'. Dry. 5% Silt, 95% Clay.
	BH0028EBU1					6				VOA sample obtained from this interval.
					5956				CLAYSTONE	Same as above.
	BH0031EBU1			2.00 /2.00	5955	7				
				0.00 /0.60	5954	8				No recovery for this interval
					5953	9				Total Depth = 8.6 ft
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 8.6	GROUND ELEVATION (FT): 5949.07	PROJECT NUMBER: EMAD	LOG OF BORING NUMBER:
NORTH:	749273	AREA: OU1	CASING DIAMETER (IN):	GEOLOGIST: DAB/JAB	32991
EAST:	2085382	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/06/91	
REMARKS:					

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
	BH0026MCBU1	0% 50%	100% 0% 100%		5949	0			GC	Clayey Sandy Gravel: Light brown (5Y 5/6) to mod. brown(5YR 4/4 and 5YR 3/4) matrix. Gravels are mostly quartzite, some granite, schist; gravels to 1.5" diameter, avg.1/4" to 1/2" Well graded, angular to subangular Matrix is low to med plasticity. Bedding not apparent. Argillaceous cement Dry 57% Gravel, 34% Sand, 1% Silt, 8% Clay
	BH0026ZBU1			1.00 /2.00	5948	1				VOA sample obtained from this interval
					5947	2			SM	Silty Sand with some Gravel: Moderate brown (5YR 3/4), gravels to 0.5", avg. 0.2"-0.3", rarely to 1.5" diameter Sand is mod. graded to well graded, very fine to coarse (mean=fine), angular to subangular. Low to med plasticity Dominantly quartz with some quartzite, schist, gneiss, and feldspar. No bedding apparent Overall, material is very much like above unit, but with less gravel. Dry 28% Gravel, 61% Sand, 7% Silt, 4% Clay.
	BH0026YBU1			1.90 /2.00	5946	3				
					5945	4			CLAYSTONE	Claystone with some Silt: Light olive gray (5Y 5/2) to olive gray (5Y 3/2) to dusky yellowish brown (10YR 2/2), dark yellowish brown (10YR 4/2), and light olive gray (5Y 6/1) to olive gray (5Y 4/1). Porosity=nil to 5% where weathered andincreased silt content is present. Some zones filled with caliche (3.72', 4.8' - 5.0'), some strongly Fe-stained (5.6' - 5.7'), otherwise, cement is argillaceous. Weathered zones (4'-4.5', 6'- 7.1') highly friable; fresh zones slightly friable, malleable. No bedding apparent; although some zones (e.g., 7.25'-7.5') show mottling. Dry 5%-20% Silt, 80-95% Clay Top of bedrock = 3.7 ft
				2.00 /2.00	5944	5				
	BH0026JBU1				5943	6				VOA sample obtained from this interval
									CLAYSTONE	Same as above
	BH0026EBU1			1.80 /2.00	5942	7				
					5941	8				No recovery for this interval
				0.00 /0.60						
					5940	9				Total Depth = 8.6 ft
						10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 14.8	GROUND ELEVATION (FT): 5966.85	PROJECT NUMBER: EMAD	LOG OF BORING NUMBER:
NORTH: 748539	AREA: OU1	CASING DIAMETER (IN):	GEOLOGIST: RTC/KJT	33291
EAST: 2085561	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED 09/10/91	
REMARKS:				

SAMPLE NUMBER	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
BH00281EBU1	1.30 /2.00	5966	0–1	SC:	Gravelly Clayey Sand: Very dark grayish brown (10YR 3/2). Well graded sand and gravel in silty clay, low-plasticity matrix. Sand is very fine to coarse, mean = fine to med., subangular to subrounded, composed of quartz, granite, quartzite, feldspar, mafic minerals. Gravel is fine to coarse, mean size = 1 3/8", max diameter = 2 1/2" (broken cobble), subrounded to angular, composed of quartzite, quartz, granite, mafic schist. Dry. 30% Gravel, 50% Sand, 8% Silt, 12% Clay
BH00282EBU1		5965	1–2	SW-SC:	Gravelly Sand: Dark brown (7.5YR 3/2). Well graded sand and gravel in clay matrix. Sand is fine to coarse, mean = coarse, subangular to subrounded, composed of quartz, feldspar, rock fragments, micas (weathered), mafic minerals, fresh biotite. Gravel is fine to coarse, mean size = 3/4", max. diameter > 3", subrounded to angular, composed of granite, mafic schist, quartz, quartzite, feldspar. Caliche abundant 2' to 2.5'. Rock fragments (gravel) strongly weathered, crumbly. Dry. 25% Gravel, 65% Sand, 10% Clay
BH00284EBU1	1.90 /2.00	5964	2–3		
		5963	3–4		VOA sample obtained from this interval
			4	SW-SC:	Same as above
	0.80 /2.00	5962	4–5	SC	Gravelly Clayey Sand: Very dark grayish brown (10YR 3/2). Well graded sand and gravel in silty clay, low plasticity matrix. Sand is very fine to coarse, mean = fine, subangular to subrounded, composed of quartz, granite, quartzite, feldspar, mafic minerals. Gravel is fine to coarse, mean size = 3/4", max diameter = 1 1/2", subrounded to subangular, composed of quartz, granite, mafic schist, feldspar. Dry. 25% Gravel, 60% Sand, 15% Fines
BH00283EBU1		5961	5–6	GC	Sandy Gravel: Strong brown (7.5YR 4/6). Well graded sand and gravel in silty clay, low plasticity matrix. Sand is very fine to coarse, mean size = med. to coarse, subrounded to subangular, composed of quartz, rock fragments (mica schist, granite, mafic schist), feldspar, mafic minerals. Some sand size fragments of Fe-oxide (possible cement) also present. Gravel is well graded, fine to coarse, mean size = 1 1/2", max. diameter > 3" (only portion of larger cobbles), subrounded to angular, composed of quartzite, granite, quartz, mafic schist, trace feldspar. Caliche present on gravel surfaces. Some gravel strongly weathered and easily broken. Dry. 40% Gravel, 40% Sand, 3% Silt, 17% Clay
	2.00 /2.00	5960	6–7		
		5959	7–8		
			8		VOA sample obtained from this interval
BH00286EBU1	0.80 /2.00	5958	8–9	GC	Same as above
BH00285EBU1		5957	9–10		VOA sample obtained from this interval

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 14.8	GROUND ELEVATION (FT): 5966.85	PROJECT NUMBER: EMAD	LOG OF BORING NUMBER:
NORTH: 748539	AREA: OU1	CASING DIAMETER (IN):	GEOLOGIST RTC/KJT	33291
EAST: 2085561	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/10/91	

REMARKS:

CHEMICAL SAMPLE / GRADATIONAL E	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	5956	10 11			CLAYSTONE:	Claystone: Grayish brown (2.5Y 5/2) to light yellowish brown (2.5Y 6/4). Clay with trace of silt, very low porosity (<5%), no cement. Not friable (clay). No bedding structures apparent. Fe-oxide stains along planar, low-angle fracture surfaces at 12.6' to 12.9' and at 13.7' to 14.0'. Otherwise, claystone has mottled appearance and is relatively unweathered. Trace silt, > 95% clay. Top of bedrock = 10.0 ft
					5955	12				VOA sample obtained from this interval.
				2.00 /2.00	5954	13			CLAYSTONE:	Same as above
					5953	14				
				0.00 /0.80	5952	15				Total Depth = 14.8 ft
					5951	16				
					5950	17				
					5949	18				
					5948	19				
					5947	20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 22.6	GROUND ELEVATION (FT): 5974.99	PROJECT NUMBER: EMAD	LOG OF BORING NUMBER:
NORTH: 748626	AREA: OU1	CASING DIAMETER (IN):	GEOLOGIST: SEC/JAB	33791
EAST: 2085624	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/12/91	
REMARKS:				

SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
BH00350EBU1	0% 50% 100%	0% 100%			0		SM:	Silty Gravelly Sand: Root zone -- dark brown (10YR 3/3 to 7.5YR 3/2). Sands are very fine to very coarse (mean = med.) and gravel up to 1" diameter (avg. 0.2"-0.3"). Well graded, angular to rounded. Very calcareous (with discrete grains, from very fine to very coarse, of caliche) with quartz, feldspar, rock fragments in sands and gravels. No bedding apparent. Dry. 17% Gravel, 59% Sand, 14% Silt, 10% Clay
BH00351EBU1			1.40 /2.00	5974	1		GC:	Clayey Gravel: Sparsely rooted -- pale brown (10YR 6/3), sands very fine to very coarse (mean = fine) with gravels to 1.8", averaging approx. 0.5"-0.8". Well graded, sands sub-angular to rounded, gravels angular to subrounded. Extremely calcareous, with discrete grains of caliche as well as caliche coatings on grains; balance is mainly quartz, quartzite. No bedding apparent. Dry. 67% Gravel, 10% sand, 5% Silt, 18% Clay
				5973	2			
BH00352EBU1			1.40 /2.00	5972	3			VOA sample obtained from this interval
							GC:	Same as above
				5971	4			
			1.90 /2.00	5970	5		gm-GW	Well graded Gravel-Sand-Silt-Clay mixture. Dark brown (7.5YR 4/4 and 7.5YR 3/3) to strong brown (7.5YR 4/6) with, at approx. 8.5' to 9.25', light yellowish brown (2.5Y 6/3) mixed in. Sands are very fine to very coarse (mean=coarse); gravel up to 1.4" but avg. 0.3" to 0.5", grains range from angular to rounded (both sand and gravel). Calcareous/caliche content decreases with depth. No bedding apparent. Dry. 52% Gravel, 40% Sand, 4% Silt, 4% Clay
BH00353EBU1				5969	6			VOA sample obtained from this interval
							gm-GW	Same as above
			2.00 /2.00	5968	7			
				5967	8			
BH00356EBU1			1.50 /2.00	5966	9			
BH00354EBU1				5965	10			VOA sample obtained from this interval

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 22.6	GROUND ELEVATION (FT): 5974.99	PROJECT NUMBER: EMAD	LOG OF BORING NUMBER:	
NORTH: 748626	AREA: OU1	CASING DIAMETER (IN):	GEOLOGIST: SEC/JAB	33791	
EAST: 2085624	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 09/12/91		
REMARKS:					

CHEMICAL SAMPLE DEPTH / 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
						10			gm-GW:	Gravel-Sand mixture with some Silt and Clay: Wide range of colors: yellowish red (5YR 4/6, 5YR 5/6), pale brown (10YR 6/3), light yellowish brown (10YR 6/4), gray (10YR 6/1), dark yellowish brown (10YR 4/4), strong brown (7.5YR 5/6), red (10r 5/6), reddish brown (5YR 5/4), and others. Majority of grains are gravel-sized, and range to 2" in diameter, averaging approx. 0.5" to 0.8". Sands are very fine to very coarse; mean is med.. Grading is well to mod. Grains range from angular to rounded. Traces of caliche are present, mainly in the upper portion, with cementing in lower portion mainly argillaceous. Grains of sand are dominantly quartz, with micas, feldspars, and other rock fragments, and mafic minerals also present. Gravels are dominantly quartzite, with weathering granite components, gneisses, and schists also. No bedding apparent. Dry. 72%Gravel, 21%Sand, 7%Fines.
				1.60 /2.00	5964	11				
					5963	12				
				1.90 /2.00	5962	13				
	BH00357EBU1									VOA sample obtained from this interval.
					5961	14			gm-GW:	Same as above
	BH00359EBU1			1.40 /2.00	5960	15				
					5959	16				
				2.00 /2.00	5958	17			CLAYSTONE:	Claystone with some Silt. Grayish brown (2.5Y 5/2) to light olive brown (2.5Y 5/3 and 2.5Y 5/4) to light yellowish brown (2.5Y 6/4) and olive yellow (2.5Y 6/6). Siltier zones present at 17.6' to 18.4' and 19.3' to 19.75', where silt may compose approx. 20% of rock. Porosity is nil to approx. 8%. Cement is argillaceous. Highly to mod. friable. Fe-stone nodules present at 18.4'. No bedding apparent, although there is an obvious color change at approx. 20' from upper portion's browns to lower portion's yellowish brown and olive yellow. Moist. 5-20% Silt, 80-95% Clay. Top of bedrock = 16.2 ft.
	BH00358EBU1				5957	18				VOA sample obtained from this interval.
				2.00 /2.00	5956	19			CLAYSTONE	Same as above
	BH00360EBU1				5955	20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 22.6	GROUND ELEVATION (FT):	5974.99	PROJECT NUMBER:	EMAD	LOG OF BORING NUMBER:
NORTH:	748626	AREA: OU1	CASING DIAMETER (IN):		GEOLOGIST:	SEC/JAB	33791
EAST:	2085624	LOCATOR NUMBER: M8	BOREHOLE DIAMETER (IN)	7.25	DATE DRILLED:	09/12/91	
REMARKS:							

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
	BH0036OEBU1	0% 50% 100%	0% 100%			20				
				2.00 /2.00	5954	21				
					5953	22				No recovery for this interval
				0.00 /0.60						
					5952	23				Total Depth = 22.6 ft.
					5951	24				
					5950	25				
					5949	26				
					5948	27				
					5947	28				
					5946	29				
					5945	30				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 11 3	GROUND ELEVATION (FT)	5952 19	PROJECT NUMBER	EMAD
NORTH 74862	AREA OU1	CASING DIAMETER (IN)	2 07	GEOLOGIST	JW/JHG
EAST 2085621	LOCATION NUMBER N8	BOREHOLE DIAMETER (IN)	11 5	DATE DRILLED	09/19/91

LOG OF BORING NUMBER **34591**

REMARKS

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY INTERVAL	ELEVATION (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	B1002R1		50%	100%	5952	0			SM	Silty Gravelly Sand Very dark brown (10YR 2/2), gravel to 2" diameter, avg 0 5"-0 7", sand very fine to very coarse (mean=med 1", well graded Grains subangular to rounded, with finer sands to angular Sand dom quartz, with traces of rock fragments, micas, feldspar, gravel quartzite, schist and gneiss No bedding apparent Dry 32% Gravel, 24% Sand, 33% Silt, 11% Clay
				0 60 / 2 00	5951	1				No recovery for this interval
					5950	2			CL	Silty Sandy Clay with some Gravel Very dark brown (10YR 2/2), lightening with increasing depth to dark yellowish brown (10YR 4/4) approx 2 7' Grain sizes also vary slightly with depth, with a slight fining downward Gravels in the interval range to approx 2" diameter, avg 0 2"-0 4", and sands are very fine to very coarse (mean=fine) Poorly graded Subangular to subrounded Low to med plasticity Predom quartz sands with traces of micas, feldspar, mafics and rock fragments, micas appear to be generally weathered biotite, with some fresh, from approx 2'6' or 3' and deeper, unit is slightly to heavily calcified, with clasts and streamers of caliche scattered throughout No bedding apparent Dry to slightly moist 5-8% Gravel, 10-25% Sand, 70%-80% Fines
	B1002R2			1 60 / 2 00	5949	3				No recovery for this interval
					5948	4			CL	Same as above
										No recovery for this interval
				1 85 / 2 00	5947	5			CL	Same as above
										No recovery for this interval
					5946	6			SM	Silty Gravelly Sand Yellowish brown (10YR 5/4) Sands range very fine to very coarse (mean=fine to med) and gravels are up to 0 5" (mean=0 2") Well graded Angular to subrounded Sand mainly quartz, traces of mafics, micas, feldspars, in coarse sand - gravel fraction, quartzites dominate with some schists, gneisses, rock fragments also present No bedding apparent Slightly moist 27% Gravel, 41% Sand, 32% Fines
				0 90 / 2 00	5945	7			CLAYSTONE	Claystone Light yellowish brown (2 5Y 6/3 and 2 5Y 6/4) to grayish brown (2 5Y 5/2) to light olive brown (2 5Y 5/3 and 2 5Y 5/4) to light brownish gray (2 5Y 6/2) to, where rich in Fe-oxides, yellowish brown (10YR 5/6 and 10YR 5/8) Porosity=nil to approx 3% Argillaceous and minor calcareous cement Non to slightly friable and generally nonfissile with interval from approx 9 6'-10 0' being slightly crumbly Sparse, isolated, rare, sand-sized specks of caliche present above 10 0' Fe-oxides richest approx 10 35' where possible fracture zone is visible Fe-oxides also appear to replace organic fragments No bedding apparent Slightly moist After coring to 10 0', drive sample collected from 9 6'-11 3', portion of drive sample from 9 6'-10 15' is sloughed material 0-10% Silt, 90-100% Clay, exclusive of sloughed material Top of bedrock = 9 2 ft
	B1002R3			2 00 / 2 00	5944	8				
						9				
						10				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 11.3	GROUND ELEVATION (FT) 5952.19	PROJECT NUMBER	EMAD	LOG OF BORING NUMBER
NORTH 748462	AREA OU1	CASING DIAMETER (IN) 2.07	GEOLOGIST	JFU/JAB	34591
EAST 2085621	LOCATOR NUMBER MB	BOREHOLE DIAMETER (IN) 11.5	DATE DRILLED	09/19/91	

REMARKS

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%	100%		10			CLAYSTONE	Claystone Light olive brown (2.5Y 5/3 to light yellowish brown (2.5Y 6/3) to light olive brown (2.5Y 5/4) to light brownish gray (2.5Y 6/2) to, where Fe-stained, yellowish brown (10YR 5/6 and 5/8) Porosity : nil Argillaceous with minor calcareous cement Non to slightly friable, noncrumbly Fe-oxides strongest at point approx 10.35' (measuring from 9.6 block downward) where possible fracture zone is visible No other structures, except more possible Fe-oxide-replaced organic fragments apparent Slightly moist 100% Fines (90-100% Clay, balance Silt)
			1.30/1.30	5942	11				
				5941	12				VOA sample obtained from this interval
				5940	13				No recovery for this interval
				5939	14				Total Depth : 11.3 ft
				5938	15				
				5937	16				
				5936	17				
				5935	18				
				5934	19				
				5933	20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 11.0	GROUND ELEVATION (FT)	5951.35	PROJECT NUMBER	EMAD	LOG OF BORING NUMBER
NORTH	74E377	AREA OU1	CASING DIAMETER (IN)	2.07	GEOLOGIST	JFU/JAB	34791
EAST	20E5521	LOCATOR NUMBER MB	BOREHOLE DIAMETER (IN)	11.5	DATE DRILLED	09/20/91	

REMARKS

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
BH0022RU	5%	100%			0			CL	Gravelly, Sandy Clay with Silt. Very dark brown (10YR 2/2), lightening to dark brown (7.5YR 3/4 and 7.5YR 3/3) and strong brown (7.5YR 4/6) around 0.6' to 1.0', then darkening again to very dark grayish brown (10YR 3/2) and dark brown (10YR 3/3) from 1.0' to 1.2'. Gravels to 1.2" (avg. 0.2" - 0.3"), sand very fine to very coarse (mean=fine to med.). Moderately to well graded. Grains subangular to subrounded. Low to med. plasticity. Sands mainly quartz, with traces of mafics, micas, feldspar, gravels mainly quartzite. Rooted. No bedding apparent. Dry. 18% Gravel, 13% Sand, 19% Silt, 40% Clay.
BH0022RU			1.20 /2.00	5951	1				
				5950	2				No recovery for this interval
BH0022RU			1.10 /2.00	5949	3			SM	Silty, Gravelly Sand. Brown (7.5YR 5/4), gravels to 1.5" (avg. 0.3" - 0.4"), sands very fine to very coarse (mean=med.). Moderately graded. Sands angular to rounded (avg. approx. subrounded), gravels subangular to rounded. Calcareous, sands mainly quartz and quartzite with traces of mafics, micas, feldspar, rock fragments. Gravels mainly quartzite with some schist and gneiss. No bedding apparent. Dry. 16% Gravel, 47% Sand, 25% Silt, 12% Clay.
				5948	4				No recovery for this interval
			0.60 /2.00	5947	5			GM	Silty, Sandy Gravel. Reddish yellow (7.5YR 6/6) to strong brown (7.5YR 5/6). Gravel to 2" diameter, avg. 0.5", sands very fine to very coarse, mean=med. to coarse. Well graded. Sands are subangular to rounded, with coarser fraction showing more rounding, gravels are subangular to subrounded. Sands are mainly quartz, with some rock fragments, gravels mainly quartzite, schist and gneiss. No apparent bedding. Dry to moist. 50-55% Gravel, 30-35% Sand, 7-12% Silt, trace Clay.
				5946	6				No recovery for this interval
			0.60 /2.00	5945	7			GM	Same as above
				5944	8				No recovery for this interval
BH0022RU			2.00 /2.00	5943	9			CLAYSTONE	Claystone. Light olive brown (2.5Y 5/3) to grayish brown (2.5Y 5/2). Trace to approx. 10% Silt, increasing to approx. 15% from 9.6' to 10.0'. Porosity is nil, increasing to approx. 3% from 9.6' to 10.0'. Argillaceous cement. Non to slightly friable (9.6' to 10.0' more friable than balance of interval), malleable and non fissile above 9.6', below 9.6', unit is less malleable, more fissile and crumbly. Trace organics, often present as distinct carbonaceous chips or twig-shaped fragments, also present are scattered fe-stained areas. No clear bedding, although some areas (such as 8.0'-8.4' and 9.2'-9.3') show faint, wavy laminations which are somewhat blended together. Slightly moist. After coring to 10.0', drive sample collected from 9.5' - 11.0', portion from 9.5'-10.1' in drive sample is sloughed material. 5-15% Silt, 85-95% Clay, exclusive of slough
				5942	10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 11.0	GROUND ELEVATION (FT)	5951.35	PROJECT NUMBER	EMAG	LOG OF BORING NUMBER
NORTH	74E377	AREA OU1	CASING DIAMETER (IN)	2.07	GEOLOGIST	JFU/JAB	34791
EAST	2085521	LOCATOR NUMBER M8	BOREHOLE DIAMETER (IN)	11.5	DATE DRILLED	09/20/91	

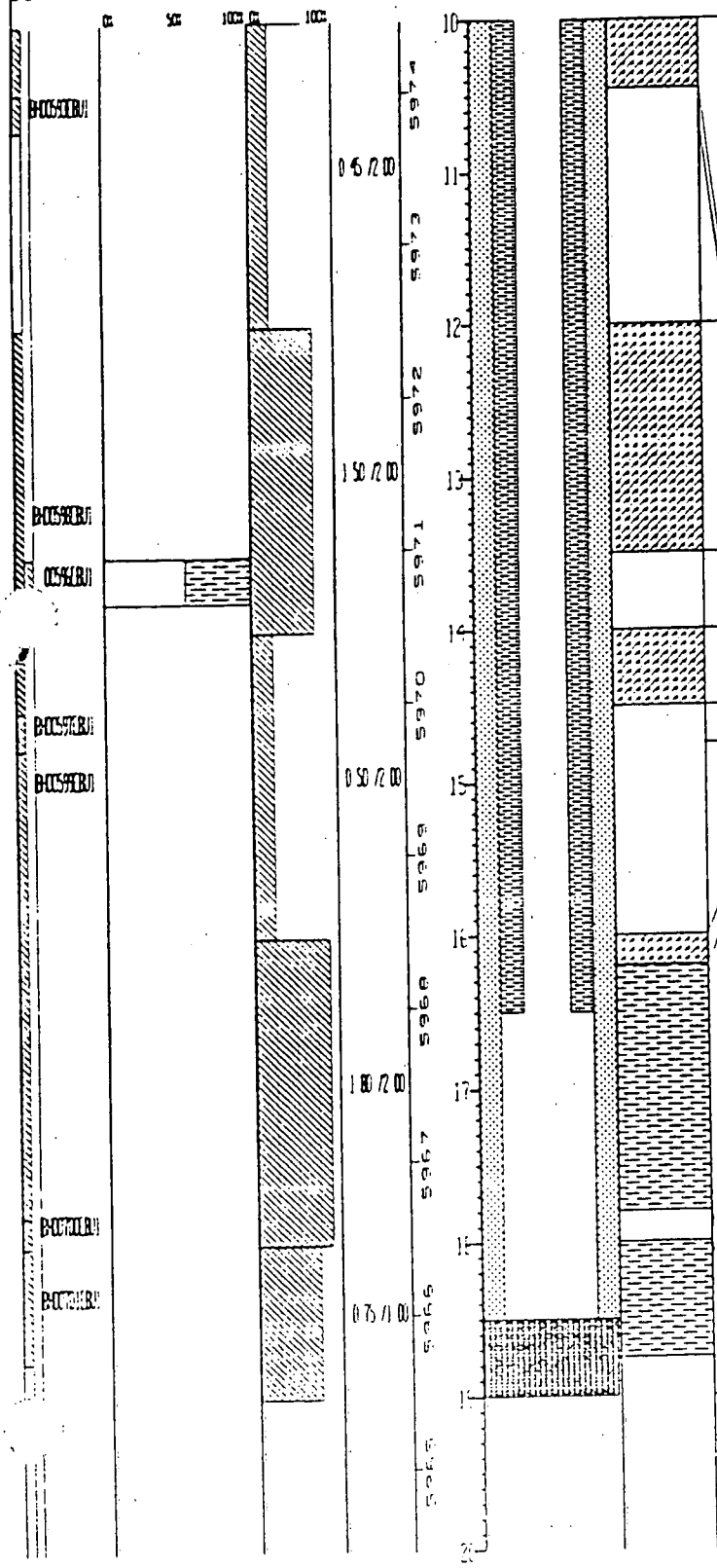
REMARKS

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%	0.50/1.00	5941	10			CLAYSTONE	(cont from above) top of bedrock : 8.0 ft
										No recovery for this interval
						11				Total Depth : 11.0 ft
					5940					
						12				
					5939					
						13				
					5938					
						14				
					5937					
						15				
					5936					
						16				
					5935					
						17				
					5934					
						18				
					5933					
						19				
					5932					
						20				

STATE PLANE COORDINATE	TOTAL DEPTH (FT) 19.0	GROUND ELEVATION (FT) 5984.46	PROJECT NUMBER EMAD	LOG OF BORING NUMBER:
NORTH 748692	AREA OU1	CASING DIAMETER (IN) 2.07	GEOLOGIST KMM/KJT	37691
EAST 2085217	LOCATOR NUMBER MB	BOREHOLE DIAMETER (IN) 11.5	DATE DRILLED 10/18/91	
REMARKS				

CHEMICAL SAMPLE / GRADATIONAL S	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	WATER SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	BH00588EBU1	0% 50% 100%	0% 100%			0			GC	Sandy Clayey Gravel: Black (10YR 2/1) well graded sand and gravel in clay matrix. Sand is f.g. to c.g., mean=m.g. to c.g., angular to subrounded, composed of rock fragments of gneiss, schist, granite, quartzite, plus quartz, some feldspar, trace micas. Gravel is f.g. to c.g., mean size=1 1/4", max. size=2 1/4" diameter, angular to subangular, composed of granite, quartzite, some other metamorphic rock fragments (micaceous gneiss). Clay matrix is dark, possibly organic-rich. Dry. 60% Gravel, 25% Clay, 15% Sand
	BH00587EBU1			0.80 /2.00	5984	1				
					5983					
				0.00 /0.40		2				VOA sample obtained from this interval
					5982				GC: SW	Same as above.
	BH00589EBU1			1.35 /1.60	5981	3				Clayey Gravelly Sand: Light yellowish brown (10YR 7/4). Well graded sand and gravel with some clay. Gravel is f.g. to c.g., mean size=3/4", size=2 1/2" diameter, subangular, composed of granite, quartzite, garnet schist, feldspar. Some gravel is strongly weathered. Sand is v.f.g. to c.g., mean size=f.g., generally subangular, composed of quartz, granite, quartzite, feldspar, biotite, muscovite, mafic minerals (heavy minerals?). Caliche present on gravel as coating and within sandy matrix. Sand has bi-modal grain size distribution (70% fine - 25% coarse). Thin bed of more clay-rich sand is present at 3.1' to 3.2'. The clay matrix is black, like interval from 0' to 0.8'. Dry. 40% Gravel, 50% Sand, 10% Clay
	[illegible]588EBU1				5980	4				
				1.80 /2.00		5				VOA sample obtained from this interval
					5979				GW	Well graded Sand and Gravel: Light yellowish brown (10YR 7/4). Sand and gravel within silty clay matrix, abundant caliche in matrix as well. Sand is v.f.g. to c.g., mean size =m.g. to c.g., subangular to subrounded, composed of quartz and rock fragments (granite, schist, gneiss) with some feldspar, micas, and mafic minerals. Gravel is f.g. to c.g., mean size=1" diameter, max. size= 3 1/4", angular to rounded, composed pred. of quartzite with some strongly weathered and crumbly granite, trace of micaceous schist. Dry. 58% Gravel, 33% Sand, 1% Silt, 8% Clay
					5978	6				
				0.95 /1.40	5977	7				VOA sample obtained from this interval
	BH00590EBU1								GW: SC	Same as above.
	00592EBU1			0.40 /0.40	5976	8				Clayey Sand: Dark brown (7.5YR 4/4) to light yellowish brown (2.5Y 6/3). Well graded sand with some gravel in silty clay matrix. Gravel is sparse, scattered throughout interval, but most abundant above 12.0'. Gravel composed of c.g. to f.g. gravel, mean size=1" diameter, max.=2 1/2", subangular to rounded, composed of granite, quartzite, quartz and felspar. Sand is v.f.g. to c.g., mean size=v.f.g. to f.g., subangular to subrounded, composed of quartz, mafic minerals, feldspar, rock fragments of quartzite and granite. Organic material (dark brown/carbonaceous) present in discontinuous patches, caliche also present in patches throughout interval. Clay content variable throughout from <10% to >50%. Dry. 15% Gravel, 50% Sand, 5% Silt, 30% Clay
	BH00594EBU1									
				1.45 /2.20	5975	9				
					5974	10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 19.0	GROUND ELEVATION (FT)	5984.46	PROJECT NUMBER	EMAD	LOG OF BORING NUMBER	
NORTH	746692	AREA OU1	CASING DIAMETER (IN)	2.07	GEOLOGIST	KMM/KJT	37691	
EAST	2085217	LOCATION NUMBER M8	BOREHOLE DIAMETER (IN)	11.5	DATE DRILLED	10/18/91		
REMARKS								



SC — Icont from above) to f g, subangular to subrounded, composed of quartz, mafic minerals, feldspar, rock fragments of quartzite and granite. Organic material (dark brown/carbonaceous) present in discontinuous patches, caliche also present in patches throughout interval. Clay content variable throughout from <10% to >50%. Dry. 15% Gravel, 50% Sand, 5% Silt, 30% Clay

VOA sample obtained from this interval

No recovery for this interval

SC — Same as above

Geotech samples obtained from this interval

SC — Same as above

VOA sample obtained from this interval

No recovery for this interval

SC — Same as above

CLAYSTONE — Interbedded Claystone and Clayey Sandstone. Pale olive (5Y 6/3) to olive yellow (2.5Y 6/6). Claystone beds (2" to 5" thick) within thicker clayey sandstone. Sand is v f g to f g, subangular to subrounded, well sorted, porosity of clayey sandstone approx. 20%, porosity of claystone <10%, mod. to highly friable, sand is composed of quartz, with trace of feldspar, trace of mafic minerals and rock fragments. Claystone beds contain carbonaceous material. Large cobble and clayey sand from overlying interval appear pushed into core just below 10'. Below 18.4', color changes to dom. yellowish brown (10YR 5/8) with some pale olive (5Y 6/3). Dry. Clayey sandstone 60% Sand, 40% Clay, claystone 20% Sand, 80% Clay. Top of bedrock = 16.2'

VOA sample obtained from this interval

CLAYSTONE — Same as above

No recovery for this interval

Total Depth = 19.0 ft

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT): 5641.86	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	753392	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40391
EAST:	2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canonand D. Reeder (Stoller). Borehole filled with bentonite grout and abandoned on 12/10/91.

CHEMICAL SAMPLE / GEOTECHNICAL S 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
	H0001291B			1.50 /2.00	5641	0–1			SM:	Silty Sand with some Gravel and trace Clay. Dark yellowish brown (10 YR 4/2) with dusky yellowish brown (10 YR 2/2). Slightly to mod. calcareous, some clayey intervals. Good root development in top 1.5'. Gravel pred. quartzite, sub-angular, pred. 0.5+ in., but pebbles to 2.0+ in. Sand poorly graded, pred. +40 and +200 mesh size, consists of sub-angular to angular quartz and some feldspar and mica flakes. Fines low to med. plasticity, pred. silt. Mod. weathered. 20% gravel, 50% sand, >25% silt, <5% clay.
	H0001291B				5643	1–2			NO SAMPLE:	No recovery.
					5642	2–3			SM:	Silty Sand with some Gravel and trace Clay. Same as above (reference interval 0.0' to 1.5').
				2.20 /4.00	5641	3–4			CL:	Sandy Clay. Dark yellowish brown (10 Y 4/2), some Fe staining visible under microscope. Med. plasticity. 60% clay, 40% sand.
					5640	4–5			NO SAMPLE:	No recovery (0.5 in. gravelly sand at bottom of previous core).
	H0001281B				5639	5–6			CL:	Sandy Clay with some Silt. Dusky yellowish brown (10 YR 2/2) with some yellowish gray (5 Y 7/2) calcareous zones. Gravel interval at approx. 6.2' to 6.4' consists of one 2.5 in. quartzite pebble and some 0.5 in. (approx.) pebbles. Fines segment pred. clay, med. plasticity. Sand poorly graded, angular to sub-angular quartz with some feldspar and trace mica. Unweathered. 21% sand, <8% silt, >71% clay.
					5638	6–7				
				5.00 /4.00	5637	7–8				
	1012B				5636	8–9			CL:	Sandy Clay with some Silt. Dark yellowish brown (10 YR 4/2) with yellowish gray (5 Y 7/2) inclusions or nodules. Interval more calcareous than above. Fines med. plasticity. Sand poorly graded with trace of coarse sand. Trace quartzite gravel (trace amounts) throughout interval. 31% sand, <7% silt, >62% clay.
	H0001241B									
	H0001221B				5635	9–10				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT): 5641.86	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 753392	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40391
EAST: 2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Cononand D. Reeder (Stoller). Borehole filled with bentonite grout and abandoned on 12/10/91.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADE SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.10 /2.00	5634	10–11			SW:	Gravelly Sand with some Silt and trace Clay. Dark yellowish brown (10 YR 4/2) to mod. yellowish brown (10 YR 5/4). Trace dark yellowish orange (10 YR 6/6) iron staining. Gravel pred. 0.5 in. (approx.) pebbles with some to 1.0 in. (approx). Angular to sub-angular quartzite, trace feldspar. Sand well graded, c.g., angular to sub-angular quartzite, feldspar and some quartz. Finer fraction sub-angular to sub-rounded quartz, feldspar, trace quartzite. Fines pred. silt, mod. to low plasticity, slightly calcareous (trace). (sw-sm) 37% gravel, 52% sand, >7% silt, <4% clay.
				1.50 /2.00	5632	12–13				
					5631	13–14			GW:	Gravel. Pred. one large quartzite pebble.
									NO SAMPLE:	No recovery.
					5630	14–15			SW:	Gravelly Sand. Same as above (reference interval 9.8' to 13.7').
					5629	15–16			CL:	Silty Clay. Dark yellowish brown (10 YR 4/2) with some dusky yellowish brown (10 YR 2/2), med. plasticity.
				4.30 /5.00	5628	16–17			CLAYSTONE:	Top of Bedrock at 16.0'. Claystone with trace Silt. Dusky yellowish brown (10 YR 2/2) to dark yellowish brown (10 YR 4/2). Some mod. yellowish brown (10 YR 5/4) mottling (Fe staining). Entire interval extensively fractured (drill induced). Bottom 0.3' of core only intact sample. Clay indurated (mod.) but mod. friable when damp. >95% clay.
					5627	17–18			NO SAMPLE:	No recovery.
				1.00 /1.00	5626	18–19			CLAYSTONE:	Claystone with trace Silt. Pred. light olive gray (5 Y 5/2). Consol. but very sticky and very damp in upper half of interval. Grades to broken and friable Claystone (dryer) in lower half of interval. Some dark yellowish orange (10 YR 6/6) mottling in lower part of core (Fe oxide). No apparent bedding. >90% clay. NOTE: 1.8' extra core recovery 19.0' to 22.2'.
					5625	19–20				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT): 5644.86	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 753392	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40391
EAST: 2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canonand D. Reeder (Stoller). Borehole filled with bentoni te grout and abandoned on 12/10/91.

CHEMICAL SAMPLE GEOTECHNICAL 8 DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE 0% 50% 100%

PERCENT RECOVERY 0% 100%

RECOVERY/INTERVAL: 4.00/2.20; 0.10/5.80; 2.00/2.00

DATUM (FT): 5624, 5623, 5622, 5621, 5620, 5619, 5618, 5617, 5616, 5615

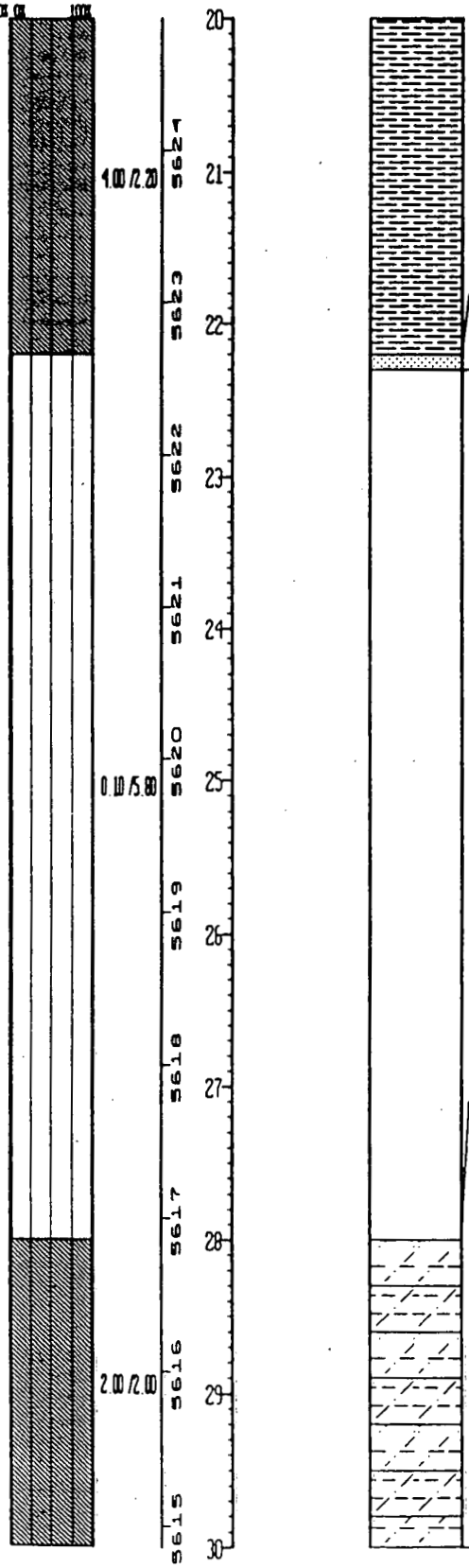
DEPTH (FT): 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION



SANDSTONE: Plug and 0.75 in. sample of v.f.g. Sandstone and Silty Claystone.

NO SAMPLE: No recovery.

CLAYEY SILTSTONE: Clayey Siltstone with some Sand. Pred. light gray (N7) to med. gray (N5), with mottled appearance. Some Fe staining in top 0.5' of interval. Entire interval composed of interbedded silty to sandy zones with Silty Claystones and Clayey Siltstones. All contacts gradational, no pred. or well defined bedding. Sandstone v.f.g., pred. sub-angular quartz, well sorted, abundt. to some carbon. Soft sediment deformation common. Interval slightly damp, friable in some very silty or sandy zones to slightly friable at bottom of interval. Sediments become well cemented (argillaceous) with depth. Healed fractures at approx. 29.7' and at bottom of interval. Fracture angle approx. 45 degrees.
21% sand, 47% silt, 32% clay.
NOTE: 0.1' extra core recovery 28.0' to 33.0'.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT): 5644.86	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 753392	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40391
EAST: 2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/12/91	

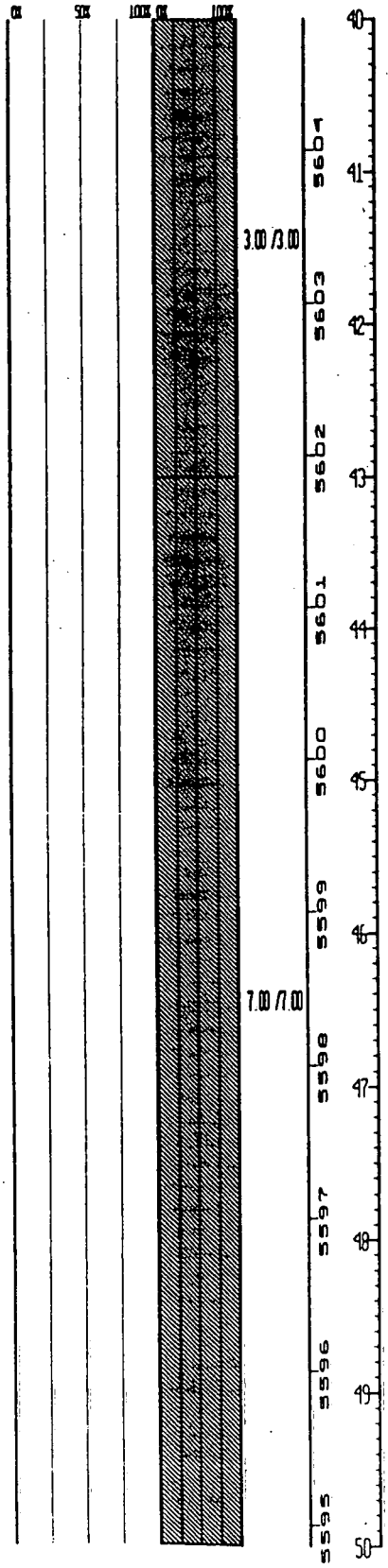
REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canon and D. Reeder (Stoller). Borehole filled with bentonite grout and abandoned on 12/10/91.

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
						30				
					5614	31				
				3.10 /3.00						
					5613	32				
					5612	33			SILTY CLAYSTONE:	Silty Claystone with interbedded and/or laminated calcareous Siltstone. Med. gray (N5) Claystone and very light gray (N8) calcareous Siltstone. Upper contact defined by fracture and non-calcareous sediments overlying calcareous interval. Top 0.8' of interval is a more massive Silty Claystone. Becomes more laminated with depth. Lower 0.25' pred. Claystone. Soft sediment deformation or possible bioturbation in some zones. Most of core fractured (drilling induced). Interval slightly damp, slightly friable, some carbon. 1.0 in. clay at top of core run at 33.0' does not appear in place. +/-50% silt, +/-50% clay.
					5611	34				
					5610	35				
					5609	36			SILTSTONE:	Calcareous Siltstone with some Clay. Light olive gray (5 Y 6/1) with olive gray laminae. Top approx. 1.4' pred. massive with very thin dark laminations, possibly some ripple marked. Healed fractures from 35.6' to 37.3'. Interval (35.6' to 37.3') coarsely laminated, becomes more massive from 37.3' to 37.7'. Core dry, well cemented, non-friable, some carbon. Well defined contact with underlying non-calcareous sediments. Fracture angle 45 degrees. >80% silt, <20% clay.
				7.00 /7.00						
					5608	37				
					5607	38			SILTY SANDSTONE:	Silty Sandstone with some Clay. Olive gray (5 Y 4/1) and light olive gray (5 Y 6/1). Finely to coarsely laminated, slightly damp. Friable to mod friable, mod. well cemented (argilloceous). Visual porosity to 20+ percent. Sandstone v.f.g. sub-angular quartz. Well sorted silt, sub-angular quartz. Fracture with breccia filling at approx. 39.0' (possible fault). Core becomes more clayey in bottom foot (approx.), some soft sediment deformation, some carbon. Fracture angle 45 degrees, bedding laminations approx. 20 degrees. 46% sand, 32% silt, 22% clay.
					5606	39				
					5605	40				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT): 5641.86	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 753392	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40391
EAST: 2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canonand D. Reeder (Stoller). Borehole filled with bentonite grout and abandoned on 12/10/91.

CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER

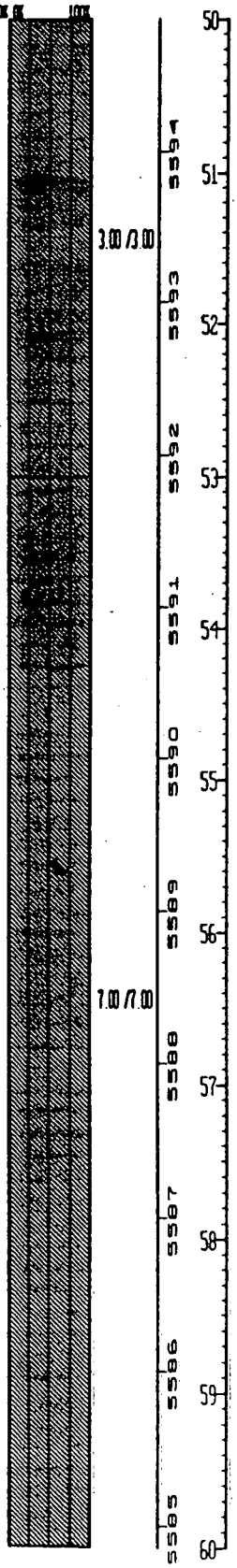


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SILTSTONE	Clayey Siltstone. Light olive gray (5 Y 6/1) with olive gray (5 Y 4/1). Gradational contact with overlying sediments. No bedding, no fractures, slightly damp, slightly friable, some carbon. +/-60% silt, +/-40% clay.
SILTY SANDSTONE	Silty Sandstone with some Clay. Olive gray (5 Y 4/1), slightly calcareous, slightly damp, friable. Sand v.f.g., sub-angular, quartz, well sorted, no apparent bedding. 50+% sand, 30+% silt, <20% clay.
CLAYEY SILTSTONE	Clayey Siltstone with abundt. Sand. Light gray (N7) to dark gray (N3). Laminated (coarse laminations). Laminations dip from 8 degrees to 20 degrees. Healed fractures in top 0.7" of core (slabbed). Minor displacement indicated. Other fractures probable but not well defined in whole core. Core slightly damp, mod. friable. Drilling induced fractures throughout entire interval. Sand v.f.g., sub-angular quartz (approx. 95%). Silt pred. quartz, some mica. No apparent bedding other than laminations, some bioturbation and soft sediment deformation, some carbon. Fracture angle 8 degrees to 10 degrees. 28% sand, 40% silt, 32% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT): 5641.86	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 753392	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40391
EAST: 2093856	LOCATION NUMBER: U13	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canonand D. Reeder (Stoller). Borehole filled with bentonite grout and abandoned on 12/10/91.

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



CLAYEY SILTSTONE: Calcareous Clayey Siltstone. Yellowish gray (5 Y 8/1) with olive gray (5 Y 4/1) laminae of Claystone or Silty Claystone. Possible fractured zone in bottom of interval. Core mod. well cemented (calcareous), mod. to slightly friable, dry.
>/=60% silt, </=40% clay.

SILTY CLAYSTONE: Silty Claystone with some Sand. Bioturbated and disturbed sediments. Pred. light olive gray (5 Y 6/1) with olive black (5 Y 2/1) laminae and mottling. Core mod. well indurated, slightly damp, slightly friable. Burrow cast in slabbed core. No apparent bedding planes, no well defined fractures. Some carbon.
<10% sand, >30% silt, +/-60% clay.

CLAYSTONE: Claystone. Olive black (5 Y 2/1) with olive gray (5 Y 4/1) silty to sandy lens. Some carbon.
>90% clay.

SILTY CLAYSTONE: Silty Claystone with some Sand. Pred. olive gray (5 Y 4/1) with light olive gray (5 Y 6/1) sandy and silty lenses. Horiz. bedding indicated, drilling induced horiz. breaks common. Core slightly damp, mod. indurated, slightly to mod. friable. (sandy zones). Some to mod. abundt. carbon.
+/- 10% sand, +/- 30% silt, +/- 60% clay.

SILTSTONE: Calcareous Siltstone. Med. light gray (N6) with some med. dark gray (N4) mottling and laminae. Interval coarsely laminated with indications of disturbed bedding. Upper contact with non-calcareous sediments well defined. Upper 0.3' of interval less calcareous and cemented than remainder of interval, which is well cemented and non-friable. Fractures (healed) throughout interval. Lower contact also well defined between non-calcareous sediments.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT):	5644.86	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	753392	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40391
EAST:	2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canonand D. Reeder (Stoller). Borehole filled with bentoni te grout and abandoned on 12/10/91.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL B DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

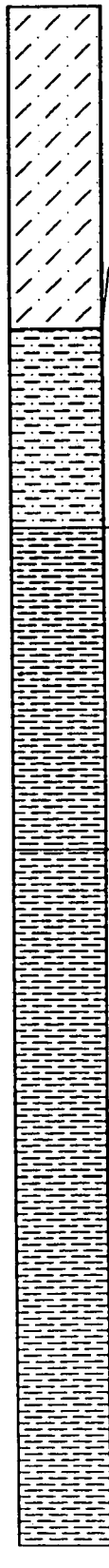
RECOVERY/INTERVAL: 3.00 /3.00; 7.00 /7.00

DATUM (FT): 5584, 5583, 5582, 5581, 5580, 5579, 5578, 5577, 5576, 5575

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

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDY CLAYSTONE:	Sandy Claystone with abundt. Silt. Light olive gray (5 Y 6/1) and olive gray (5 Y 4/1). Well defined contact with overlying calcareous sediments. Lower contact defined by fracture (60 degrees) or fault. Sediments laminated, indicate disturbed bedding with multiple fractures. Sand v.f.g., sub-angular quartz, well sorted. Core slightly damp, slightly to mod. friable, some carbon. 30% sand, 28% silt, 42% clay.
CLAYSTONE:	Claystone with some Silt. Olive gray (5 Y 4/1) with some light olive gray (5 Y 6/1) mottling and some Siltstone nodules. Both upper and lower contacts defined by fractures or faults. Core dense, indurated, dry, non-friable. Mod. abundt. to some carbon. Both upper and lower contact fractures at 60 degrees. Lower contact slightly slickensided. Other healed fractures throughout interval. +/-20% silt, +/-80% clay.
CLAYSTONE:	Claystone. Olive gray (5 Y 4/1) and olive black (5 Y 2/1) with light olive gray (5 Y 6/1) mottling. Abundt. carbon. Upper contact faulted. No indications of amount of displacement. Some intervals appear to be brecciated (most of core broken to extensively fractured). Core slightly damp, mod. -indurated, slightly friable. Some Siltstone nodules throughout entire interval. >90% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 73	GROUND ELEVATION (FT):	5644.86	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	753392	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40391
EAST:	2093856	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	11/12/91	

REMARKS: ASI Geologist, F.Grigsby; EBASCO Geologist: R.T. Canon and D. Reeder (Stoller). Borehole filled with bentonite grout and abandoned on 12/10/91.

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

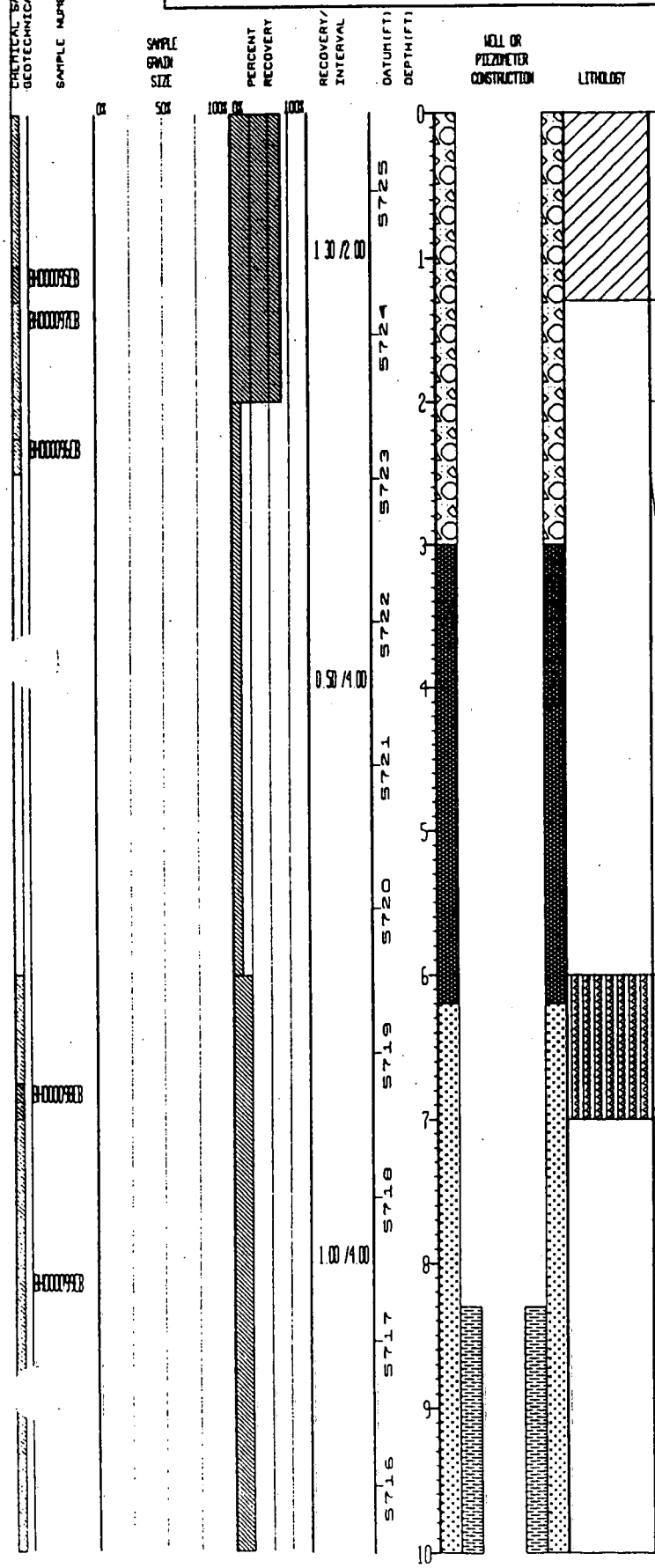
Recovery/Interval	Depth (FT)	Unified Soils Classification or Rock Type	Description
	70		
	71	NO SAMPLE:	No recovery.
1.00 /3.00	72		
	73		Total Drilled Depth = 73.0'.
	74		
	75		
	76		
	77		
	78		
	79		
	80		

Depth scale: 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80

Datum scale: 5574, 5573, 5572, 5571, 5570, 5569, 5568, 5567, 5566, 5565

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 12.0	GROUND ELEVATION (FT):	5725.54	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	750745	AREA: SITEWIDE	CASING DIAMETER (IN):	2.0	GEOLOGIST:	F.G.	40491
EAST:	2093763	LOCATOR NUMBER: U10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/07/91	

REMARKS: Hollow Stem Auger and Rotary Core Drill. ASI Geologist Fred Grigsby; EBASCO Rig Geologist, R.T. Canon, D. Ree der (Stoller).



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	Silty Clay with some Sand. Pred. grayish brown (5 YR 3/2), med. plasticity. Sample unconsol., grass and roots in top 4 in. Mod. good root development to bottom of interval. Sand f.g., sub-angular, pred. quartz with some quartzite, trace mica. Dry, weathered. 15% sand, 25% silt, 60% clay.
NO SAMPLE:	No Recovery.
NO SAMPLE:	All recovered sediments used for sample. Consists of Gravelly Clay with some Silt. Dark yellowish brown (10 YR 4/2). Not considered reliable representation of entire interval (1.0 in. sample).
NO SAMPLE:	No Recovery.
SM:	Gravelly Sand with some Silt and Clay. Pale yellowish brown (10 YR 6/2) with mod. abundt. very pale orange (10 YR 8/2) caliche lenses. Gravel well graded, largest pebble 2.25 in. Dom. lithology sub-angular to sub-rounded quartzite. Sand poorly graded, c.g. fraction pred. sub-angular quartzite and quartz. F.g. fraction pred. sub-angular to sub-rounded quartz, some feldspar, trace of quartzite and mica. Matrix low plasticity, weathered, dry. 20% gravel, 55% sand, 15% silt, 10% clay.
NO SAMPLE:	No Recovery.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 12.0	GROUND ELEVATION (FT):	5725.54	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	750745	AREA: SITEWIDE	CASING DIAMETER (IN):	2.0	GEOLOGIST:	F.G.	40491
EAST:	2093763	LOCATOR NUMBER: U10	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/07/91	

REMARKS: Hollow Stem Auger and Rotary Core Drill ASI Geologist Fred Grigsby; EBASCO Rig Geologist, R.T. Canon; D. Ree der (Stoller).

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 0.40/2.00

DATUM (FT): 5715, 5714, 5713, 5712, 5711, 5710, 5709, 5708, 5707, 5706

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
GP:	Gravel - 2.0"+ quartzite pebble.
SILTY CLAYSTONE:	Possible Top of Bedrock at 10.2'. Silty Claystone. Pale yellowish brown (10 YR 6/2), with a 0.5 in. thick v.f.g. Sandstone bed [yellowish gray (5 Y 7/2)]. Sand grains well sorted, sub-angular quartz. Oxidized. Possible top of bedrock.
NO SAMPLE:	No Recovery.

Total Drilled Depth = 12.3'.
NOTE: Total Depth of Casing = 12.3'.
Bottom Depth of Filter Pack = 10.2'.
Top of bentonite Backfill = 10.2'

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist; Fred Grigsby, Laurie Hast. EBASCO Rig Geologist; R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH

SAMPLE NUMBER: BH000029EB, BH000031EB, BH000030EB, 000EB, BH000032EB

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 1.30 /2.00; 1.60 /4.00; 3.50 /4.00

DATUM (FT): 5795, 5794, 5793, 5792, 5791, 5790, 5789, 5788, 5787, 5786

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

WELL OR PIEZOMETER CONSTRUCTION

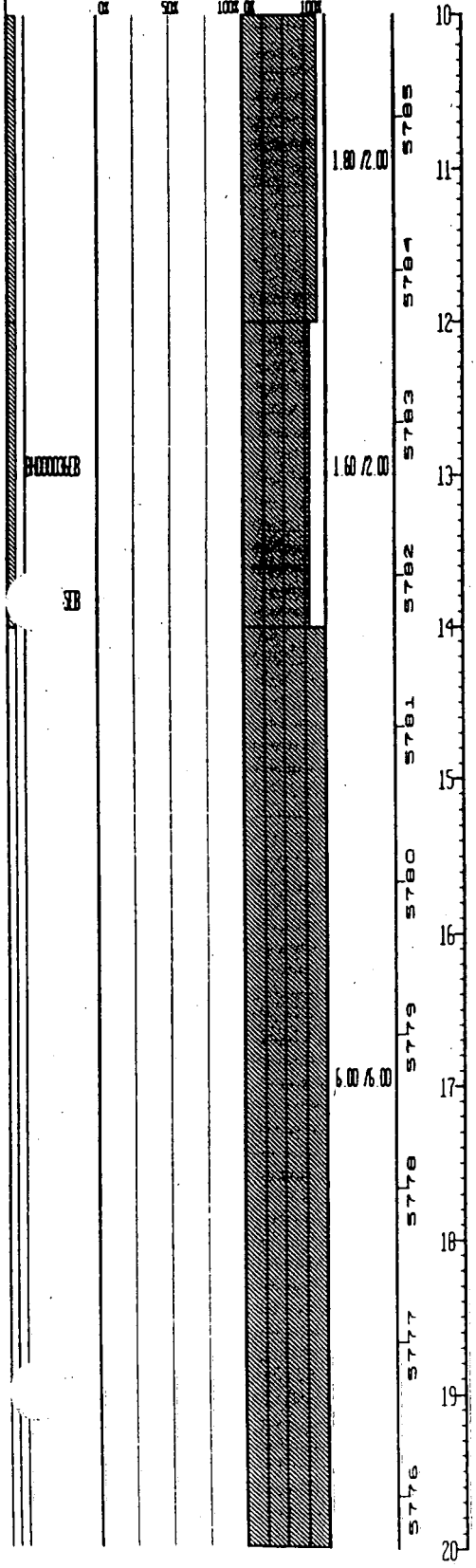
LITHOLOGY

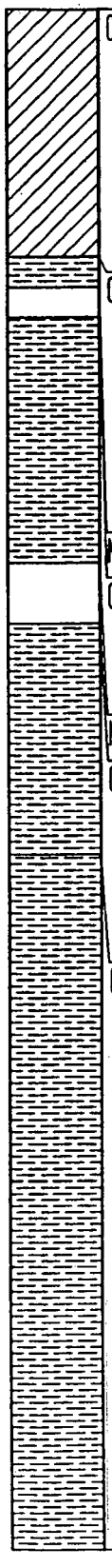
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SM:	Gravelly Sand with some Silt and Clay (topsoil). Brownish gray (5 YR 4/1). Abundt. roots. Gravel quartz and quartzite, poorly graded, sub-angular. Sand and silt, poorly graded, pred. quartz and weathered feldspar, sub-rounded to sub-angular. Mod. abundt. mica in f.g. fraction. Non-calcareous, med. plasticity, mod. weathered. 22% gravel, 60% sand, 12% silt, 6% clay.
SM:	Sandy Silt with some Gravel and trace Clay. Yellowish gray (5 Y 7/2) with some very pale orange (10 YR 8/2). Very calcareous, possible caliche bed (pieces only). Gravel poorly graded, pred. quartz and quartzite, sub-rounded. Sand, poorly graded, sub-angular to sub-rounded quartz and weathered feldspar, trace quartzite. Mod. abundt. mica in f.g. fraction. Low to med. plasticity, mod. weathered. 23% gravel, 37% sand, >38% silt, <2% clay.
NO SAMPLE:	No recovery.
SM:	Sandy Silt. Same as above (reference interval 0.6' to 1.3') except color change to pred. very pale orange (10 YR 8/2) and interval more calcareous (caliche cemented). 23% gravel, 37% sand, >38% silt, <2% clay.
CALICHE:	Caliche bed with gravel and clay clasts. White (N9) with light olive gray (5 Y 6/1) clay clasts.
NO SAMPLE:	No Recovery.
CL:	Sandy Clay with some Silt and trace Gravel. Pale yellowish brown (10 YR 6/2) to light olive gray (5 Y 6/1) with abundt. very pale orange (10 YR 8/2) calcareous (caliche) intervals. Med. plasticity (-200 fraction). Sand pred. sub-rounded, quartz, poorly graded. Trace quartzite pebbles (approx. 1/2 in.). Clays mod. indurated. Pred. badly broken. Very highly calcareous with several caliche cemented/enriched intervals. Possible Claystone clast or boulder at approx. 8'. Trace gravel, 30% sand, <10% silt, >60% clay.
NO SAMPLE:	No recovery.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hoat. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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

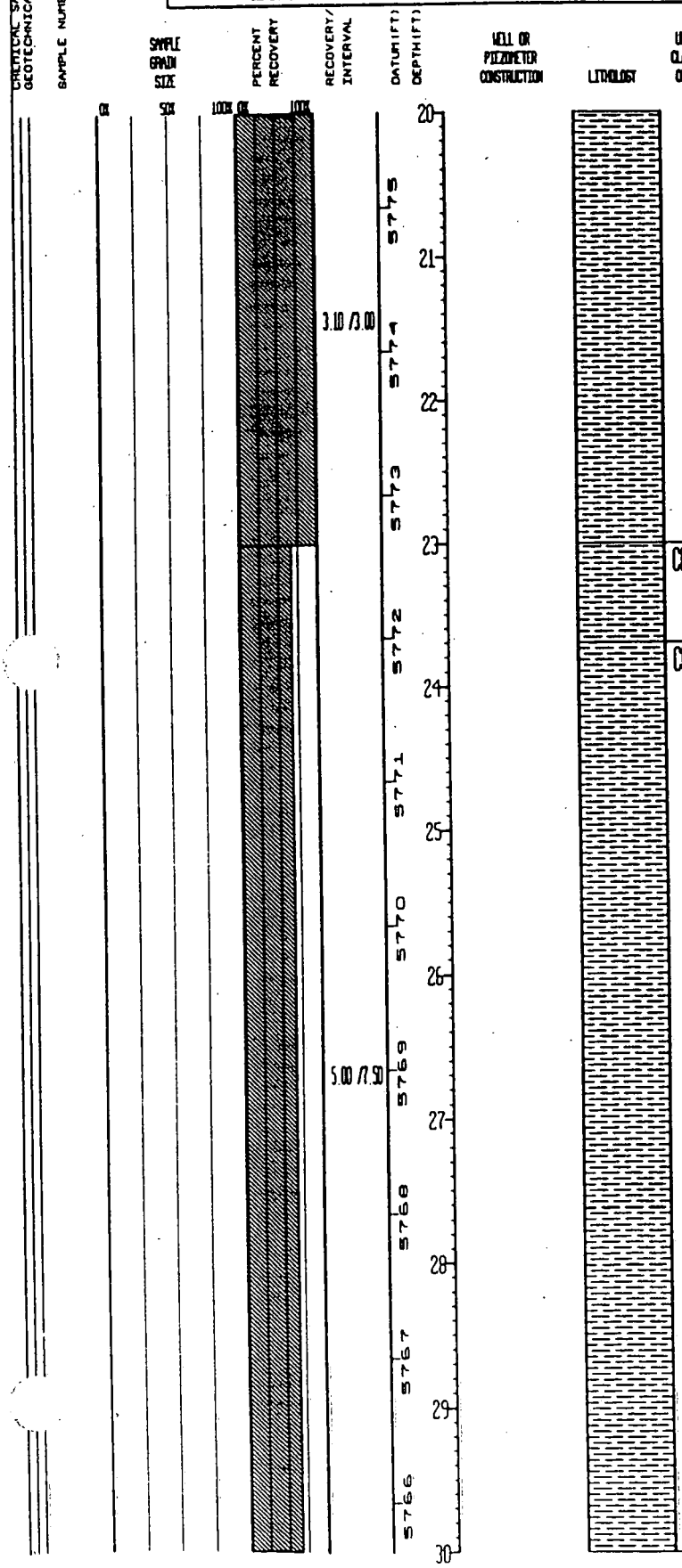




CL:	Sandy Clay with some Silt and trace Gravel. Same as above (reference interval 6.0' to 9.5') except intermixed with clasts of med. gray (N5) clay and one large quartzite pebble (approx. 1.75 in.). Also some grayish orange (10 YR 7/4) mottling (Fe) on clast surfaces and on some small fractures. Top of interval less calcareous than interval from 6.0' to 9.5'. Amount of calcareous cementing decreases towards bottom of interval.
CLAYSTONE:	Top of Bedrock at 11.6'. Claystone with trace Silt. Light olive gray (5 Y 6/1) to olive gray (5 Y 6/1) with med. dark gray (N4) clasts throughout interval. Non-calcareous. Some grayish orange (10 YR 7/4) zoning and mottling. Clay indurated, dense, mod. friable when damp. (The lithology of this interval is similar to that of above interval). >95% clay.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone. Same as above (reference interval 11.6' to 11.8') except less gray clasts and trace of carbon. Upper part of interval broken, lower half intact. >95% clay.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone. Grayish orange (10 YR 7/4) to pale yellowish brown (10 YR 6/2) with dark yellowish orange (10 YR 6/6) (Fe) mottling. Upper 0.6' sticky and pliable. Lower interval crinkly texture, mod. indurated, fractured (drilling induced). Core damp to slightly damp. >95% clay.
CLAYSTONE:	Claystone. Color change to med. dark gray (N4). Heavily fractured with Fe Oxide mineralized fractures. Multiple fracture dips. Core has crinkly texture, mod. indurated, slightly friable. Multiple drilling induced fractures. Trace of Mn staining. Trace carbon. >90% clay. NOTE: 0.1' extra core recovery from 14.0' to 23.0'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 186.0		GROUND ELEVATION (FT):	5795.66	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE		CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7		BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	11/27/91	

REMARKS: ASI Geologist; Fred Grigsby, Laurie Host. EBASCO Rig Geologist; R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

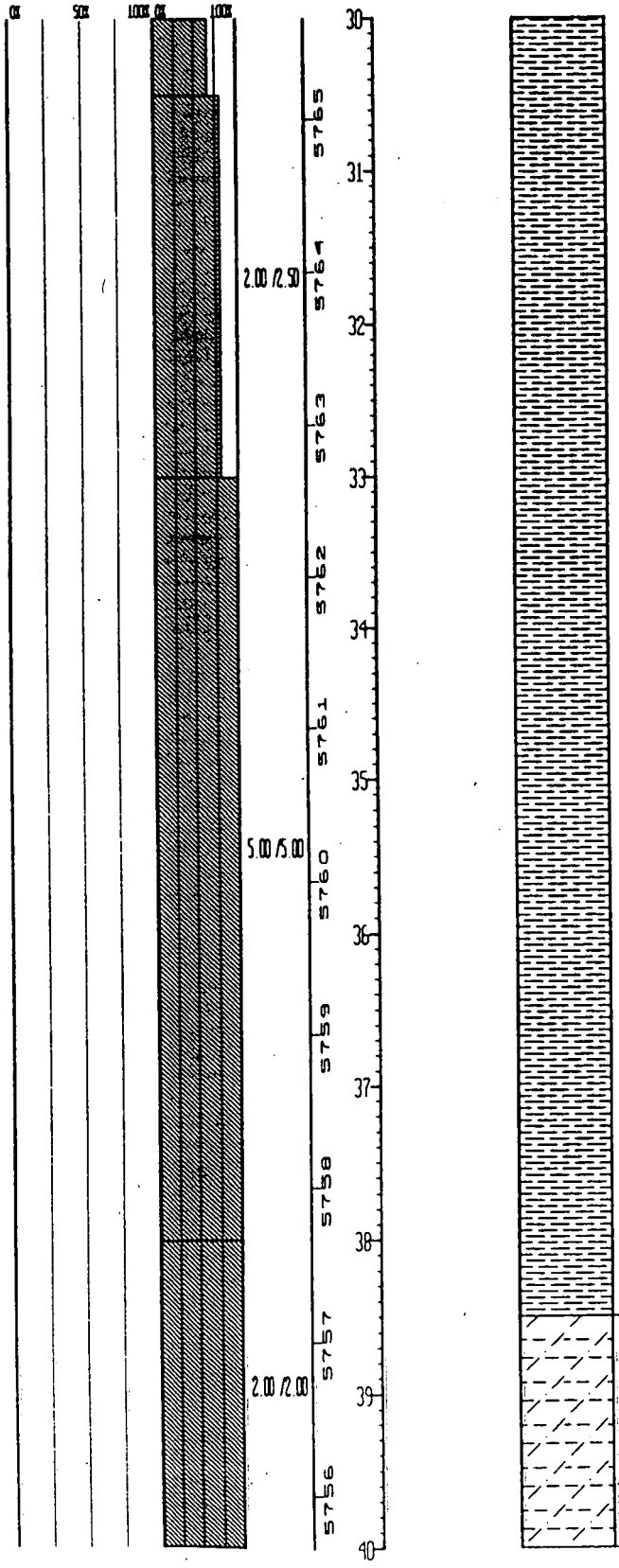


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone. Light olive gray (5 Y 6/1), sticky, damp, pliable. >95% clay.
CLAYSTONE:	Claystone. Same as above (reference interval 15.5' to 23.0') except increase in amount of carbon with depth. Fractures become less random (approx. 30 degrees). Multiple healed fractures, some mineralized. Fracture angle 30 degrees.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: AST Geologist: Fred Grigsby, Laurie Hoot. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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



SILTY CLAYSTONE: Silty Claystone. Pred. olive gray (5 Y 4/1) with light olive gray mottling. Massive, more clayey at top becoming more silty with depth. Some to mod. abundt. carbon. Healed and mineralized fractures (Fe). Core slightly damp, mod. indurated, mod. friable. Fracture angles 20 degrees and 45 degrees.
>/=20% silt, </=80% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926		AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876		LOCATOR NUMBER: U7.	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: AGI Geologist: Fred Grigsby, Laurie Hast. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

CHEMICAL SAMPLE / GEOTECHNICAL S	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
				3.00 /3.00	5755	40				
					5754	41				
					5753	42				
					5752	43			SILTY CLAYSTONE	Silty Claystone with trace Sand. Extensive Fe Oxide mineralization. Pale yellowish brown (10 YR 6/2), very pale orange (10 YR 8/2) and light olive gray (5 Y 6/1) with heavy dark yellowish orange (10 YR 6/6) Fe coating and staining throughout interval. Extensively disturbed and fractured bedding indicated. Some lenses of discontinuous v.f.g. Sandstone. Sand is quartz, sub-angular to sub-rounded, well sorted. Thickest interval (0.4') at 50.6' to 51.0'. Fractures extensive. No evidence of slickensides. Most consistent measurable fracture angle is 30 degrees. Core slightly damp. Varies from mod. well cemented to friable. Lithology varies considerably but becomes more consistent below 51.0' depth. Carbon varies from some to abundt. Woody fragments fairly common. Possibly some burrow casts. Trace of sand, >20% silt, <80% clay.
					5751	44				
					5750	45				
				7.00 /7.00	5749	46				
					5748	47				
					5747	48				
					5746	49				
						50				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2053876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

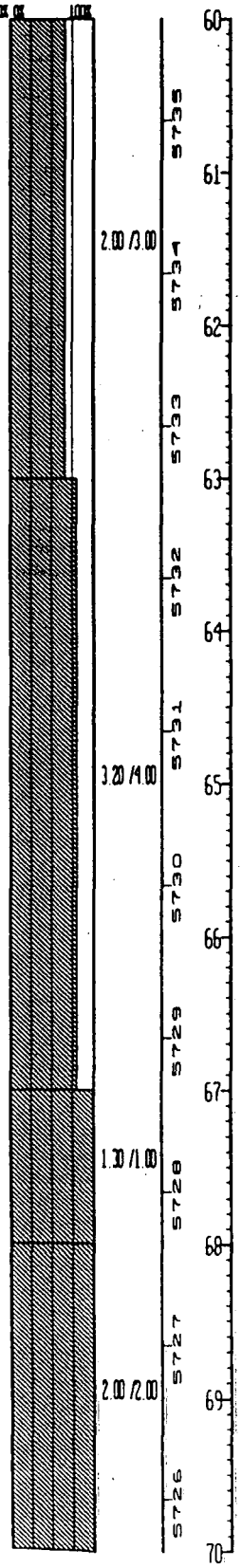
REMARKS: ASI Geologist; Fred Grigsby, Laurie Hast. EBASCO Rig Geologist; R.T. Canon. Borehole Filled with bentonite grout and abandoned on 12/10/91.

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
				2.50/2.50	5795	50				
					5794	51				
					5793	52				
					5792	53			CLAYSTONE:	Claystone. Dark yellowish brown (10 YR 4/2) in top 0.2' and dusky yellowish brown in lower 0.2'. Sticky and pliable in top 0.2'. Mod. indurated in lower 0.2' of interval. >95% clay.
				5.50/5.50	5791	54			CLAYSTONE:	Claystone. Brownish gray (5 YR 4/1) in upper half of interval grading to olive gray in lower half. Abundt. mod. brown (5 YR 4/4) and dark yellowish orange (10 YR 6/6) Fe Oxide coatings on fractures and planes. Interval dry, generally brittle, indurated, slightly friable to non-friable. Core surface texture generally crinkly. Fractures common, most prevelant fracture dip approx. 30 degrees. Many fractures at various angles. Possible Breccia zone in top 0.4' of interval. No distinct bedding. No slickensides. Some to mod. abundt. carbon. Trace of Mn staining on fractures (some). >90% clay.
					5790	55				
					5789	56				
					5788	57				
					5787	58			CLAYSTONE:	Claystone. Olive gray (5 Y 4/1) with dark yellowish orange (10 YR 6/6) Fe Oxide coatings and nodules. Alternating beds of sticky pliable Claystone with beds of brittle Claystone (see above interval). Interval extensively fractured (drilling induced). Natural fractures common at varying dips. Some vertical fractures with Fe mineralization. Interval damp to slightly damp. Slightly to nonfriable. Some carbon, trace Mn staining. Some 90 degree fracture angles. >90% clay.
				2.00/2.00	5786	59				
						60				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist; Fred Grigsby, Laurie Host. EBASCO Rig Geologist; R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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

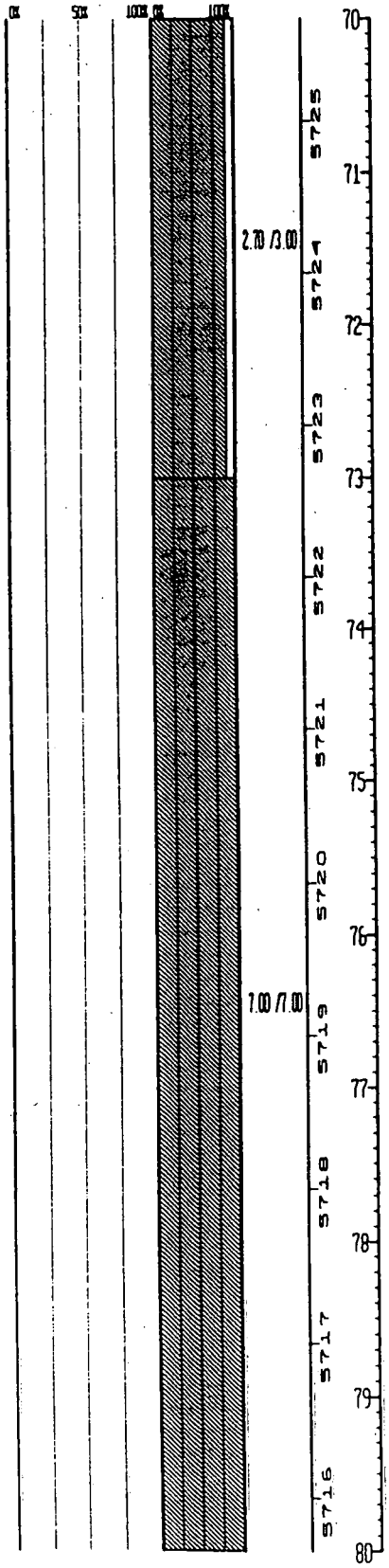


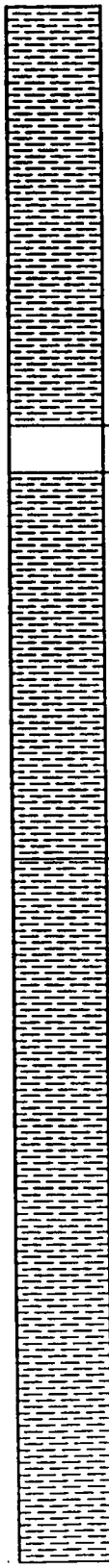
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone. Pred. brownish gray (5 YR 4/1) with some dark yellowish orange (10 YR 6/6). Consistency of sticky pliable clay with clasts of indurated Claystone (Possible Breccia Zone). Random mineralized fractures in some intervals. Interval damp, broken, sticky. Some carbon dispersed throughout interval. >95% clay.
CLAYSTONE:	Claystone. Brownish gray (5 YR 4/1) with light olive gray (5 Y 6/1) mottling. Some dark yellowish orange (10 YR 6/6) Fe Oxide fracture filling. Claystone dense, slightly damp. Mod. indurated, slightly friable. Possible horiz. fracturind (with Fe Oxide mineralization.). 1/2" layer of dark yellowish brown (10 YR 4/2) clay (pliable) at bottom of interval. Origin questionable.
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with trace Silt. Olive gray (5 Y 4/1), some dark yellowish orange (10 YR 6/6) iron staining. Core is damp. Bedding appears massive. Core slightly to mod. friable. Some to trace silt and v.f.g. sand. Trace black minerals. 5% silt, 95% clay.
CLAYSTONE:	Claystone with some Silt. Olive gray (5 Y 4/1) to brownish gray (5 YR 4/1) in middle of interval. Some silt, becomes siltier at bottom of interval. Some dark yellowish orange (10 YR 6/6) iron staining as mottles and in some fractures. Several 30 degree fractures, one healed fracture 50 degrees. Bedding not apparent. Interval slightly damp (less sticky/wet than above). Slightly friable. Trace carbonaceous material. Fracture angle at 70 degrees. <10% silt, >90% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hast. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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





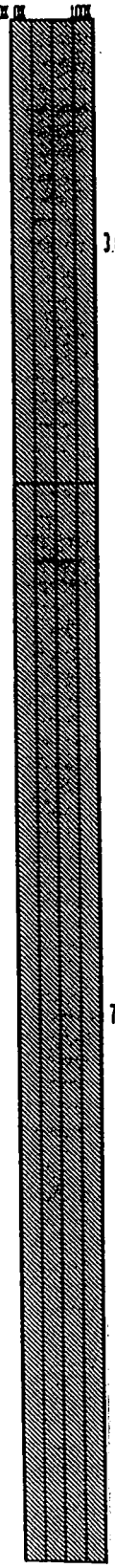
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with some Silt. Olive gray (5 Y 4/1) to brownish gray (5 YR 4/1). Slightly porous, mod. to slightly friable. Bedding appears massive. Slightly damp. Trace carbonaceous material. High angle fractures (60 and 58 degrees) have dark yellowish orange (10 YR 6/6) iron staining. <10% silt, >90% clay.
CLAYSTONE:	Claystone with some Silt. Brownish gray (5 YR 4/1). Mod. friable. Bedding appears massive. Interval damp. Some carbonaceous material (approx. 5%). Dark reddish brown (10 R 3/4) area at approx. 77.2' and approx. 77.7', in conjunction with more abundt. carbonaceous (coal) material. May be wood remains. Trace to some v.f.g. sand in localized area at approx. 77.2'. Some dark yellowish orange iron staining (10 YR 6/6). Becomes less silty toward approx. 80.0', grades to Claystone. Localized carbonaceous (coal?) area at approx. 78.6'. +/- 15% silt, +/-80% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT):	5795.66	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	11/27/91	

REMARKS: ASI Geologist; Fred Grigsby, Laurie Host. EBASCO Rig Geologist; R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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%

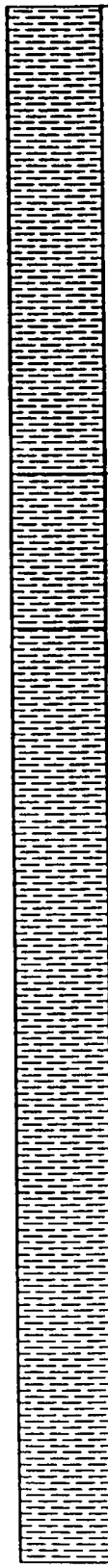


3.00/3.00

7.00/7.00

5715 5714 5713 5712 5711 5710 5709 5708 5707 5706

80 81 82 83 84 85 86 87 88 89 90



CLAYSTONE: Claystone with some Silt. Brownish gray (5 YR 4/1) at top (80.0') grading to more olive gray (5 Y 4/1) at bottom of interval. Bedding massive. Trace to some dark yellowish orange (10 YR 6/6) staining (iron). Trace black mineralization. Slightly friable. Trace to some silt.
+/-10% silt, +/-90% clay.

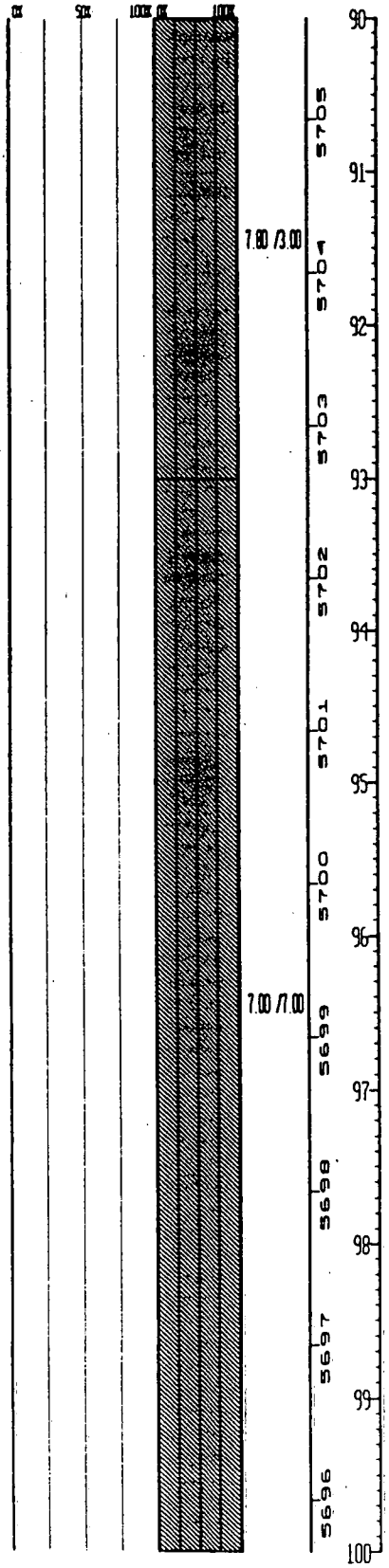
CLAYSTONE: Claystone with trace Silt. Olive gray (5 Y 4/1). Same as above except slightly more damp. Slightly more plastic consistency. Mod. to slightly friable. Dark yellowish orange (10 YR 6/6) iron staining and possible slickensides on a high angle, irreg. fracture (unable to measure). Iron staining also in numerous micro fractures. Trace silt.
+/-5% silt, +/-95% clay.

CLAYSTONE: Claystone with trace Silt. Grades from olive gray (5 Y 4/1) at very top of interval to olive black (5 Y 2/1) to brownish black (5 YR 2/1) last 3.5' (approx.) of interval. Entire interval is damp, massively bedded, slightly to mod. friable. Dark yellowish orange (10 YR 6/6) iron staining in irregular fractures and infrequent mottles in top approx. 3.9' of interval. Some possible slickensides in the irreg. fractures (approx. 84.0'). At approx. 87.0' interval becomes more carbonaceous. Localized coal seam at approx. 87.4'. At approx. 90', interval is brownish black. Some to abundt. carbonaceous material and coal. No apparent iron staining or bedding.
+/-5% silt, +/-95% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hoot. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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

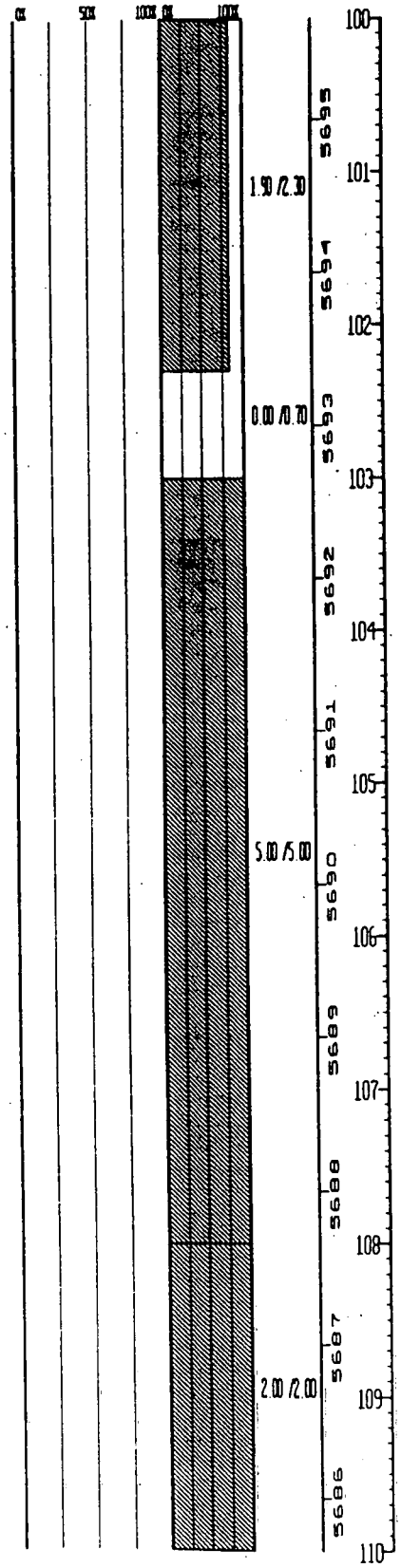


NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with some Silt. Olive black (5 Y 2/1) grading to olive gray (5 Y 4/1) bottom half of interval. Mod. friable (damp, slightly plastic consistency). Bedding not evident (appears massive). Some carbonaceous material (coal?). Some irreg. fractures appear to have slickensides (in top 1/2 of interval). Trace to some silt. 15% silt, 85% clay.
CLAYSTONE:	Same as above (reference interval 93.0' to 97.0'). Olive gray (5 Y 4/1). Little to no carbonaceous material or fractures. <10% silt, >90% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hast. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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

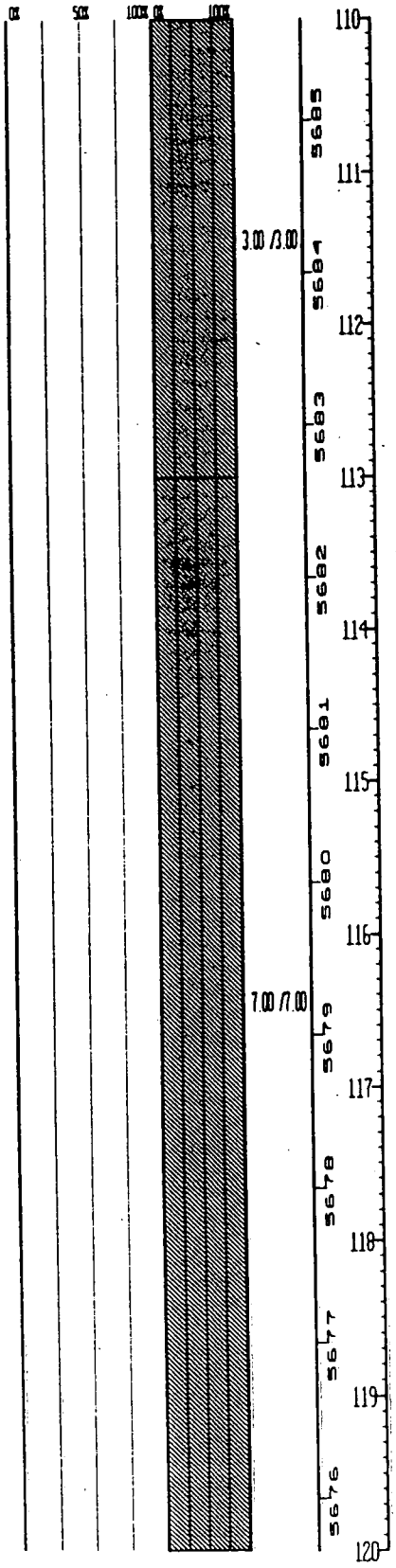


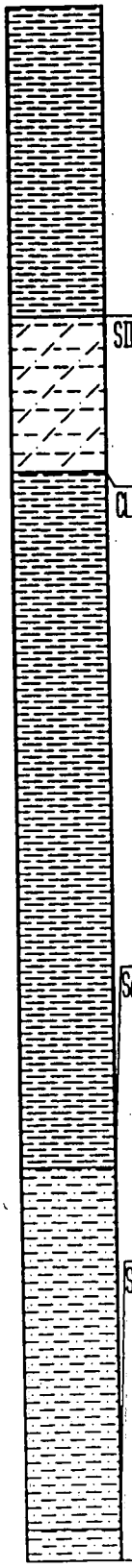
NO SAMPLE:	No recovery.
CLAYSTONE:	Claystone with trace Silt. Olive gray (5 Y 4/1). Mod. friable (plastic consistency). Bedding not evident, appears massive. Wet. Trace silt and v.f.g. sand. Fracture angles 65 and 55 degrees. Trace of silt, >95% clay.
CLAYSTONE:	Claystone with trace Silt. Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Some to abundt. carbonaceous material appearing as thin (1 mm.) coal seams. Common fractures (some irreg., some high angle) showing slickensides. Visual porosity low, mod. friable. Bedding appears massive. Slightly damp. Trace of silt, +/-5% carbonaceous material, +/-95% clay.
CLAYSTONE:	Claystone. Same as above (reference interval 104.0' to 108.0') except less carbonaceous material and fractures more irreg. Trace to some carbonaceous material. >95% clay, 2-5% carbonaceous material.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hoot. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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





SILTY CLAYSTONE: Silty Claystone with trace Sand. Olive black (5 Y 2/1). Mod. friable to friable. Bedding appears massive. Slightly damp. Slickensides on irreg. fractures. Trace carbonaceous material. Some silt, trace v.f.g. sand.
+/-5% sand, +/-20% silt, +/-75% clay.

CLAYSTONE: Same as above (reference interval 113.0' to 117.5'). Top 1' of interval wet. Numerous fractures with slickensides. One regular fracture with slickensides (60 degrees). Interval becomes sandy (v.f.g.) at very bottom, sub-angular to sub-rounded. Core surface has a crinkly texture in this interval.
+/-25% sand, +/-5% silt, +/-70% clay.

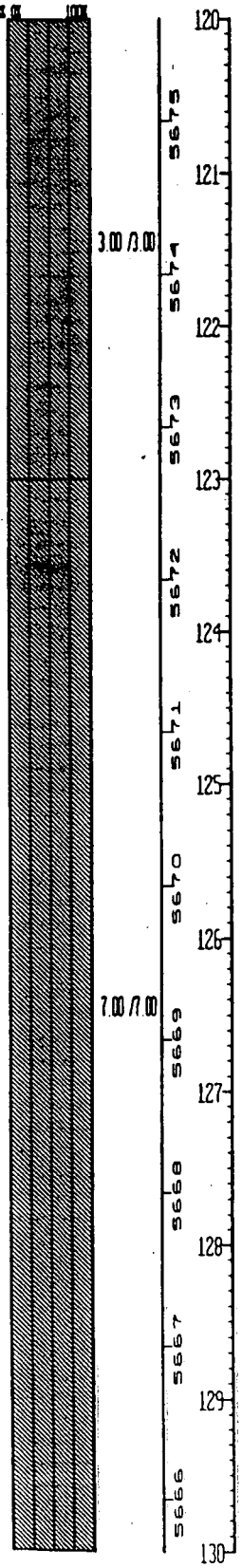
SANDY CLAYSTONE: Sandy Claystone with abundt. Silt. Olive black (5 Y 2/1). Bedding not evident, appears massive. Sand v.f.g., mod. to well sorted, sub-angular to sub-rounded quartzite grains (pred.). Trace to some carbonaceous material. Mod. to slightly friable. Low angle fractures. Some faint low angle bedding visible at approx. 120.5'. Bedding angle approx. 20 degrees. Fracture angles 30 degrees and 20 degrees.
36% sand, 26% silt, 38% clay.

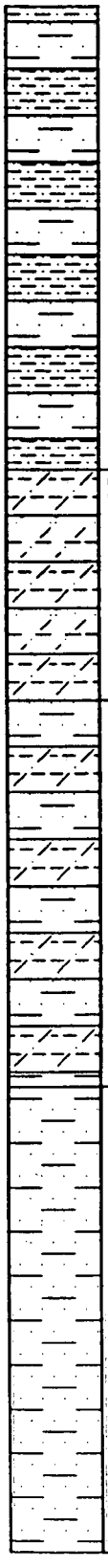
SANDY CLAYSTONE: Interbedded Sandy Claystone as above and Clayey Sandstone with some Silt. Olive gray (5 Y 4/1) to light olive gray (5 Y 6/1). Sand v.f.g., mod. to well sorted, sub-angular to sub-rounded. Visual porosity low (in clay), to mod. in Sandstone. Mod. to slightly friable. Faint bedding laminations visible, horiz., thin (<1 mm. thick). Damp. Trace to some carbonaceous material in fragments and thin coal seams (<1 mm. thick).
46% sand, +/-6% silt, +/-48% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hast. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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





SILTY CLAYSTONE: Interbedded Silty Claystone and Clayey Siltstone with some Sand. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Distinct calcareous zone. Thinly laminated (<1 mm.), small scale cross lamination (ripples?). Trace carbonaceous material.
+/-22% sand, +/-30% silt, +/-48% clay.

CLAYEY SANDSTONE: Interbedded Clayey Sandstone and Silty Claystone (Pred. Clayey Sandstone). Light olive gray (5 Y 6/1) to olive black (5 Y 2/1). Sand v.f.g., mod. to well sorted, sub-rounded to sub-angular. Laminations as above. Abundt. carbonaceous material in last 0.2' of interval.
26% sand, 30% silt, 44% clay.

CLAYEY SANDSTONE: Clayey Sandstone with some Silt. Light olive gray (5 Y 6/1). Sand v.f.g. to f.g., mod. sorted, sub-angular. Faint laminations visible. Near horiz., more angled laminations from center to bottom (bedding angle 10 to 20 degrees). Trace to some carbonaceous material in bedding laminations. Visual porosity low, 10-30%. Becomes more carbonaceous from center to bottom. Faint possible cross bedding at approx. 30 degrees.
74% sand, +/-6% silt, +/-20% clay.

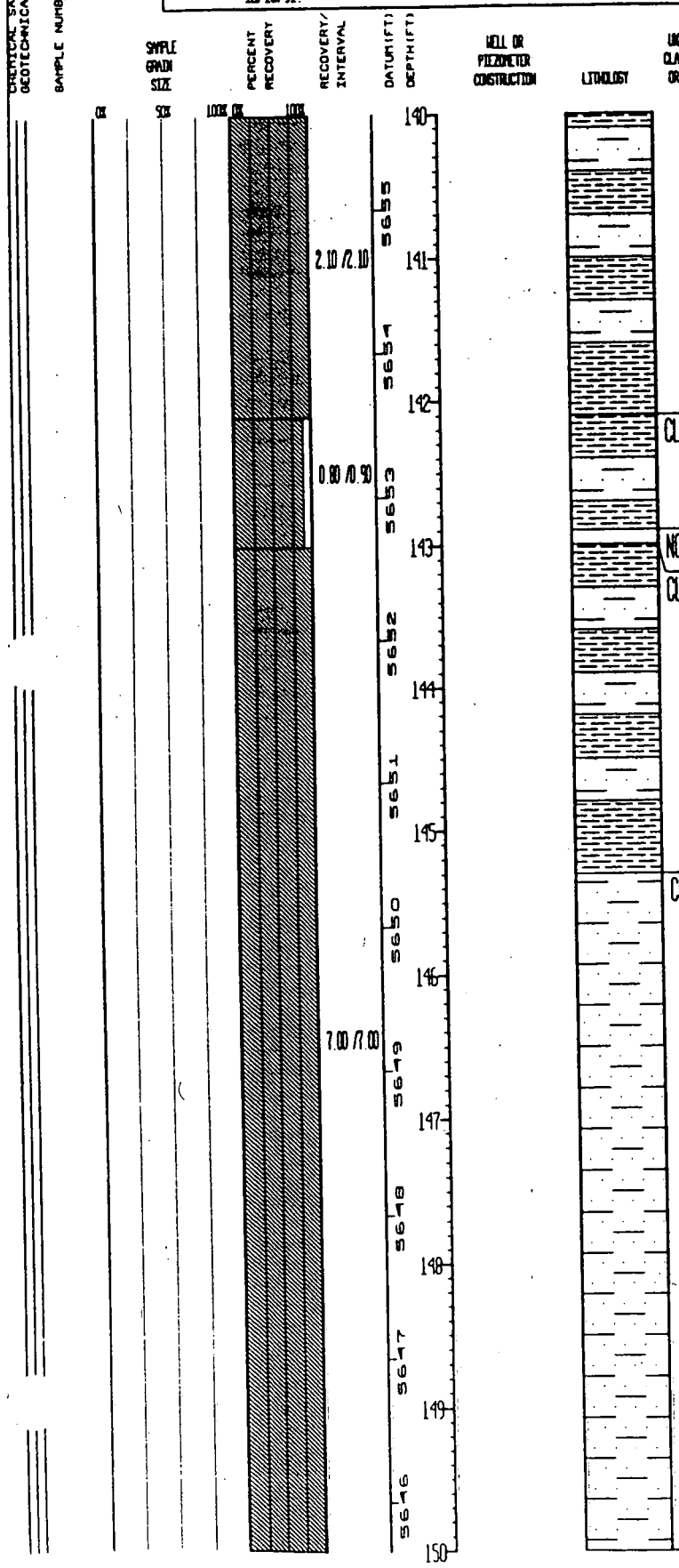
STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hoot. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADE SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.00 /3.00	5665	130			CLAYEY SANDSTONE	Interbedded Clayey Sandstone and Claystone with some Silt. Sandstones light olive gray (5 Y 6/1), abundt. clay, v.f.g. to f.g., mod. sorted, sub-angular. Claystones olive gray (5 Y 3/1) to olive black (5 Y 2/1), thinly to thickly laminated (<1 mm. to 20 mm.). Sandstone layer at top of interval has small scale cross laminations. 35% sand, 20% silt, 45% clay.
					5664	131			CLAYSTONE	Claystone with abundt. Silt (at bottom) and some Sand. Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Mod. friable, well indurated. Some thin laminated bedding visible near top of interval (approx. 131.2'), and at (approx. 136.2'). Rest of interval appears to be massively bedded. Trace to some carbonaceous material. Interval becomes silty toward bottom (last 2' approx.). Thin layer of clayey sand (approx. 0.5 in.) thick. Sand v.f.g., mod. sorted. Other area of thin laminated bedding appears to have thin layers of silt. Entire interval damp. +/-12% sand, +/-26% silt, +/-62% clay.
					5663	132				
					5662	133				
					5661	134				
				5.00 /5.00	5660	135				
					5659	136				
					5658	137				
					5657	138			CLAYSTONE	Interbedded Claystone and Clayey Sandstone with some Silt. Claystone olive gray (5 Y 4/1) to olive black (5 Y 2/1). Silt content varies from trace in some laminations to some in others. Sandstone intervals same as interval from 127.0' to 130.2', except no carbonaceous material noted. Thinly (<1mm.) to thickly laminated, near horiz. Mod. friable. 30% sand, 10% silt, 60% clay.
				2.00 /2.00	5656	139				
						140				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT):	5795.66	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	11/27/91	

REMARKS: ASI Geologist; Fred Grigsby, Laurie Host. EBASCO Rig Geologist; R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

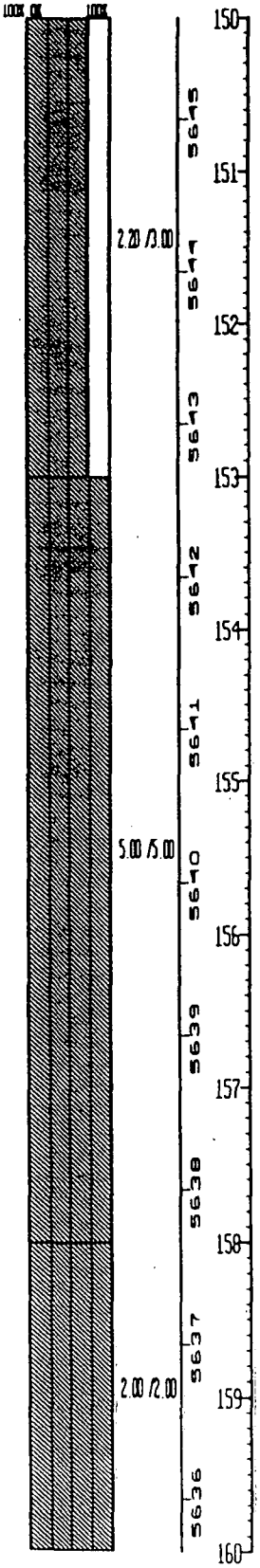


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above (reference interval 142.0' to 142.9'). Trace iron staining at very top of interval.
NO SAMPLE:	No recovery.
CLAYSTONE:	Interbedded Claystone with some Silt and Clayey Sandstone. Claystone ranges from trace silt to silty. Majority of interval Claystone. Claystones olive gray (5 Y 4/1) to olive black (5 Y 2/1); slightly to mod. friable. Sandstone light olive gray (5 Y 6/1), friable to mod. friable, bedding thinly laminated, v.f.g. to f.g., sub-angular to sub-rounded. +/-30% sand, +/-10% silt, +/-60% clay.
CLAYEY SANDSTONE:	Clayey Sandstone with abundt. Silt. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1). Well indurated, slightly friable. Bedding appears massive in first 0.5', then shows laminations that are soft sediment deformed. Some silt nodules. Angled bedding visible from approx. 149.3' to 150.5'. More soft sediment deformation and silt nodules. In last 1.5' sand grades to silt. Sand v.f.g., angular to sub-rounded, poorly sorted. Bedding angle approx. 55 degrees at approx. 149.3'. 41% sand, 29% silt, 30% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hast. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	No recovery.
SILTY CLAYSTONE	Silty Claystone with trace Sand. Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Visual porosity low, <5%. Slightly friable, well indurated. Bedding, irreg. Some areas of very thinly laminated (<1 mm.), slanted to approx. 40 degrees. May be soft sediment deformation and/or rip-up clasts. Some areas less silty, more Claystone than Silty Claystone. Trace carbonaceous material in very thin (<1mm.) coal seams. Trace to some sand in first 0.8' of interval. Fractures mostly drilling induced. One high angle fracture, very smooth surface (may be slickensides), some near bottom, approx. 30 degrees. Fracture angle 70 degrees. Trace v.f.g. sand, +/-40% silt, +/-60% clay.
SILTY CLAYSTONE	Silty Claystone with trace Sand. Olive black (5 Y 2/1). Bedding appears massive though some irreg./disturbed bedding (soft sediment deformation?) can be seen. Numerous fractures both open and healed. Fracture at approx. 158.2' has slickensides. Healed fracture at 160.3' (approx.). Slabbed approx. 161.3' to 161.7'. Slab shows micro fractures, trace carbonaceous material. Irreg. siltier zone lighter in color, very pale orange (10 YR 8/2). Trace v.f.g. sand. Fracture angles 50 degrees and 45 degrees. Healed fracture 60 degrees. +/-5% v.f.g. sand, +/-20% silt, +/-75% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT):	5795.66	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN):	10.0/3.75	DATE DRILLED:	11/27/91	

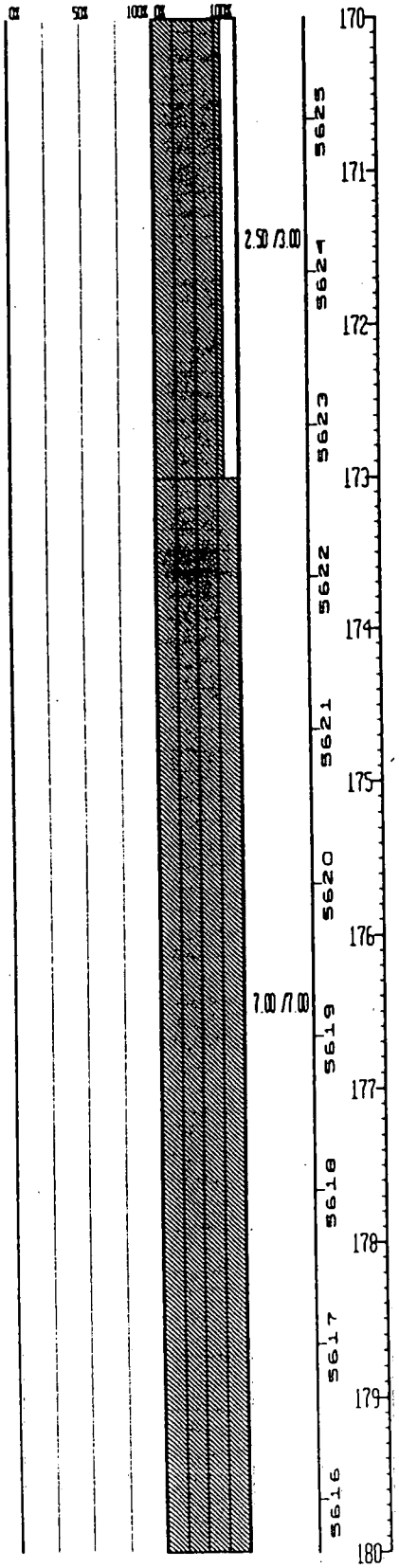
REMARKS: ASI Geologist: Fred Grigsby, Laurie Hast. EBASCO Rig Geologist: R.T. Caron. Borehole filled with bentonite grout and abandoned on 12/10/91.

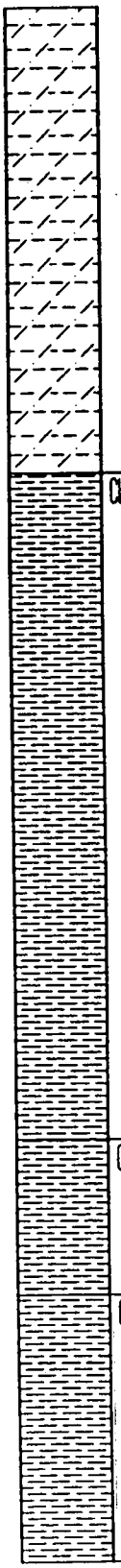
CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.00 /3.00	5635	160				
					5634	161				
					5633	162				
					5632	163			SILTY CLAYSTONE	Silty Claystone with trace Sand. Olive black (5 Y 2/1). Some areas contain some silt, to silty. Bedding not evident, may be massive. Interval mod. friable to friable, more damp than previous. "Sticky" consistency in some zones. Trace to some carbonaceous material. Thin coal zone at approx 166.0'-166.4'. Core becomes slightly less friable below approx. 164.5' (with exception of lignite coal zone). Numerous fractures below 166.4'. Some showing slickensides. Slickensides oblique (not vertical) on some faces. Angle approx. 30 degrees from vertical. Very thin (<0.5 mm.) laminations (irreg. of v.f.g. sand and silt in last 0.5' of interval). Fracture angles at 30 degrees, 40 degrees and 50 degrees. +/-5% sand, +/-20% silt, 75-80% clay.
					5631	164				
					5630	165				
				7.00 /7.00	5629	166				
					5628	167				
					5627	168				
					5626	169				
						170				

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST: 2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: ASI Geologist: Fred Grigsby, Laurie Hoist. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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





UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone. Olive black (5 Y 2/1) with some olive gray (5 Y 4/1). Dense, mod. indurated. Slightly friable, slightly damp. Varies from mod. laminated to well laminated. (Slightly Silty Claystone with Claystone) - some intervals bioturbated. Laminae dip from approx. 10 degrees to 25 degrees. Fractures from approx. 173.5' to 174.6' with oblique slickensides at 45 degrees off of vertical. Fractures at 70 degrees, 35 degrees and 45 degrees. Similar fractures (35 to 45 degrees) at approx. 176.6' to 177.3'. Fracture planes for 35 degree and 45 degree sets approx. offset by 45 degrees. Possible breccia at approx. 177.0'. No apparent slickensides on lower fracture set. Some carbon. >90% clay.
CLAYSTONE:	Claystone. Olive black (5 Y 2/1). Extensively fractured with some breccia. Pred. fracture angle 45 degrees. >95% clay.
CLAYSTONE:	Claystone. Breccia - olive black (5 Y 2/1), characterized by randomly oriented Claystone fragments and clasts in clay matrix. Micro fractures found using microscope. Some intact core fractured at 45 degrees. Interval extensively broken. Slightly damp, friable to mod. friable, some carbon. >95% clay. NOTE: 0.5' extra core recovery 173.0' to 182.5'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 186.0	GROUND ELEVATION (FT): 5795.66	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	747926	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40591
EAST:	2093876	LOCATOR NUMBER: U7	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 11/27/91	

REMARKS: AGI Geologist: Fred Grigsby, Laurie Hoist. EBASCO Rig Geologist: R.T. Canon. Borehole filled with bentonite grout and abandoned on 12/10/91.

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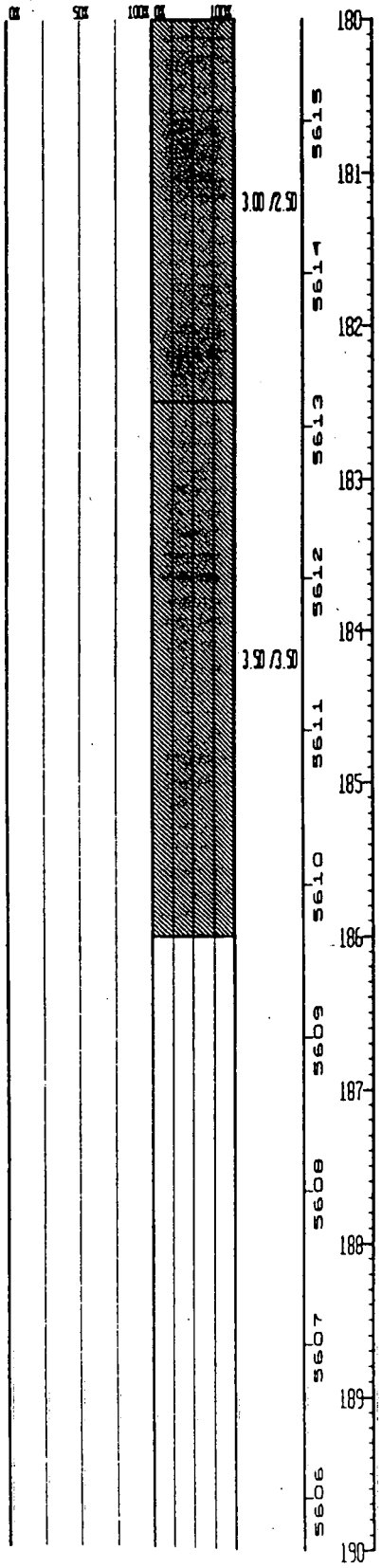
DESCRIPTION

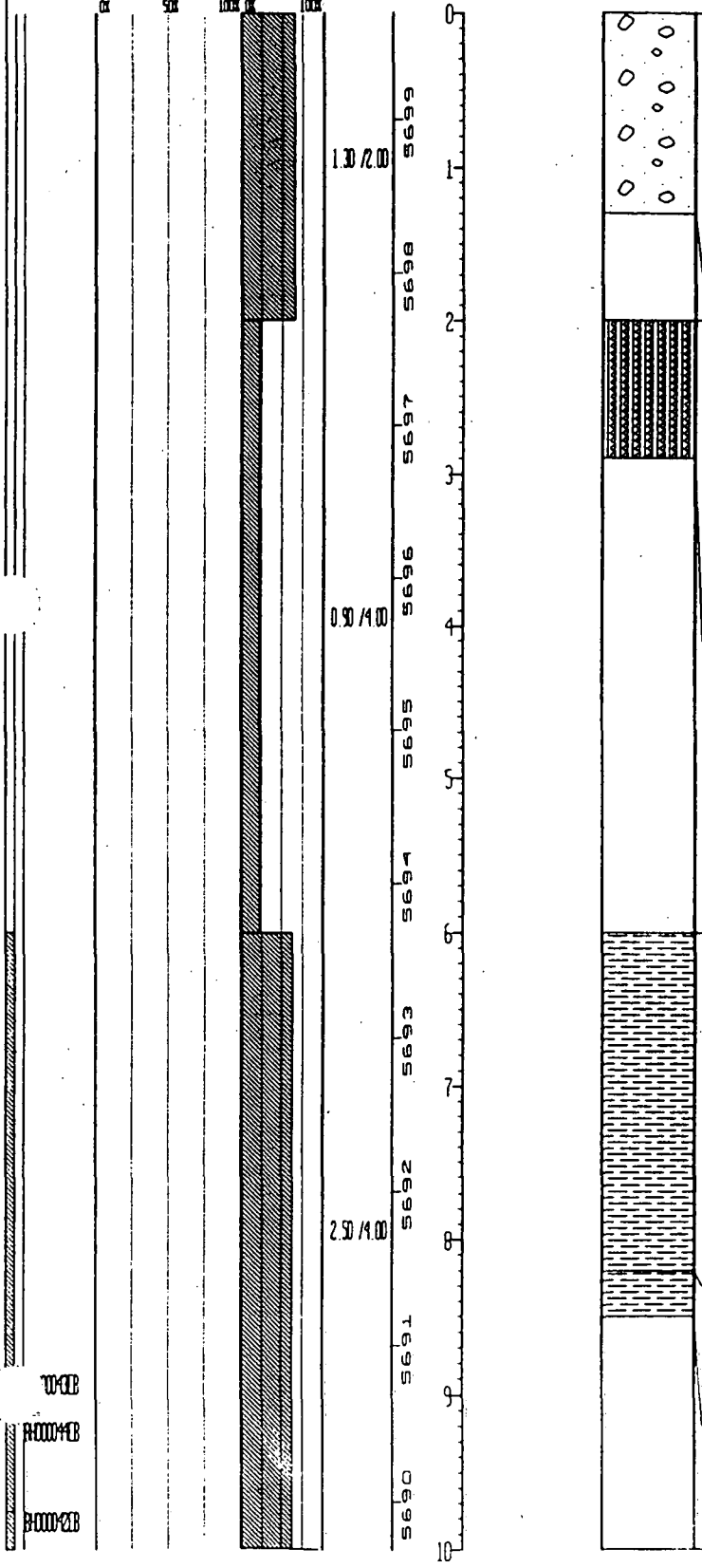


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone. Olive black (5 Y 2/1). Consists of both dense Claystone and damp, sticky intervals that appear brecciated. Fractures present in competent Claystone with oblique slickensides (30 degrees off vertical). Fracture at 45 degrees and approx. 30 degrees. Indications of fracture planes offset by approx. 45 degrees. Solid Claystone mod. indurated. Slightly friable, some carbon. >95% clay.
	Total Drilled Depth = 186.0'.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 746362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40691
EAST: 2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10 0/3.75	DATE DRILLED: 10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0' Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon ASI Log. Borehole filled with bentonite grout and abandoned on 11/06/91.

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



Unified Soils Classification or Rock Type	Description
GP:	Sandy Gravel with trace Silt and Clay. Dark yellowish brown (10 YR 4/2), at top, to very pale orange (10 YR 8/2) and pale yellowish brown (10 YR 6/2) at bottom of interval. Some caliche in lower interval. Gravel poorly graded, pred. quartzite, sub-rounded, pebbles to 2 in. Sand poorly graded, sub-angular to sub-rounded, pred. quartzite, mod. plasticity. (gp-gm) 60% gravel, 32% sand, 4% silt, 4% clay.
NO SAMPLE:	No Recovery.
SM:	Gravelly Sand with some Silt and Clay. Very pale orange (10 YR 8/2) and pale yellowish brown (10 YR 6/2). Very calcareous and some caliche. Gravel poorly graded, pred. quartzite, sub-angular to sub-rounded, pred. 1/2 in. (approx.) some pebbles to 1-1/2 in. Sand well graded, sub-angular to sub-rounded, f.g. fraction pred. quartz, some feldspar, trace mica, some quartzite in c.g. fraction. Med. to low plasticity, 2 in. zone at bottom with more clay and some caliche. 40% gravel, 46% sand, >8% silt, <6% clay.
NO SAMPLE:	No Recovery.
CLAYSTONE:	Top of Bedrock at 6.2'. Claystone with some Silt and trace Sand. Light olive gray (5 Y 4/1) in upper part of interval, grading to dusky yellow (5 Y 6/4) and dark yellowish orange (10 YR 6/6) at bottom of interval. Entire interval badly broken. Some fragments with Fe stained fractures, caliche beds and/or fracture filling at top of interval and in lower part. Upper portion of interval contains clay clasts. Lower portion is bedded claystone. Core varies from friable to indurated, mod. friable claystone. Trace of sand, <10% silt, +/-90% clay.
CLAYSTONE:	Claystone. Brownish gray (5 YR 6/1) and to light olive gray (5 Y 6/1). Dense, some drilling fractures (horiz.). Massive, indurrated, dense. No apparent bedding planes. >95% clay.
NO SAMPLE:	No Recovery.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:	
NORTH: 745362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40691	
EAST: 2093937	LOCATOR NUMBER: 06	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 10/16/91		

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log: Borehole filled with bentonite grout and abandoned on 11/06/91.

CHEMICAL SAMP / GEOTECHNICAL DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% – 50%)	PERCENT RECOVERY (100% 0% – 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				1.90 /2.00	5689	10–11			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Pred. light olive gray (5 Y 6/1) with a trace of dark yellowish orange (10 YR 6/6) Fe staining. Thin claystone bed, Fe stained at top of interval. Entire interval extensively broken. Core friable. Trace of sand, +/-20% silt, +/-80% clay.
				0.00 /0.20	5688	11–12			NO SAMPLE:	No Recovery.
									NO SAMPLE:	No Recovery.
					5687	12–13			CLAYSTONE:	Recovered wood and rubber plug in top 3 inches. Rest of interval claystone. Dark yellowish brown (10 YR 4/2) with grayish orange mottling. >95% clay.
					5686	13–14				
					5685	14–15			NO SAMPLE:	No Recovery.
				2.00 /7.80	5684	15–16				
					5683	16–17				
					5682	17–18				
					5681	18–19				
					5680	19–20				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 745362		AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40691
EAST: 2093937		LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 10/16/91	

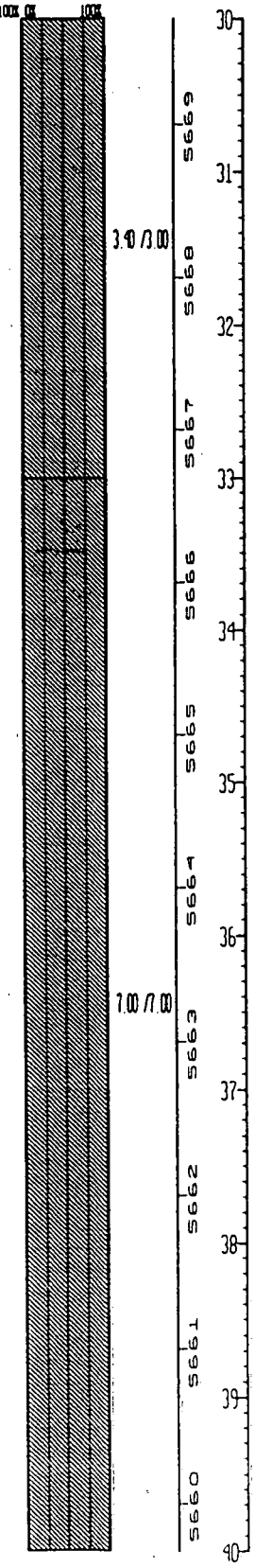
REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole. AST Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. AST Log. Borehole filled with bentonite grout and abandoned on 11/06/91.

CHEMICAL SAMPLE / GEOTECHNICAL F	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				3.50 /3.00	5679	20			CLAYSTONE:	Claystone. Brownish gray (5 YR 4/1) to brownish black (5 YR 2/1), and olive gray (5 Y 4/1). Some grayish orange (10 YR 7/4) mottling. Fe staining, Mn and carbon, trace at top of interval, increases with depth. May be some healed fractures, some possible fracture surfaces (with Fe staining) with possible slickensides. Possibly some fossils. Claystone dense, indurated, only slightly friable when damp. No apparent bedding planes. >95% clay.
					5678	21				
					5677	22				
					5676	23			CLAYSTONE:	Claystone. Dark yellowish brown (10 YR 4/2) with moderate yellowish brown (10 YR 5/4) as mottling, and stains on fracture surfaces. Texture of cored surface crinkly in appearance. Possible alternating laminations of claystone with different hardnesses. Fractures from vertical to 60 degrees, Fe mineralization on surfaces. Slickensides generally obscured or not present. Claystone indurated, abundant carbon, some intervals/fossils woody (?). >95% clay.
					5675	24				
					5674	25				
				5.80 /1.00	5673	26			CLAYSTONE:	Claystone. Dark yellowish brown (10 YR 4/2) with mod. yellowish brown (10 YR 5/4) and light brown (5 YR 5/6) as coating on fractures (Fe mineralization). Extensively fractured vertical to horiz. slickensides on many surfaces. Mn staining also on fractured surfaces. Some carbon, crinkly surface (lamination), indurated and brittle. >95% clay.
					5672	27				
					5671	28				
					5670	29			NO SAMPLE:	No Recovery.
						30				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	746362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G	40691
EAST:	2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10 0/3.75	DATE DRILLED: 10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0' Located approx. 2.0' north of this borehole. ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log. Borehole filled with bentonite grout and abandoned on 11/06/91

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

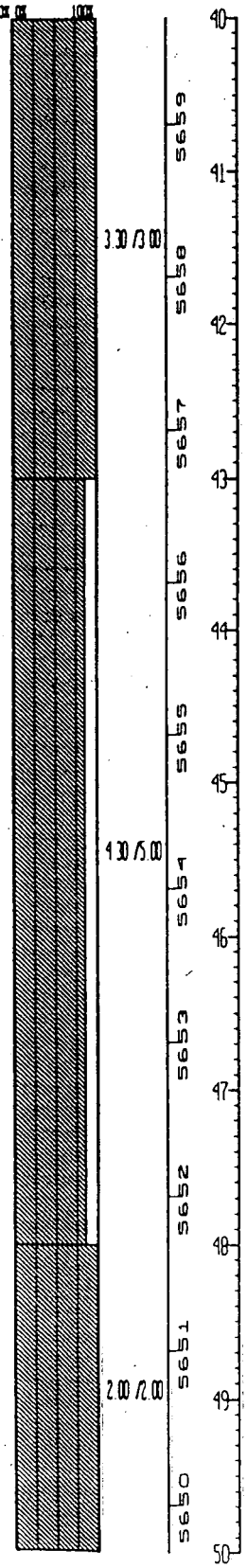


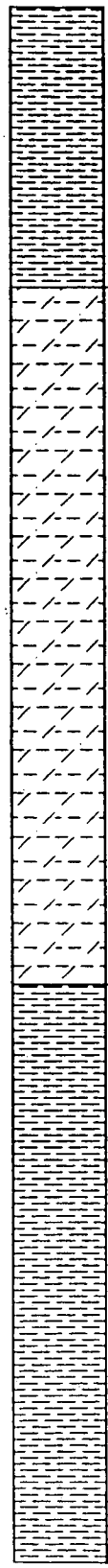
CLAYSTONE:	Claystone. Same as above (reference interval 26.3' to 28.8') except that it becomes more uniform with depth (massive, sticky when damp). Fracturing still present but obscured to some extent. Trace ironstone nodules >95% clay.
CLAYSTONE:	Claystone with some Silt. Yellowish gray (5 Y 7/2) to light olive gray (5 Y 5/2) at top of interval, grading to olive gray (5 Y 4/1) at bottom. Mod. yellowish brown (10 YR 5/4) Fe mineral coating on fracture surfaces, some slickensides. Claystone indurated, slightly friable (damp). No apparent bedding planes or laminations. Silt pred. quartz, some mica. Fracture angle approx. 70 degrees. +/-20% silt, +/-80% clay. NOTE: 0.4' extra recovery 30.0' to 33.0'.
CLAYSTONE:	Same as above (reference interval 31.5' to 33.0').
CLAYSTONE:	Claystone. Pale yellowish brown (10 YR 6/2), dark yellowish brown (10 YR 4/2), and mod. yellowish brown (10 YR 5/4) Extensively fractured with Fe mineralization on surfaces (light brown (5 YR 5/6)). Some Mn staining, carbon trace to mod. abundt. Numerous healed fractures and mineralized fractures. Claystone indurated, mod. friable when damp. Some slickensides. Fracture angles 45 degrees, 60 degrees and vertical. >95% clay
CLAYSTONE:	Claystone with some Silt. Olive gray (5 Y 4/1) with some light olive gray (5 Y 6/1) Mod. yellowish brown (10 YR 5/4) Fe staining on fracture surfaces. Numerous healed and mineralized fractures. Core indurated, slightly friable when damp. No apparent bedding planes, trace Mn and carbon. Fracture angles vertical to approx. 60 degrees, and 30 degrees. +/-20% silt, +/-80% clay.
CLAYSTONE:	Claystone. Pred. olive gray (5 Y 4/1) with grayish orange (10 Y 7/4) and dark yellowish orange (10 YR 6/6) mottling and coating or stains on fracture surfaces. Some slickensides, core indurated, slightly friable and damp. Numerous fractures. Fracture angles approx. 60 degrees and approx 30 degrees. >95% clay

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	746362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F G	40691
EAST:	2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log. Borehole Filled with bentonite grout and abandoned on 11/06/91.

CHEMICAL SAMPLE / GEOTECHNICAL 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





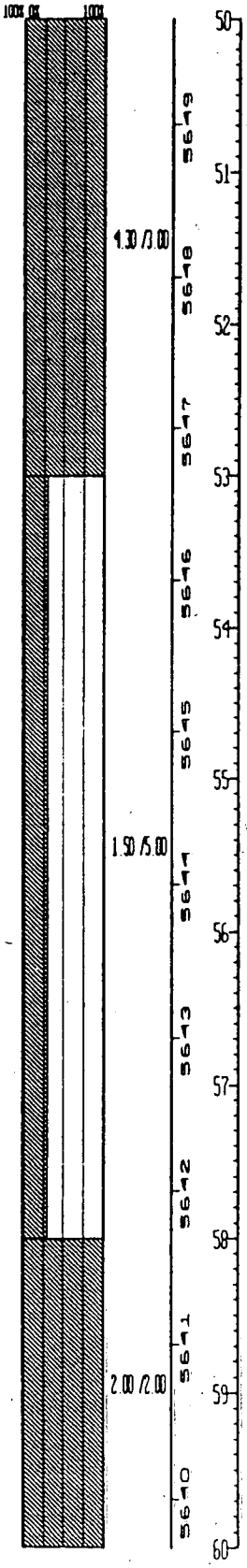
SILTY CLAYSTONE: Silty Claystone with trace Sand. Med. gray (N5), yellowish gray (5 Y 7/2) to pale yellowish brown (10 YR 6/2). Heavy Fe mineralizations in fracture (dark yellowish orange (10 YR 6/6) to mod. brown (5 YR 4/4)). Extensively fractured, healed and mineralized fracture zones. Well indurated, slightly friable. No apperent bedding planes. Breccia associated with fracture at approx. 44.0' to 44.5'. Some Mn and carbon. Fracture angles approx. 70 degrees, 60 degrees, and some 30 degrees.
+/-5% sand, +/-20% silt, 75% clay.
NOTE: Some calcite-filled (calcareous) fractures. 0.3'

CLAYSTONE: Claystone. Light olive gray (5 Y 6/1) to olive gray (5 Y 4/1) and pale yellowish brown (10 YR 6/2) to dark yellowish brown (10 YR 4/2). Some dark gray (N3) intervals. Varying amounts of Fe staining occurs along apparent bedding surface as dark yellowish orange (10 YR 6/6) to light brown (5 YR 5/6) coating or staining. Trace to some carbon - possible poorly defined bedding planes, some possible laminations in some intervals. Some slightly silty zones (show laminer texture). Claystone varies from indurated to sticky (when wet). Fracturing generally drilling induced. Possibly some horiz. to very low angle fractures of approx. 10 degrees (natural).
>95% to >90% clay.
NOTE: 1.3' extra recovery 48.0' to 53.0'

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT):	5699.69	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER
NORTH:	746362	AREA: SITEWIDE	CASING DIAMETER (IN):		GEOLOGIST:	F.G.	40691
EAST:	2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN):	10 0/3 75	DATE DRILLED:	10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby. EBASCO Geologist: R.T. Canon. ASI Log. Borehole filled with bentonite grout and abandoned on 11/06/91

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
NO SAMPLE	No Recovery
CLAYSTONE	Same as above (reference interval 46.3' to 54.5'), except vertically fractured, some Fe stains in upper 1.0' of interval. Some woody texture, carbonaceous material >95% clay.
SILTY CLAYSTONE	Silty Claystone with trace Sand. Very pale orange (10 YR 8/2) with grayish orange (10 YR 7/4) and dusky yellowish brown (10 YR 2/2) streaks and mottling. Cross bedded or disturbed beds with laminated appearance. Slightly friable. Trace of sand, >30% silt, +/-70% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	74362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40691
EAST:	2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole. ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log. Borehole filled with bentonite grout and abandoned on 11/06/91.

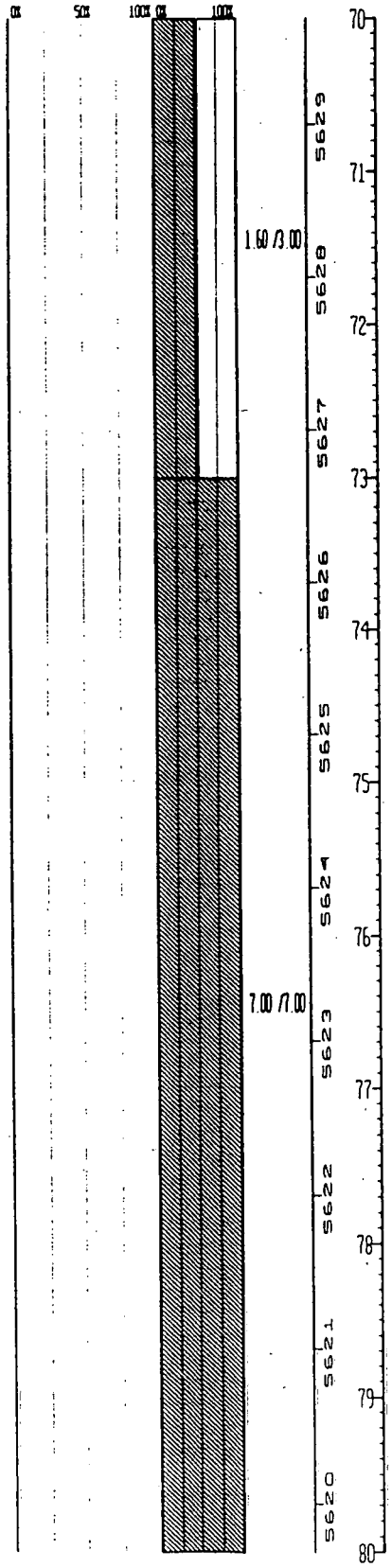
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL: 1.20/3.00; 7.00/7.00
DATUM (FT): 5639, 5638, 5637, 5636, 5635, 5634, 5633, 5632, 5631, 5630
DEPTH (FT): 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Same as above (reference interval 59.9' to 60.5'), less silt. <10% silt, >90% clay.
NO SAMPLE:	No Recovery.
CLAYSTONE:	Claystone with some Silt. Brownish gray (5 YR 4/1) to yellowish gray (5 Y 7/2) with abundt. light brown (5 YR 5/6) Fe mineralized coating on laminar surface, in fractures, and as desiminated mottling. Abundt. carbon with well preserved leaf remains in upper half of interval. Laminar structure with deformation patterns common. Claystone indurated and slightly friable when damp. Fracture angles approx. 20 to 30 degrees. +/-10% silt, >90% clay.
CLAYSTONE:	Claystone. Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Some very carbonaceous intervals. Apparent laminar structures with deformation features. Indurated, mod. to slightly friable when damp. Some dark yellowish orange (10 YR 6/5) and mod. yellowish brown (10 YR 5/4) Fe oxide coating and staining. Apparent drilling induced fractures. One 45 degree fracture with slickensides and Fe mineralized coating on fracture surface. >95% clay. NOTE: Some calcite-filled (calcareous) fractures.
SILTY CLAYSTONE:	Silty Claystone. Brownish gray (5 YR 4/1) to dusky yellowish brown (10 YR 2/2) with some mod. yellowish brown (10 YR 5/4) staining. Trace to mod. abundt. carbon. Core indurated, slightly friable. Some calcite-filled (calcareous) fractures. Healed fracture at approx. 45 degrees, some indication of laminar structure. >30% silt, +/-70% clay.
CLAYSTONE:	Claystone with some Silt. Pred. olive gray (5 Y 4/1) but varies to pale yellowish brown (10 YR 6/2) and mod. yellowish brown (10 YR 5/4). Carbon varies from trace to abundt. Possible subtle bedding planes. Fracture at approx. 20 degrees, with slickensides at approx. 68.4'. Silt content varies from none to 10% or more in some places. Core generally indurated to well indurated, slightly friable. +/-10% silt, +\- 90% clay.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	746362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F G.	40691
EAST:	2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10 0/3.75	DATE DRILLED: 10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0' Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log. Borehole filled with bentonite grout and abandoned on 11/06/91

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

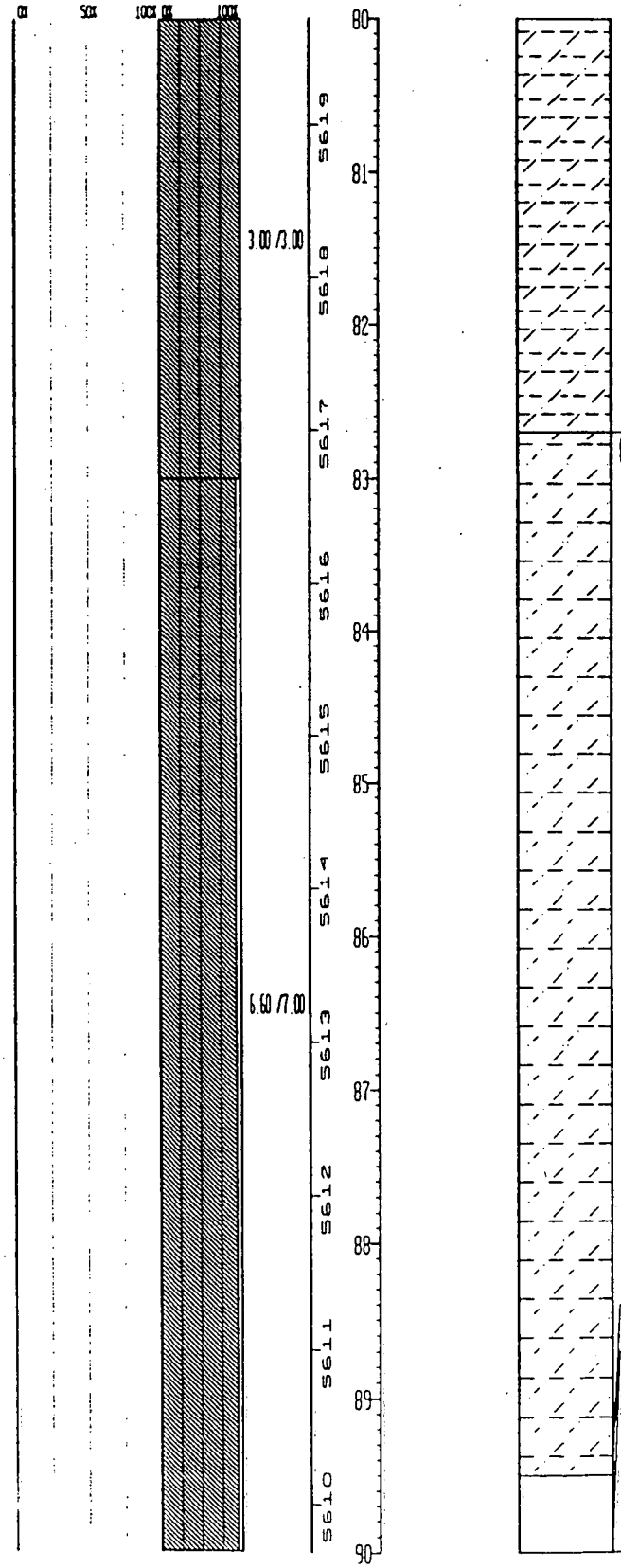


NO SAMPLE:	No Recovery.
CLAYSTONE:	Claystone with some Silt. Mod. abundt. carbon. Brownish black (5 YR 2/1) with some brownish gray (5 YR 4/1) mottling, and olive black (5 Y 2/1) carbon patches. **Coarse, laminar or poorly defined bedding planes, dipping at approx. 10 degrees. Some well healed fractures, possibly approx. 70 degrees. Core indurated, slightly friable +/-10% silt, +/-90% clay. **NOTE: Questionable, very poorly defined
CLAYSTONE:	Claystone. Dusky yellowish brown (10 YR 2/2). Mallable, sticky when wet, some carbon. +/-98% clay.
CLAYSTONE:	Claystone with some Silt. Mod. abundt. carbon. Same as above (reference interval 73.0' to 74.6') One fracture (approx. 80 degrees) with slickensides. 10% silt, 90% clay.
CLAYSTONE:	Same as above (reference interval 74.6' to 75.0') Some carbon. +/-98% clay.
SILTY CLAYSTONE:	Silty Claystone with trace Sand. Med. dark gray (N4) to olive black (5 Y 2/1). Some dark yellowish orange (10 YR 6/6) Fe staining in upper half of interval Trace to mod. abundt. carbon. Indications of possible well healed fractures (approx 45 degrees). Also fractures at approx. 20 degrees. Crinkly appearance possibly due to poorly developed laminar bedding. Core generally indurated, slightly friable Visual prosity <5%. Sand pred quartz, v f g., and sub-angular, trace of feldspar and mica +/-5% sand, 30% silt, 65% clay.
CLAYSTONE:	Claystone. Olive black (5 Y 2/1) with trace mod. yellowish brown (10 YR 5/4) mottling Crinkly appearance possibly due to poorly developed laminar bedding. Mod. to abundt. carbon, dense, indurated and slightly friable >95% clay.
SILTY CLAYSTONE:	Silty Claystone with trace Sand. Dark gray (N3) to light olive gray (5 Y 6/1). Varigated to mottled appearance on fresh surface. Some grayish orange (10 YR 7/4) mottling. Carbon trace to mod. abundt Possible healed fractures refractured by drilling. Crinkly appearance possibly due to poorly developed, laminar bedding Some mod. sandy intervals. Core mod. indurated, slightly friable, becomes more fractured towards bottom of interval Indications of deformation throughout interval Fracture angles approx. 60 degrees and approx. 30 degrees +/-5% sand, +/-35% silt, +/-65% clay

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 103.0	GROUND ELEVATION (FT) 5699.69	PROJECT NUMBER SITEWIDE	LOG OF BORING NUMBER
NORTH	746362	AREA SITEWIDE	CASING DIAMETER (IN)	GEOLOGIST F G	40691
EAST	2093937	LOCATOR NUMBER U6	BOREHOLE DIAMETER (IN) 10 0/3.75	DATE DRILLED 10/16/91	

REMARKS Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9 0'. Located approx 2.0' north of this borehole. ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log. Borehole Filled with bentonite grout and abandoned on 11/06/91.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SILTSTONE	Clayey Siltstone with some Sand. Pred. olive gray (5 Y 4/1) with laminar zones of olive black (5 Y 2/1). Very sandy to slightly sandy. Some intervals with thin claystone or silty claystone beds. Thin laminar structure prevalent to 88.4'. Becomes more massive from 88.4' to 89.5'. Cross laminated or cross bedded to approx. 88.4'. Entire interval well cemented (argillaceous). No apparent fractures except for some drilling induced fracturing (horiz.). Visible porosity to approx. 15% in some sandier intervals. Entire core slightly friable, trace to some carbon. Sand pred. quartz, v.f.g., well sorted, sub-angular. Trace mica. 19% sand, 41% silt, 40% clay
NO SAMPLE	No Recovery.
CLAYEY SILTSTONE	Clayey Siltstone. Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Thinly laminated. Some cross laminations. Possible well healed fracture at approx. 60 degrees. Indicated possible horiz. bedding. Core well cemented and slightly friable. >55% silt, <45% clay

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 746362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40691
EAST: 2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 10/16/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log: Borehole filled with bentonite grout and abandoned on 11/06/91.

CHEMICAL SAMP / GEOTECHNICAL / SAMPLE NUMBER / DEPTH

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 3.20 /3.00; 6.60 /7.00

DATUM (FT): 5609, 5608, 5607, 5606, 5605, 5604, 5603, 5602, 5601, 5600

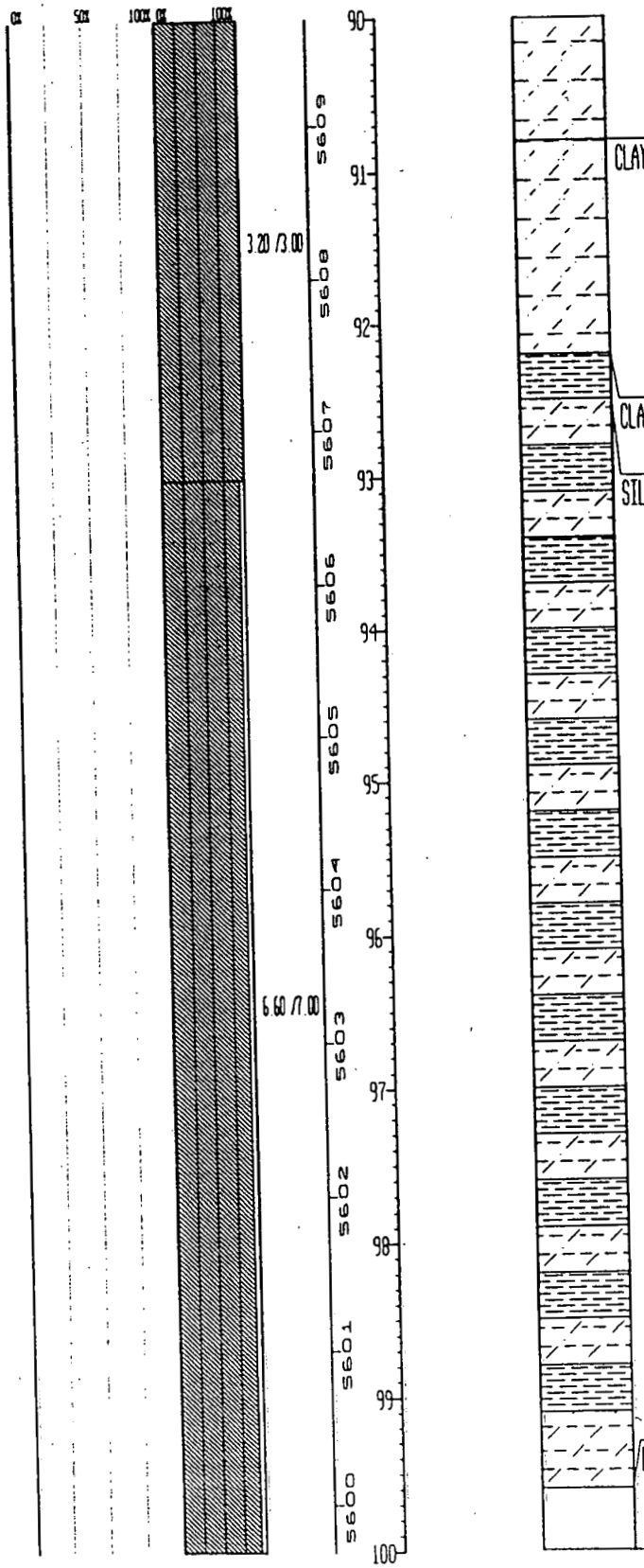
DEPTH (FT): 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION



CLAYEY SILTSTONE: Clayey Siltstone with abundt. Sand. Olive gray (5 Y 4/1) to olive black (5 Y 2/1). Thinly laminated with some cross laminations. Some interbedded claystone layers (+\- 1/4 in.). Drilling induced fractures. Sand v f.g., well sorted (-40 to 230 mesh), sub-angular, quartz. Core mod. well cemented (argillaceous) and slightly friable. Visable porosity approx. 20%. Very sandy intervals <15% avg. 26% sand, 38% silt, 36% clay

CLAYSTONE: Claystone. Olive black (5 Y 2/1), dense, sticky when damp >95% clay.

SILTY CLAYSTONE: Silty Claystone (70%) with interbedded Claystone (30%). Olive gray (5 Y 4/2) to olive black (5 Y 2/1). Laminar bedding, breaks along claystone interfaces (approx. horiz.). No apparent natural fractures although there is some drilling induced fracturing and breaks along the horiz. lithology breaks. Interval mod. well cemented and slightly friable.
+/-30% silt, +/-70% clay

NO SAMPLE: No Recovery. Picked up in next core run

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 103.0	GROUND ELEVATION (FT): 5699.69	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	746362	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F.G.	40691
EAST:	2093937	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 10/16/91	

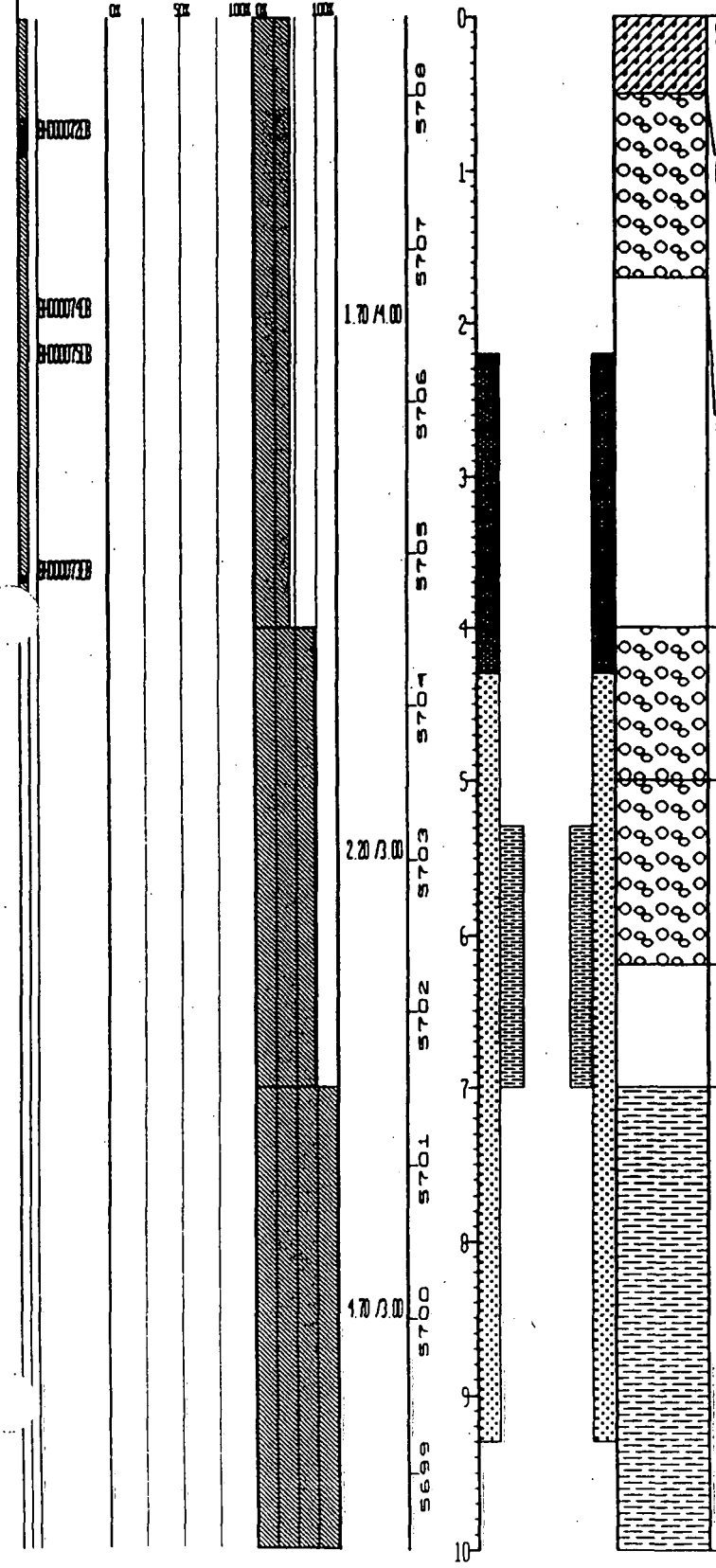
REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary drill. First Borehole abandoned at 9.0'. Located approx. 2.0' north of this borehole.
ASI Geologist F. Grigsby; EBASCO Geologist: R.T. Canon. ASI Log: Borehole Filled with bentonite grout and abandoned on 11/06/91.

CRITICAL 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
			100% 0% 100%	3.40/3.00	5699 5698 5697 5696 5695 5694 5693 5692 5691 5690	100 101 102 103 104 105 106 107 108 109 110			SILTY CLAYSTONE	Same as above (reference interval 92.5' to 99.5'). Gradational lithologic changes - no sharp breaks noted. +/-30% silt, +/-70% clay.
									CLAYSTONE	Claystone. Olive gray (5 Y 4/1) and olive black (5 Y 2/1). Abundt. carbon, mod. indurated. NOTE: 0.4' extra core recovery 100.0' to 103.0'.
										Total Drilled Depth = 103.0'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 10.0	GROUND ELEVATION (FT):	5708.51	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	746283	AREA: SITEWIDE	CASING DIAMETER (IN):	2.0 I.D.	GEOLOGIST:	F.G.	40791
EAST:	2093525	LOCATOR NUMBER: U6	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/06/91	

REMARKS: Hollow Stem Auger and Rotary Core. ASI log. ASI Geologist Fred Grigsby; EBASCO Geologist R.T. Canon. Well offset from original borehole (40791A) which was abandoned. Sample numbers are from 40791A.

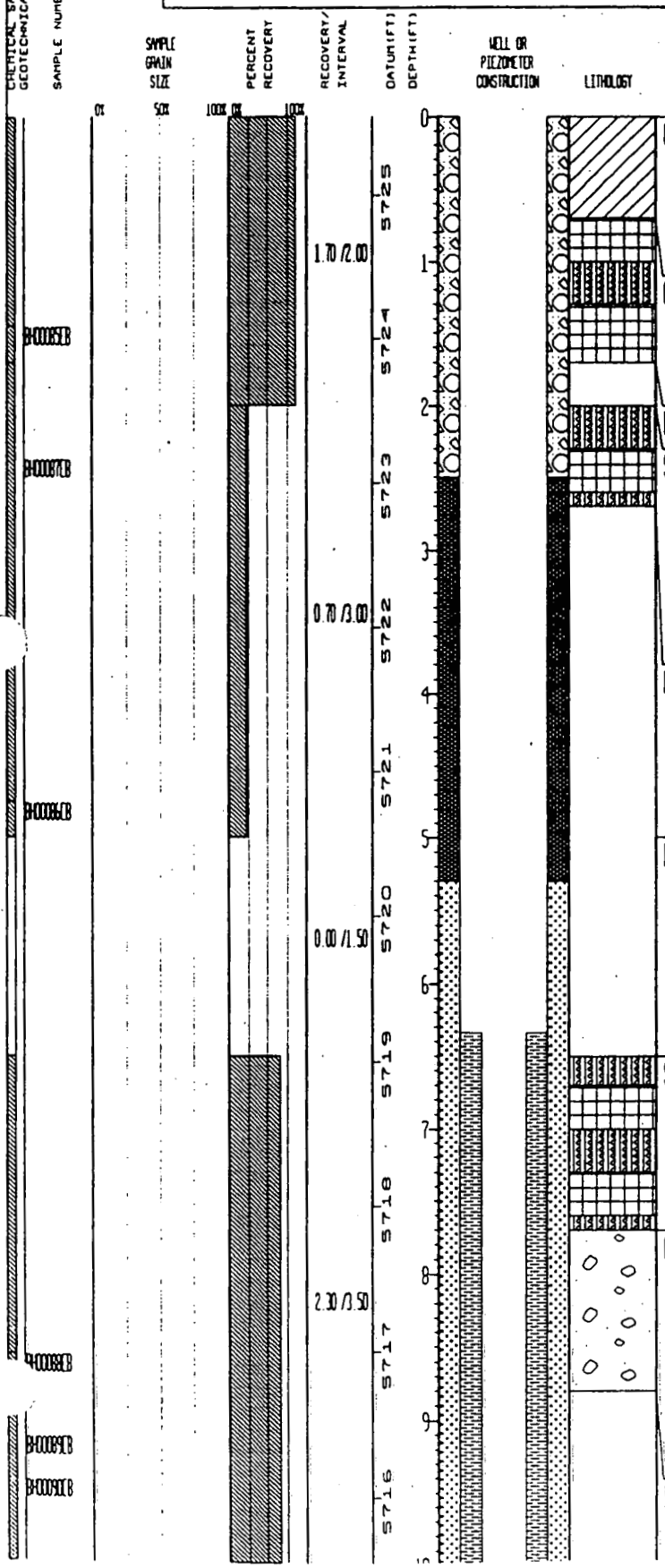
CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Clayey Sand with abundt. Silt. (Topsoil). Grayish brown (5 YR 3/2) to mod. yellowish brown (10 YR 5/4). Grass and roots. Weathered, damp. Mod. plasticity. 38% sand, 30% silt, 34% clay.
GW:	Sandy Gravel with some Silt and trace Clay. Pale yellowish brown (10 YR 6/2) to very pale yellowish orange (10 YR 8/2) calcareous zones (caliche). Gravel well graded (pebble to 1.5 in.), pred. quartzite, sub-angular to angular. Sand well graded, sub-angular, quartz and quartzite, some fel-spar, trace of mica, weathered, dry. Low plasticity. (gw-gm). +/-55% gravel, 35% sand, 7% silt, 3% clay.
NO SAMPLE:	No Recovery.
GW:	Sandy Gravel. Same as above (reference interval 0.5' to 1.7'), except caliche in top 4 in. +/-55% gravel, +/-35% sand, +/-7% silt, +\- 3% clay.
GW:	Sandy Gravel - Claystone boulder. Alluvial gravel at bottom of interval. Claystone pale yellowish brown (10 YR 6/2) with grayish orange (10 YR 7/4) mottling, and very pale orange (10 YR 8/2). Calcareous lense or clast of caliche. Gravel below claystone.
NO SAMPLE:	No Recovery.
CLAYSTONE:	Top of Bedrock at 7.0'. Claystone. Pale yellowish brown (10 YR 6/2) in upper 0.4', grading to brownish gray (5 YR 4/1). Trace amounts of dark yellowish orange (10 YR 6/6). Fe staining (mottling) and clasts on lenses of calcareous sediments (caliche). Entire interval massive, no apparent bedding. Some drilling induced fracturing. Total Drilled Depth = 10.0'. NOTE: 1.7' extra core recovery in interval 7.0' to 10.0'. Total Depth of Casing = 9.3. Bottom Depth of Filter Pack = 9.3'. Top of Sand Backfill = 9.3'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT) 13.5	GROUND ELEVATION (FT): 5725.54	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	748800	AREA: SITEWIDE	CASING DIAMETER (IN): 2.0 I.D.	GEOLOGIST: F.G.	41591
EAST:	2093914	LOCATOR NUMBER: U8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/06/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary Core. ASI Geologist: F. Grigsby; EBASCO Geologist: R.T. Canon.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CL:	Silty Clay with some Sand (Topsoil). Grayish brown (5 YR 3/2) and dark yellowish brown (10 YR 4/2). Mod. plasticity, unconsol., calcareous in lower half of sample. Good root development, weathered, dry. 10% sand, 30% silt, 60% clay.
CALICHE:	Caliche. Very pale orange (10 YR 8/2), mixed with Silty Sand with some Clay. Pale yellowish brown (10 YR 6/2). Weathered, dry. Sand pred. quartz, f.g., sub-angular. 64% sand, 27% silt, 9% clay
NO SAMPLE:	No recovery, lost core.
SM:	Gravelly Sand with some Silt and trace Clay. Pale yellowish brown (10 YR 6/2) with very pale orange (10 YR 8/2) caliche zones, low plasticity. Sand poorly graded, pred. quartz with some quartzite and feldspar, sub-angular. Gravel pred. quartzite, poorly graded, angular to sub-angular. Dry, weathered. 14% gravel, 70% sand, 12% silt, 4% clay.
NO SAMPLE:	No recovery, lost core.
NO SAMPLE:	No recovery, drilled with center bit
SM:	Gravelly Sand with some Silt and trace Clay. Same as above (reference interval 2.0' to 2.7')
GP:	Sandy Gravel with trace Silt and Clay. Matrix grayish orange (10 YR 7/4) with very pale orange (10 YR 8/2) caliche lenses. Gradational contact. Gravel poorly graded, pred. quartzite, max. pebble size 2.25 in., sub-rounded to sub-angular. Sand pred. quartz, some feldspar, trace quartzite and mica. Sub-angular, some sub-rounded. Interval dry, weathered. 70% gravel, 27% sand, >2% silt, <1% clay
NO SAMPLE	No recovery, lost core

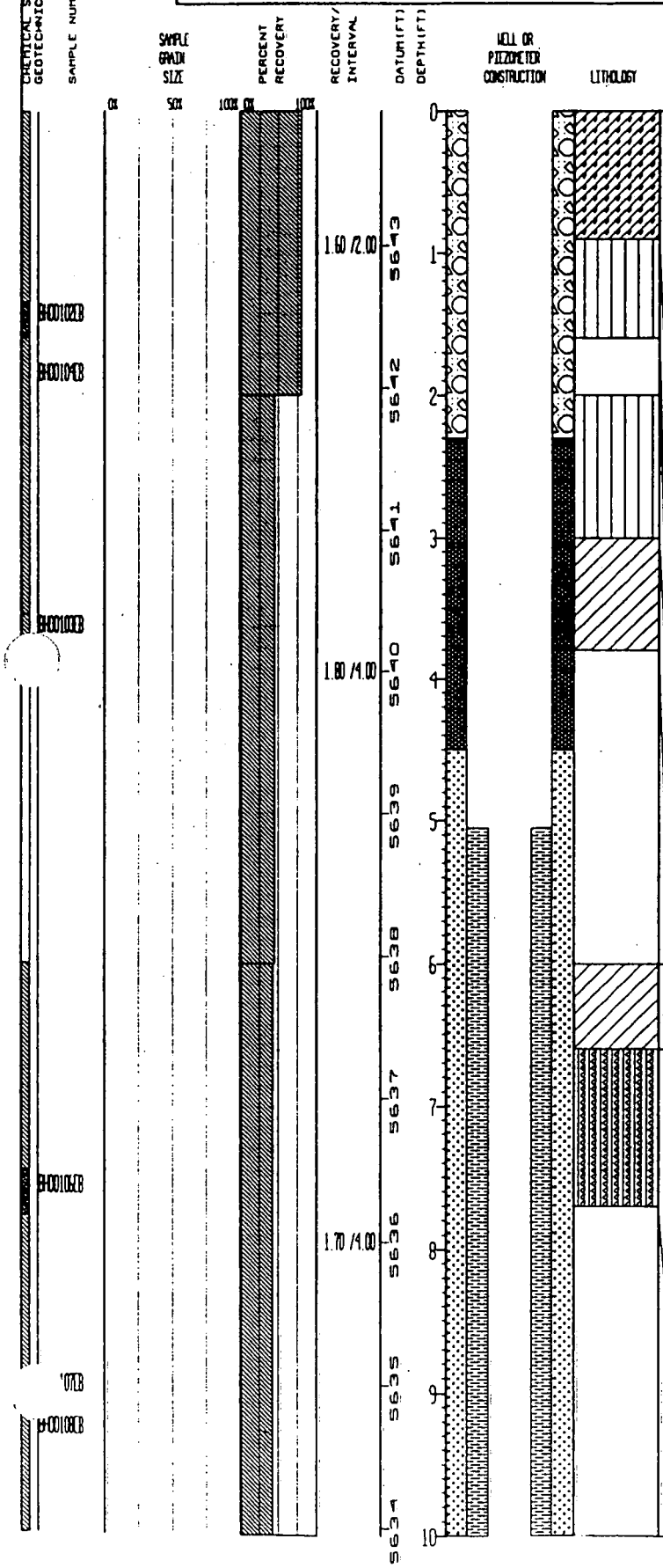
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 13.5	GROUND ELEVATION (FT): 5725.54	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 748800	AREA: SITEWIDE	CASING DIAMETER (IN): 2.0 I.D.	GEOLOGIST: F.G.	41591
EAST: 2093914	LOCATOR NUMBER: U8	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/06/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary Core. ASI Geologist: F. Grigsby; EBASCO Geologist: R.T. Canon.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE (0% 50% 100%)	PERCENT RECOVERY (0% 100%)	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				0.00 /1.00	5715	10			NO SAMPLE:	No recovery, drilled with center bit.
				2.60 /1.00	5714	11			CLAYSTONE:	Top of Bedrock at 11.0' (estimated) Claystone. Pred. pale yellowish brown (10 YR 6/2). Trace very pale orange (10 YR 8/2) calcareous lenses. Core dense, non-friable, damp to very damp. No apparent bedding. No fractures, trace of carbon. NOTE: 2.1' of excess core recovery in interval from 11.0' to 13.5'.
	B10092B			2.00 /1.50	5713	12				
	B10091B				5712	13				
					5711	14				Total Drilled Depth = 13.5'. NOTE: Total Depth of Casing = 13.5' Bottom Depth of Filter Pack = 13.5' Backfill = None.
					5710	15				
					5709	16				
					5708	17				
					5707	18				
					5706	19				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 17.40	GROUND ELEVATION (FT): 5643.95	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	753470	AREA: SITEWIDE	CASING DIAMETER (IN): 2.0	GEOLOGIST: F.G.	41691
EAST:	2093851	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN): 7.25	DATE DRILLED: 11/08/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary Core. ASI Geologist: Fred Grigsby; EBASCO Geologist: R.T. Canon.



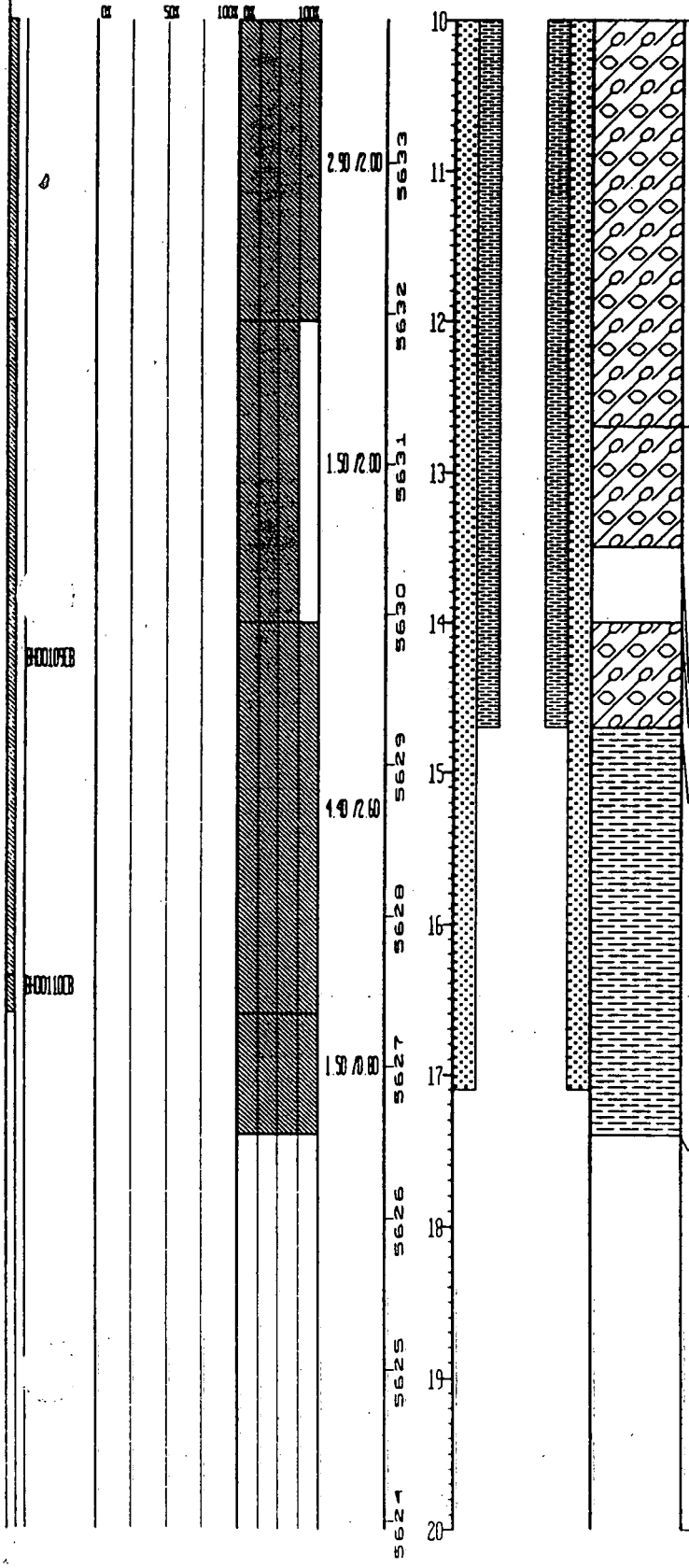
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC	Clayey Sand with some Silt and Gravel. Pred. dark yellowish brown (10 YR 4/2), slightly calcareous. Topsoil, good root development. Gravel pred. quartzite, max. pebble size 1.5 in., sub-rounded to sub-angular. Sand well graded, c.g. fraction sub-angular quartz, quartzite, feldspar, and misc. rock fragments. Finer fraction sub-angular to sub-rounded quartz, some feldspar, trace mica. Sample dry, weathered, med. to low plasticity. 18% gravel, 34% sand, 22% silt, 26% clay.
ML	Sandy Silt with some Clay. Pale yellowish brown (10 YR 6/2). Poorly graded, calcareous. Trace Fe staining. Sand pred. sub-angular to sub-rounded quartz, some feldspar. Low plasticity, sample dry, weathered. 36% sand, 38% silt, 26% clay.
NO SAMPLE	No recovery.
ML	Sandy Silt with some Clay. Same as above (reference interval 0.9' to 1.6').
CL	Silty Clay with some Sand. Grayish brown (5 YR 3/2) to dark yellowish brown (10 YR 4/2). Poorly graded, med. plasticity. Sand pred. f.g., sub-angular quartz. Some feldspar and dark mineralization. Sample dry, weathered, slightly calcareous. Trace Fe. Trace carbon. 23% sand, 38% silt, 39% clay.
NO SAMPLE	No recovery, lost core.
CL	Silty Clay with some Sand. Same as above (reference interval 3.0' to 3.8').
SM	Gravelly Sand with some Silt and Clay. Mod. yellowish brown (10 YR 5/4) to dark yellowish brown (10 YR 4/2). Poorly graded. Med. to low plasticity. Gravel pred. quartzite, pebble at 2.25 in., avg. size approx. 1 in., sub-rounded to sub-angular. Sand f.g., sub-angular to sub-rounded, pred. quartz. Interval appears to have mod. to high permeability. Damp, slightly weathered, non-calcareous. (sm-sc) 20% gravel, 60% sand, 10% silt, 10% clay
NO SAMPLE	No recovery, lost core.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 17.40	GROUND ELEVATION (FT):	5643.95	PROJECT NUMBER:	SITEWIDE	LOG OF BORING NUMBER:
NORTH:	753470	AREA: SITEWIDE	CASING DIAMETER (IN):	2.0	GEOLOGIST:	F.G.	41691
EAST:	2093851	LOCATOR NUMBER: U13	BOREHOLE DIAMETER (IN):	7.25	DATE DRILLED:	11/08/91	

REMARKS: Drilling Equipment: Hollow Stem Auger, Rotary Core. ASI Geologist: Fred Grigsby; EBASCO Geologist: R.T. Canon.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GC:	Clayey Gravel. Matrix dark yellowish brown (10 YR 4/2) with some mod. yellowish brown (10 YR 5/4) mottling. Poorly graded. Gravel pred. quartzites, max. pebble size to 2.0+ in. Some scattered hematite nodules. Some dark gray (N3) staining and mottling. Sample damp, weathered, med. plasticity (very sticky). 55% gravel, 45% clay.
GC:	Sandy Gravel with some Clay and trace Silt. Mod. yellowish brown (10 YR 5/4), with dark yellowish orange (10 YR 6/6) and dark gray (N3) mottling. Gravel pred. quartzite, one pebble to 2.25 in., avg. size approx. 1.0 in., sub-angular. Sand f.g., pred. quartz, sub-angular to sub-rounded. Upper half of interval moist, lower half damp. Med. to low plasticity, sample weathered. 55% gravel, 23% sand, 4% silt, 18% clay.
NO SAMPLE:	No recovery, lost core.
GC:	Sandy Gravel with some Clay and trace Silt. Same as above (reference interval 12.7' to 13.5').
CLAYSTONE:	Top of Bedrock at 14.7'. Claystone with some Silt. Grayish orange (10 YR 7/4) and very pale orange (10 YR 8/2) grading to yellowish gray (5 Y 7/2). Interbedded claystones with some silt. Gradational - no sharp contacts. Core damp, mod. indurated to sticky in very clayey intervals. Slightly friable. No apparent bedding or fracture. Entire interval badly broken (drilling induced). <15% silt, >85% clay. NOTE: 1.5' of excess core recovery in interval from 14.0' to 17.4'.
	Total Drilled Depth = 17.4'. NOTE: Total Depth of Casing = 17.1'. Bottom Depth of Filter Pack = 17.4'. Backfill = None.

1992

BOREHOLES/MONITORING WELLS

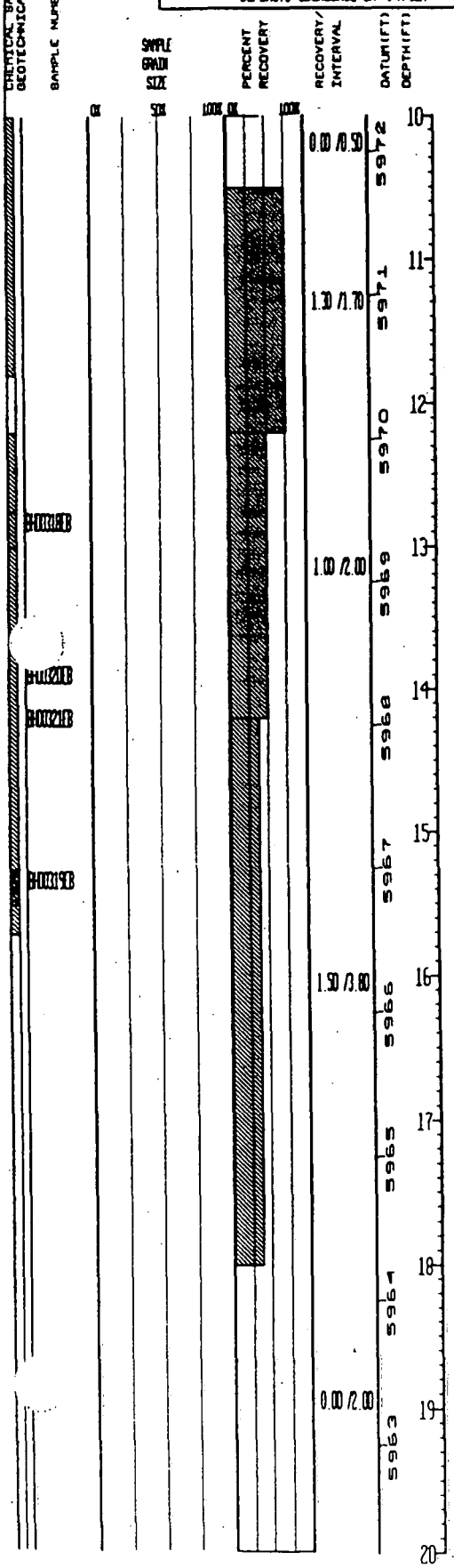
STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 44.3	GROUND ELEVATION (FT): 5982.25	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 749674	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42792
EAST: 2085337	LOCATOR NUMBER: M9	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

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

CHEMICAL SAMPLE DRY / 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
		CL SIL SAN GRA COB BOU	100% 0% 100% 100%							
					5982	0			SC:	Clayey Sand with some Gravel and Silt. Dark yellowish brown (10 YR 4/2) to dusky brown (5 YR 2/2). Sand well graded. Pred. sub-angular quartz and some quartzite in coarser fraction and sub-angular quartz and some feldspar in med. and fine fraction. Becomes more gravelly in lower half of interval. Low plasticity. No root development. Weathered. Slightly moist. 15% gravel, 59% sand, 8% silt, 18% clay.
	B4001EB			1.40 /2.00	5981	1				
									NO SAMPLE:	No recovery.
	B4001SB				5980	2			GC:	Clayey Gravel with some Sand and trace Silt. Grayish red (5 R 4/2) at top grading to mod. brown (5 YR 4/4) at bottom of interval. Slightly damp, mod. plasticity. Gravel well graded overall. Very coarse at top (2.5 in. max.), becoming smaller with depth (one 2 in. pebble at bottom). Lithology consists of quartzite, granite or schist fragments and some quartz, sub-angular to angular. Sand fraction same as 0' to 1.4' interval description. Interval weathered. 60% gravel, 18% sand, 4% silt, 22% clay.
					5979	3				
	B14EB					4				
				2.00 /4.00	5978				GP:	Sandy Gravel with trace Silt and Clay. Calcareous. Pale yellowish brown (10 YR 6/2) with very pale orange (10 YR 8/2). Very poor sample. Gravel matrix ratio estimated. Gravel indicated to be poorly graded, max. size 2 in., sub-angular quartzite. Interval weathered. (gp-gc) 70% gravel, 20% sand, 5% silt, 5% clay.
					5977	5				
					5976	6			NO SAMPLE:	No recovery.
					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.
	B4001GB					8				
				1.40 /3.20	5974				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.
	B4001KB				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: NB	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.

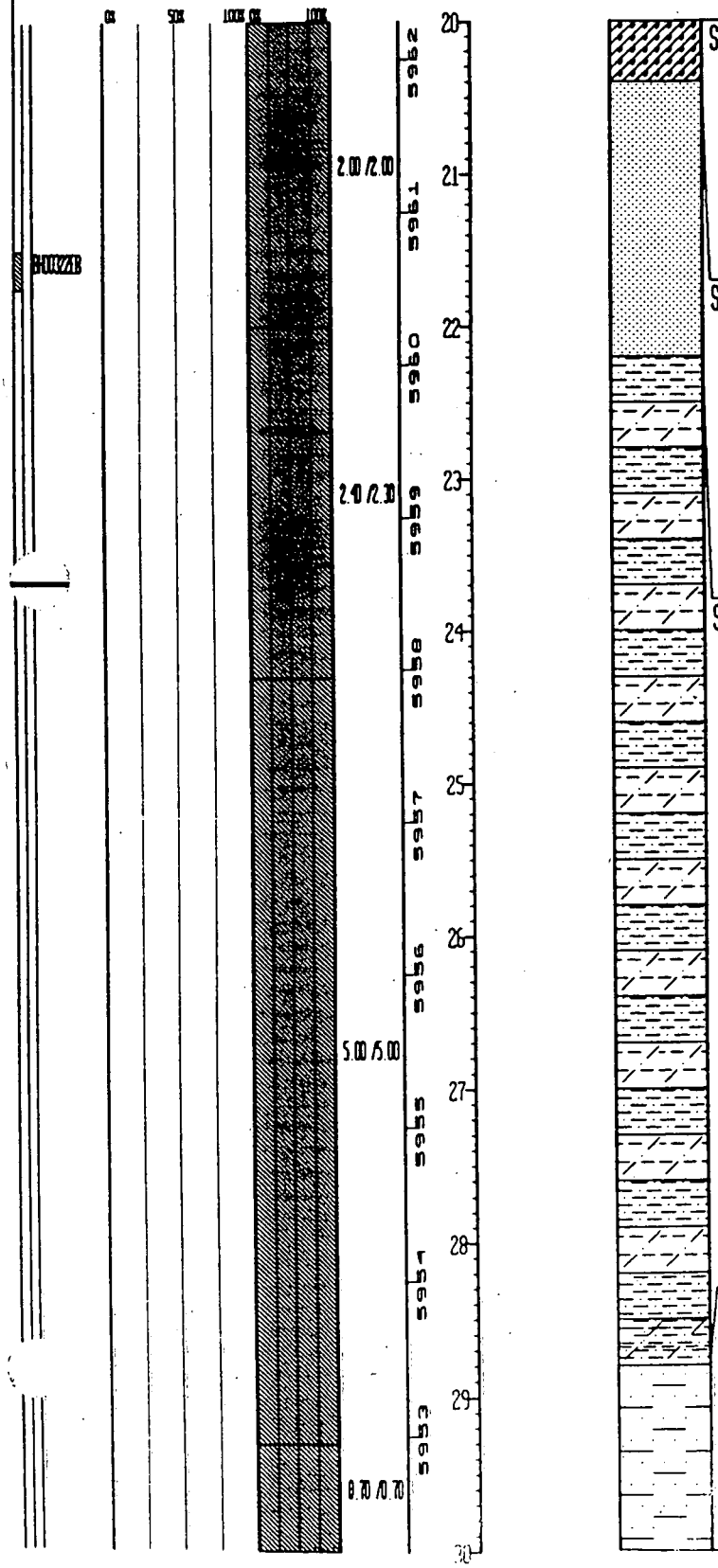


LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	NO SAMPLE:	No recovery.
	GC:	Sandy Gravel with some Clay and trace Silt. Light brown (5 YR 5/6). Dry, low plasticity, weathered. Gravel well graded, max. pebble size 2.25 in. Dom. lithology quartzite (sub-angular). Sand same as interval from 7.8' to 8.2'. 60% gravel, 27% sand, 4% silt, 9% clay.
	NO SAMPLE:	No recovery.
	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.
	NO SAMPLE:	No recovery.
	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.
	NO SAMPLE:	No recovery.
	NO SAMPLE:	Center bit drilled. No recovery.

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



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:	2095337	LOCATION NUMBER: MB	BOREHOLE DIAMETER (IN):	DATE DRILLED: 04/03/92	

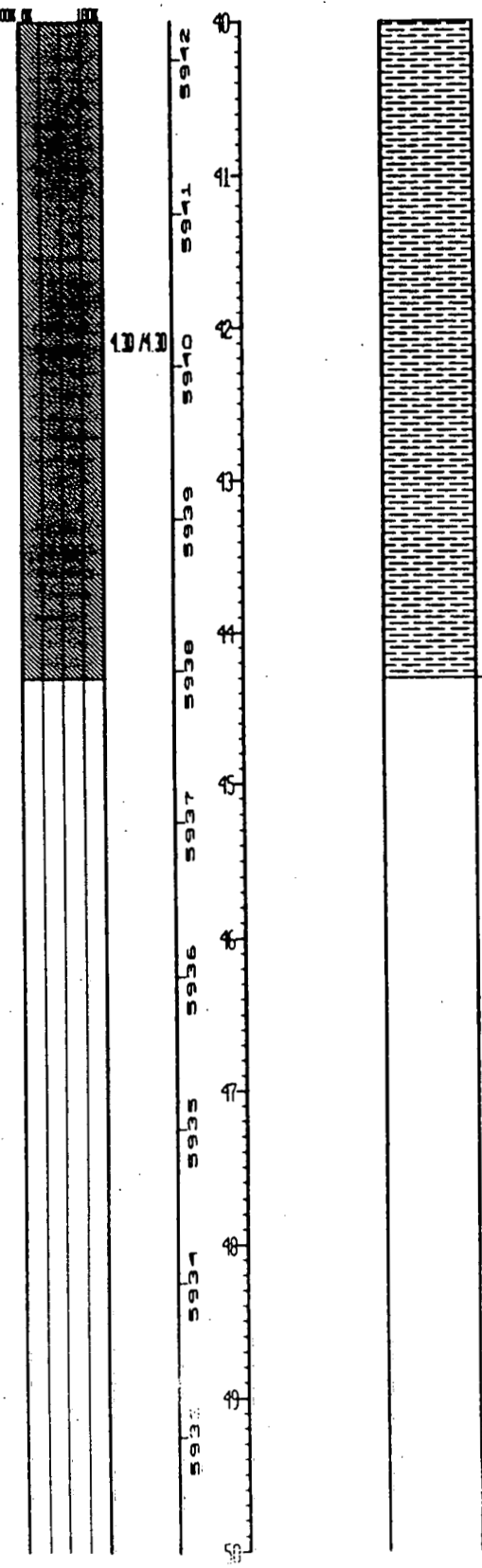
REMARKS: Drilling equipment: CME 75 ATV. ASI Geologist: Fred Grigsby. EBASCO Geologists: J. Boylan, K. Haley.
Borehole abandoned on 4/7/92.

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
					5952	30				
					5951	31				
				1.20 /4.30	5950	32				NO SAMPLE: No recovery.
					5949	33				
					5948	34				
					5947	35				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.
					5946	36				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 fe0 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.
				5.00 /5.00	5945	37				
					5944	38				
					5943	39				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.
				8.70 /8.70		40				

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.

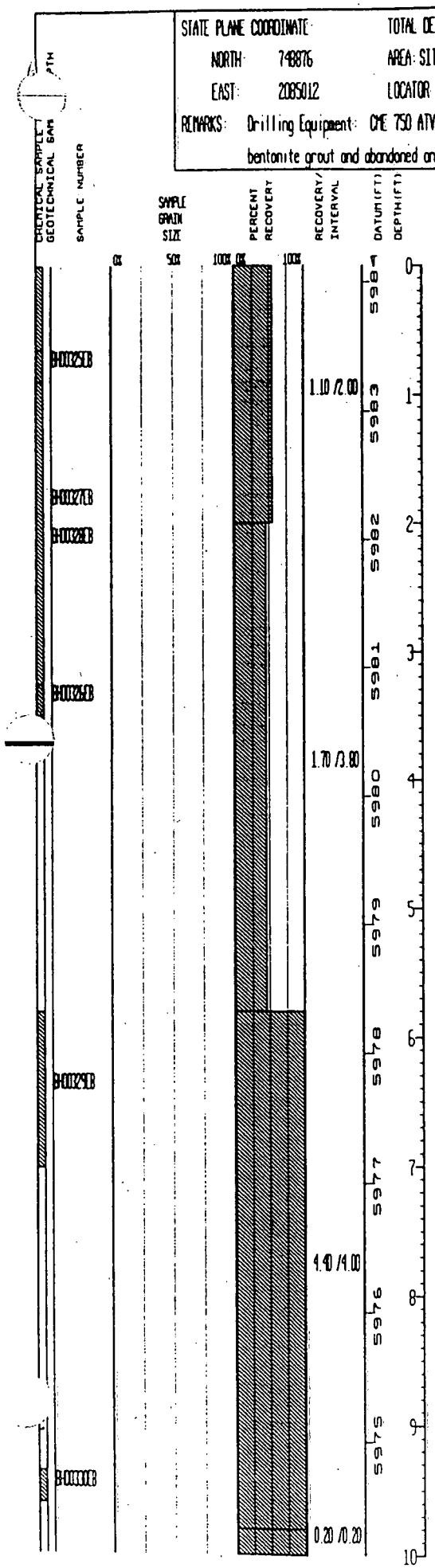
CHEMICAL SAMPLE DEPTH
GEOTECHNICAL SAMPLE DEPTH
SAMPLE NUMBER
SAMPLE GRAIN SIZE (0% 50% 100%)
PERCENT RECOVERY (0% 100%)
RECOVERY/INTERVAL
DATUM (FT)
DEPTH (FT)
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY
UNIFIED SOILS CLASSIFICATION OR ROCK TYPE
DESCRIPTION

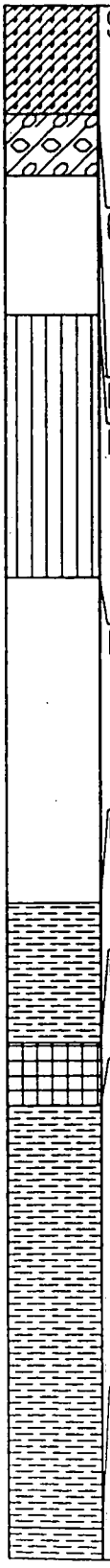


Total Drilled Depth = 44.3'.

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.

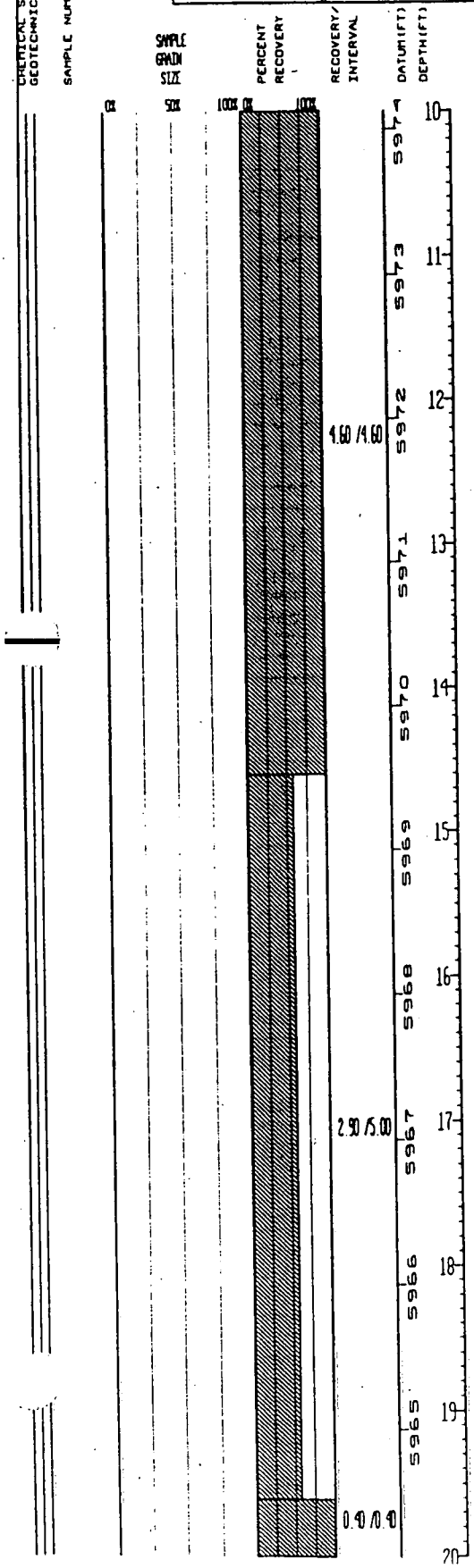




UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SC:	Gravelly Sand with some Clay and Silt. Grayish brown (5 YR 3/2). Sample dry, low plasticity. Sand well graded, pred. quartz and quartzite in c.g. fraction; and quartz and feldspar in m.g. to f.g. fraction, pred. sub-angular to sub-rounded. Slightly 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. AST Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

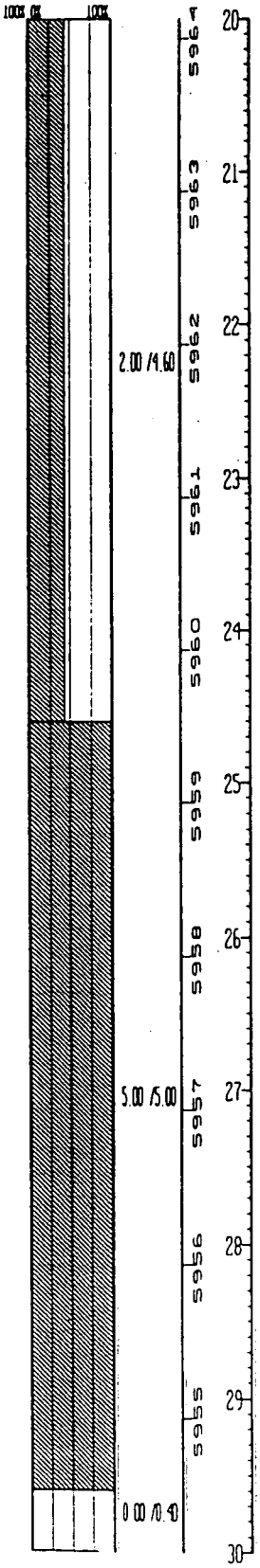


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone. Color change to light olive gray (5 Y 5/2) grading to brownish gray (5 YR 4/1). Core slightly damp and friable at top, becomes very dense and indurated with depth. Some slightly silty intervals. Core pred. non-friable. Trace 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.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE / DEPTH / SAMPLE NUMBER / SAMPLE GRAIN SIZE / PERCENT RECOVERY / RECOVERY/INTERVAL / WELL OR PIEZOMETER CONSTRUCTION

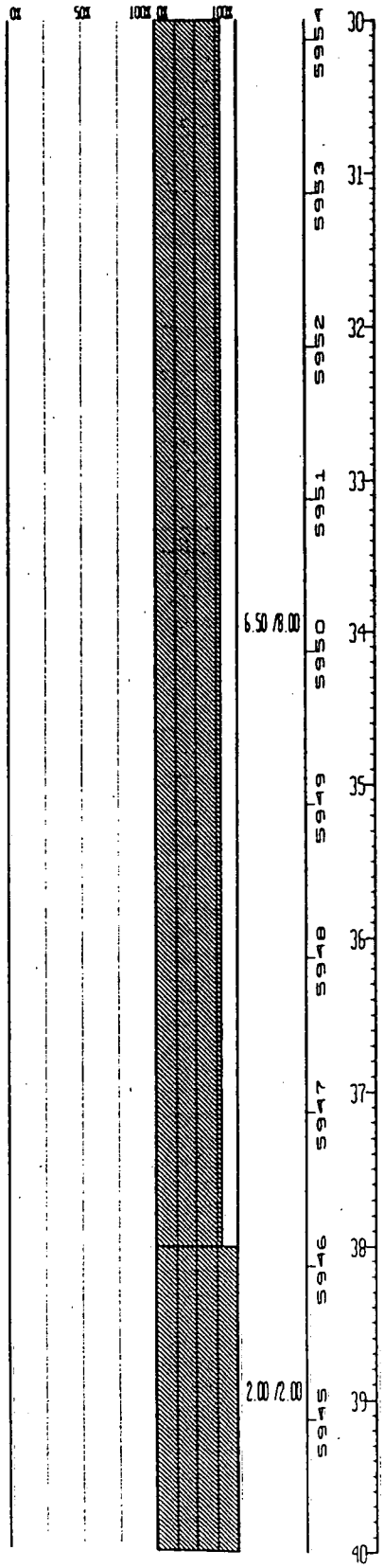


LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
	CLAYSTONE:	Claystone with some Silt. Brownish gray (5 YR 4/1) with mod. abundt. dark yellowish orange (10 YR 6/6) FeO staining and mineralized fractures. Interval extensively fractured with disturbed sediments and/or breccia. Longitudinal 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.
	NO SAMPLE:	No recovery.
	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.
	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, 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



	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.
	NO SAMPLE:	No recovery.
	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.

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	

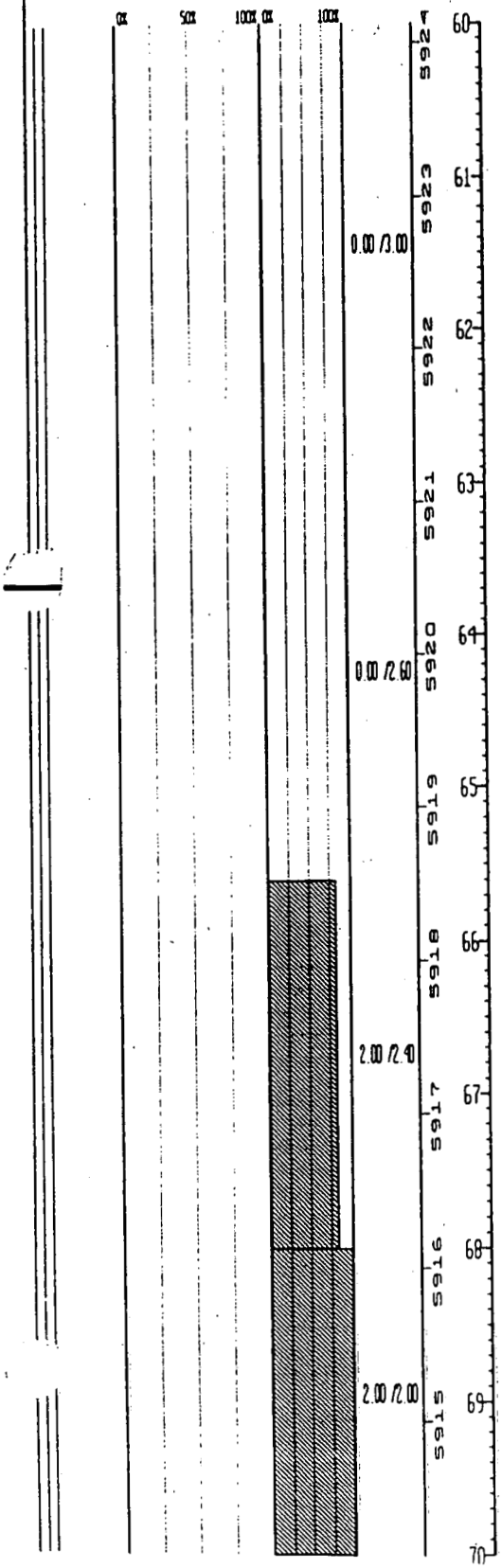
REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

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
					5944	40				
					5943	41				
				3.20 /4.30	5942	42				
					5941	43				
									NO SAMPLE:	No recovery
					5940	44				
					5939	45			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.
				2.00 /3.70	5938	46				
									NO SAMPLE:	No recovery.
					5937	47				
					5936	48			CLAYSTONE:	Claystone. Same as above (reference interval 44.3' to 46.3') 95% clay.
				2.00 /2.00	5935	49				
						50				

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 Geolologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

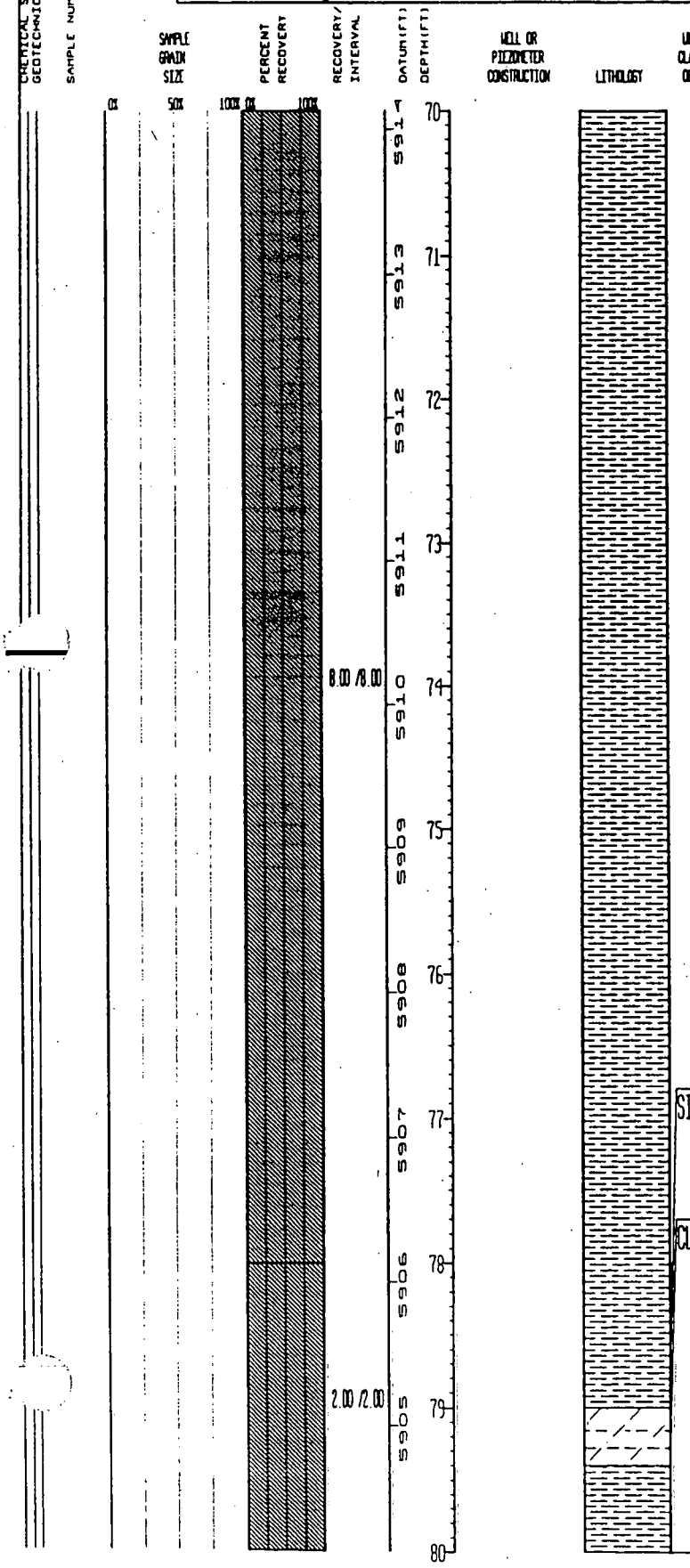
CHEMICAL SAMPLE OR GEOTECHNICAL SAMPLE | SAMPLE NUMBER | SAMPLE GRAIN SIZE (0% 50% 100%) | PERCENT RECOVERY (0% 100%) | RECOVERY/INTERVAL | DATUM (FT) | DEPTH (FT) | WELL OR PIEZOMETER CONSTRUCTION | LITHOLOGY | UNIFIED SOILS CLASSIFICATION OR ROCK TYPE | DESCRIPTION



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 coincoidal surface. Bedding questionable. May be roughly horiz. to slightly dipping. No distinct fractures. Indications of possible approx. 30 degree healed fractures. 10% silt, 90% clay.

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.



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 ave. 5-10% silt, 90-95% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER	SITEWIDE	LOG OF BORING NUMBER
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST:	F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED:	05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

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%		5984	80				
					5983	81				
					5982	82				
					5981	83				
				7.00/8.00	5980	84				
					5979	85				
					5978	86				
					5977	87			NO SAMPLE:	No recovery
					5976	88			CLAYSTONE:	Claystone with some Silt. Dusky yellowish brown (10 YR 2/2) to brownish black (5 YR 2/1). Core consists of damp, uncon-sol. intervals and slightly damp to dry intact core. Intact core is dense and indurated. Pred. non-friable. Unconsol. core consists of disturbed or brecciated sediment fragments. Some to mod. abundt. carbon. Indicated possible horiz. to slightly dipping (5 degrees) bedding. Indicated 30 degree and 45 degree fractures. 10% silt, ~90% clay
				2.00/2.00	5975	89				
						90				

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 Geolologist: 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: 8.00 /8.00; 2.00 /2.00
DATUM (FT): 5894, 5893, 5892, 5891, 5890, 5889, 5888, 5887, 5886, 5885
DEPTH (FT): 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
WELL OR PIEZOMETER CONSTRUCTION
LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
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.

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 / GEOTECHNICAL SAMPLE / DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

RECOVERY/INTERVAL: 3.00/3.00; 0.40/5.00; 2.00/2.00

DATUM (FT): 5884, 5883, 5882, 5881, 5880, 5879, 5878, 5877, 5876, 5875

DEPTH (FT): 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY

UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

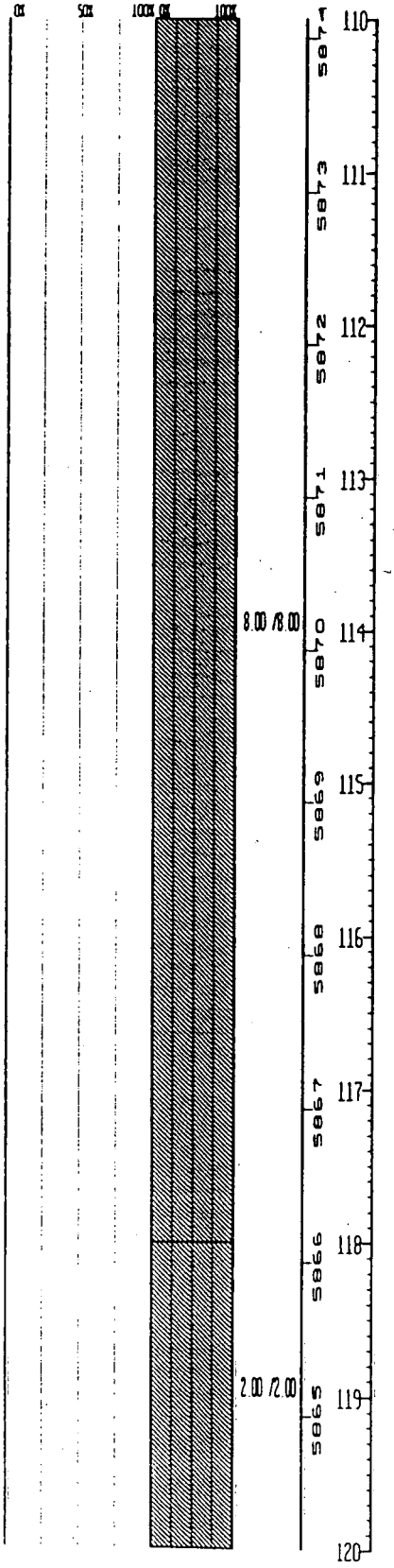
NO SAMPLE: No recovery.

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.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER
NORTH: 749876		AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST: 2085012		LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10 0/3 75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole Filled with bentonite grout and abandoned on 05/14/92.

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



SILTY CLAYSTONE: Silty Claystone with some Sand. Light gray (N7) with some dark gray (N3) claystone lenses and/or laminae. Core dry, well cemented (argillaceous). Slightly friable, some indications of slumping (dipping laminae). Lower foot of interval fractured (drilling induced). Some carbon throughout interval. No apparent bedding.
10% sand, 18% silt, 72% clay.

SANDY CLAYSTONE: Sandy Claystone with some Silt. Very light gray (N8) to light gray (N7) with dark gray (N3) claystone laminae. Lithology varies throughout interval. Core dry, well cemented (argillaceous). Mod. friable to slightly friable. Some to mod. abundt. carbon. Visual porosity nil. Sand is f.g., well sorted, sub-angular quartz. Some soft sediment deformation, no apparent bedding.
39% sand, 12% silt, 49% clay.

CLAYSTONE: Claystone with some Silt. Light gray (N7), some dark gray (N3) claystone laminae. Core dry, dense and indurated. Slightly friable.
20% silt, 80% clay.

SANDY CLAYSTONE: Sandy Claystone with some Silt. Light gray (N7) with dark gray (N3) claystone laminae. Core dry, mod. well cemented (argillaceous), mod. friable. Indicated soft sediment deformation. Possibly some bioturbation, no fractures or apparent bedding.
28% sand, 14% silt, 58% clay.

STATE PLANE COORDINATE:	TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH: 749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F GRIGSBY	42892
EAST: 2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

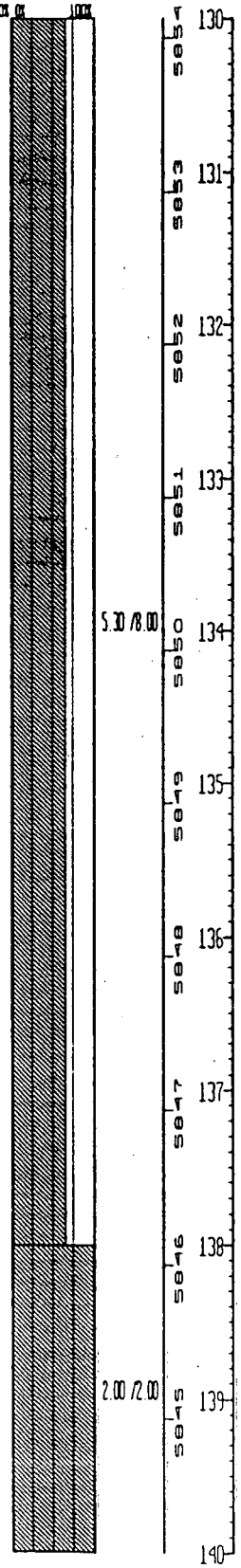
REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geologist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
					5964	120				
					5963	121			SILTSTONE:	Calcareous Siltstone. Med. light gray (N6), some grayish black (N2) laminae and carbonaceous zones. Hard, well cemented (argillaceous), non-friable. No sieve analysis.
					5962	122			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.
					5961	123				
				7.80 /8.00	5960	124				
					5959	125				
					5958	126				
					5957	127				
					5956	128			NO SAMPLE:	No recovery
				2.00 /2.00	5955	129			SILTY CLAYSTONE:	Silty Claystone with trace Sand. Light olive gray (5 Y 6/1) with olive gray (5 Y 4/1) to olive black (5 Y 2/1) claystone lenses and/or laminae. Core is dry and indurated, slightly friable. Breaks are uneven, no apparent bedding or fractures. Core has mottled appearance, some laminated intervals with indicated soft sediment deformation. Some carbon throughout interval. <3% sand, 30% silt, 67% clay.
						130				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 159.6	GROUND ELEVATION (FT): 5984.13	PROJECT NUMBER: SITEWIDE	LOG OF BORING NUMBER:
NORTH:	749876	AREA: SITEWIDE	CASING DIAMETER (IN):	GEOLOGIST: F. GRIGSBY	42892
EAST:	2085012	LOCATOR NUMBER: L9	BOREHOLE DIAMETER (IN): 10.0/3.75	DATE DRILLED: 05/12/92	

REMARKS: Drilling Equipment: CME 750 ATV, SIMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylan. Borehole filled with bentonite grout and abandoned on 05/14/92.

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

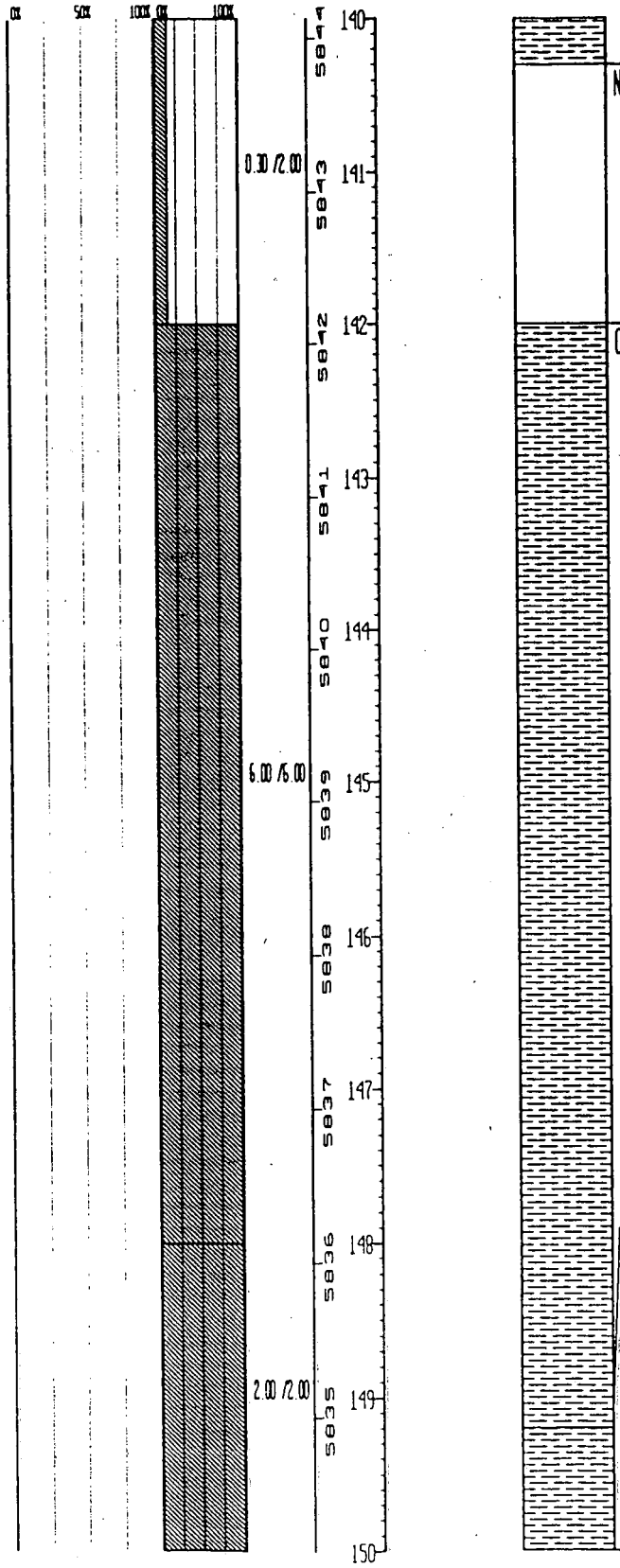


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE	Claystone with some Silt. Olive black (5 Y 2/1). Core fractured in lower 0.2' (approx.). Indications of possible fracture in upper intact core. Intact core dense, non-friable. 10% silt, 90% clay.
NO SAMPLE	No recovery.
CLAYSTONE	Claystone. 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 / 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



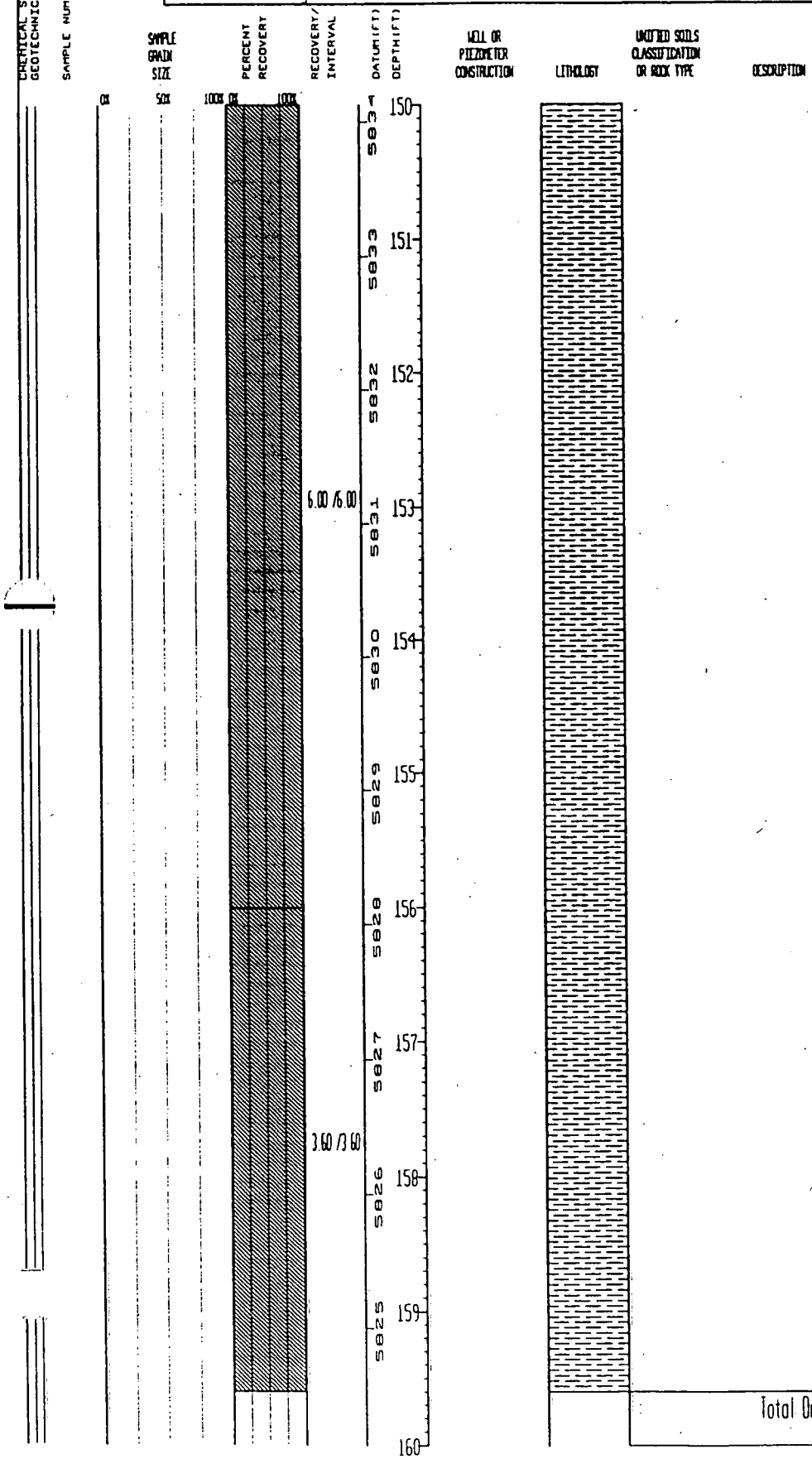
NO SAMPLE: No recovery.

CLAYSTONE: Claystone with some Silt. Olive black (5 Y 2/1). Interval from 142.0' to 146.3' consists of both intact core and damp, unconsol. intervals. Intact core is dense, indurated and non-friable. 30 degree and 45 degree fractures with possible slickensides at approx. 143.0'. Some to mod. abundt. carbon in this interval with possible biofeeding structure at bottom of interval. Interval from 146.3' to 149.2' becomes slightly more silty with some carbon. Indications of some healed fractures (angle undetermined). Core very dense and indurated. Non-friable
5-10% silt, 90-95% clay

CLAYSTONE: Claystone with some Silt. Same as above (reference interval 142.0' to 149.2'). Essentially very consistent, dense, and indurated claystone, non-friable. Some slight variations in silt content, some carbon. Fractures as follows
150.5' - 60 degrees, no slickensides; 151.6' - vertical, vertical slickensides; 155.3' - 30 degrees, no slickensides; 156.0' - 30 degrees, no slickensides; 157.3' to 159.3' - vertical and 60 degrees, some vertical slickensides.
5-10% silt, 90-95% clay

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

REMARKS: Drilling Equipment: CME 750 ATV, STMCO 2800. ASI Geololgist: Fred Grigsby. EBASCO Geologist: J. Boylon. Borehole filled with bentonite grout and abandoned on 05/14/92.



Total Drilled Depth = 159.6'

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAAP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG; FROM 60.3-92 FEET, ADVANANCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'

CHEMICAL SAMP. / GEOTECHNICAL SAMP.	SAMPLE NUMBER	SAMPLE GRADA. SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5956	0			NO SAMPLE	Interval not sampled Begin rotary core drilling at 60.30 ft
					5955	1				
					5954	2				
					5953	3				
					5952	4				
					5951	5				
					5950	6				
					5949	7				
					5948	8				
					5947	9				
						10				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG. FROM 60.3-92 FEET, ADVANCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.

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
						5946	10				
						5945	11				
						5944	12				
						5943	13				
						5942	14				
						5941	15				
						5940	16				
						5939	17				
						5938	18				
						5937	19				
							20				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAPP	LOG OF BORING NUMBER
NORTH	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG. FROM 60.3-92 FEET, ADVANCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5936	20				
					5935	21				
					5934	22				
					5933	23				
					5932	24				
					5931	25				
					5930	26				
					5929	27				
					5928	28				
					5927	29				
						30				

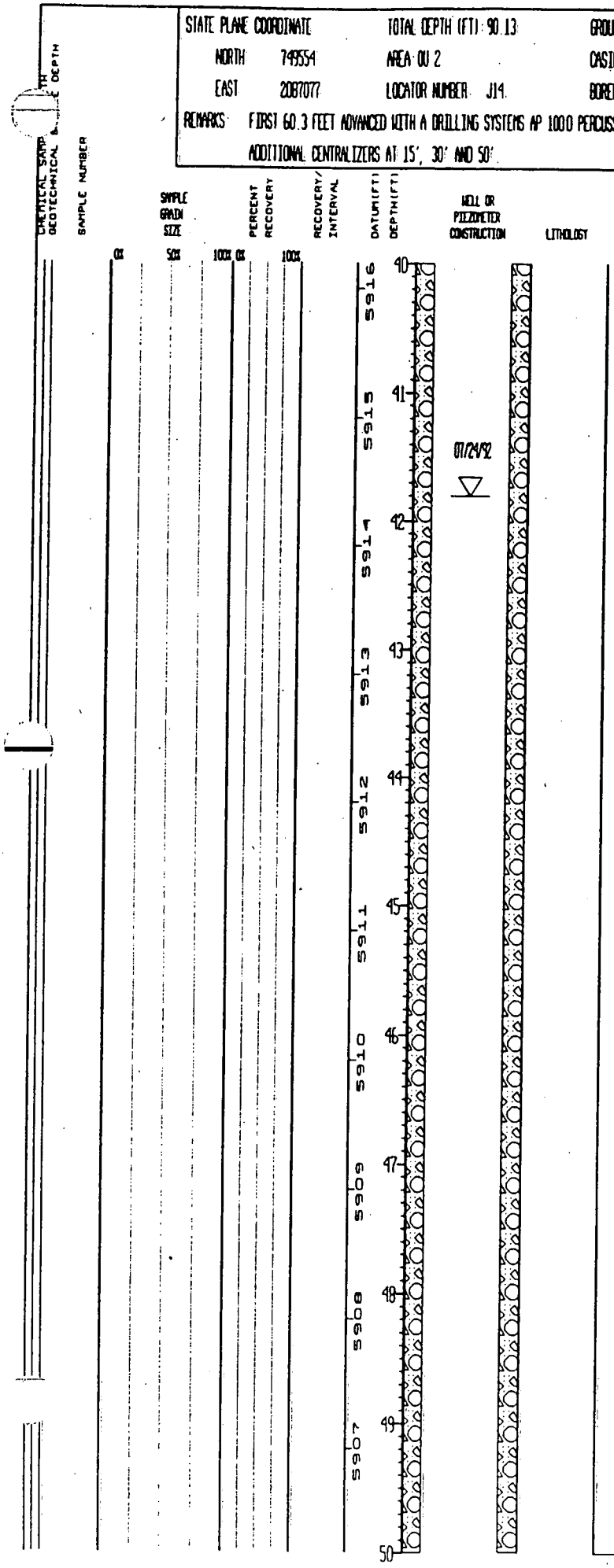
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAPP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG. FROM 60.3-92 FEET, ADVANANCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'

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
				0.90 /63.70	5926	30				
					5925	31				
					5924	32				
					5923	33				
					5922	34				
					5921	35				
					5920	36				
					5919	37				
					5918	38				
					5917	39				
						40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAPP	LOG OF BORING NUMBER
NORTH	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG; FROM 60.3-92 FEET, ADVANANCED WITH A CME 75 DRILL RIG ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.



STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAAP	LOG OF BORING NUMBER
NORTH	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG; FROM 60.3-92 FEET, ADVANNCED WITH A CME 75 DRILL RIG ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.

TOTAL DEPTH	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
			0% 50% 100%	0% 100%		5906 5905 5904 5903 5902 5901 5900 5899 5898 5897	50 51 52 53 54 55 56 57 58 59 60				

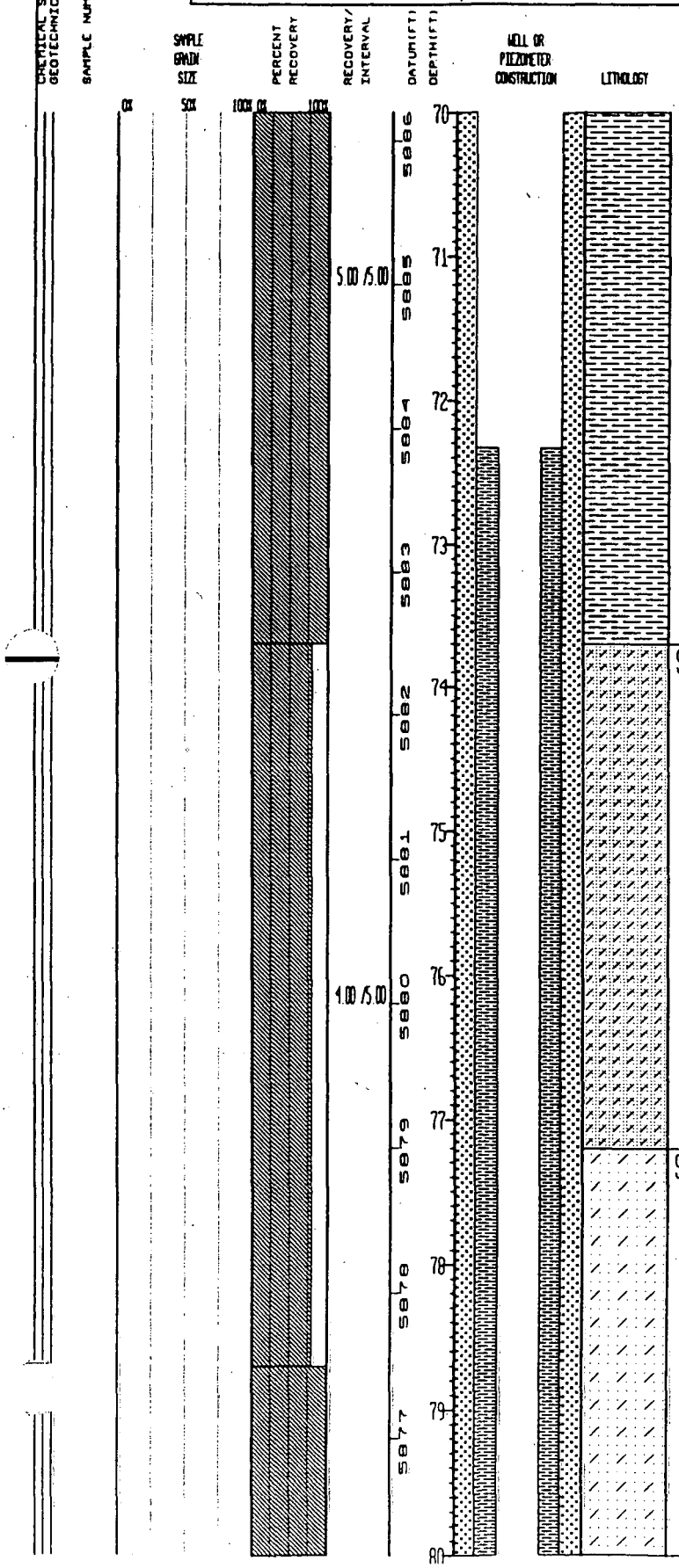
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG; FROM 60.3-92 FEET, ADVANNCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.

CHEMICAL SAMP. 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
					5956	60			NO SAMPLE	CORE LOSS, NO RETRIEVAL
					5955	61				
					5954	62				
					5953	63				
					5952	64			CLAYSTONE	Claystone with trace silt. Olive gray(5Y 4/1) grading to olive black(5Y 2/1). Core consists of slightly damp, friable to mod. friable, mod. indurated claystone, slightly more indurated near bottom of interval. Trace to moderate carbonaceous material imparts olive black cast to the claystone. Several sub-vertical, unhealed fractures noted in the 64.7' to 65.2' portion of this interval. Bedding is somewhat obscured, however suggests sub-horizontal to horizontal bedding. Silt= <5% Clay= >95%
					5951	65				
				4.00 /5.00	5950	66				
					5949	67			NO SAMPLE	Core Loss No Retrieval
					5948	68			CLAYSTONE	Claystone with some silt. Olive gray(5Y 4/1)-grading to olive black(5Y 2/1). Core consists of slightly damp, weakly friable to mod. friable claystone. Interval 71.4' to 73.7' less friable and mod indurated. Trace to mod. carbonaceous material v.f.g. disseminations imparting olive-black cast to rock. Several thin <2mm cabonaceous stringers noted cross-cutting apparent sub-horizontal to horizontal bedding. Several sub-vertical thin fractures(unhealed) noted in the interval 69.5' to 70.5'. Claystone has greater silt content near bottom of interval. Silt= 10% Clay=90%
					5947	69				
						70				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAPP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

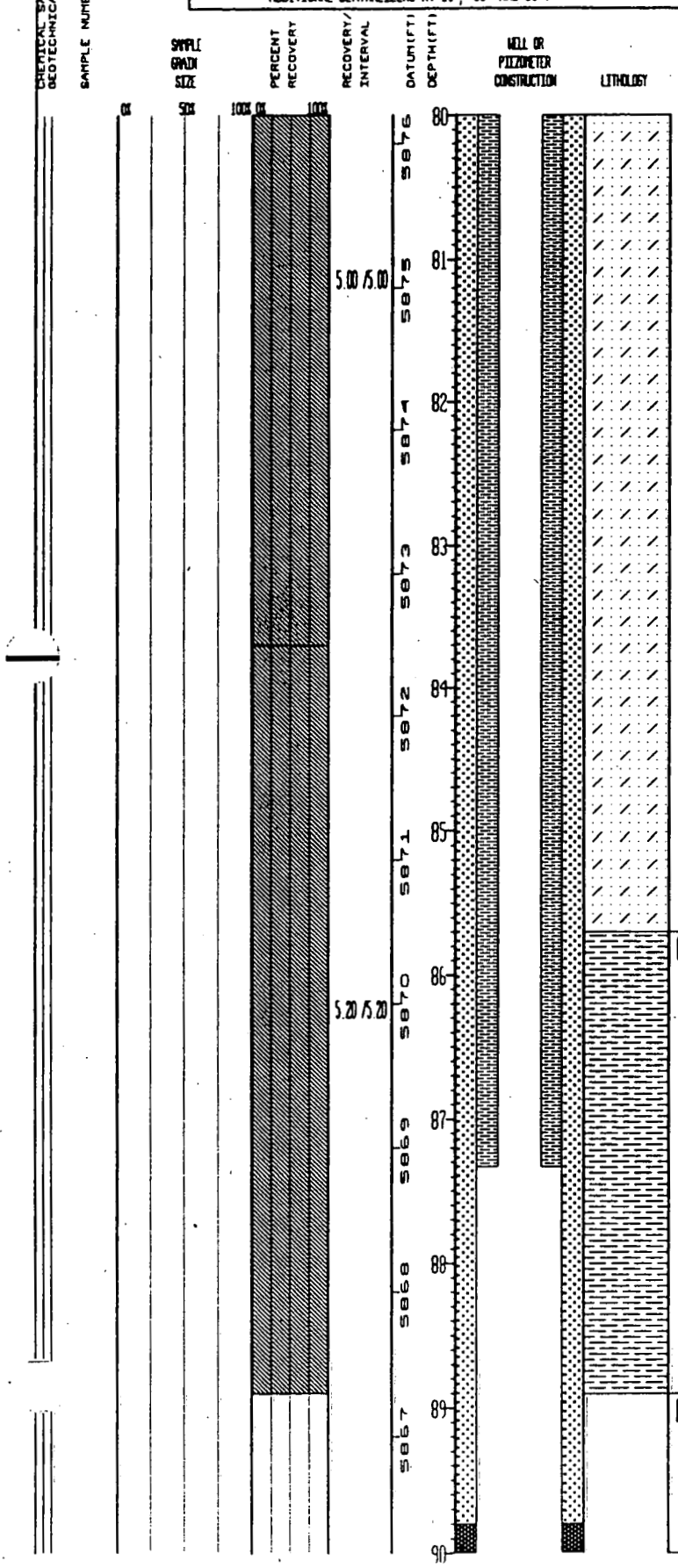
REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG. FROM 60.3-92 FEET, ADVANCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDY SILTSTONE	Sandy Siltstone with some clay. Olive gray(5Y4/1) grading to a mottled dark greenish gray(5GY 4/1). Core consists of dry to slightly damp intervals, dampness in thin clay rich organic intervals(1"-3"). Mod. well indurated, mod. friable. Very thin laminae of mixed lithologies grading from thin clay laminae to silt to v.f.g. sand, sand grains v.f.g., sub-angular to sub-rounded with minor thin silt laminae. Bedding is comprised of thin alternating silts, sands and clay laminae apparently disturbed by soft sediment deformation. V.F.G. Sand= 25% Silt= 65% Clay= 10%
SILTY SANDSTONE	Silty Sandstone with some clay. Greenish gray(5GY 6/1) grading to a mottled dark greenish gray(5GY 4/1). V.f.g sand well to mod. sorted, f.g. sand sub-rounded to sub-angular quartz grains. >30% porosity. Mod well cemented by silica and locally by v.f.g. clay. Mod. friable, mod. indurated. Rock is thinly laminated to thin bedded with alternating lamallae of v.f.g. sand and silt and very thin mixed silt and clay lamallae. Bedding is predom. subhorizontal to horizontal and moderately disrupted by soft sediment deformation. Core is locally moist along clay and organic rich, thinly laminated intervals. V.F.G. Sand= 60% Silt= 32% Clay= 8%

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT):	5956.20	PROJECT NUMBER:	WAPP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU-2	CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG; FROM 60.3-92 FEET, ADVANCED WITH A CME 75 DRILL RIG. ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYSTONE:	Claystone with trace silt. Olive gray(5Y 4/1) grading to olive black(5Y 2/1). Core consists of slightly damp, weakly to mod. friable claystone. Mod. indurated. Mod. abundant disseminated organic material as irreg. masses and blebs. V.f.g. organics appear to impart dark gray cast to rock. Thin silty lens and laminae near top of interval stained by Feoxide(limonite). Several sub-vertical unhealed fractures noted in the 86.7' to 87.7 interval Silt= <5% Clay= >95%
NO SAMPLE:	No sample collected, overdrill boring to 90.13'.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 90.13	GROUND ELEVATION (FT): 5956.20	PROJECT NUMBER: WAPP	LOG OF BORING NUMBER
NORTH:	749554	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46692
EAST:	2087077	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/29/92	

REMARKS: FIRST 60.3 FEET ADVANCED WITH A DRILLING SYSTEMS AP 1000 PERCUSSION HAMMER DRILL RIG; FROM 60.3-92 FEET, ADVANNCED WITH A CME 75 DRILL RIG ADDITIONAL CENTRALIZERS AT 15', 30' AND 50'.

CHEMICAL SAMPLE DEPTH / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRADI SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		CR 50% 100%	CR 100%		5956	90				
					5955	91				
					5954	92				
					5953	93				
					5952	94				
					5951	95				
					5950	96				
					5949	97				
					5948	98				
					5947	99				
						100				

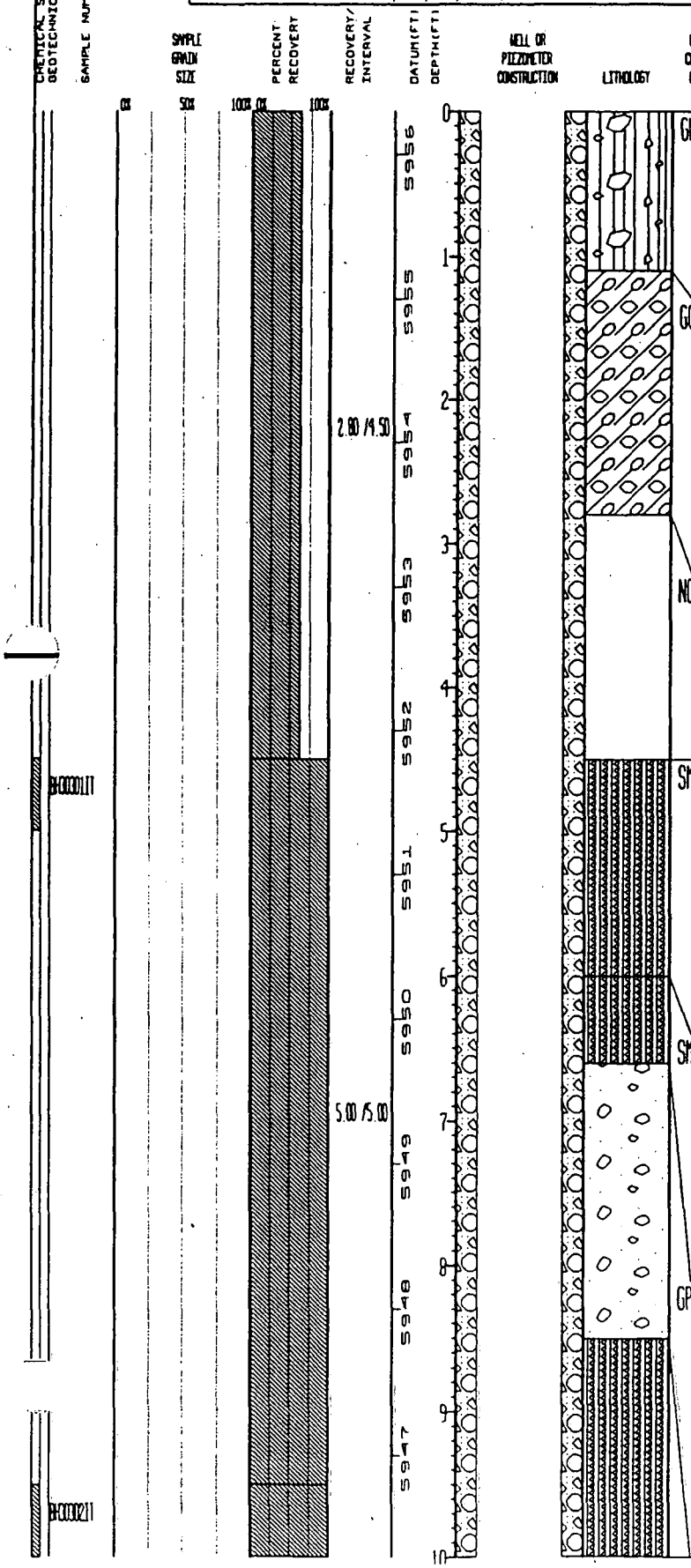
TOTAL DRILLED DEPTH: 90.13'

NOTE:

TOTAL SAMPLED DEPTH: 88.9'
BOTTOM DEPTH OF CASING: 90.13'
BOTTOM DEPTH OF FILTER PACK: 89.8'

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 118.8	GROUND ELEVATION (FT)	5956.30	PROJECT NUMBER	WARP	LOG OF BORING NUMBER
NORTH	749538	AREA OU 2	CASING DIAMETER (IN)	6.0/2.0	GEOLOGIST	D.E.C/E.E.M	46792
EAST	2087080	LOCATOR NUMBER J13	BOREHOLE DIAMETER (IN)	10.0/6.0	DATE DRILLED	06/01/92	

REMARKS: Drilling Method: CME 75, HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'

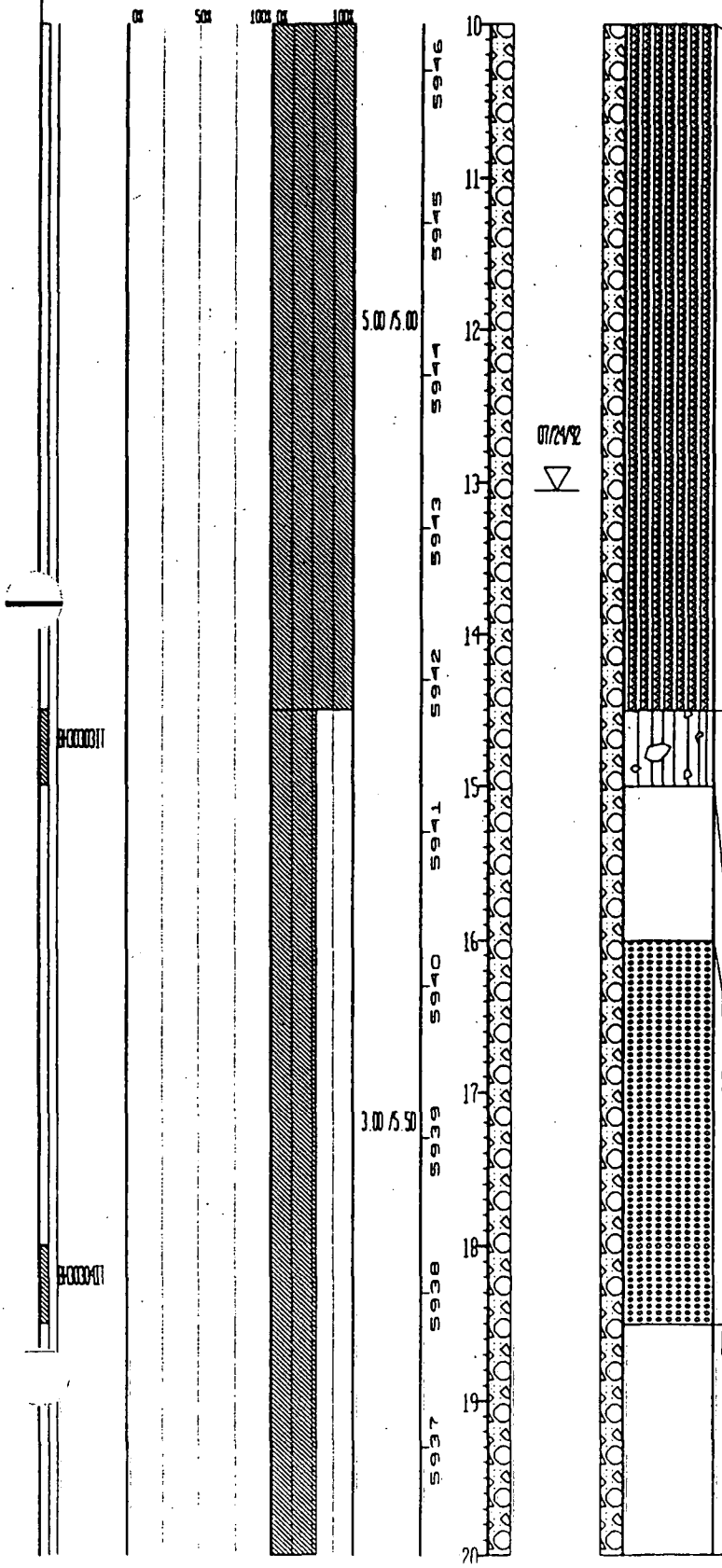


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
GM:	Sandy Gravel, some silt, trace clay. Very dark gray (10YR 3/1). Gravel, poorly graded, sub-rounded, dom. lithology, quartzite, fragments to 2.5 inch in size. Sand, sub-rounded to sub-angular, dom. lithology, quartz & quartzite. Moist at time of recovery. Non-calcareous. At 0.6 ft.; 66% Gravel, 24% sand, 9% silt, <1% clay.
GC:	Clayey Gravel, some sand & silt. Very pale brown (10YR 7/3). Gravel, poorly graded, sub-angular to sub-rounded, dom. lithology, quartzite with lesser micaceous quartzite, v.c.g to 2.5 inch in size. Gravel throughout interval. Fractured cobble at base of interval. Sand, angular to sub-angular, dom. lithology, quartz & quartzite. Caliche, calcareous cement, very strong reaction to HCl. Moist at time of recovery. At 1.8 ft.; 39% gravel, 12% sand, 14% silt, 35% clay
NO SAMPLE:	No recovery.
SM:	Gravelly Sand, some silt, trace clay. Reddish yellow (7.5YR 7/6) to brownish yellow (10YR 6/6). Sand, well graded, angular to sub-rounded, dom. lithology, quartz & quartzite with mica in f.g. fraction. Gravel, sub-angular to sub-rounded, dom. lithology, quartzite. Fractured v.c.g. to 2.5 inch gravel throughout interval. Calcareous cement throughout interval. Very strong reaction to HCl. Moist at time of recovery. At 5.5 ft.; 41% gravel, 47% sand, 7% silt, 5% clay.
SM:	Gravelly Sand, some silt, trace clay. Strong brown (7.5YR 5/6). Sand, well graded, angular to sub-rounded, pred. m.g., dom. lithology, quartz & quartzite with lesser feldspar, mica in f.g. fraction. Gravel, sug-angular to sub-rounded, dom. lithology quartzite. Calcareous cement throughout interval. Strong reaction to HCl. Moist at time of recovery. At 6.2 ft., 41% gravel, 50% sand, 5% silt, 4% clay
GP:	Sandy Gravel, trace silt & clay. Light yellowish brown (10YR 6/4). Gravel, poorly graded, sub-angular to sub-rounded, dom. lithology, quartzite, cobble (3 inch) to v.c.g. (2.5 inch) gravel fragments throughout interval. Sand well graded, angular to sub-rounded, dom. lithology quartz & quartzite with mica in f.g. fraction. Calcareous cement throughout interval. Strong reaction to HCl. Moist at time of recovery. At 7.3 ft., 74% gravel, 20% sand, 3% silt, 3% clay

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT):	5956.30	PROJECT NUMBER:	WARP	LOG OF BORING NUMBER
NORTH	749538	AREA: OU 2	CASING DIAMETER (IN):	6.0/2.0	GEOLOGIST:	D.E.C/E.E.M	46792
EAST:	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN):	10.0/6.0	DATE DRILLED:	06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'

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

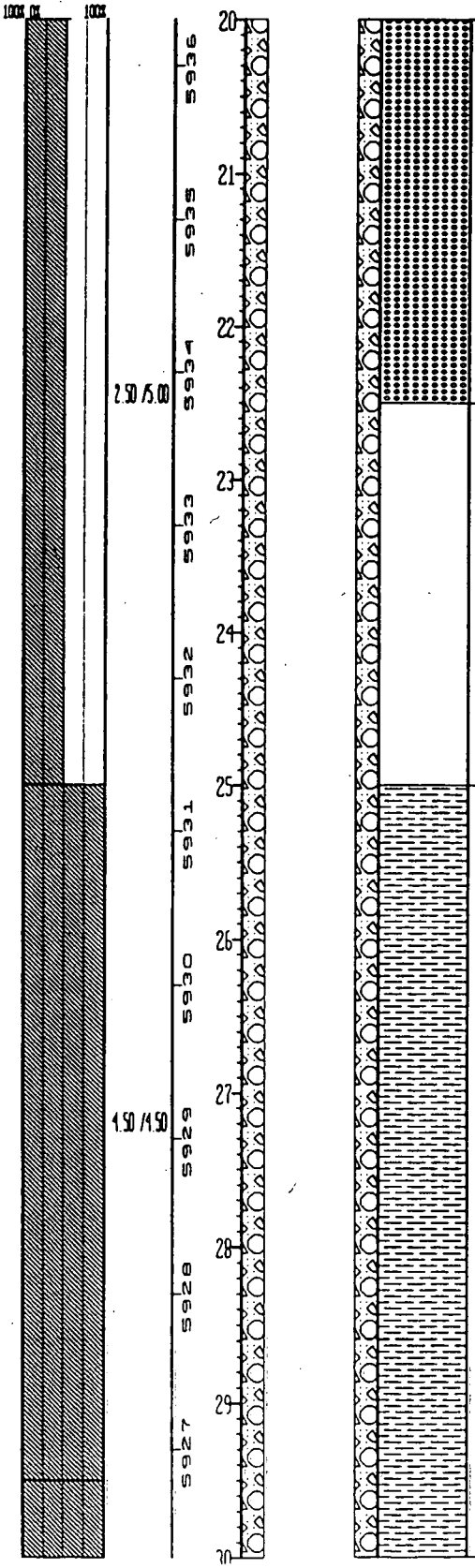


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SM	Gravelly Sand, trace silt & clay. Reddish brown (5YR 5/6) Sand, well graded, angular to sub-angular, dom. lithology, quartzite with micaceous quartzite, granite, pink feldspar & mica. Gravel throughout interval, well graded, same lithology as sand, sub-angular to sub-rounded fragments to 2.8 inches in size. Calcareous cement throughout interval. Strong reaction to HCl. Moist at time of recovery. At 10.7 ft.; 31% gravel, 61% sand, 5% silt, 3% clay.
GM	Sandy Gravel, some silt, trace clay. Mottled, light gray (10YR 7/2) to strong brown (7.5YR 5/8). Gravel, well graded, sub-rounded, fragments to one inch in size, dom. lithology, quartzite, with lesser granite. Sand, well graded, sub-round with angular fragments, dom. lithology, quartz & quartzite with pink feldspar & mica. Non-calcareous. Water encountered at 15.95 ft. below grade. At 14.8 ft.; 44% gravel, 40% sand, 12% silt, 4% clay.
NO SAMPLE:	No recovery, drilled with center bit.
SW	Gravelly Sand, trace silt & clay. Yellowish red (5YR 5/8) Sand, well graded, sub-angular to sub-rounded, dom. lithology, quartz & quartzite with mica. Gravel, well graded, sub-angular, dom. lithology, quartzite with granite, max. size 2.5 inches. Slightly calcareous, weak reaction to HCl. Wet at time of recovery. At 17.2 ft.; 45% gravel, 48% sand, >6% silt, <1% clay
NO SAMPLE:	No Recovery.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT): 5956.30	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH	749538	AREA: OU 2	CASING DIAMETER (IN): 6.0/2.0	GEOLOGIST: D.E.C/E.E.M	46792
EAST	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN): 10.0/6.0	DATE DRILLED: 06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'

CHEMICAL SAMP GEOTECHNICAL 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
SW	Gravelly Sand, trace silt & clay. Yellowish red (5YR 5/8). Sand, well graded, angular to sub-rounded, dom. lithology, quartz & quartzite with granite, mica in f.g. sand. Gravel, well graded, rounded to angular fragments to 2 inches in size, dom. lithology, quartzite & micaceous quartzite with granite. Slightly calcareous, weak reaction to HCl. Wet at time of recovery. At 21.5 ft.; 44% gravel, 49% sand, 4% silt, 3% clay.
NO SAMPLE	No recovery. Bedrock encountered at 24.5 ft., per drill rig geologists observations.
CLAYSTONE	Claystone, some silt, trace f.g. sand. Mottled, yellowish gray (5Y 7/2) to dark yellowish orange (10YR 6/6). Fe/Mn staining on silty seam at 26.8 ft. Yellowish orange Fe staining decreases towards the bottom of the interval. Minor Mn staining on fracture surfaces. Fine grained sand fraction is well rounded quartzite. Claystone is well sorted, non-porous, mod. well indurated & non-friable. No bedding structures observed. Closed sub-horizontal fractures at 20 to 30 degrees occur randomly throughout interval. Sample was moist at time of recovery. Non-calcareous. At 26.9 ft., 5% f.g. sand, 14% silt, 81% clay.

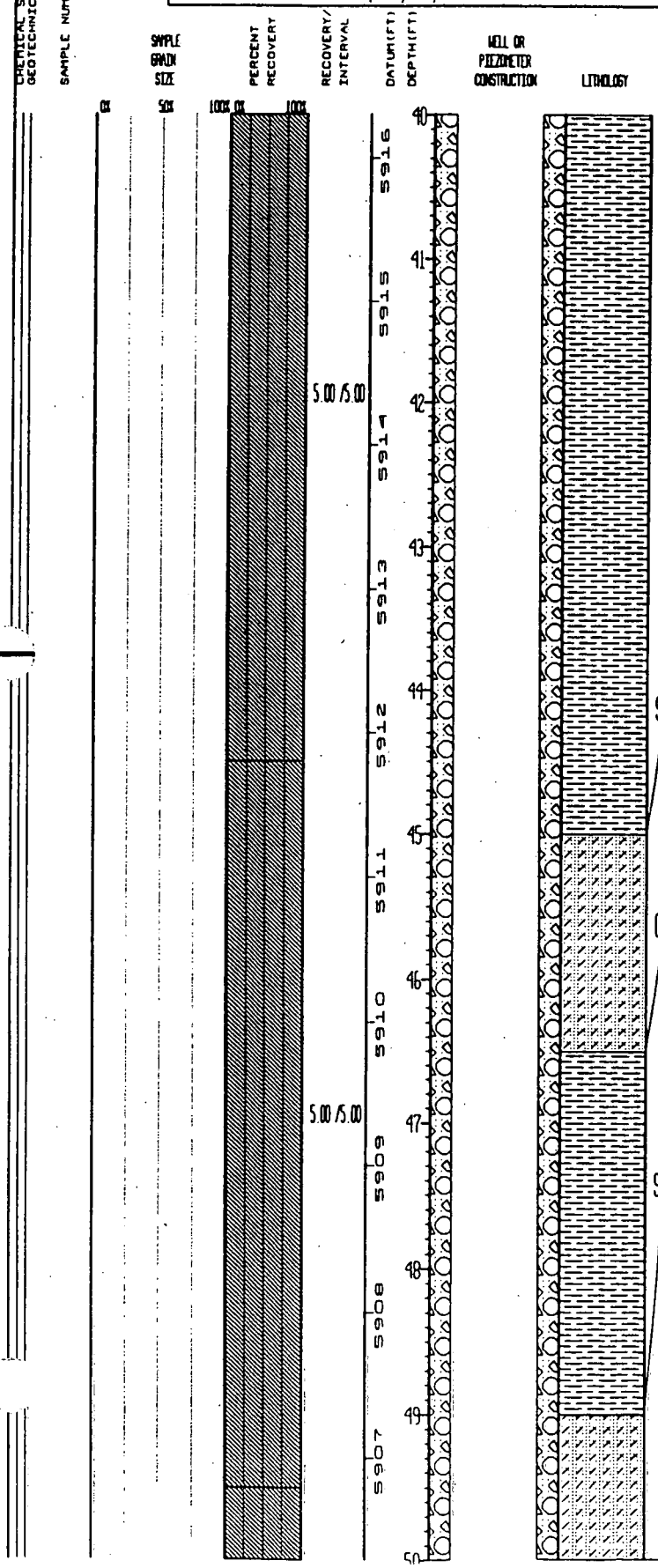
STATE PLANE COORDINATE		TOTAL DEPTH (FT) 118.8	GROUND ELEVATION (FT)	5956.30	PROJECT NUMBER	WAPP	LOG OF BORING NUMBER
NORTH	749538	AREA OU 2	CASING DIAMETER (IN)	6.0/2.0	GEOLOGIST	D.E.C/E.E.M	46792
EAST	2087080	LOCATOR NUMBER J13	BOREHOLE DIAMETER (IN)	10.0/6.0	DATE DRILLED	06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.

CHEMICAL SAMP 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%	5.00/5.00	5926	30			SILTY SANDSTONE	Silty Sandstone, some clay. Mottled, light gray (N7) to grayish orange (10YR 7/4). Minor Mn staining on vertical fracture surfaces. Sand is sub-rounded to rounded, frosted quartz. Sandstone is well sorted with an estimated porosity of 10%, mod. to slightly friable with no apparent bedding structures. A few vertical fractures healed with clay were observed. Moist at time of recovery. Non-calcareous. At 30.5 ft.: 45% sand, 44% silt, 11% clay.
					5925	31				
					5924	32			CLAYEY SILTSTONE	Clayey Siltstone, trace fine sand. Mottled, yellowish gray (5Y 7/2) to dark yellowish orange (10YR 6/6). Minor Mn staining on fractured surfaces. Siltstone is well sorted, non-porous, well indurated & slighty friable. No apparent bedding structures or natural fractures present. Moist at time of recovery. Non-calcareous. At 32.0 ft.: 3% f.g. sand, 73% silt, 24% clay.
					5923	33			SILTY SANDSTONE	Silty Sandstone, trace clay. Mottled, yellowish gray (5Y 7/2) to dark yellowish orange (10YR 6/6). Sand is sub-rounded to rounded frosted quartz. Sandstone is well sorted with an estimated porosity of 15%, highly friable with no apparent bedding structures or fractures. Moist at time of recovery. Non-calcareous. At 33.2 ft.: 70% f.g. sand, 28% silt, 2% clay.
					5922	34			CLAYSTONE	Claystone, some silt. Mottled, light gray (N7) to dark yellowish orange (10YR 6/6). Mn staining on fractured surfaces. Claystone is well sorted, well indurated & non-friable. No apparent bedding. Some randomly oriented fractures present. Moist at time of recovery. Non-calcareous. At 34.3 ft.: 18% silt, 82% clay.
					5921	35			SANDY SILTSTONE	Sandy Siltstone, some clay. Mottled, light gray (N7) to dark yellowish orange (10YR 6/6). Minor Mn staining present on fractured surfaces. Siltstone is well sorted, non-porous, & mod. friable. No apparent bedding. Some randomly oriented healed fractures. Slightly moist at time of recovery. Non-calcareous. At 34.8 ft.: 36% f.g. sand, 51% silt, 13% clay.
				5.00/5.00	5920	36				
					5919	37			CLAYSTONE	Claystone, some silt. Mottled, light gray (N7) to dark yellowish orange (10YR 6/6), pred. light olive gray (5Y 5/2). Some black (N1) Mn staining present on fractured surfaces. Few small mm size Fe concretions throughout interval. Pebble size Fe concretions at 35.4 ft. & 35.9 ft. Few thin mm thick sandy to silty seams between 42.5 ft. to 44.0 ft. Claystone is well sorted, well indurated & non-porous. No apparent bedding structures or fractures observed. Sample was slightly moist at time of recovery. Non-calcareous. At 37.2 ft.: 20% silt, 80% clay. At 40.0 ft.: 15% silt, 85% clay.
					5918	38				
					5917	39				
						40				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT): 5956.30	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH:	749538	AREA: OU 2	CASING DIAMETER (IN): 6.0/2.0	GEOLOGIST: D.E.C/E.E.M	46792
EAST:	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN): 10.0/6.0	DATE DRILLED: 06/01/92	

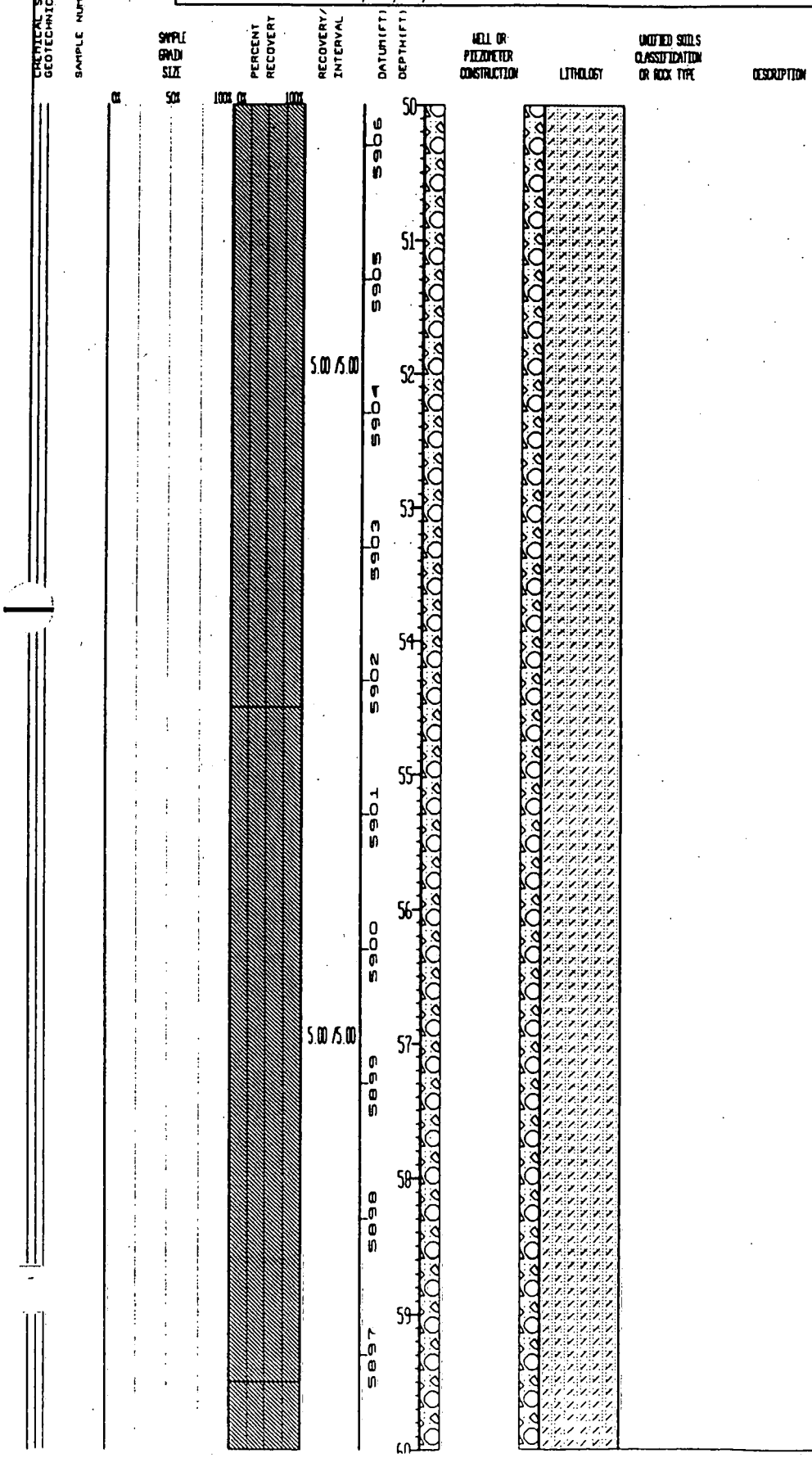
REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
SANDY SILTSTONE	Sandy Siltstone, some clay. Dusky yellow (5Y 6/4) to dark yellowish orange (10YR 6/6). Siltstone is well sorted, mod. friable & non-porous. Pred. sub-angular to sub-rounded frosted quartz. Some mm thick silty to sandy seams occur throughout interval. No apparent bedding or fractures present. Moist at time of recovery. Non-calcareous. At 45.9 ft ; 15% f.g. sand, 70% silt, 15% clay.
CLAYSTONE	Claystone, some silt. Dark gray (N3) with medium light gray (N6) mm thick sandy to silty seams. Some black (N1) Mn staining on fractured surfaces & dark yellowish orange Fe staining present. Claystone is well sorted, well indurated & non-porous. No apparent bedding structures or fractures observed. Trace black carbonaceous material observed. Moist at time of recovery. Non-calcareous. At 48.5 ft.; 10% silt, 90% clay.
SANDY SILTSTONE	Sandy Siltstone, some clay. Dark gray (N3) with medium light gray (N6) mm to cm thick sandy to silty layers. Layers are less than one cm thick until a depth of 53.5 ft. where they range up to one cm or more thick to the end of the interval. Siltstone is laminated, well sorted, mod. indurated, pred. sub-angular to sub-rounded frosted quartz. Sandy to silty layers are highly friable. Primary cementing medium is clay. Trace black (N1) carbonaceous material (angular lignite fragments) throughout interval. Few evaporite, possibly gypsum crystals observed. No apparent fractures. Moist at time of recovery. Non-calcareous. At 53.1 ft.; 31% f.g. sand, 52% silt, 17% clay At 57.5 ft ; 34% f.g. sand, 59% silt, 7% clay

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 118.8	GROUND ELEVATION (FT) 5956.30	PROJECT NUMBER WARP	LOG OF BORING NUMBER
NORTH	749538	AREA OU 2	CASING DIAMETER (IN) 6.0/2.0	GEOLOGIST D.E.C/E.E.M	46792
EAST	2087080	LOCATOR NUMBER J13	BOREHOLE DIAMETER (IN) 10.0/6.0	DATE DRILLED 06/01/92	

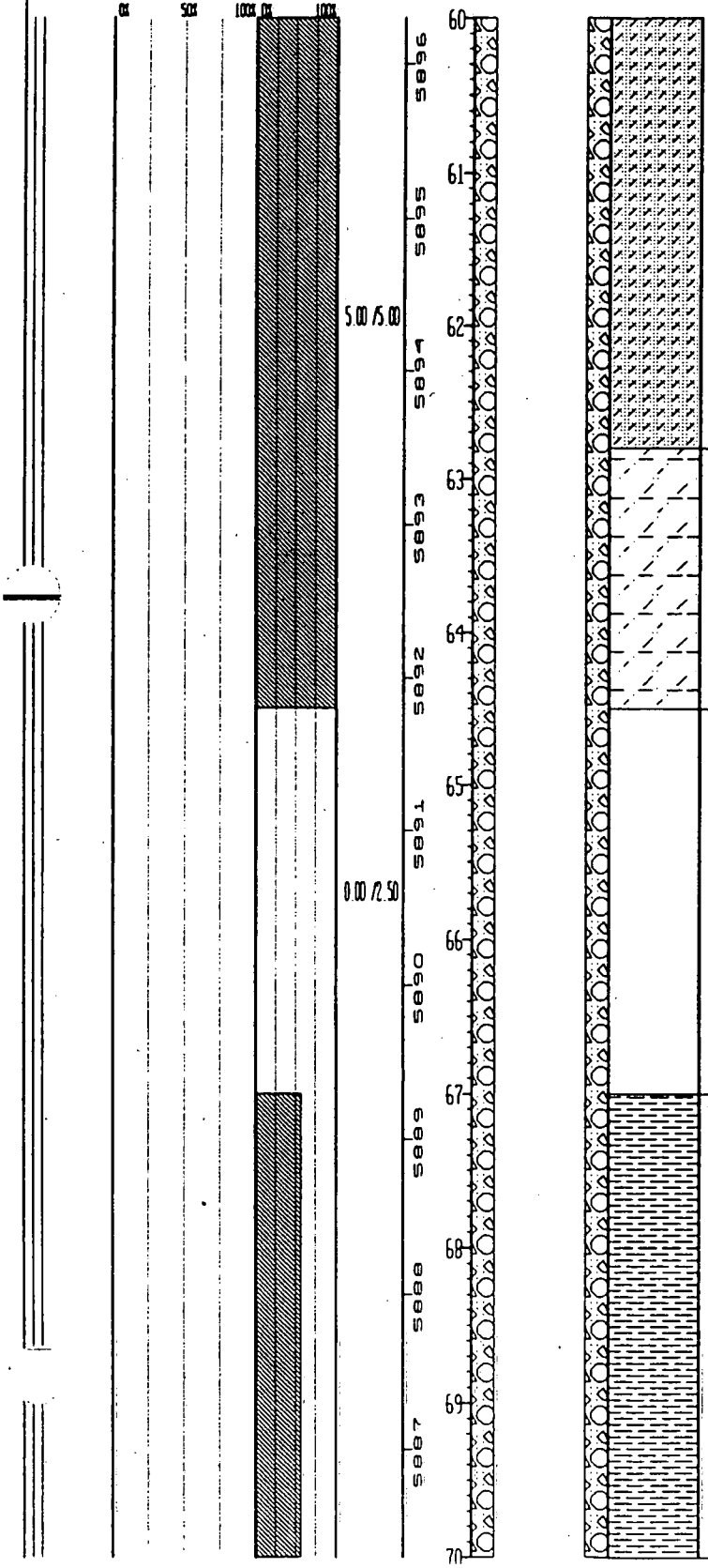
REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.



STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT)	5956.30	PROJECT NUMBER	WARP	LOG OF BORING NUMBER
NORTH	749538	AREA: OU 2	CASING DIAMETER (IN):	6.0/2.0	GEOLOGIST	D.E.C/E.E.M	46792
EAST	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN):	10.0/6.0	DATE DRILLED	06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.

CHEMICAL SAMPLE / 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



CLAYEY SILTSTONE: Clayey Siltstone. Olive gray (5Y 4/1) to light olive gray (5Y 6/1). Siltstone is dense & indurated, well sorted & non-porous, pred. sub-angular to sub-rounded frosted quartz, mod. friable. Primary cementing agent clay. White (N9) clay veins & black (N1) carbonaceous material present. No apparent bedding or fractures present. Dry on recovery. Non-calcareous.
At 64.0 ft.; 75% silt, 25% clay.

NO SAMPLE: Interval not sampled.
Begin rotary core drilling at 67.0 ft.

CLAYSTONE: Claystone, trace silt. Olive gray (5Y 4/1) to olive black (5Y 2/1). Claystone is very well sorted, dense & indurated, non-porous & non-friable. No apparent bedding observed. Thin 0.5 cm thick silty sand layer at 70.8 ft. Interval is fractured at 68 ft. & from 69.5 ft. to 70.7 ft. at angles approaching 30 & 60 degrees from the vertical. Fractures are slickensided & coated with white calcareous material (aragonite) which reacts strongly with HCl.
At 67.5 ft.; 5% silt, 95% clay.

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT): 5956.30	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH:	749538	AREA: OU 2	CASING DIAMETER (IN): 6.0/2.0	GEOLOGIST: D E C/E.E.M	46792
EAST:	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN): 10.0/6.0	DATE DRILLED: 06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.

CHEMICAL SAMP. GEOTECHNICAL S.	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
				3.90 /6.80	5886	70				
					5885	71			NO SAMPLE:	No recovery.
					5884	72				
					5883	73				
					5882	74			SANDY SILTSTONE:	Sandy Siltstone, trace clay. Olive gray (5Y 4/1) silty layers with light olive gray (5Y 6/1) sandy layers. Siltstone is laminated, mod. sorted, pred. angular to sub-angular frosted quartz with calcareous cement, no observable porosity & slightly friable. Black (N1) carbonaceous material (lignite) occurs as f.g. lithic fragments and very thin layers, usually 1 mm or less thick. Bedding is horizontal to sub-horizontal at angles of 10 to 20 degrees with alternating silty and sandy layers not more than one cm thick. No fractures present. Fairly moist at time of recovery. Very strong reaction to HCl. At 76.8 ft.; 30% f.g. sand, 65% silt, 5% clay.
					5881	75				
				5.00 /5.00	5880	76				
					5879	77				
					5878	78			SILTY CLAYSTONE:	Silty Claystone, trace clay. Pred. olive gray (5Y 4/1) with olive gray (5Y 5/2) silty layers. Claystone is laminated, well to mod. sorted, dense & indurated, non-porous & non-friable with angular to sub-angular frosted quartz grains. Carbonaceous material (lignite) occurs as lithic fragments and in thin layers usually less than 1 mm thick. Bedding is horizontal to sub-horizontal at angles up to 15 degrees and shows signs of post depositional deformation. No fractures present. Dry on recovery. Non-calcareous. At 80.3 ft.; 2% f.g. sand, 29% silt, 69% clay.
					5877	79				
						80				

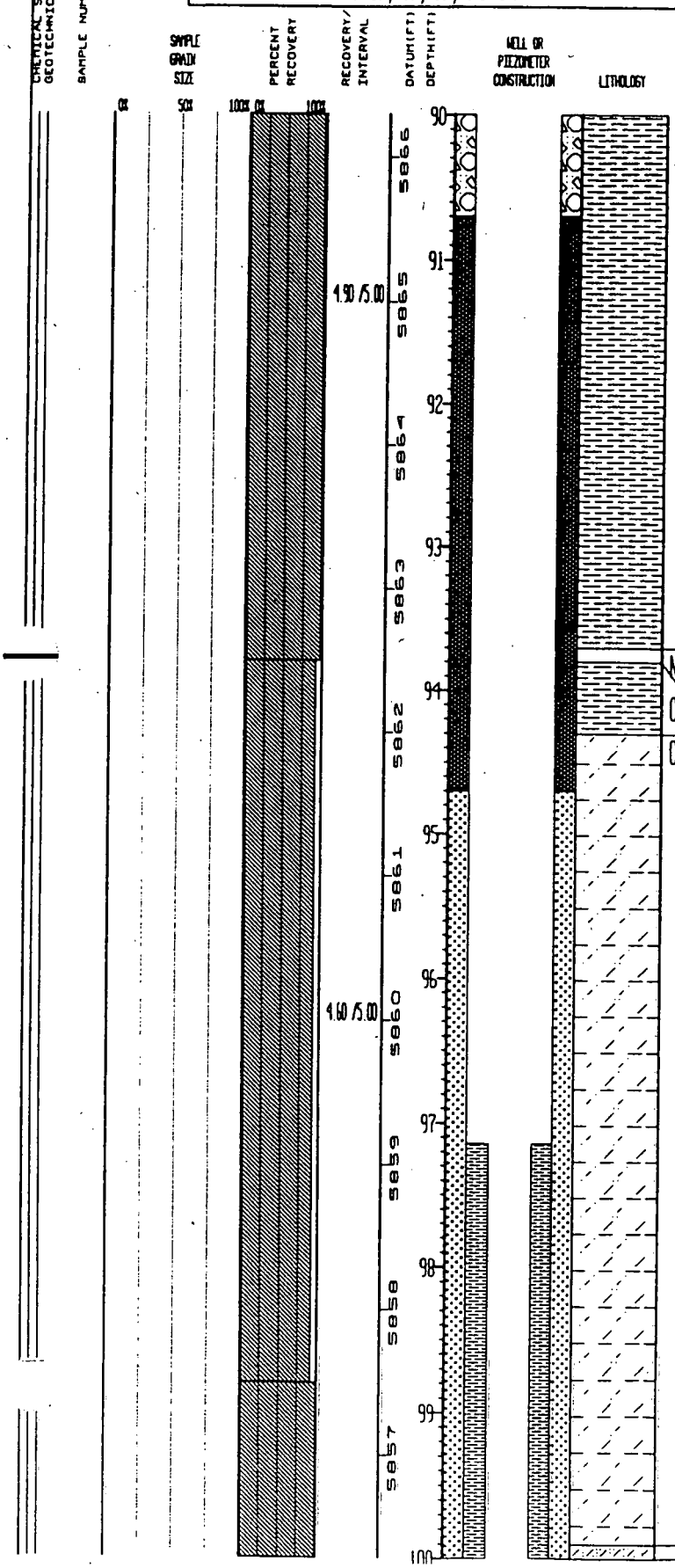
STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT): 5956.30	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH:	749538	AREA: OU 2	CASING DIAMETER (IN): 6.0/2.0	GEOLOGIST: D.E.C/E.E.M	46792
EAST:	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN): 10.0/6.0	DATE DRILLED: 06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.

CHEMICAL SAMP. GEOTECHNICAL	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERED	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				4.90/5.00	5976	80			SILTY SANDSTONE:	Silty Sandstone, trace clay. Olive gray (5Y 4/1) to light olive gray (5Y 6/1). Sandstone is laminated, mod. well sorted, pred. angular to sub-angular frosted quartz with calcareous cement, an estimated porosity of 10% & mod. friable. Black carbonaceous material (lignite) present as lithic fragments & thin layers less than 1 mm thick. Bedding is more or less horizontal with alternating sandy, silty & carbonaceous layers less than 1 cm thick. No fractures present. Weak reaction to HCl. At 82.3 ft.: 65% f.g. sand, 33% silt, 2% clay.
					5975	81				
					5974	82				
					5973	83			SANDY SILTSTONE:	Sandy Siltstone, some clay. Olive gray (5Y 4/1) silty layers with light olive gray (5Y 6/1) sandy layers. Siltstone is laminated, well to mod. sorted, with angular to sub-angular frosted quartz., non-porous & mod. friable. Black carbonaceous material (lignite) occurs as thin layers less than 1 mm thick & large 1 cm wide fragments at 82.9 ft. Small 8 mm dia. Fe concretion at 82.6 ft. Bedding is horizontal to sub-horizontal at 10 to 20 degrees with alternating sandy & silty layers less than 1 cm thick & shows signs of post depositional deformation. No fractures present. Non-calcareous. At 83.6 ft.: 42% f.g. sand, 52% silt, 6% clay.
					5972	84				
					5971	85			NO SAMPLE:	No recovery.
									SANDY SILTSTONE:	Sandy siltstone, some clay, as 82.4' to 83.7' interval.
				3.50/5.00	5970	86			CLAYSTONE	Claystone, some silt. Olive gray (5Y 4/1) to light olive gray (5Y 5/2). Claystone is finely laminated becoming more massive towards base of interval, very well sorted, dense and indurated, non-porous & non-friable. Carbonaceous material (lignite) occurs as lithic fragments pred. less than 1 mm in size throughout interval. Small Fe concretions less than 1 cm in size occur at 87.2 ft. & from 83.8 ft. to 84.8 ft. Bedding is horizontal to sub-horizontal at angles up to 10 degrees. Closed slickensided fractures occur from 86 ft. to 87 ft. at angles of 60 to 30 degrees, & from 91.2 ft. to 92.0 ft. at angles of 60 to 70 degrees. Dry on recovery. Non-calcareous. At 91.2 ft.: 16% silt, 84% clay.
					5969	87				
					5968	88			NO SAMPLE:	No recovery.
					5967	89			CLAYSTONE:	Claystone, trace sand. Same as 85.1' to 87.3' interval. At 91.2': Silt= 16% Clay= 84%
						90				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT): 5956.30	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH:	749538	AREA: OU 2	CASING DIAMETER (IN): 6.0/2.0	GEOLOGIST: D.E.C/E.E.M	46792
EAST:	2087080	LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN): 10.0/6.0	DATE DRILLED: 06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	No recovery.
CLAYSTONE	Claystone, some silt, Same as 85.1' to 87.3' interval.
CLAYEY SILTSTONE	Clayey Siltstone, trace sand. Olive gray (5Y 3/3) to light olive gray (5Y 5/2). Siltstone is laminated, mod. sorted pred. angular to sub-angular frosted quartz, dense & indurated, non-porous & non-friable. Carbonaceous material (lignite) occurs as lithic fragments pred. less than 1 mm in size. Bedding is difficult to destinguish, appears to be horizontal to sub-horizontal at angles up to 20 degrees. & shows signs of post depositional deformation. Slickensided fractures occur at 96.5 ft. (45 degrees). Dry on recovery. Non-calcareous. At 96.4 ft.; less than 1% f.g. sand, 59% silt, 40% clay

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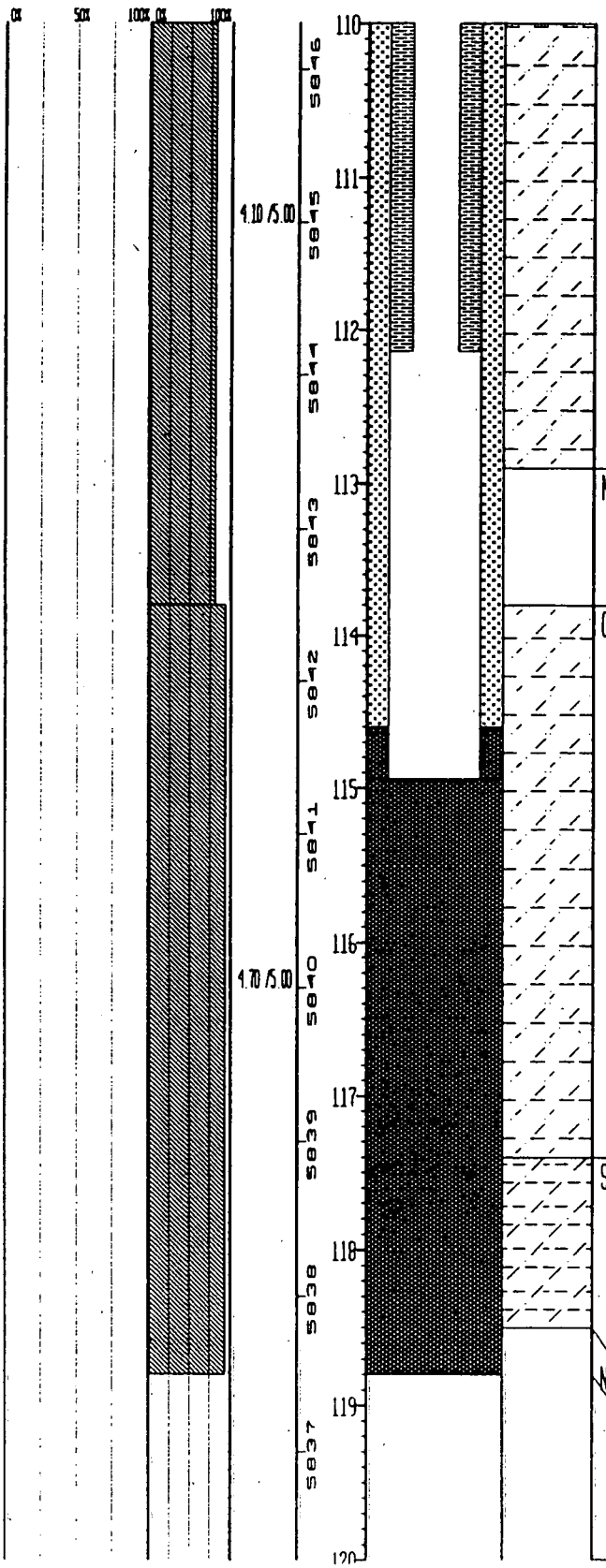
EAST	2087080	LOCATOR NUMBER J13	BOREHOLE DIAMETER (IN) 10.0/6.0	DATE DRILLED 06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube (0.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.

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%	5.00/5.00	5956	100			SANDY SILTSTONE	Sandy Siltstone, some clay. Light olive gray (5Y 5/2). Siltstone is mod. sorted angular to sub-angular, frosted quartz with argillaceous cement, an estimated porosity of 10% & mod. friable. Carbonaceous material (lignite) occurs as lithic fragments less than 1 mm in size throughout interval. Bedding is difficult to destinguish, but appears to be horizonal. No fractures present. Non-calcareous. At 100.3 ft.: 32% f.g. sand, 61% silt, 7% clay.
					5955	101			SILTSTONE	Siltstone, some clay. Olive gray (5Y 4/1) to light olive gray (5Y 5/2). Siltstone is finely laminated, well sorted, angular to sub-angular quartz, non-porous & non-friable. Carbonaceous material (lignite) occurs as small fragments throughout interval. Bedding is difficult to distinguish, appears to be massive towards top & bottom of interval with horizontal laminations towards center of interval. Fractured/crushed zones with no preferred orientation occur at 102.5 ft. to 102.9 ft. & 103.2 ft to 103.7 ft. Non-calcareous. At 102.5 ft.: 82% silt, 18% clay.
					5954	102				
					5953	103				
					5952	104			SANDY SILTSTONE	Sandy Siltstone, some clay. Olive gray (5Y 3/2) to light olive gray (5Y 5/2). Siltstone is laminated, mod. sorted with angular to sub-rounded frosted quartz, non-porous & mod. friable. Carbonaceous material (lignite) occurs as lithic fragments. Bedding is more or less horizontal. No fractures present. Non-calcareous. At 105.0 ft.: 20% sand, 72% silt, 8% clay.
					5951	105			CLAYEY SILTSTONE	Clayey Siltstone. Olive gray (5Y 3/2) to light olive gray (5Y 6/1). Siltstone is massive to laminated, dense & indurated, mod. sorted, non-porous & non-friable. Carbonaceous material (lignite) occurs as lithic fragments throughout interval. Bedding is difficult to distinguish, however some horizontal laminations apparent at 105.3 ft., 108.8 ft. & 109.6 ft. Slickensided fractures occur at 105.7 ft. to 106.7 ft. (30 to 60 degrees), 107.6 ft. to 107.9 ft. (60 degrees), 112.5 ft. to 112.9 ft. (70 degrees), & 115.0 ft. to 115.8 ft. (60 to 90 degrees). Fe stained horizontal fracture at 106.0 ft. Slightly dry on recovery. Non-calcareous. At 109.4 ft.: 60% Silt 40% Clay
				4.10/5.00	5950	106				
					5949	107				
					5948	108			NO SAMPLE	No recovery.
					5947	109			CLAYEY SILTSTONE	Clayey Siltstone, Same as 105.2' to 107.9' interval. At 109.4': Silt= 60% Clay= 40%
						110				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 118.8	GROUND ELEVATION (FT): 5956.30	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH: 749538		AREA: OU 2	CASING DIAMETER (IN): 6.0/2.0	GEOLOGIST: D.E.C/E.E.M.	46792
EAST: 2087080		LOCATOR NUMBER: J13	BOREHOLE DIAMETER (IN): 10.0/6.0	DATE DRILLED: 06/01/92	

REMARKS: Drilling Method: CME 75; HSA continuous sample tube 10.0 ft to 64.5 ft) & continuous rotary core (67.0 ft to 118.8 ft). Additional centralizers at 15', 35', 55', and 75'.



NO SAMPLE: No recovery.

CLAYEY SILTSTONE: Clayey Siltstone, Same as 105.2' to 107.9' interval. At 113.8': Silt= 58% Clay= 42%

SILTY CLAYSTONE: Silty Claystone. Olive black (5Y 2/1). Claystone is dense & indurated, well to mod. sorted, non-porous & non-friable. Carbonaceous material (lignite) occurs as lithic fragments throughout interval. No apparent bedding or fractures observed. Slightly dry on recovery. Non-calcareous. At 117.5 ft.: 44% silt, 56% clay.

NO SAMPLE: No recovery.

Total Drilled Depth: 118.8'

Note:

Total Depth of casing: 114.94'

Bottom of Filter Pack: 114.60'

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 165.2	GROUND ELEVATION (FT)	5956.70	PROJECT NUMBER	WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN)	6/2	GEOLOGIST	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN)	10/6	DATE DRILLED	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

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
					5956	0			NO SAMPLE	Interval not sampled Begin rotary core drilling at 67.80 ft.
					5955	1				
					5954	2				
					5953	3				
					5952	4				
					5951	5				
					5950	6				
					5949	7				
					5948	8				
					5947	9				
						10				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT):	5956.70	PROJECT NUMBER	WAP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

CHEMICAL SAMPLE / GEOTECHNICAL 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
		0% 50% 100%	0% 100%		5946 5945 5944 5943 5942 5941 5940 5939 5938 5937	10 11 12 13 14 15 16 17 18 19 20	09/14/92			

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 165.2		GROUND ELEVATION (FT):	5956.70	PROJECT NUMBER:	WARP
NORTH:	749524	AREA: OU 2		CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW
EAST:	2087086	LOCATOR NUMBER:	J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/16/92

LOG OF BORING NUMBER

46892

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG; 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

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
					5936	20				
					5935	21				
					5934	22				
					5933	23				
					5932	24				
					5931	25				
					5930	26				
					5929	27				
					5928	28				
					5927	29				
						30				

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT):	5956.70	PROJECT NUMBER:	WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'

CHEMICAL SAMPLE	GEOTECHNICAL SAMPLE	DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/ INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
				0% 50% 100%	0% 100%		5926	30				
							5925	31				
							5924	32				
							5923	33				
							5922	34				
							5921	35				
							5920	36				
							5919	37				
							5918	38				
							5917	39				

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT): 5956.70	PROJECT NUMBER: WAAP	LOG OF BORING NUMBER:
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

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
						5916	40				
						5915	41				
						5914	42				
						5913	43				
						5912	44				
						5911	45				
						5910	46				
						5909	47				
						5908	48				
						5907	49				
							50				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 165.2	GROUND ELEVATION (FT) 5956.70	PROJECT NUMBER WARP	LOG OF BORING NUMBER
NORTH 749524		AREA OU 2	CASING DIAMETER (IN) 6/2	GEOLOGIST DC/JAW	46892
EAST 2087086		LOCATOR NUMBER J14	BOREHOLE DIAMETER (IN) 10/6	DATE DRILLED 06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
			0% 50% 100%	0% 100%		5906 5905 5904 5903 5902 5901 5900 5899 5898 5897	50 51 52 53 54 55 56 57 58 59 60				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 165.2	GROUND ELEVATION (FT)	5956.70	PROJECT NUMBER	WARP	LOG OF BORING NUMBER
NORTH	749524	AREA OU 2	CASING DIAMETER (IN)	6/2	GEOLOGIST	DC/JAW	46892
EAST	2087086	LOCATOR NUMBER J14	BOREHOLE DIAMETER (IN)	10/6	DATE DRILLED	06/16/92	

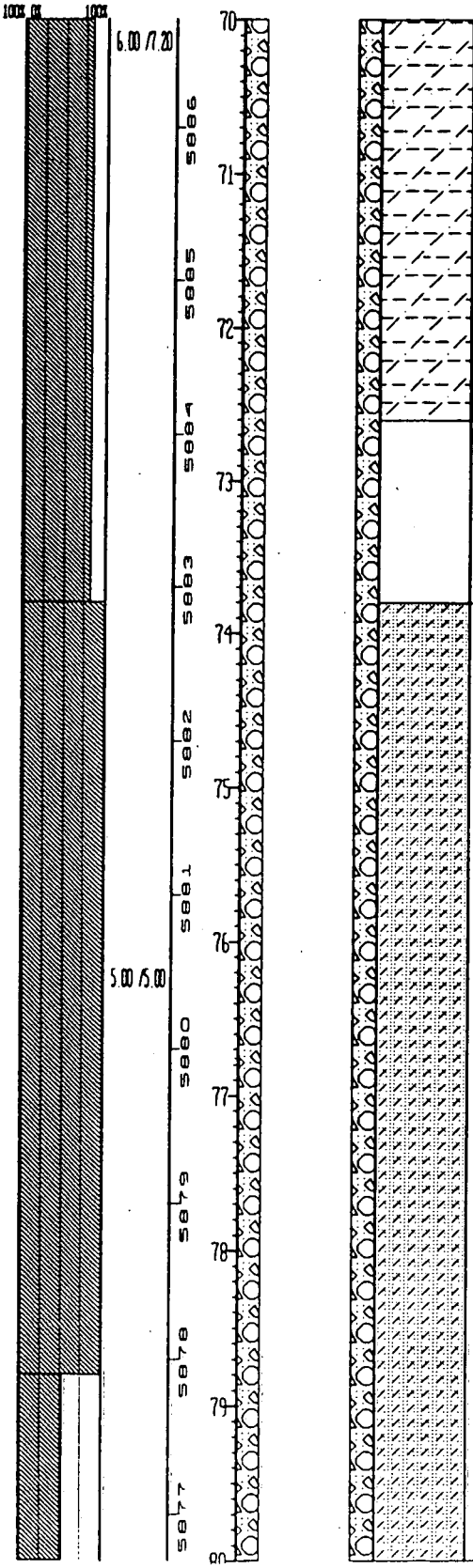
REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE DEPTH	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50% 100%	0% 100%		5896 5895 5894 5893 5892 5891 5890 5889 5888 5887	60 61 62 63 64 65 66 67 68 69 70			CLAYEY SILTSTONE	Clayey Siltstone. Light olive gray(5Y 6/1) grading to olive gray(5Y 4/1). Core slightly moist, mod. friable, mod. indurated spotty thin wispy irregular masses of carbonaceous material. No visible, apparent bedding. Silt= 65% Clay= 35%
									SILTY CLAYSTONE	Silty Claystone. Light olive gray(5Y 6/1) grading to olive gray(5Y 4/1). Core is dry, mod. friable, mod. indurated, brittle fracture, moderately carbonaceous with v.f.g. disseminated organic matter as wispy irregular masses and thin fractures filled by carbonaceous material. No apparent bedding visible. Several subvertical fractures 45-75 degrees with prominent slickensides with apparent dip slip motion. Silt= 30% Clay= 70%

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 165.2	GROUND ELEVATION (FT) 5956.70	PROJECT NUMBER WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA OU 2	CASING DIAMETER (IN) 6/2	GEOLOGIST: DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER J14	BOREHOLE DIAMETER (IN) 10/6	DATE DRILLED 06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

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



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	Core Loss; No retrieval
SANDY SILTSTONE	Sandy Siltstone with some clay. Mottled olive gray(5Y 4/1) grading to light olive gray(5Y 6/1). Core is dry, moderately well indurated, moderate to weakly friable. Rock is mod. cemented with argillaceous cement. Interval is finely laminated. Alternating silt, clays, clayey silts and f.g sand interbeds. Sandy horizons and laminae crossbedded and soft sediment deformed. Abundant carbonaceous material (lignite) as disseminated irregular stringers and fracture fillings. Sand fraction is f.g. well sorted, sub-angular to sub-rounded, translucent white to clear quartz grains. Sand= 22% Silt= 57% Clay= 21%

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT): 5956.70	PROJECT NUMBER: WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'

CHEMICAL SAMPL GEOTECHNICAL S. DEPTH

SAMPLE NUMBER

SAMPLE GRAIN SIZE: 0% 50% 100%

PERCENT RECOVERY: 0% 100%

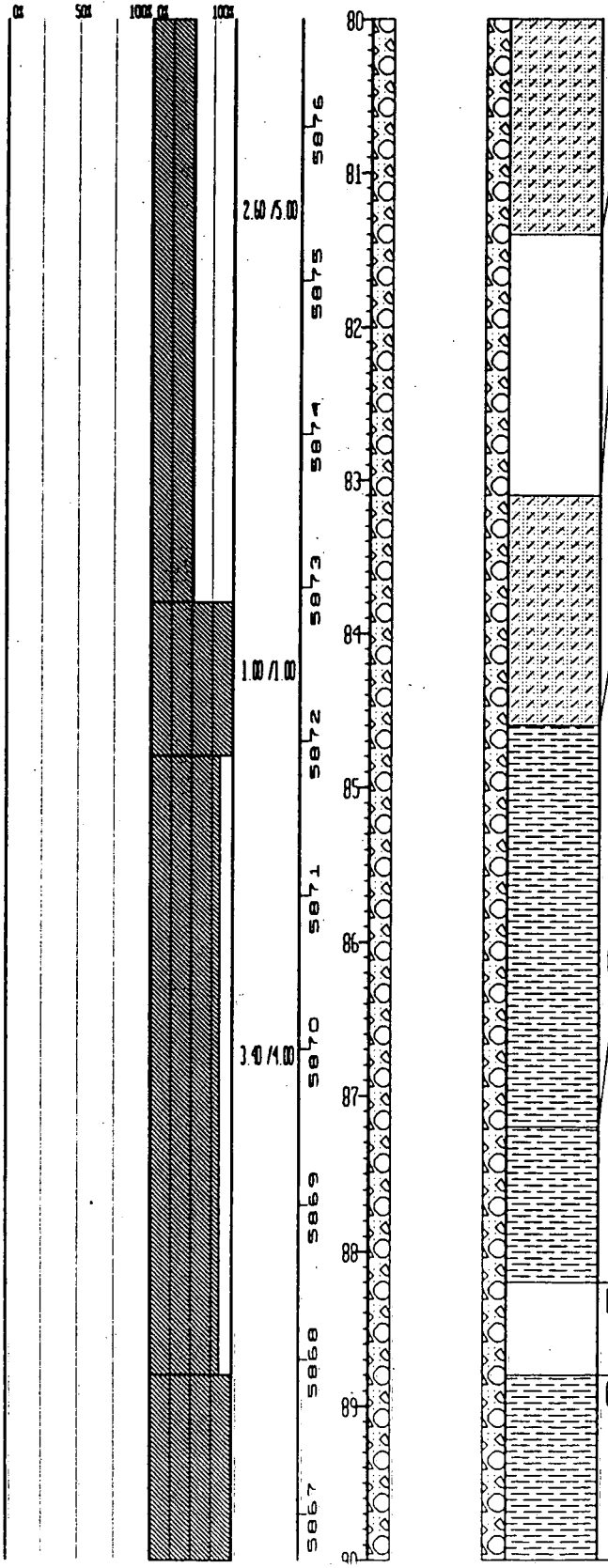
RECOVERY/INTERVAL: 2.60 /5.00; 1.00 /1.00; 3.40 /4.00

DATUM (FT): 5876, 5875, 5874, 5873, 5872, 5871, 5870, 5869, 5868, 5867

DEPTH (FT): 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90

WELL OR PIEZOMETER CONSTRUCTION

LITHOLOGY



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE

DESCRIPTION

NO SAMPLE: Core Loss; No Retrieval

SANDY SILTSTONE: Sandy Siltstone with some clay. Mottled olive gray(5Y 4/1) grading to light olive gray(5Y 6/1). Core is dry, mod. well indurated, moderate to weakly friable. Rock is moderately cemented with argillaceous cement. Interval is finely laminated, alternating silt, clays, clayey silts, and f.g. sandy interbeds. Sandy horizons and laminae crossbedded and soft sediment deformed. Abundent carbonaceous material (lignite) as disseminated irregular blebs and masses <3mm as well as thin stringers and fractures fillings. Sand fraction is f.g. well sorted, sub-angular to sub-rounded translucent white to clear quartz grains.
Sand= 22% Silt= 57% Clay= 21%

CLAYSTONE: Claystone with trace silt. Olive gray(5Y4/1) grading to dark greenish gray(5GY 4/1). Core is dry and brittle, rock is moderately indurated, friable to moderately friable. Interval is thinly laminated with several thin silty pods and lens. Bedding is sub-horizontal (10-20 degrees). Abundent thin irregular stringers of organic material (lignite). Patchy irregular stains and coatings of FeOxide(limonite). Porosity is nil
Silt= 4% Clay= 96%

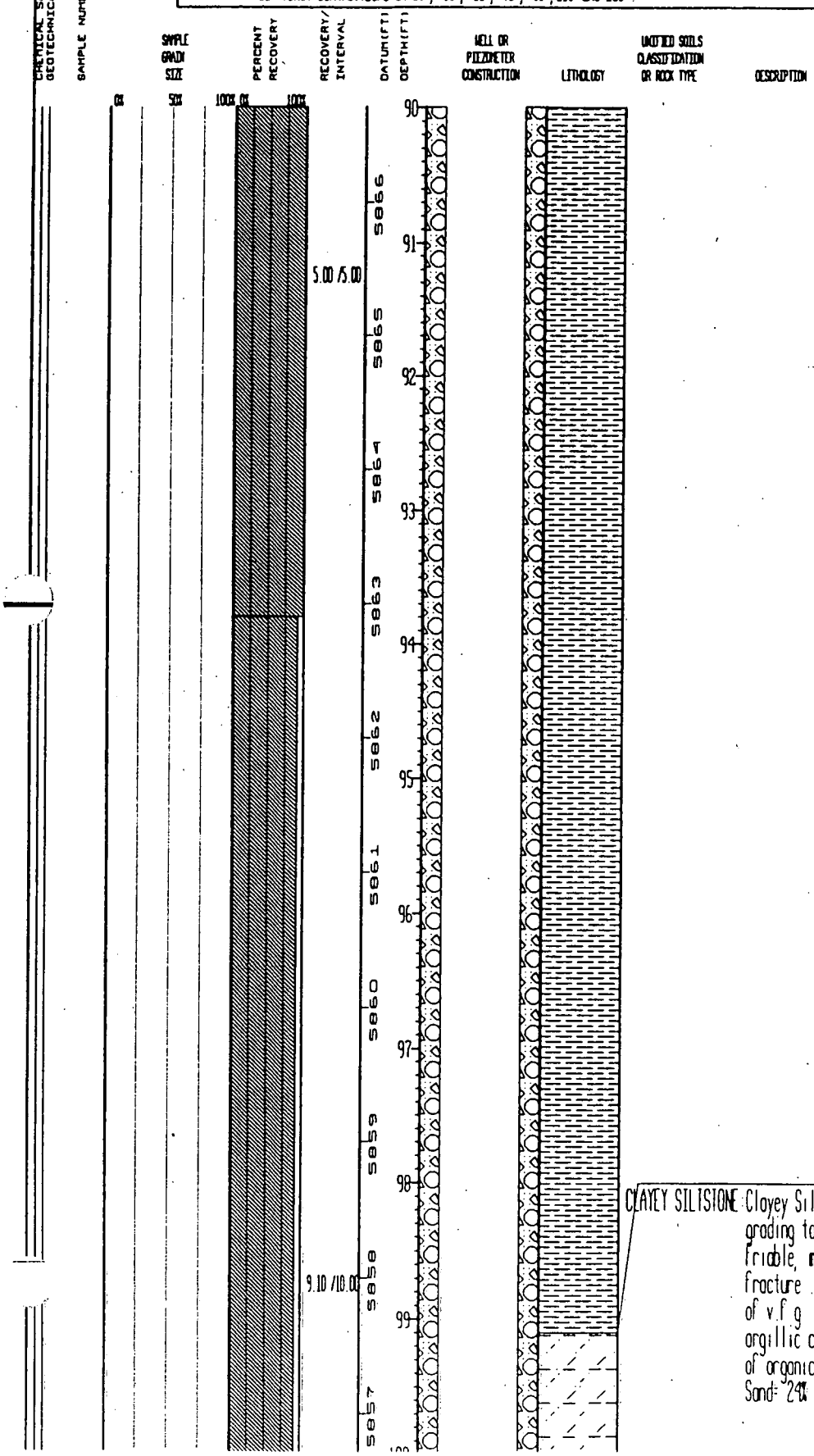
CLAYSTONE: Claystone with some silt. Olive gray(5Y 4/1) grading to dark greenish gray(5GY 4/1). Core is dry and brittle, moderately to weakly friable, moderately to well indurated. Bedding is somewhat obscure and mottled appearing. Bedding where visible is thinly laminated and subhorizontal 10-20 degrees. Consisting of alternating silt laminae with thicker claystone horizons. Abundant thin irregular stringers and masses of carbonaceous material(lignite).
Silt= 10% Clay=90%

NO SAMPLE: Core Loss; No Retrieval

CLAYSTONE: Claystone with some silt. Olive gray(5Y 4/1) grading to dark greenish gray(5GY 4/1). Same as 87.1' to 99.1' interval.
Silt= 10% Clay=90%

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT): 5956.70	PROJECT NUMBER: WAPP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN): 6/2	GEOLOGIST: DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN): 10/6	DATE DRILLED: 06/16/92	

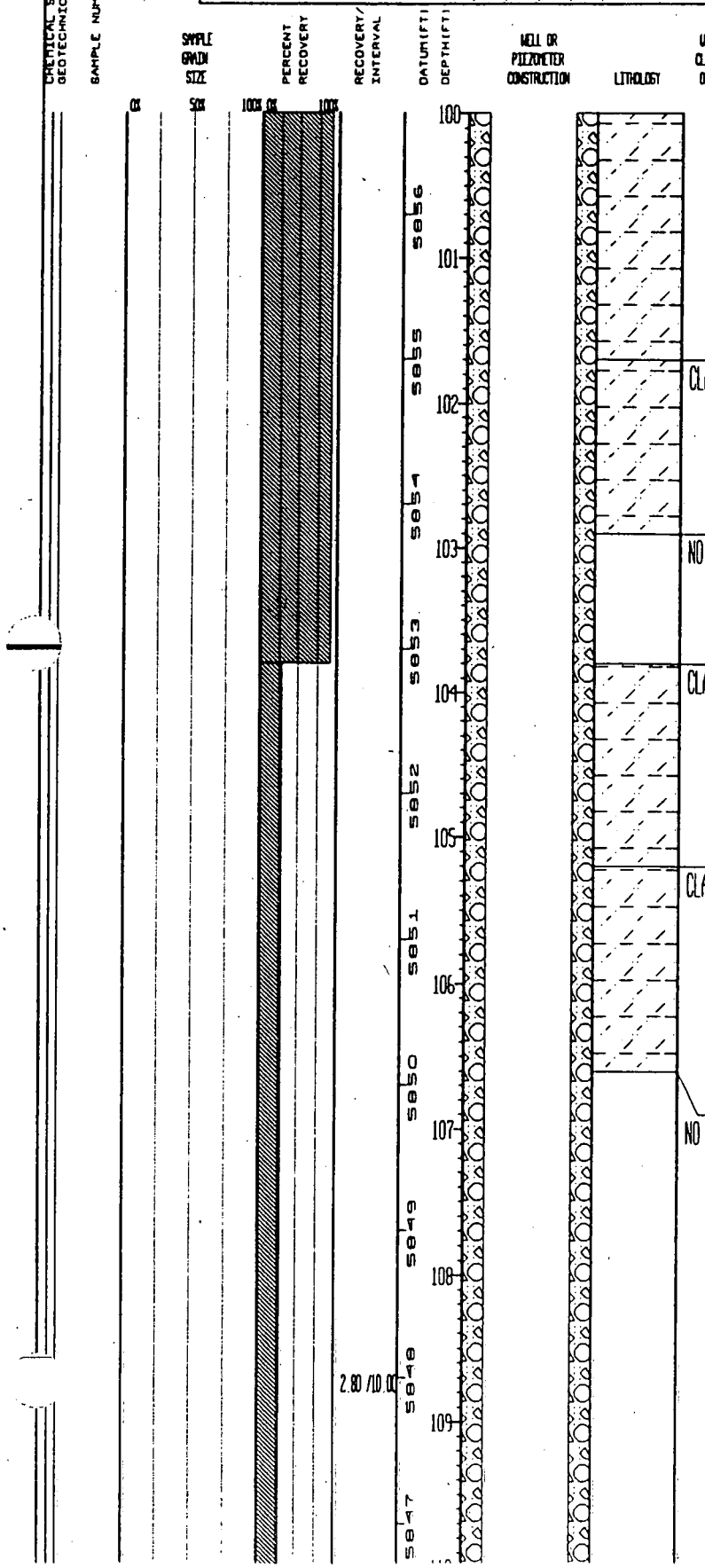
REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.



CLAYEY SILTSTONE: Clayey Siltstone with some sand. Greenish gray(5GY 6/1) grading to olive gray(5Y 4/1). Core is dry, weak to mod friable, moderately well indurated, with brittle fracture. No visible apparent bedding. Sand fraction consist of v.f.g. to f.g. quartz sand, sub-round, moderately argillic cement. Abundant irregular blebs and v.f.g. masses of organic material(lignite). Observable porosity is nil. Sand= 24% Silt= 46% Clay= 30%

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 165.2	GROUND ELEVATION (FT) 5956.70	PROJECT NUMBER WARP	LOG OF BORING NUMBER
NORTH	749524	AREA OU 2	CASING DIAMETER (IN) 6/2	GEOLOGIST DC/JAW	46892
EAST	2087086	LOCATOR NUMBER J14	BOREHOLE DIAMETER (IN) 10/6	DATE DRILLED 06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.



UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
CLAYEY SILTSTONE	Clayey Siltstone with some sand. Greenish gray(5GY 6/1) grading to olive gray(5Y 4/1). Interval is much the same as the above interval. However, somewhat broken along 1"-2" fracture zones. Sand= 25% Silt= 48% Clay= 27%
NO SAMPLE	Core Loss; No Retrieval
CLAYEY SILTSTONE	Clayey Siltstone. Much the same as 101.7' to 102.9' interval Sand= 25% Silt=48% Clay=27%
CLAYEY SILTSTONE	Clayey Siltstone with some clay. Olive gray(5Y 4/1) grading to olive black(5Y 2/1). Core is slightly moist to dry. Moderately friable, moderately well indurated. Mottled appearance with thin 1"-3" intervals of thinly laminated bedding comprised of alternating silts and clays. Abundant carbonaceous material(lignite) as disseminated irregular blebs and masses. Observable porosity is nil. Silt= 75% Clay= 25%
NO SAMPLE	Core Loss; No Retrieval

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT)	5956.70	PROJECT NUMBER	WARP	LOG OF BORING NUMBER
NORTH	749524	AREA: OU 2	CASING DIAMETER (IN)	6/2	GEOLOGIST	DC/JAW	46892
EAST	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN)	10/6	DATE DRILLED	06/16/92	

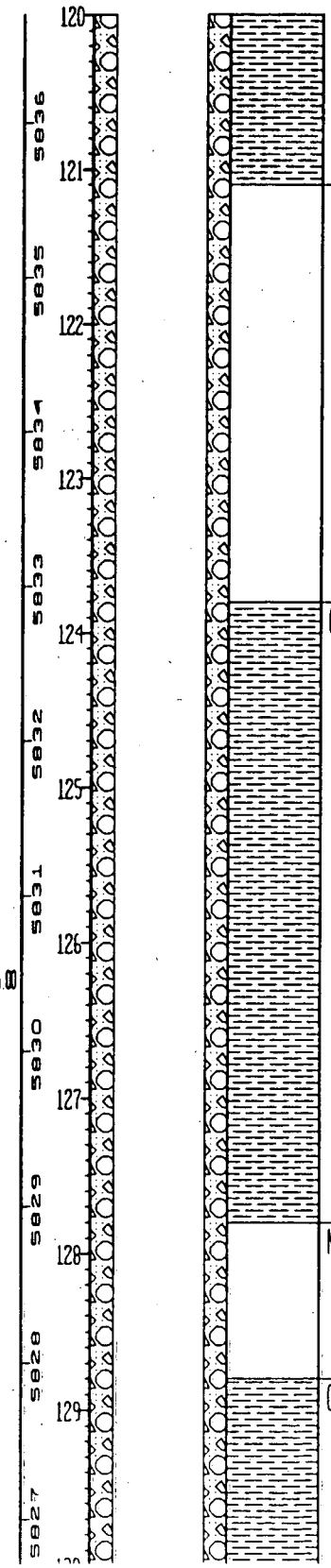
REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

DEPTH	CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
							110			NO SAMPLE	Core Loss; No Retrieval
						5946					
							111				
						5945					
							112				
						5944					
							113				
						5943					
							114			CLAYSTONE	Claystone with some silt. Mottled olive gray(5Y 4/1) grading to mottled olive black(5Y 2/1). Core is dry to slightly damp. Interval is moderate to weakly friable, moderately indurated moderately abundant carbonaceous material(lignite) as irregular blebs, disseminated masses and thin stringers. Several thin irregular silty lenses that grades to a thin bedded, thinly parted claystone. No observable porosity. Silt= 20% Clay= 80%
					1.40/1.40	5942					
							115				
						5941					
							116				
						5940				CLAYSTONE	Claystone with some silt. Olive gray(5Y4/1) grading to light olive gray(5Y 6/1). Core is dry to slightly moist. Bedding is obscure. Core is thinly parted with a brittle fracture. Rock is moderately friable, weakly to moderately indurated. Abundant carbonaceous material(lignite) as thin fracture coatings and irregular stringers and as irregular blebs and f.g. disseminated masses. Several fractured/broken zones noted: 116.4'-116.7'; 120.5'-121.0' Silt= 10% Clay= 90%
							117				
						5939					
							118				
						5938					
							119				
					5.80/8.60	5937					
							120				

STATE PLANE COORDINATE		TOTAL DEPTH (FT) 165.2	GROUND ELEVATION (FT) 5956.70	PROJECT NUMBER WARP	LOG OF BORING NUMBER
NORTH 749524		AREA OU 2	CASING DIAMETER (IN) 6/2	GEOLOGIST DC/JAW	46892
EAST 2087086		LOCATOR NUMBER J14	BOREHOLE DIAMETER (IN) 10/6	DATE DRILLED 06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'

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

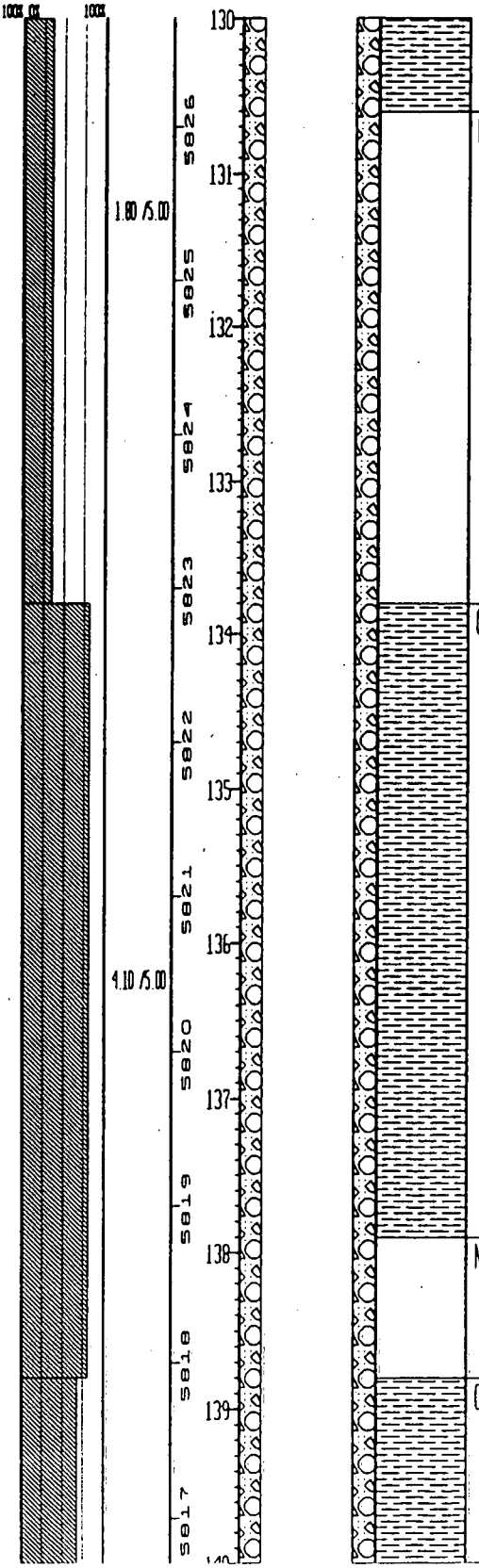


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE	Core Loss; No Retrieval
CLAYSTONE	Claystone with some silt. Mottled olive gray(5Y 4/1) grading to light olive gray. Core is dry, moderately indurated. Weakly to moderately friable, some carbonaceous material as disseminated irregular blebs and patchy coatings along very thin fractures. Bedding is mostly obscured and mottled appearing with no apparent bedding planes. Rock is thinly parted with a brittle fracture where not easily parted. Broken/fractured zone at the following intervals 129.4'-129.9', 130'-130.6' Fractured/broken zones orientation not attainable due to broken nature of rock. Silt= 12% Clay= 88%
NO SAMPLE	Core Loss; No Retrieval
CLAYSTONE	Claystone Same as 123.8' to 127.8' interval

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT):	5956.70	PROJECT NUMBER:	WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'

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

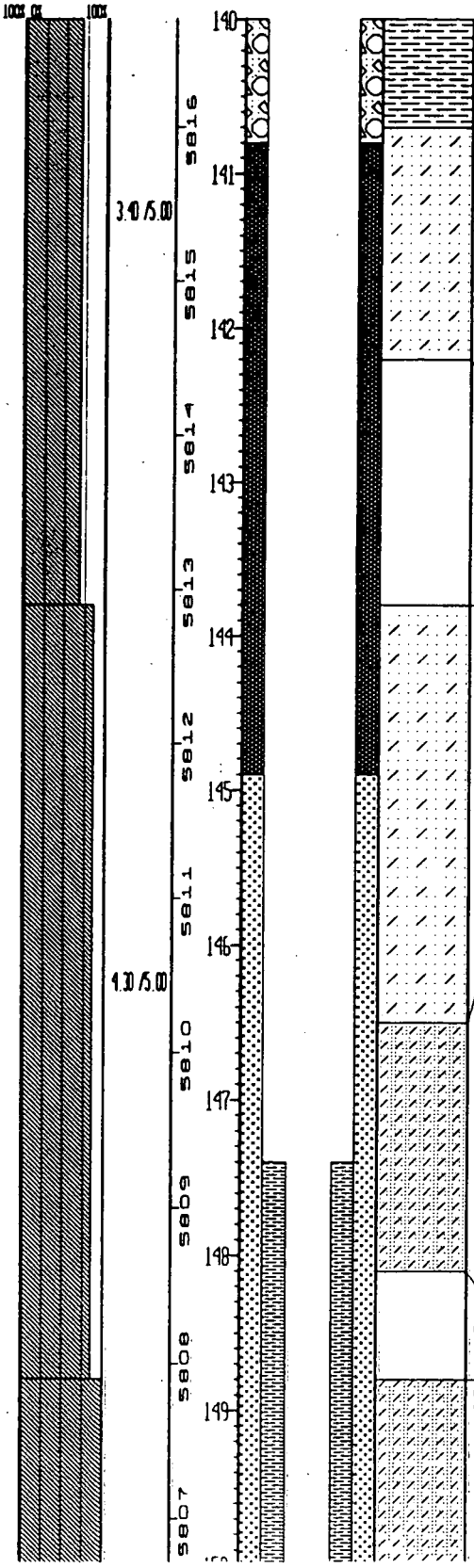


UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
NO SAMPLE:	Core Loss; No Retrieval
CLAYSTONE:	Claystone with some silt. Olive gray(5Y4/1) grading to olive black(5Y 2/1). Core dry to slightly moist, moderately well indurated, moderately to slightly friable. Mottled thin bedding with several silty lens and concretions (2mm-10mm) spotty to trace organic material, mostly as thin coatings and f.g. disseminated blebs. Rock possesses brittle fracture with irregular thin partings. A sub-rounded to sub-angular jasper clast noted in claystone at 136.6' Silt= 10% Clay= 90%
NO SAMPLE:	Core Loss; No Retrieval
CLAYSTONE:	Claystone Same as 133.8' to 137.9' interval.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT):	5956.70	PROJECT NUMBER:	WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

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



SILTY SANDSTONE: Silty Sandstone with trace clay. Greenish gray(5GY 6/1) grading to dark greenish gray(5GY 4/1). Core is slightly moist to moist, moderately to slightly friable, moderately well indurated. Moderately well cemented by calcareous cement. Sand fraction moderately well sorted, sub-angular to angular grains. Trace amounts of f.g. disseminated carbonaceous material. Rock is thinly laminated.
Silt= 10% Clay= 90%

NO SAMPLE: Core Loss; No Retrieval

SILTY SANDSTONE: Silty Sandstone with trace clay. Greenish gray(5GY 6/1) grading to dark greenish gray(5GY 4/1). Core is moist to slightly moist. Moderately to slightly friable, moderately well indurated. Mod well cemented with calcareous cement. Sand fraction comprised of sub-angular to angular, clear to translucent quartz grains. Grains mod. well sorted. Rock is faintly thin bedded with alternating sandy and silty laminae with some thin wispy laminae of organic material(lignite). Bedding is sub-horizontal 10-20 degrees
Sand= 60% Silt= 35% Clay= 5%

SANDY SILTSTONE: Sandy Siltstone with some clay. Olive gray(5Y 4/1) grading to dark greenish gray(5Y 4/1). Core slightly moist, mod well indurated, mod to slightly friable. Sand fraction comprised of angular to sub-angular, clear to translucent quartz grains. Moderately cemented by argillic cement. Interval has thin partings and locally brittle fracture. Rock contains trace amounts of carbonaceous material as f.g. irregular blebs of lignite. Faint wispy thinly laminated bedding mostly obscure, appears subhorizontal at 10-20 degrees.
Sand= 26% Silt= 63% Clay= 11%

NO SAMPLE: Core Loss; No Retrieval

SANDY SILTSTONE: Sandy Siltstone; Same as 146.5' to 148.1' interval.

STATE PLANE COORDINATE:		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT):	5956.70	PROJECT NUMBER:	WARP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN):	6/2	GEOLOGIST:	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN):	10/6	DATE DRILLED:	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

CHEMICAL SAMPLE / GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
						150				
				5.00 /5.00	5806	151			SANDY SILTSTONE	Sandy Siltstone with some clay. Olive gray(5Y 4/1) grading to light olive gray(5Y 6/1). Core is slightly moist, mod well indurated, moderately to slightly friable. Moderately well cemented by argillic cement. Mottled to wavy thin bedded alternating siltstone to sandstone. Rock possesses brittle fracture and variable thin to thick parting. Bedding attitude is obscure, however appears subhorizontal at 10-20 degrees. Sand fraction is comprised of f.g. sub-angular to angular moderately sorted, clear to translucent quartz grains. Trace amount of carbonaceous material as disseminated f.g. angular fragments and grains and thin stringers disseminated throughout interval. Sand= 32% Silt= 58% Clay= 10%
					5805	152				
					5804	153				
					5803	154				
					5802	155				
				4.50 /5.00	5801	156			SILTY SANDSTONE	Silty Sandstone with trace clay. Light olive gray(5Y 6/1) grading to olive gray(5Y 4/1). Core is moist. Moderately well indurated, moderately friable with weak argillic cement. Interval is thin bedded to thinly laminated with alternating sands and silts. Bedding has wavy appearance suggestive of soft sediment deformation. Overall attitudes are subhorizontal 10-30 degrees. Sand fraction is comprised of well sorted, f.g., angular to sub-angular quartz grains ranging from clear to translucent. Sand= 70% Silt= 28.5% Clay= 2.5%
					5800	157				
					5799	158				
					5798				NO SAMPLE	Core Loss, No Retrieval
						159			SILTY SANDSTONE	Silty Sandstone. Same As 155.1' to 158.3' interval.
					5797					

STATE PLANE COORDINATE		TOTAL DEPTH (FT): 165.2	GROUND ELEVATION (FT)	5956.70	PROJECT NUMBER	WAPP	LOG OF BORING NUMBER
NORTH:	749524	AREA: OU 2	CASING DIAMETER (IN)	6/2	GEOLOGIST	DC/JAW	46892
EAST:	2087086	LOCATOR NUMBER: J14	BOREHOLE DIAMETER (IN)	10/6	DATE DRILLED:	06/16/92	

REMARKS: FIRST 60 FEET ADVANCED WITH A AP 1000 RC. PERCUSSION HAMMER DRILL RIG, 60-165.2 FEET ADVANCED WITH A CME 75 DRILL RIG.
Additional centralizers at 10', 30', 50', 70', 90', 110' and 130'.

CHEMICAL SAMPLE GEOTECHNICAL SAMPLE	SAMPLE NUMBER	SAMPLE GRAIN SIZE	PERCENT RECOVERY	RECOVERY/INTERVAL	DATUM (FT)	DEPTH (FT)	WELL OR PIEZOMETER CONSTRUCTION	LITHOLOGY	UNIFIED SOILS CLASSIFICATION OR ROCK TYPE	DESCRIPTION
		0% 50%	100% 0% 100%	5.00/5.00	5796, 5795, 5794, 5793, 5792, 5791, 5790, 5789, 5788, 5787	160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170			CLAYSTONE	Claystone with some silt. Olive gray (5Y 4/1) grading to dark greenish gray (5GY 4/1). Core is moist, moderately indurated moderately to weakly friable, brittle fracture with weak thin partings. Thin bedded with spotty irregular stringers of carbonaceous material (lignite). Bedding is sub-horizontal at 5-10 degrees. Broken/fracture zones noted at 162.8' to 163.4'. Attitudes not recognizable. Silt= 13% Clay= 87%
									NO SAMPLE	Hole reamed to 165.2 ft. prior to well installation.

NOTE

TOTAL DRILLED DEPTH:	165.2'
TOTAL DEPTH OF CASING:	165.2'
BOTTOM OF FILTER PACK:	165.2'

APPENDIX B
OU-2 HYDROGEOLOGIC DATA

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B3 OU-2 GROUNDWATER ELEVATION DATA AND HYDROGEOLOGIC DATA

B4 OU-2 GROUNDWATER ELEVATION HYDROGRAPHS

- B4.1 ROCKY FLATS ALLUVIUM
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- B4.6 ALLUVIAL/BEDROCK WELL PAIRS

APPENDIX B
OU-2 HYDROGEOLOGIC DATA

Data used in the OU-2 hydrogeologic evaluation (Section 3.6) are presented in this appendix. Appendix B1 is a report of slug testing conducted as part of the 1993 Revised Bedrock Work Plan. Appendix B2 contains well installation data for all OU-2 monitoring wells installed during Phase I and Phase II of the RFI/RI. Groundwater elevation data, collected as part of the site-wide groundwater monitoring program, and hydrogeologic data used in the evaluation of the UHSU groundwater system are presented in Appendix B3. Groundwater elevation hydrographs for OU-2 wells are presented in Appendix B4. The hydrographs, briefly described at the beginning of Appendix B4, are presented in groups of wells based on the lithologic unit in which those wells are screened.

APPENDIX B1
ESTIMATION OF HYDRAULIC CONDUCTIVITY BASED ON 1993 RBWP SLUG TESTING

APPENDIX B1
ESTIMATION OF HYDRAULIC CONDUCTIVITY BASED ON 1993 RBWP SLUG TESTING

Falling and rising head slug tests were conducted in four bedrock monitoring wells (22093, 22193, 22293 and 23193) to measure the in situ hydraulic conductivity of the LHSU sandstone/siltstone materials. The measured values should be interpreted with caution because they represent the hydraulic conductivity of localized areas of the materials surrounding the filter pack and screened interval of each well. Three other wells completed in the LHSU for the Phase II RBWP field investigation were not slug tested because they did not produce sufficient water to meet development criteria. Although hydraulic conductivity for these wells could not be estimated from test results, the inability of the wells to produce sufficient water for development indicates that the geologic materials that they are screened across have low permeability.

The field procedures used to conduct the slug tests are described in SOP GW.4, Slug Tests. The slug test data were analyzed using the graphical methods of Bouwer and Rice (Bouwer and Rice 1976; Bouwer 1989). The Bouwer and Rice method is appropriate for analyzing falling and rising head slug test data for partially or fully penetrating wells in confined or unconfined aquifers.

The Bouwer and Rice method of analysis requires plotting residual head or drawdown versus time on a semi-log plot. For falling head analyses, the residual head is the excess head above the static water level due to the introduction of the slug into the well. For rising head analyses, the drawdown is due to the removal of the slug from the well. Plots of the data are shown in Figures B1-1 to B1-7. Equipment problems prevented data collection during the rising head text for well 23193. Therefore, no plot of this test is presented.

Theoretically, the water level recovery after the initial displacement (i.e., introduction or withdrawal of the slug) is a logarithmic function that should plot as a straight line on a semi-log plot. The slope of the straight line is then used to select two values of Y, one at time equals zero (Y_0) and one at time t (Y_t). In practice, it is common for the semi-log curve to have two straight line sections. The first section is steep and will yield values for Y_0 and Y_t that result in higher estimates of hydraulic conductivity than the second straight line section. This is probably because the first straight line section reflects the presence of the well filter pack and

a developed zone close to the well. The second straight line section, which is less steep, is probably more representative of flow from the undisturbed water-bearing zone into the well (Bouwer 1989).

The values Y_0 and Y_t, and the time interval between them (t) are used in the following equation to estimate hydraulic conductivity:

$$K = \frac{r_c^2 \ln (R_e/r_w)}{2 L_e} \frac{1}{t} \ln \frac{Y_o}{Y_t} \qquad \textbf{(B1.1)}$$

where:

r_c	=	radius of the piezometer casing
ln	=	natural logarithm function
R_e	=	effective radial distance over which the residual head is displaced or recharge occurs
r_w	=	radius of the boring
L_e	=	length of the screened, perforated, or otherwise open section of the piezometer or borehole
t	=	arbitrarily selected time during the test
Y_o	=	residual head or drawdown at start of test (t = 0)
Y_t	=	residual head or drawdown at time t

For cases where a portion of the water-bearing zone extends below the bottom of the well screen (wells 22093 and 22293), the term $\ln(R_e/r_w)$ is given by:

$$\ln (R_e/r_w) = \frac{1}{\dfrac{1.1}{\ln (L_w/r_w)} + \dfrac{A + B \ln [(H - L_w)/r_w]}{L_e/r_w}} \qquad \textbf{(B1.2)}$$

where:

L_w	=	distance from static water level to the bottom of the well
H	=	thickness of the saturated aquifer

A and B are dimensionless parameters that are a function of L_e/r_w (see Bouwer and Rice [1976] for a plot of A and B versus L_e/r_w)

For cases where the well screen fully penetrates the water-bearing zone (wells 22193 and 23193), the term ln (R_e/r_w) is given by:

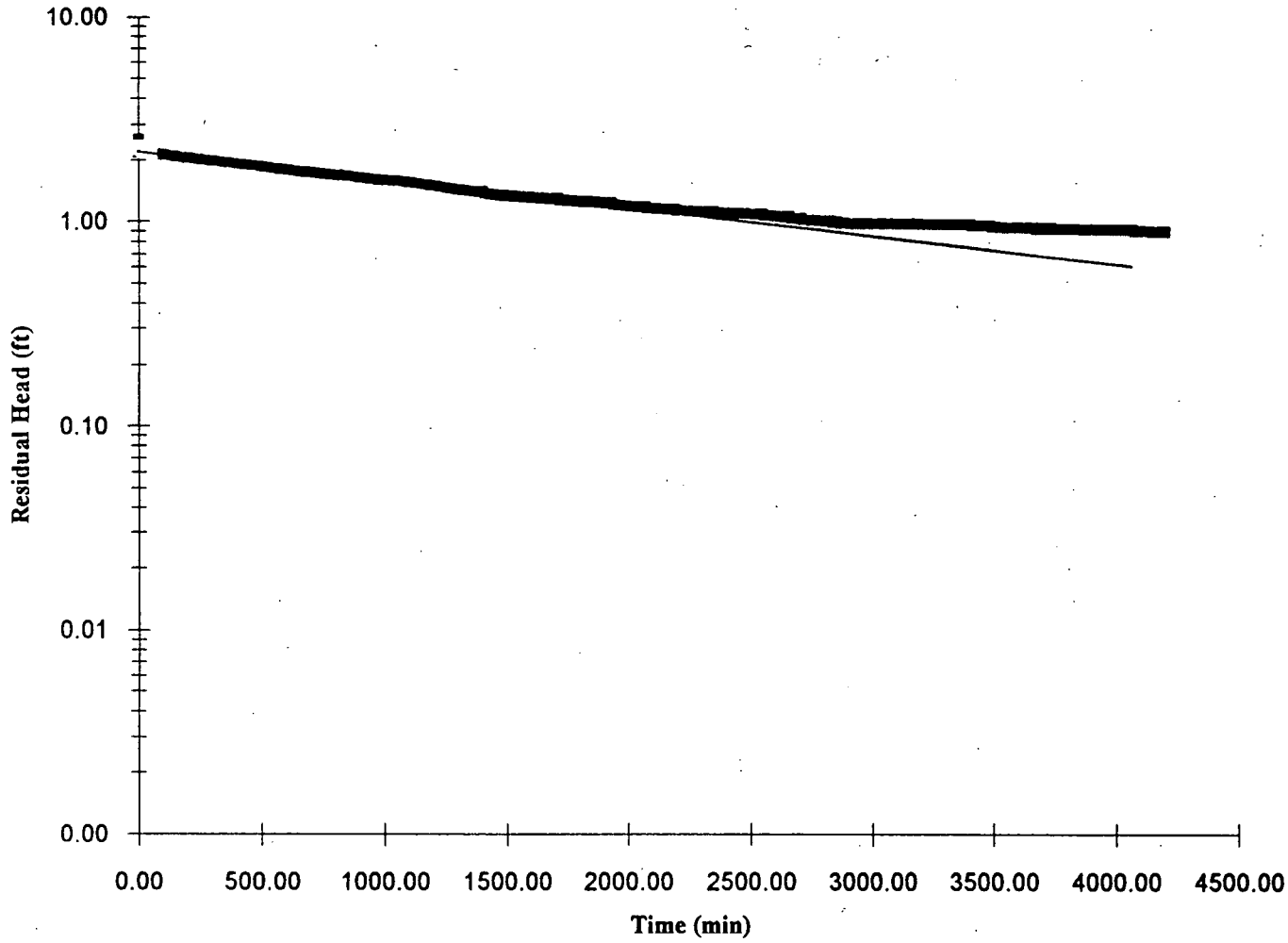
$$\ln (R_e/r_w) = \left[\frac{1}{\frac{1.1}{\ln (L_w/r_w)} + \frac{C}{L_e/r_w}} \right] \qquad \textbf{(B1.3)}$$

where: C is a dimensionless parameter that is a function of L_e/r_w (see Bouwer and Rice [1976] for a plot of C versus L_e/r_w).

The initial static water level in each of the slug tested wells was above the top of the screened section of the wells. The data plots for each of the tests (Figures B1-1 to B1-7) generally show a double straight line effect. The hydraulic conductivity estimates for each of the straight line sections of the curves provide a range of values for each test. The results of the analyses are shown in Table B1-1. The estimated hydraulic conductivity of the LHSU ranges from 2.2×10^{-8} cm/s (well 22093) to 9.7×10^{-5} cm/s (well 22193). The lower values are consistent with values reported for siltstone (McWhorter and Sunada 1977), the material screened at well 22093. The higher values are consistent for fine grained sandstones, the material screened at well 22193.

TABLE B1-1
LHSU SLUG TEST RESULTS

Well Name	Falling Head	Rising Head	Screened Lithology
22093	1.1E-07 cm/s	2.2E-08 to 7.1E-08 cm/s	Kl (slt,ss)
22193	4.2E-05 to 9.7E-05 cm/s	1.2E-05 to 7.1E-05 cm/s	Kl (ss, cs slt)
22293	9.7E-06 to 2.0E-05 cm/s	4.1E-06 to 7.6E-06 cm/s	Kl (slt, ss)
23193	8.6E-07 to 2.7E-06 cm/s	No data	Kl (ss, cs)



EXPLANATION

to = 0.01 min
Ymax = 2.47 ft
Yo = 2.1 ft
Yt = 1.1 ft
t = 2000 min
k = 1.1×10^{-7} cm/s

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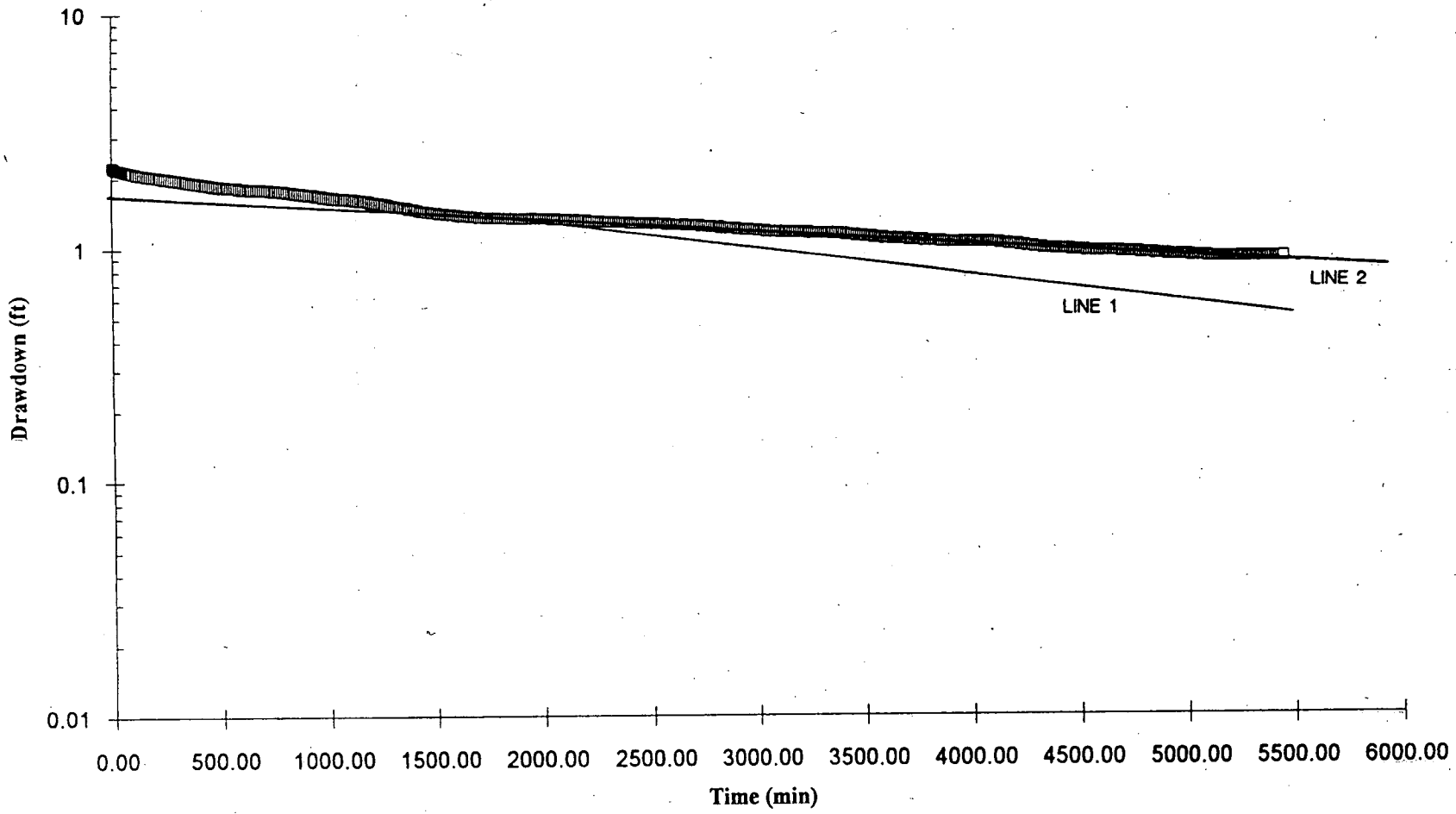
WELL 22093 FALLING HEAD TEST

FIGURE B1-1 APRIL 1995

OU2RI762 1=1



EXPLANATION

to = 3.5 min
Ymax = 2.1 ft

LINE 1	LINE 2
Yo_1 = 2.1 ft	Yo_2 = 1.7 ft
Yt_1 = 1.1 ft	Yt_2 = 1.4 ft
t_1 = 3000 min	t_2 = 3000 min
k_1 = 7.1 x 10^{-8} cm/s	k_2 = 2.2 x 10^{-8} cm/s

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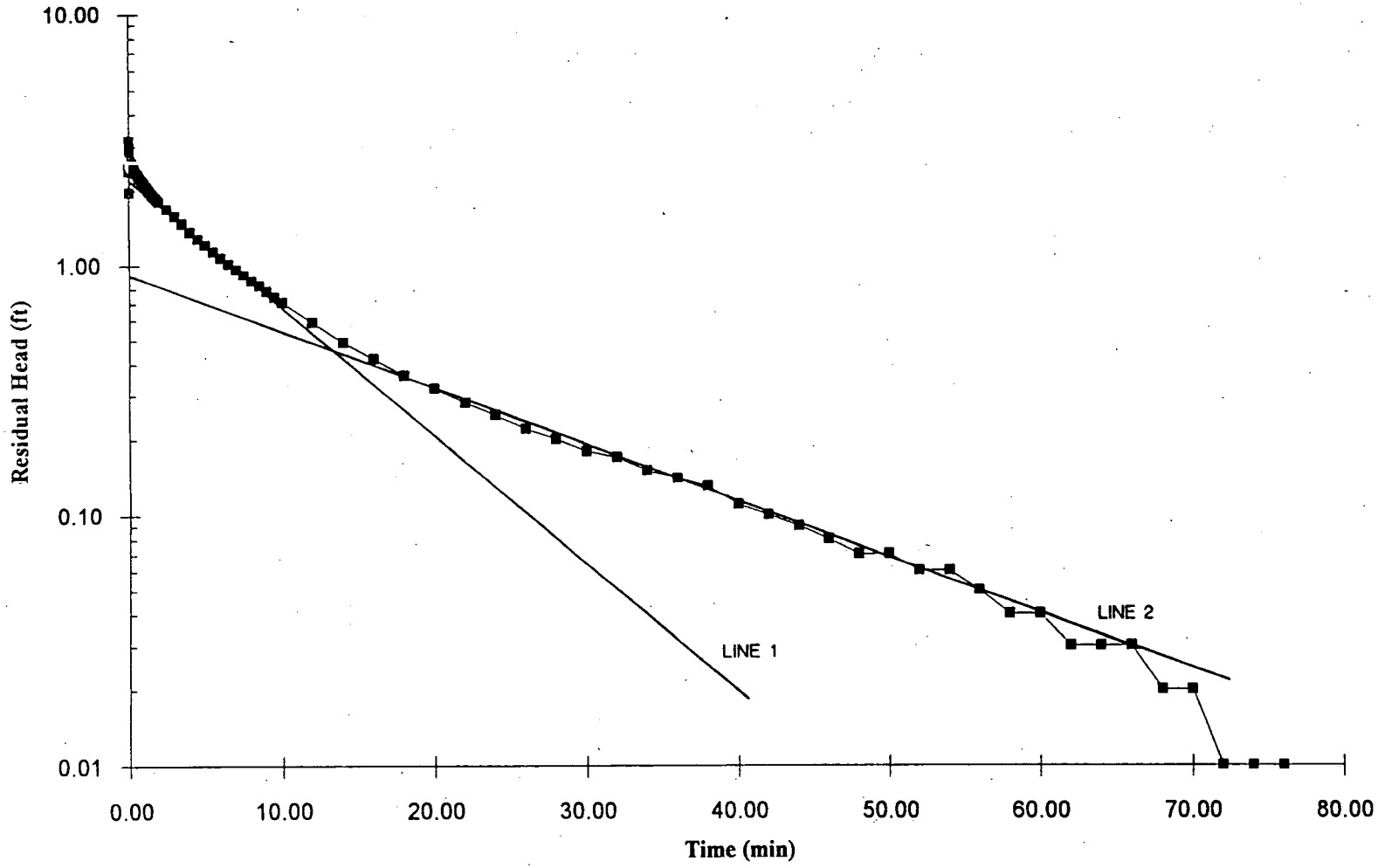
WELL 22093 RISING HEAD TEST

FIGURE B1-2

APRIL 1995

00281763 1=1



EXPLANATION

to = 0.003 min
Ymax = 2.87 ft

LINE 1	LINE 2
Yo_1 = 2.5 ft	Yo_2 = 0.9 ft
Yt_1 = 0.02 ft	Yt_2 = 0.11 ft
t_1 = 40 min	t_2 = 40 min
k_1 = 9.7×10^{-5} cm/s	k_2 = 4.2×10^{-5} cm/s

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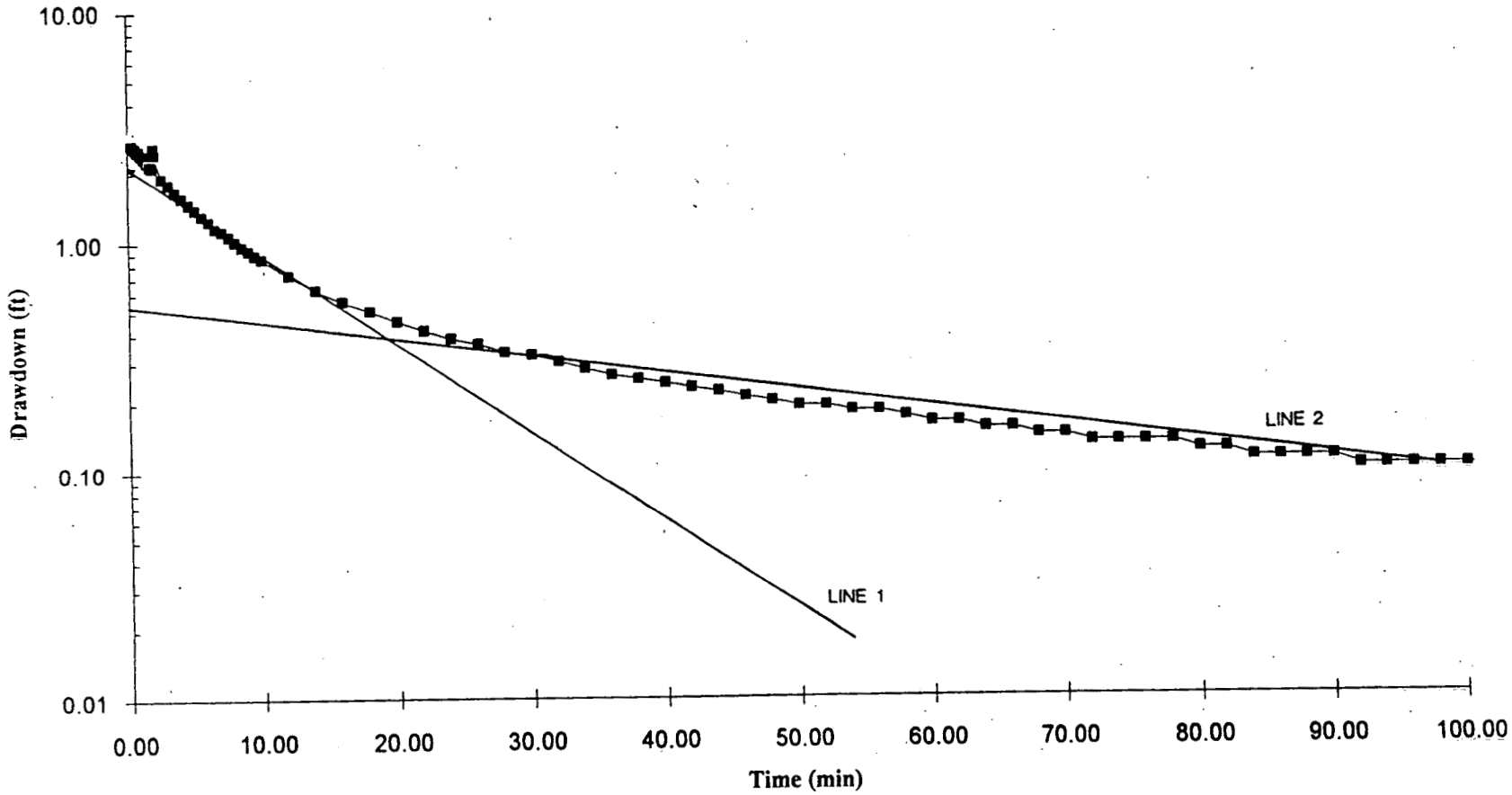
WELL 22193 FALLING HEAD TEST

FIGURE B1-3

APRIL 1995

OU2R764 1=1



EXPLANATION

to = 0.03 min
Ymax = 2.83 ft

LINE 1	LINE 2
Yo_1 = 2.0 ft	Yo_2 = 0.52 ft
Yt_1 = 0.06 ft	Yt_2 = 0.29 ft
t_1 = 40 min	t_2 = 40 min
k_1 = 7.1×10^{-5} cm/s	k_2 = 1.2×10^{-5} cm/s

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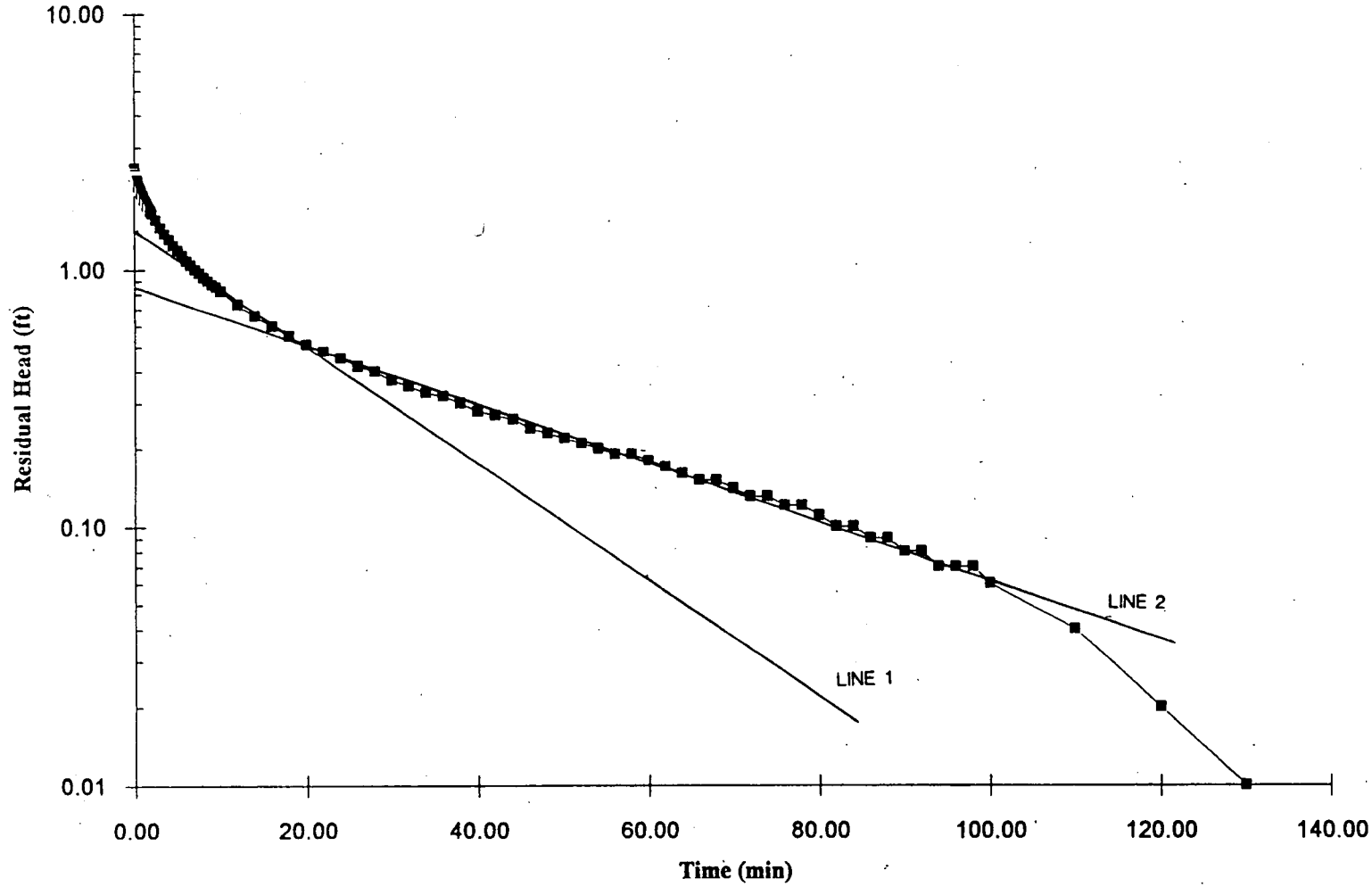
WELL 22193 RISING HEAD TEST

FIGURE B1-4 APRIL 1995

OU2R1765 1-1



EXPLANATION

to = 0.01 min
Ymax = 2.48 ft

LINE 1	LINE 2
Yo_1 = 1.5 ft	Yo_2 = 0.85 ft
Yt_1 = 0.18 ft	Yt_2 = 0.07 ft
t_1 = 40 min	t_2 = 100 min
k_1 = 2×10^{-5} cm/s	k_2 = 9.7×10^{-6} cm/s

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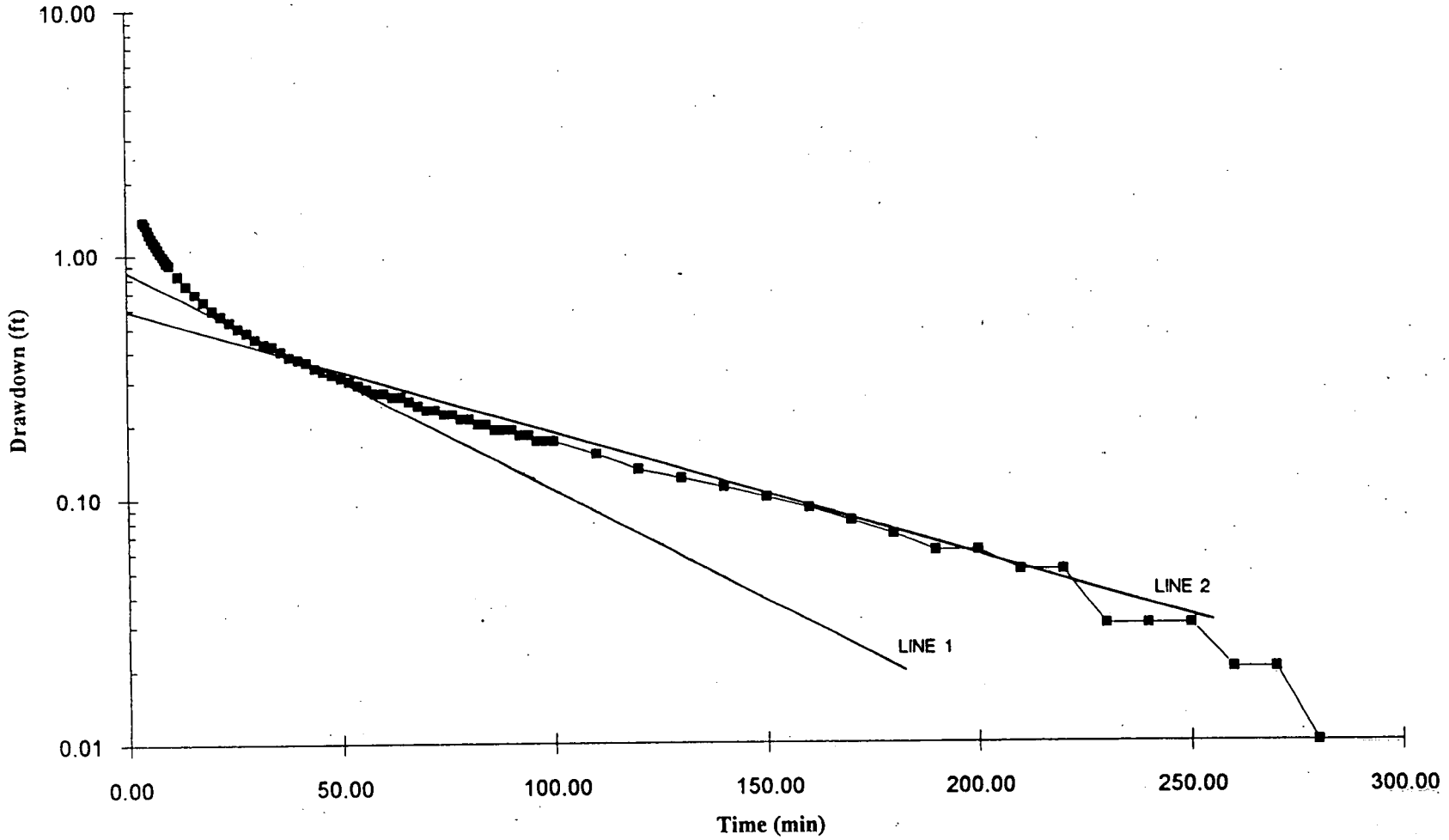
WELL 22293 FALLING HEAD TEST

FIGURE B1-5

APRIL 1995

OU2R766 1=1



EXPLANATION

to = 4.0 min
Ymax = 1.37 ft

LINE 1	LINE 2
Yo_1 = 0.82 ft	Yo_2 = 0.52 ft
Yt_1 = 0.105 ft	Yt_2 = 0.065 ft
t_1 = 100 min	t_2 = 190 min
k_1 = 7.6×10^{-6} cm/s	k_2 = 4.1×10^{-6} cm/s

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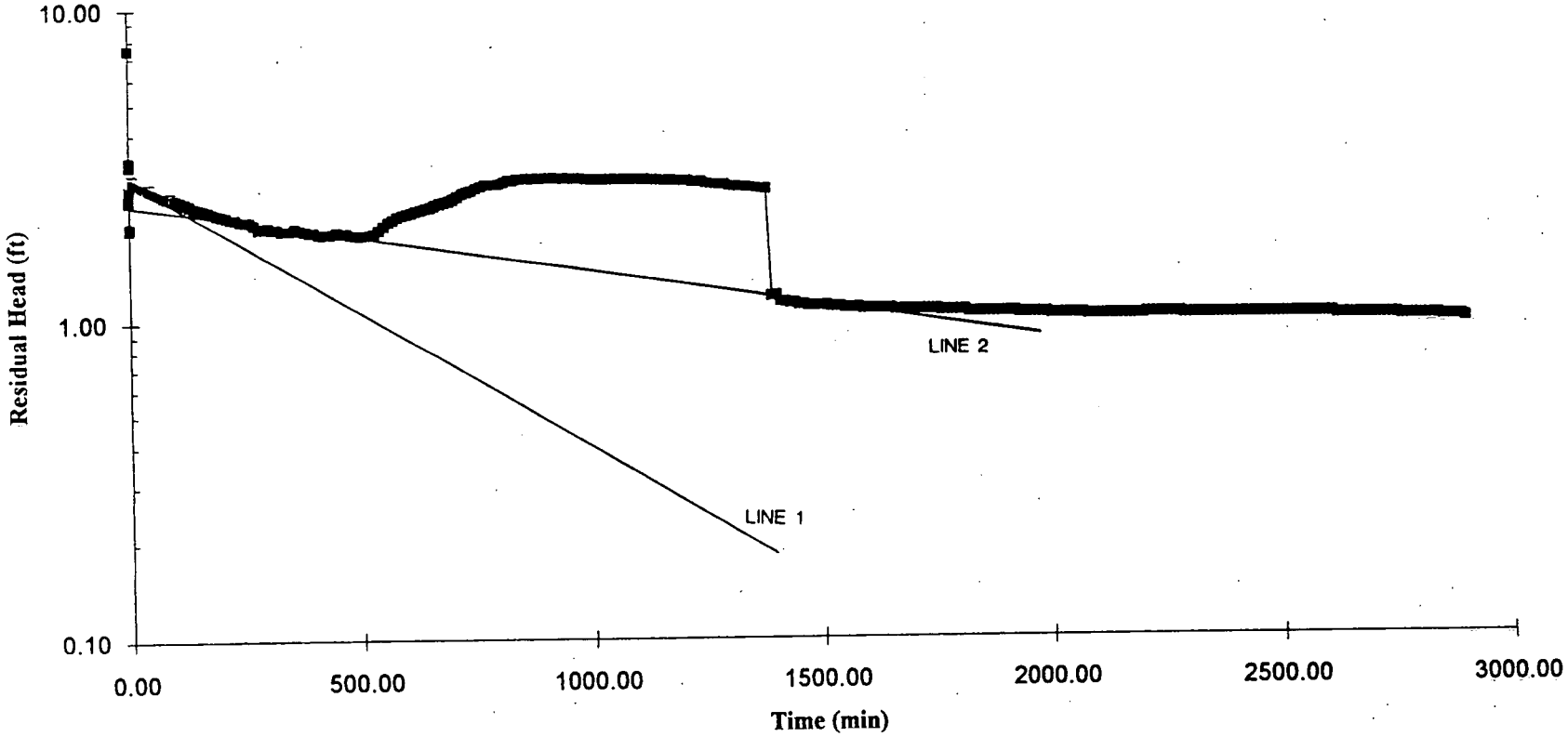
WELL 22293 RISING HEAD TEST

FIGURE B1-6

APRIL 1995

OU2RI767 1=1



EXPLANATION

to = 0.03 min
Ymax = 2.93 ft

LINE 1	LINE 2
Yo_1 = 2.93 ft	Yo_2 = 2.3 ft
Yt_1 = 1.5 ft	Yt_2 = 1.4 ft
t_1 = 400 min	t_2 = 1000 min
k_1 = 2.7×10^{-6} cm/s	k_2 = 8.6×10^{-7} cm/s

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WELL 23193 FALLING HEAD TEST

FIGURE B1-7 APRIL 1995

OU2R0768 1-1

APPENDIX B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

TABLE B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

New Site Number	Paired Well Site Number	Work Plan Site Number	Stratigraphy of Screened Interval	Hydrostratigraphic Unit	State Plane Coordinates		Concrete Pad /Ground Elevation(1) (ft)	Well Casing Stickup(1) (ft ACP)	Top of Well Casing Elevation (ft)	Top of Bedrock		Screened Interval				Total Depth	
					Northing (ft)	Easting (ft)				Depth(1) (ft BCP)	Elevation(1) (ft)	Depth to Top(1) (ft BCP)	Depth to Bottom(1) (ft BCP)	Elevation of Top(1) (ft)	Elevation of Bottom(1) (ft)	Depth(1) (ft BCP)	Elevation(1) (ft)
0286	None	NA	Qc	UHSU	748797.45	2093925.39	5725.01	1.09	5726.10	7.8	5717.21	3.2	9.0	5721.81	5716.01	13.0	5712.01
0386	None	NA	Kl(ss)	UHSU	750543.47	2093777.93	5676.24	1.62	5677.86	8.0	5668.24	10.4	23.7	5665.84	5652.54	28.0	5648.24
3386	None	NA	Qvf	UHSU	749950.35	2085002.88	5951.40	1.02	5952.42	6.8	5944.60	3.0	7.3	5948.41	5944.06	16.8	5934.60
3486	3586	NA	Kl(ss)	LHSU	750161.62	2086193.17	5912.00	1.95	5913.95	13.5	5898.50	44.2	56.3	5867.76	5855.75	100.0	5812.00
3586	3486	NA	Qvf	UHSU	750167.17	2086219.18	5910.75	2.01	5912.76	10.5	5900.25	4.9	11.6	5905.90	5899.15	18.0	5892.75
3686	None	NA	Qvf	UHSU	750387.29	2086819.74	5883.69	1.53	5885.22	5.5	5878.19	3.5	6.5	5880.19	5877.19	10.2	5873.49
3786	None	NA	Qvf	UHSU	751561.31	2088853.81	5796.61	172.38	5968.99	7.5	5789.11	3.3	8.6	5793.32	5788.06	13.0	5783.61
3986	None	NA	Qrf	UHSU	751305.42	2090688.65	5908.23	1.18	5909.41	30.5	5877.73	5.0	31.5	5903.23	5876.73	37.0	5871.23
4086	4186	NA	Kl(cs)	LHSU	749610.53	2088504.64	5943.85	1.04	5944.89	45.0	5898.85	88.0	111.5	5855.85	5832.35	124.8	5819.05
4186	4086	NA	Qrf	UHSU	749609.12	2088543.36	5942.62	1.74	5944.36	44.6	5898.02	3.9	44.7	5938.72	5897.92	44.8	5897.82
4286	None	NA	Qrf	UHSU	749559.09	2087114.34	5956.27	1.60	5957.87	28.2	5928.07	6.1	29.7	5950.15	5926.57	35.0	5921.27
4386	2387	NA	Qrf	UHSU	749404.11	2085868.98	5972.91	1.55	5974.46	17.0	5955.91	4.0	16.8	5968.92	5956.16	22.0	5950.91
6286	6386	NA	Kl(ss)	UHSU	748142.95	2085724.77	5902.01	1.17	5903.18	22.0	5880.01	25.2	35.2	5876.79	5866.82	59.3	5842.71
6386	6286	NA	Qc	UHSU	748144.57	2085753.12	5901.09	0.92	5902.01	14.8	5886.29	3.8	15.3	5897.29	5885.84	17.3	5883.79
6486	None	NA	Qvf	UHSU	747672.30	2085610.06	5839.06	1.99	5841.05	8.5	5830.56	3.4	9.0	5835.65	5830.06	14.0	5825.06
6586	None	NA	Qvf	UHSU	747881.20	2087500.96	5786.66	1.61	5788.27	7.1	5779.56	2.5	6.5	5784.16	5780.16	12.5	5774.16
6786	None	NA	Qc	UHSU	748722.84	2090378.68	5802.33	1.64	5803.97	14.0	5788.33	2.5	14.8	5799.83	5787.58	16.5	5785.83
0687	None	NA	Qc	UHSU	748002.62	2085133.79	5904.76	1.56	5906.32	6.5	5898.26	3.7	6.9	5901.11	5897.89	14.3	5890.46
0987	1087	NA	Ka(No.1)	UHSU	749068.02	2085347.82	5980.22	1.48	5981.70	12.5	5967.72	14.5	32.2	5965.72	5948.07	37.5	5942.72
1087	987	NA	Qrf	UHSU	748945.79	2085289.95	5981.95	1.57	5983.52	11.3	5970.65	3.5	12.0	5978.45	5969.95	17.0	5964.95
1187	None	NA	Kl(ss)	UHSU	748409.10	2086100.16	5913.60	1.52	5915.12	5.2	5908.40	15.2	20.3	5898.40	5893.35	30.0	5883.60
1287	None	NA	Kl(ss)	UHSU	748580.60	2086066.48	5934.81	1.49	5936.30	3.5	5931.31	4.9	10.0	5929.89	5924.81	15.9	5918.91
1487	None	NA	Kl(ss,cs)	UHSU	748228.20	2086616.02	5854.98	1.58	5856.56	5.2	5849.78	19.0	24.1	5835.98	5830.93	25.5	5829.48
1587	1687	NA	Qrf	UHSU	749010.56	2086248.67	5971.27	1.52	5972.79	21.8	5949.47	5.8	22.1	5965.47	5949.21	27.1	5944.22
1687	1587	NA	Kl(sltst)	LHSU	749129.89	2086248.98	5969.49	1.30	5970.79	22.2	5947.29	100.0	125.0	5869.49	5844.49	174.0	5795.49
1787	1887	NA	Qrf	UHSU	749415.25	2086308.03	5968.01	1.55	5969.56	25.0	5943.01	3.5	25.5	5964.51	5942.51	30.3	5937.71
1887	1787	NA	Kl(ss)	LHSU	749404.14	2086338.67	5967.99	1.50	5969.49	27.0	5940.99	127.0	133.5	5840.99	5834.54	148.0	5819.99
1987	2087	NA	Qrf	UHSU	749623.31	2086171.43	5968.44	1.47	5969.91	10.8	5957.64	3.5	11.7	5964.94	5956.79	16.1	5952.34
2087	1987	NA	Kl(cs)	LHSU	749634.35	2086154.92	5968.66	1.48	5970.14	11.8	5956.86	107.3	116.1	5861.40	5852.55	126.2	5842.46
2187	2287	NA	Qvf	UHSU	749968.92	2085799.45	5928.43	1.26	5929.69	8.0	5920.43	3.2	10.4	5925.20	5918.03	17.0	5911.43
2287	2187	NA	Kl(ss)	LHSU	749923.52	2085821.53	5930.70	0.48	5931.18	12.8	5917.90	81.4	88.5	5849.29	5842.24	111.0	5819.70
2387	4386	NA	Ka(No.1)	UHSU	749404.13	2085910.34	5972.79	1.70	5974.49	15.3	5957.49	17.2	37.6	5955.60	5935.18	45.3	5927.49
2487	2587	NA	Qrf	UHSU	749750.87	2086746.34	5958.29	1.40	5959.69	15.1	5943.19	3.5	13.6	5954.79	5944.69	18.3	5939.99
2587	2487	NA	Ka(No.1)	UHSU	749718.73	2086747.64	5959.48	1.50	5960.98	16.5	5942.98	17.5	43.5	5941.98	5916.03	47.0	5912.48
2687	None	NA	Qrf	UHSU	749255.62	2087489.75	5954.28	1.62	5955.90	14.5	5939.78	4.0	13.5	5950.28	5940.83	18.0	5936.28

TABLE B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

New Site Number	Paired Well Site Number	Work Plan Site Number	Stratigraphy of Screened Interval	Hydrostratigraphic Unit	State Plane Coordinates		Concrete Pad /Ground Elevation(1) (ft)	Well Casing Stickup(1) (ft ACP)	Top of Well Casing Elevation (ft)	Top of Bedrock		Screened Interval				Total Depth	
					Northing (ft)	Easting (ft)				Depth(1) (ft BCP)	Elevation(1) (ft)	Depth to Top(1) (ft BCP)	Depth to Bottom(1) (ft BCP)	Elevation of Top(1) (ft)	Elevation of Bottom(1) (ft)	Depth(1) (ft BCP)	Elevation(1) (ft)
2787	2887	NA	Qrf	UHSU	749438.05	2088051.41	5947.80	1.85	5949.65	44.2	5903.60	3.5	43.0	5944.30	5904.80	47.4	5900.40
2887	2787	NA	Kl(ss)	LHSU	749438.46	2088090.16	5947.56	2.34	5949.90	45.5	5902.06	187.4	197.4	5760.19	5750.19	207.0	5740.56
2987	3087	NA	Qc	UHSU	748088.97	2087361.50	5812.61	1.68	5814.29	18.8	5793.81	3.5	20.3	5809.11	5792.31	25.6	5787.01
3087	2987	NA	Kl(sltst)	LHSU	748089.51	2087424.09	5810.12	1.65	5811.77	16.0	5794.12	85.8	94.4	5724.33	5715.77	110.0	5700.12
3187	3287	NA	Kl(ss)	LHSU	749499.73	2088308.84	5945.31	2.15	5947.46	44.0	5901.31	110.7	129.4	5834.65	5815.90	140.0	5805.31
3287	3187	NA	Qrf	UHSU	749510.70	2088363.06	5946.38	1.59	5947.97	46.0	5900.38	36.0	46.6	5910.38	5899.83	51.3	5895.08
3387	3487	NA	Qrf	UHSU	749854.60	2087920.89	5945.78	1.44	5947.22	19.0	5926.78	15.0	20.0	5930.78	5925.78	24.5	5921.28
3487	3387	NA	Kl(sltst)	LHSU	749835.88	2087931.43	5945.60	1.62	5947.22	18.0	5927.60	97.3	104.3	5848.31	5841.31	124.0	5821.60
3587	3687	NA	Qrf	UHSU	749974.44	2087267.79	5949.96	1.43	5951.39	9.1	5940.86	3.5	9.4	5946.46	5940.61	14.4	5935.56
3687	3587	NA	Ka(No.1)	UHSU	749979.12	2087295.04	5949.67	1.44	5951.11	7.4	5942.27	19.8	63.4	5929.87	5886.32	74.5	5875.17
4487	4587	NA	Qc	UHSU	748305.57	2085435.01	5949.63	1.47	5951.10	3.2	5946.43	1.5	3.7	5948.13	5945.93	7.0	5942.63
4587	4487	NA	Kl(ss)	LHSU	748312.83	2085451.38	5949.32	1.59	5950.91	3.0	5946.32	89.5	101.1	5859.82	5848.27	112.0	5837.32
5087	None	NA	Qc	UHSU	748122.59	2085334.18	5933.14	1.64	5934.78	12.5	5920.64	3.5	13.5	5929.64	5919.64	27.0	5906.14
B213789	None	NA	Qc	UHSU	750538.00	2086677.00	5917.80	NA	5920.01	6.4	5911.40	2.5	6.9	5915.30	5910.90	9.6	5908.20
B217289	None	NA	Kl(ss,sltst)	LHSU	750563.30	2093776.40	5777.50	1.60	5779.10	5.1	5772.40	109.8	134.2	5667.70	5643.30	136.4	5641.10
B217489	None	NA	Kl(ss)	LHSU	749454.00	2086818.00	5961.20	2.03	5963.23	25.0	5936.20	142.0	146.4	5819.17	5814.77	148.7	5812.54
B217589	None	NA	Kl(cs)	LHSU	749817.00	2087189.00	5952.90	1.99	5954.89	16.7	5936.20	85.2	90.7	5867.67	5862.16	86.0	5866.92
B217689	None	NA	Kl(ss)	LHSU	749628.54	2086745.14	5960.53	1.34	5961.87	22.0	5938.53	98.5	102.9	5862.01	5857.62	105.1	5855.40
B217789	None	NA	Kl(cs)	LHSU	749494.00	2087341.00	5954.90	1.95	5956.85	23.6	5931.30	52.0	63.8	5902.90	5891.06	92.9	5861.96
B218789	None	NA	Qrf	UHSU	749425.28	2086720.08	5962.80	1.72	5964.52	27.0	5935.80	9.1	28.5	5953.74	5934.30	29.8	5933.00
B220189	374	NA	Qrf	UHSU	749938.00	2087001.00	5949.27	NA	NA	15.0	5934.27	12.9	14.9	5936.37	5934.37	16.1	5933.17
B315289	None	NA	Kl(ss)	LHSU	749225.00	2086766.00	5963.20	2.01	5965.21	19.0	5944.20	91.0	98.0	5872.20	5865.20	220.0	5743.20
B317189	None	NA	Kl(ss)	LHSU	748807.00	2093921.00	5725.00	1.64	5726.64	8.0	5717.00	60.6	75.1	5664.40	5649.90	81.4	5643.60
B303390	None	NA	Qc	UHSU	748112.30	2085515.00	5916.40	2.01	5918.41	8.0	5908.40	6.1	8.0	5910.35	5908.40	10.8	5905.60
B303490	None	NA	Qc	UHSU	748157.40	2085601.80	5913.60	1.95	5915.55	7.5	5906.10	5.6	7.5	5908.05	5906.10	11.2	5902.40
B303590	None	NA	Qc	UHSU	748202.00	2085688.60	5911.90	1.99	5913.89	9.7	5902.20	7.7	9.7	5904.20	5902.20	17.8	5894.10
B303690	None	NA	Qc	UHSU	748249.30	2085777.60	5912.20	1.99	5914.19	17.2	5895.00	12.1	16.5	5900.14	5895.70	20.8	5891.40
00191	None	1-91	Qrf	UHSU	749237.49	2086244.04	5968.86	1.58	5970.44	24.2	5944.66	15.0	25.0	5953.86	5943.86	34.0	5934.86
00291	12991,13591	2-91	Ka (No.1)	UHSU	749196.59	2086623.00	5966.17	1.40	5967.57	16.0	5950.17	44.0	54.0	5922.17	5912.17	58.0	5908.17
00391	11791	3-91	Kl(ss)	UHSU	748886.27	2086805.24	5920.84	1.56	5922.40	16.9	5903.94	16.8	21.8	5904.04	5899.04	26.9	5893.94
00491	None	4-91	Qc/Ka(cs)	UHSU	748645.39	2086806.87	5903.47	1.50	5904.97	10.9	5892.57	7.5	17.5	5895.97	5885.97	23.3	5880.17
00691	None	6-91	Qc	UHSU	748321.62	2086378.98	5894.47	1.66	5896.13	NE	NE	5.3	12.3	5889.17	5882.17	18.5	5875.97
00791	None	7-91	Qc	UHSU	748302.59	2086023.30	5907.11	1.16	5908.27	17.6	5889.51	8.5	18.5	5898.61	5888.61	24.5	5882.61
00891	None	8-91	Qc	UHSU	748551.33	2087260.01	5868.35	1.60	5869.95	18.2	5850.15	7.9	17.9	5860.45	5850.45	23.9	5844.45
00991	None	9-91	Kl(cs)	UHSU	748081.98	2086190.34	5867.00	1.56	5868.56	2.9	5864.10	5.0	10.0	5862.00	5857.00	14.3	5852.70

TABLE B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

New Site Number	Paired Well Site Number	Work Plan Site Number	Stratigraphy of Screened Interval	Hydrostratigraphic Unit	State Plane Coordinates		Concrete Pad /Ground Elevation(1) (ft)	Well Casing Stickup(1) (ft ACP)	Top of Well Casing Elevation (ft)	Top of Bedrock		Screened Interval				Total Depth	
					Northing (ft)	Easting (ft)				Depth(1) (ft BCP)	Elevation(1) (ft)	Depth to Top(1) (ft BCP)	Depth to Bottom(1) (ft BCP)	Elevation of Top(1) (ft)	Elevation of Bottom(1) (ft)	Depth(1) (ft BCP)	Elevation(1) (ft)
01291	None	12-91	Qc	UHSU	748335.33	2087062.48	5851.21	1.64	5852.85	12.9	5838.31	5.3	13.3	5845.91	5837.91	18.9	5832.31
01391	None	13-91	Qrf	UHSU	749401.97	2085225.75	5973.70	1.60	5975.30	14.5	5959.20	6.0	14.0	5967.70	5959.70	22.0	5951.70
01491	12291	14-91	Ka (No.1)	UHSU	749430.09	2085474.27	5970.37	1.66	5972.03	1.6	5968.77	14.0	24.0	5956.37	5946.37	30.0	5940.37
01791	07791	17-91	Ka (No.1)	UHSU	749504.01	2086018.03	5965.78	1.63	5967.41	8.0	5957.78	10.0	18.0	5955.78	5947.78	24.0	5941.78
01891	12091	18-91	Ka (No.1)	UHSU	749437.81	2086023.25	5971.76	1.61	5973.37	12.4	5959.36	20.0	30.0	5951.76	5941.76	35.9	5935.86
01991	13491	19-91	Kl(cs)	UHSU	749475.67	2086733.53	5962.19	1.42	5963.61	29.4	5932.79	28.8	38.8	5933.39	5923.39	44.8	5917.39
02091	None	20-91	Ka (No.1)	UHSU	749617.29	2086427.87	5965.19	1.46	5966.65	16.1	5949.09	15.6	30.6	5949.59	5934.59	36.2	5928.99
02191	None	21-91	Qrf	UHSU	749707.72	2086166.42	5965.81	1.70	5967.51	13.5	5952.31	8.0	13.0	5957.81	5952.81	20.8	5945.01
02291	None	22-91	Ka(No.1)	UHSU	749879.89	2086138.97	5936.66	1.60	5938.26	8.8	5927.86	11.5	16.5	5925.16	5920.16	19.5	5917.16
02391	None	23-91	Qrf	UHSU	749852.87	2086599.70	5956.82	1.61	5958.43	6.9	5949.92	3.0	6.0	5953.82	5950.82	12.9	5943.92
02491	None	24-91	Ka(No.1)	UHSU	749948.52	2086432.04	5944.54	1.67	5946.21	8.5	5936.04	11.8	16.8	5932.74	5927.74	24.2	5920.34
02591	13391	25-91	Ka(No.1)	UHSU	750936.92	2089162.70	5923.57	1.77	5925.34	39.8	5883.77	42.1	49.1	5881.47	5874.47	51.1	5872.47
02791	None	27-91	Qrf	UHSU	749854.09	2087029.14	5954.34	1.45	5955.79	8.0	5946.34	6.5	9.5	5947.84	5944.84	15.9	5938.44
02891	None	28-91	Qrf	UHSU	749888.24	2087097.91	5953.09	1.52	5954.61	9.1	5943.99	6.0	9.0	5947.09	5944.09	14.9	5938.19
02991	12191	29-91	Ka (No.1)	UHSU	749777.73	2086970.30	5956.30	1.60	5957.90	15.8	5940.50	42.0	52.0	5914.30	5904.30	57.9	5898.40
03091	None	30-91	Ka (No.1)	UHSU	749832.63	2087159.68	5952.88	1.35	5954.23	17.3	5935.58	35.0	50.0	5917.88	5902.88	56.7	5896.18
03191	12691	31-91	Qrf	UHSU	749881.74	2087440.95	5950.35	1.67	5952.02	21.1	5929.25	11.2	21.2	5939.15	5929.15	27.4	5922.95
03391	11891	33-91	Ka (No.1)	UHSU	750047.25	2086993.72	5944.54	1.68	5946.22	10.8	5933.74	29.9	39.9	5914.64	5904.64	46.0	5898.54
03591	None	35-91	Qrf	UHSU	749998.99	2087691.26	5949.02	1.78	5950.80	30.1	5918.92	20.1	30.1	5928.92	5918.92	37.7	5911.32
03691	None	36-91	Ka (No.1)	UHSU	750199.36	2087072.09	5932.55	1.88	5934.43	7.5	5925.05	30.0	40.0	5902.55	5892.55	46.0	5886.55
03791	None	37-91	Ka (No.1)	UHSU	750206.13	2087182.78	5936.80	1.44	5938.24	4.9	5931.90	38.0	48.0	5898.80	5888.80	54.1	5882.70
03891	None	38-91	Qrf	UHSU	750181.52	2087615.30	5940.89	2.06	5942.95	7.4	5933.49	4.0	7.0	5936.89	5933.89	9.0	5931.89
03991	None	39-91	Qrf	UHSU	750400.91	2088449.23	5935.17	1.70	5936.87	37.0	5898.17	27.4	37.4	5907.77	5897.77	43.0	5892.17
04091	None	40-91	Qrf	UHSU	750729.75	2088689.90	5928.52	1.62	5930.14	36.0	5892.52	28.0	36.0	5900.52	5892.52	42.0	5886.52
04191	None	41-91	Qrf	UHSU	749430.44	2087330.45	5955.58	1.41	5956.99	17.1	5938.48	7.1	17.1	5948.48	5938.48	25.0	5930.58
04291	None	42-91	Kl(cs)	UHSU	749474.72	2087654.19	5952.50	1.40	5953.90	17.0	5935.50	18.1	23.1	5934.40	5929.40	30.5	5922.00
04491	None	44-91	Qrf	UHSU	749362.55	2087887.93	5949.51	1.64	5951.15	27.0	5922.51	17.0	27.0	5932.51	5922.51	33.0	5916.51
04591	None	45-91	Qrf	UHSU	749286.39	2088034.25	5948.69	1.56	5950.25	44.2	5904.49	34.1	44.1	5914.59	5904.59	50.9	5897.79
04691	None	46-91	Qrf	UHSU	749342.45	2088316.08	5944.70	1.73	5946.43	43.9	5900.80	33.9	43.9	5910.80	5900.80	50.1	5894.60
04891	None	48-91	Qrf	UHSU	749439.15	2088680.33	5939.20	1.56	5940.76	39.7	5899.50	29.7	39.7	5909.50	5899.50	45.8	5893.40
04991	None	49-91	Qrf	UHSU	749551.13	2088844.09	5936.94	1.69	5938.63	40.2	5896.74	30.3	40.3	5906.64	5896.64	46.1	5890.84
05091	None	50-91	Qrf	UHSU	749894.38	2088824.86	5937.63	1.61	5939.24	43.5	5894.13	34.0	44.0	5903.63	5893.63	49.5	5888.13
05191	None	51-91	Qrf	UHSU	749957.40	2088671.68	5938.40	1.45	5939.85	44.8	5893.60	36.0	46.0	5902.40	5892.40	50.7	5887.70
05291	None	52-91	Qrf	UHSU	749958.29	2088377.09	5941.23	1.77	5943.00	34.7	5906.53	25.1	35.1	5916.13	5906.13	41.0	5900.23
05391	12391	53-91	Qrf	UHSU	750152.86	2088297.63	5940.19	1.48	5941.67	34.7	5905.49	25.1	35.1	5915.09	5905.09	48.0	5892.19

TABLE B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

New Site Number	Paired Well Site Number	Work Plan Site Number	Stratigraphy of Screened Interval	Hydrostratigraphic Unit	State Plane Coordinates		Concrete Pad /Ground Elevation(1) (ft)	Well Casing Stickup(1) (ft ACP)	Top of Well Casing Elevation (ft)	Top of Bedrock		Screened Interval				Total Depth	
					Northing (ft)	Easting (ft)				Depth(1) (ft BCP)	Elevation(1) (ft)	Depth to Top(1) (ft BCP)	Depth to Bottom(1) (ft BCP)	Elevation of Top(1) (ft)	Elevation of Bottom(1) (ft)	Depth(1) (ft BCP)	Elevation(1) (ft)
05691	11491/12491	56-91	Qrf	UHSU	750053.14	2087620.69	5947.61	1.38	5948.99	35.2	5912.41	25.1	35.1	5922.51	5912.51	42.6	5905.01
05991	None	59-91	Qc	UHSU	748496.24	2086338.43	5908.32	1.59	5909.91	22.1	5886.22	12.1	22.1	5896.22	5886.22	31.0	5877.32
06091	11291	60-91	Qrf	UHSU	750405.07	2088962.91	5930.08	1.52	5931.60	39.1	5890.98	30.7	40.7	5899.38	5889.38	44.5	5885.58
06191	None	61-91	Qrf	UHSU	750864.99	2089984.78	5919.21	1.51	5920.72	32.0	5887.21	22.1	32.1	5897.11	5887.11	38.2	5881.01
06291	None	62-91	Kl(cs)	UHSU	751639.01	2091094.17	5897.90	1.38	5899.28	23.3	5874.60	27.9	32.9	5870.00	5865.00	34.9	5863.00
06391	None	63-91	Qrf	UHSU	751197.05	2091071.43	5903.63	1.54	5905.17	21.2	5882.43	17.6	22.6	5886.03	5881.03	28.6	5875.03
06491	None	64-91	Kl (ss)	UHSU	751192.86	2093867.28	5671.45	1.80	5673.25	2.2	5669.25	10.9	15.9	5660.55	5655.55	19.1	5652.35
06591	13191,13291	65-91/BH0191	Ka (No.1)	UHSU	749063.87	2085534.81	5978.28	1.62	5979.90	15.4	5962.88	33.0	48.0	5945.28	5930.28	52.2	5926.08
06691	None	66-91/BH0391	Qrf	UHSU	749067.87	2085714.44	5978.34	1.60	5979.94	22.0	5956.34	13.1	23.1	5965.24	5955.24	28.0	5950.34
06791	None	67-91/BH0591	Qrf	UHSU	748854.61	2085645.63	5978.87	1.51	5980.38	21.2	5957.67	11.2	21.2	5967.67	5957.67	28.0	5950.87
06891	None	68-91/BH0691	Qrf	UHSU	749258.38	2085882.89	5974.14	1.48	5975.62	14.0	5960.14	6.0	14.0	5968.14	5960.14	20.0	5954.14
06991	None	69-91/BH1191	Qrf	UHSU	749167.76	2085989.57	5972.91	1.66	5974.57	28.6	5944.31	14.0	29.0	5958.91	5943.91	35.0	5937.91
07191	None	71-91/BH1391	Qrf	UHSU	748849.74	2085908.39	5974.79	1.55	5976.34	20.0	5954.79	11.1	21.1	5963.69	5953.69	26.0	5948.79
07291	None	72-91/BH1691	Qrf	UHSU	748748.17	2085765.57	5977.27	1.53	5978.80	20.0	5957.27	10.6	20.6	5966.67	5956.67	26.0	5951.27
07391	None	73-91/BH1991	Qc	UHSU	748547.46	2085827.20	5949.14	1.47	5950.61	8.1	5941.04	5.4	11.4	5943.74	5937.74	16.0	5933.14
07891	None	78-91/BH3291	Qrf	UHSU	749653.10	2087041.29	5957.78	1.67	5959.45	27.5	5930.28	18.0	28.0	5939.78	5929.78	31.0	5926.78
07991	None	79-91/BH3491	Qrf	UHSU	749541.12	2087442.74	5954.91	1.87	5956.78	26.0	5928.91	16.1	26.1	5938.81	5928.81	36.5	5918.41
08091	None	80-91/BH3591	Qrf	UHSU	749671.34	2087794.55	5947.90	1.61	5949.51	16.1	5931.80	11.3	16.3	5936.60	5931.60	22.0	5925.90
08291	None	82-91/BH3891	Qrf	UHSU	749586.38	2087832.49	5950.18	1.76	5951.94	14.0	5936.18	6.0	14.0	5944.18	5936.18	20.0	5930.18
08391	None	83-91/BH3991	Qrf	UHSU	749606.51	2088034.18	5947.20	1.45	5948.65	37.2	5910.00	28.0	38.0	5919.20	5909.20	44.0	5903.20
08491	None	84-91/BH4091	Qrf	UHSU	749506.15	2087871.84	5950.58	1.58	5952.16	16.0	5934.58	6.0	16.0	5944.58	5934.58	22.0	5928.58
08591	None	85-91/BH4191	Qrf	UHSU	749525.56	2088005.77	5948.57	1.55	5950.12	40.7	5907.87	32.0	42.0	5916.57	5906.57	48.0	5900.57
08891	None	BH0791	Qrf	UHSU	749127.65	2085866.39	5976.36	1.70	5978.06	23.0	5953.36	15.3	25.3	5961.06	5951.06	30.0	5946.36
09091	None	BH0991	Qrf	UHSU	748918.30	2085943.42	5975.16	1.63	5976.79	24.0	5951.16	14.7	24.7	5960.46	5950.46	30.0	5945.16
09691	1287	BH2291	Kl(ss)	UHSU	748571.86	2086038.21	5935.64	1.41	5937.05	3.1	5932.54	6.0	14.0	5929.64	5921.64	20.0	5915.64
10991	None	BH4591	Ka(No.1)	UHSU	749628.51	2088678.60	5940.01	1.63	5941.64	45.2	5894.81	46.0	51.0	5894.01	5889.01	56.0	5884.01
11291	06091	NA	Qrf	UHSU	750391.10	2088967.78	5930.55	1.57	5932.12	NE	NE	21.0	31.0	5909.55	5899.55	33.0	5897.55
11491	05691/12491	NA	Qrf	UHSU	750034.63	2087628.36	5948.22	1.54	5949.76	NE	NE	10.3	25.3	5937.92	5922.92	27.3	5920.92
11691	03791	NA	Ka (No.1)	UHSU	750188.35	2087182.23	5938.63	1.28	5939.91	9.5	5929.13	18.5	33.5	5920.13	5905.13	35.5	5903.13
11791	00391	NA	Kl(ss)	UHSU	748900.08	2086785.87	5923.29	1.74	5925.03	6.9	5916.39	8.7	13.7	5914.59	5909.59	15.7	5907.59
11891(4)	03391	NA	Ka (No.1)	UHSU	750032.64	2086999.21	5945.51	1.93	5947.44	12.0	5933.51	13.0	28.0	5932.51	5917.51	30.0	5915.51
12091	01891	NA	Ka (No.1)	UHSU	749436.40	2086008.99	5971.59	1.68	5973.27	13.2	5958.39	14.0	24.0	5957.59	5947.59	26.0	5945.59
12191	02991	NA	Ka (No.1)	UHSU	749774.20	2086949.38	5956.49	1.70	5958.19	15.7	5940.79	18.0	33.0	5938.49	5923.49	35.0	5921.49
12291	01491	NA	Ka (No.1)	UHSU	749428.77	2085440.90	5970.98	1.75	5972.73	2.0	5968.98	7.1	14.1	5963.88	5956.88	16.1	5954.88
12391	05391	NA	Ka (No.1) & Kl(ss)	UHSU	750176.20	2088272.55	5940.07	1.63	5941.70	36.5	5903.57	58.4	68.4	5881.67	5871.67	70.4	5869.67

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TABLE B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

New Site Number	Paired Well Site Number	Work Plan Site Number	Stratigraphy of Screened Interval	Hydrostratigraphic Unit	State Plane Coordinates		Concrete Pad /Ground Elevation(1) (ft)	Well Casing Stickup(1) (ft ACP)	Top of Well Casing Elevation (ft)	Top of Bedrock		Screened Interval				Total Depth	
					Northing (ft)	Easting (ft)				Depth(1) (ft BCP)	Elevation(1) (ft)	Depth to Top(1) (ft BCP)	Depth to Bottom(1) (ft BCP)	Elevation of Top(1) (ft)	Elevation of Bottom(1) (ft)	Depth(1) (ft BCP)	Elevation(1) (ft)
12491	05691/11491	NA	Ka (No.1)	UHSU	750058.25	2087588.37	5946.84	1.51	5948.35	30.0	5916.84	45.0	60.0	5901.84	5886.84	62.0	5884.84
12691	03191	NA	Ka (No.1)	UHSU	749952.14	2087419.37	5949.68	1.40	5951.08	20.0	5929.68	48.1	63.1	5901.58	5886.58	65.1	5884.58
12891	None	NA	Qrf	UHSU	749695.62	2088031.62	5946.76	1.59	5948.35	37.0	5909.76	25.5	35.5	5921.26	5911.26	37.5	5909.26
12991	00291/13591	NA	Ka (No.1)	UHSU	749208.51	2086624.56	5965.71	1.51	5967.22	16.1	5949.61	19.5	34.5	5946.21	5931.21	36.5	5929.21
13091	None	NA	Qrf	UHSU	748960.12	2085991.64	5973.68	1.52	5975.20	19.5	5954.18	11.3	21.3	5962.38	5952.38	23.3	5950.38
13191(4)	06591/13291	NA	Ka (No.1)	UHSU	749071.20	2085530.42	5978.28	1.50	5979.78	15.4	5962.88	15.7	25.7	5962.58	5952.58	27.7	5950.58
13291(4)	06591/13191	NA	Qrf	UHSU	749059.76	2085523.19	5978.48	1.49	5979.97	15.4	5963.08	5.7	15.7	5972.78	5962.78	17.7	5960.78
13391	02591	NA	Qrf	UHSU	750922.47	2089163.91	5923.83	1.52	5925.35	38.6	5885.23	29.0	39.0	5894.83	5884.83	41.0	5882.83
13491(4)	01991	NA	Qrf	UHSU	749488.54	2086731.84	5961.92	1.50	5963.42	29.4	5932.52	19.0	29.0	5942.92	5932.92	31.0	5930.92
13591(4)	00291/12991	NA	Qrf	UHSU	749204.43	2086611.78	5965.92	1.63	5967.55	16.0	5949.92	6.0	16.0	5959.92	5949.92	18.0	5947.92
20191	20291, 20491,21191	NA	Ka (No.1)	UHSU	750055.58	2087602.73	5946.93	1.56	5948.49	33.1	5913.83	37.0	57.0	5909.93	5889.93	59.0	5887.93
20291	20191, 20491,21191	NA	Qrf	UHSU	750061.24	2087610.42	5947.19	1.39	5948.58	33.1	5914.09	18.0	33.0	5929.19	5914.19	35.0	5912.19
20491	20191, 20291,21191	NA	Qrf	UHSU	750052.41	2087612.42	5947.23	1.48	5948.71	NE	NE	16.6	31.6	5930.63	5915.63	32.6	5914.63
20591(4)	20691, 20791	NA	Qrf	UHSU	750050.57	2087600.79	5968.01	1.60	5969.61	24.5	5943.51	4.1	24.1	5963.91	5943.91	26.1	5941.91
20691(4)	20591, 20791	NA	Ka (No.1)	UHSU	749404.73	2086316.41	5968.09	1.54	5969.63	24.5	5943.59	4.5	24.5	5963.59	5943.59	26.5	5941.59
20791	20591, 20691	NA	Ka?(cs)	UHSU	749410.51	2086317.24	5967.90	1.59	5969.49	24.5	5943.40	29.5	34.5	5938.40	5933.40	36.5	5931.40
20891(4)	20991, 21091	NA	Qrf	UHSU	749976.87	2087285.03	5949.85	1.45	5951.30	19.4	5930.45	21.7	63.7	5928.15	5886.15	64.0	5885.85
20991	20891, 21091	NA	Ka (No.1)	UHSU	749970.90	2087286.68	5949.78	1.61	5951.39	13.0	5936.78	21.0	63.0	5928.78	5886.78	65.0	5884.78
21091	20891, 20991	NA	Qrf	UHSU	749997.08	2087282.14	5948.57	1.55	5950.12	15.0	5933.57	19.0	63.0	5929.57	5885.57	65.0	5883.57
21191(4)	20191, 20291,20491	NA	Ka (No.1)	UHSU	750059.98	2087598.92	5946.85	1.67	5948.52	31.7	5915.15	35.8	57.8	5911.05	5889.05	58.0	5888.85
34591	None	NA	Qc	UHSU	748462.00	2085621.00	5952.19	2.44	5954.63	8.2	5943.99	6.9	8.9	5945.29	5943.29	11.3	5940.89
34791	None	NA	Qc	UHSU	748376.50	2085521.16	5951.39	2.52	5953.91	8.0	5943.39	6.0	8.0	5945.39	5943.39	11.0	5940.39
37691	None	NA	Qvf	UHSU	748691.90	2085217.14	5984.46	0.78	5985.24	16.2	5968.26	6.5	16.5	5977.96	5967.96	19.0	5965.46
40491	0386	NA	Qvf	UHSU	750544.71	2093762.96	5677.33	1.33	5678.66	10.2	5667.13	8.3	10.2	5669.03	5667.13	12.3	5665.03
40791	None	NA	Qvf	UHSU	746282.63	2093524.83	5708.51	1.65	5710.16	7.0	5701.51	5.3	7.0	5703.21	5701.51	10.0	5698.51
41591	0286	NA	Qvf	UHSU	748799.83	2093914.01	5725.54	1.73	5727.27	11.0	5714.54	6.3	11.0	5719.24	5714.54	13.5	5712.04
41691	None	NA	Qvf	UHSU	753470.39	2093851.25	5643.95	1.93	5645.88	14.7	5629.25	5.1	14.7	5638.85	5629.25	17.4	5626.55
46692(4)	46792, 46892	NA	Kl (ss)	LHSU	749554.30	2087076.60	5956.20	2.05	5958.25	24.5	5931.70	72.3	87.3	5883.90	5868.90	90.1	5866.10
46792	46692, 46892	NA	Kl (sltst)	LHSU	749538.40	2087080.30	5956.30	2.14	5958.44	24.5	5931.80	97.1	112.1	5859.20	5844.20	114.9	5841.40
46892(4)	46692, 46792	NA	Kl (ss)	LHSU	749524.40	2087086.80	5956.70	1.66	5958.36	24.5	5932.20	147.4	162.4	5809.30	5794.30	165.2	5791.50
22093	None	WC-2a	Kl(sltst, ss)	LHSU	748622.57	2085973.16	5945.00	2.43	5947.43	8.0	5937.00	48.0	63.0	5897.00	5882.00	64.3	5880.70
22193	None	WC-3a	Kl(cs, ss, sltst)	LHSU	749083.92	2086763.21	5960.90	2.46	5963.36	12.5	5948.40	49.6	56.4	5911.30	5904.50	59.7	5901.20

TABLE B2
OU-2 HISTORICAL AND PHASE II ALLUVIAL AND BEDROCK MONITORING WELL INSTALLATION DATA

New Site Number	Paired Well Site Number	Work Plan Site Number	Stratigraphy of Screened Interval	Hydrostratigraphic Unit	State Plane Coordinates		Concrete Pad /Ground Elevation(1) (ft)	Well Casing Stickup(1) (ft ACP)	Top of Well Casing Elevation (ft)	Top of Bedrock		Screened Interval				Total Depth	
					Northing (ft)	Easting (ft)				Depth(1) (ft BCP)	Elevation(1) (ft)	Depth to Top(1) (ft BCP)	Depth to Bottom(1) (ft BCP)	Elevation of Top(1) (ft)	Elevation of Bottom(1) (ft)	Depth(1) (ft BCP)	Elevation(1) (ft)
22293	None	WC-4a	Kl(ss, sltst, cs)	LHSU	748372.56	2086500.94	5881.50	2.62	5884.12	21.0	5860.50	67.0	82.0	5814.50	5799.50	84.5	5797.00
22393	None	WC-5a	Kl(cs)	LHSU	749563.78	2086121.32	5969.30	2.84	5972.14	12.7	5956.60	108.2	118.0	5861.10	5851.30	121.0	5848.00
22593	23193	WC-1b	Kl(ss, cs, sltst)	LHSU	750008.18	2087314.71	5947.60	2.53	5950.13	7.0	5940.60	85.0	95.0	5862.60	5852.60	99.5	5848.10
23193	None	WC-1a	Kl(ss, cs)	UHSU	749999.39	2087318.89	5948.20	2.26	5950.46	8.0	5940.20	66.8	73.8	5881.40	5874.40	77.0	5871.20
23293	None	WC-6a	Kl(sltst, cs)	LHSU	749822.83	2086845.83	5955.60	2.42	5958.02	15.5	5940.10	77.9	88.0	5877.75	5867.60	89.5	5866.10

Notes:

ACP - Above Concrete Pad
BCP - Below Concrete Pad
Ka - Arapahoe Formation
Kl - Laramie Formation
Qc - Colluvium
UHSU- Upper Hydrostratigraphic Unit
LHSU- Lower Hydrostratigraphic Unit

NA - Not Applicable
NE - Not Encountered
cs - Claystone
ss - Sandstone
Qrf - Rocky Flats Alluvium

WC - Woodward-Clyde
No.1 - Number 1 Sandstone
sltst - Siltstone
Qvf - Valley Fill Alluvium

1. Elevations are at the top of the concrete pad for sites from 1986-1992; all other elevations are measured from this elevation. Typical thickness of the concrete pad is 6 inches. Elevations for 1993 wells (22093-22393, 22593, 23193, and 23293) are ground surface elevations and not concrete pad elevations. All other depths and elevations are feet below ground surface for 1993 wells.
2. Wells numbered 20191 through 21191 are OU-2 Phase II Test Wells.
3. Work Plan Site Numbers are given only for OU-2 Phase II locations listed in the OU-2 Alluvial and Bedrock Work Plans.

APPENDIX B3
OU-2 GROUNDWATER ELEVATION DATA AND HYDROGEOLOGIC DATA

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
171	N A	8/29/83	9.50	
171		11/22/83	15.00	
171		3/22/85	13.25	
171		8/25/86	13.04	
171		8/27/86	13.35	
171		1/1/87	13.25	
171		3/2/87	12.75	
171		3/9/87	11.33	
171		5/8/87	8.79	
171		7/1/87	9.10	
171		7/8/87	9.25	
171		9/29/87	13.50	
171		11/9/87	15.30	
171		12/1/87	15.13	
171		12/18/87	15.20	
171		1/9/88	15.20	
171		2/3/88	13.60	
171		3/21/88	10.40	
171		4/4/88	9.90	
171		5/16/88	11.40	
171		6/15/88	10.90	
171		7/15/88	13.40	
171		8/18/88	14.10	
171		9/15/88	16.10	
171		10/22/88	16.30	
171		11/15/88	17.00	
171		12/15/88	17.20	
171		1/15/89	17.40	
171		2/14/89	16.80	
171		3/27/89	14.50	
171		4/27/89	13.20	
171		5/18/89	13.00	
171		6/29/89	11.30	
171		7/14/89	13.15	
171		8/25/89	13.34	
171		11/29/89	15.51	
171		1/18/90	15.65	
171		4/16/90	9.81	
171		7/12/90	12.85	
171		11/20/90	16.00	
171		1/8/91	16.77	
171		4/16/91	17.05	
171		7/3/91	11.58	
171		9/9/91	13.30	

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
171		10/4/91	14.89	
171		11/20/91	16.00	
171		1/6/92	11.90	
171		1/30/92	35.00	
171		2/2/92	0.00	
171		2/24/92	13.58	
171		4/3/92	9.42	
171		4/4/92	9.42	
271	N A	8/29/83	7.50	
271		11/22/83	9.00	
271		3/22/85	8.31	
271		8/25/86	10.10	
271		8/27/86	26.55	
271		1/1/87	19.60	
271		3/2/87	8.40	
271		3/10/87	7.83	
271		5/8/87	5.98	
271		7/1/87	6.10	
271		7/8/87	6.00	
271		9/29/87	7.60	
271		11/9/87	8.90	
271		12/1/87	8.92	
271		12/18/87	9.00	
271		1/9/88	9.50	
271		2/3/88	7.90	
271		3/21/88	6.20	
271		4/4/88	5.90	
271		5/16/88	6.80	
271		6/15/88	7.10	
271		7/15/88	8.20	
271		8/18/88	8.60	
271		9/15/88	10.50	
271		10/22/88	11.30	
271		11/15/88	26.30	
271		12/15/88	25.40	
271		1/15/89	23.50	
271		2/14/89	28.90	
271		3/27/89	27.20	
271		4/27/89	26.20	
271		5/19/89	26.10	
271		6/29/89	8.70	
271		7/14/89	9.15	
271		8/25/89	8.80	
271		11/30/89	9.28	

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
271		1/18/90	9.61	
271		2/23/90	10.21	
271		4/17/90	5.18	
271		7/12/90	7.68	
271		11/20/90	10.80	
271		1/8/91	10.89	
271		4/18/91	19.38	
271		7/8/91	9.77	
271		9/9/91	10.66	
271		10/4/91	18.23	
271		11/21/91	13.78	
271		1/6/92	16.79	
271		2/24/92	12.77	
271		4/3/92	21.68	
271		4/4/92	21.68	
174	N A	8/20/86	18.23	
174		8/25/86	18.60	
174		8/26/86	20.81	
174		1/1/87	15.92	
174		2/1/87	11.96	
174		3/11/87	11.00	
174		5/8/87	8.65	
174		7/7/87	8.90	
174		7/21/87	11.30	
174		9/29/87	17.70	
174		11/3/87	18.70	
174		12/1/87	13.64	
174		12/21/87	18.70	
174		1/11/88	13.00	
174		2/29/88	11.90	
174		3/21/88	13.00	
174		4/18/88	12.70	
174		6/15/88	14.50	
174		7/15/88	16.70	
174		8/18/88	18.60	
174		9/15/88	18.00	
174		10/22/88	19.30	
174		11/15/88	19.20	
174		12/15/88	19.20	
174		1/15/89	19.60	
174		2/24/89	14.20	
174		3/31/89	15.30	
174		4/27/89	15.70	
174		5/28/89	15.30	

TABLE B3-1

OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
174		6/30/89	13.70	
174		7/28/89	17.65	
174		8/30/89	16.90	
174		11/17/89	17.50	
174		1/18/90	14.20	
174		2/9/90	16.56	
174		4/12/90	9.80	
174		5/22/90	11.99	
174		7/10/90	15.56	
174		8/10/90	16.28	
174		10/1/90	17.32	
174		11/14/90	14.40	
174		1/3/91	19.45	
174		4/2/91	18.52	
174		5/9/91	12.72	
174		7/2/91	11.87	
174		8/14/91	12.75	
174		10/4/91	17.45	
174		12/5/91	12.05	
174		1/3/92	15.69	
174		2/13/92	14.01	
174		4/8/92	7.18	
374	N A			
286	5726.10	8/29/86	7.89	5718.21
286		9/5/86	Dry	Dry
286		10/13/86	6.42	5719.68
286		11/26/86	5.97	5720.13
286		1/1/87	4.25	5721.85
286		5/7/87	3.79	5722.31
286		6/1/87	3.90	5722.20
286		7/7/87	4.65	5721.45
286		7/20/87	6.00	5720.10
286		8/6/87	7.50	5718.60
286		8/29/87	7.89	5718.21
286		9/1/87	6.90	5719.20
286		10/1/87	7.90	5718.20
286		11/9/87	7.50	5718.60
286		12/14/87	6.60	5719.50
286		1/8/88	6.30	5719.80
286		2/24/88	3.60	5722.50
286		3/7/88	3.50	5722.60
286		4/4/88	3.00	5723.10
286		5/2/88	2.40	5723.70
286		6/15/88	5.20	5720.90

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
286		7/15/88	7.70	5718.40
286		8/18/88	8.10	5718.00
286		9/15/88	8.60	5717.50
286		10/22/88	8.80	5717.30
286		11/15/88	9.60	5716.50
286		12/15/88	9.60	5716.50
286		1/15/89	10.10	5716.00
286		2/27/89	6.20	5719.90
286		3/17/89	7.50	5718.60
286		4/26/89	7.50	5718.60
286		5/15/89	5.80	5720.30
286		6/29/89	5.70	5720.40
286		6/30/89	7.05	5719.05
286		7/10/89	7.70	5718.40
286		8/3/89	5.80	5720.30
286		9/11/89	5.35	5720.75
286		10/5/89	8.50	5717.60
286		12/18/89	Dry	Dry
286		1/15/90	10.08	5716.02
286		3/19/90	2.78	5723.32
286		4/11/90	3.19	5722.91
286		6/7/90	5.25	5720.85
286		7/10/90	6.35	5719.75
286		8/8/90	7.28	5718.82
286		9/6/90	7.79	5718.31
286		9/10/90	10.05	5716.05
286		10/3/90	9.13	5716.97
286		11/1/90	9.18	5716.92
286		11/15/90	8.85	5717.25
286		12/7/90	9.78	5716.32
286		1/3/91	9.49	5716.61
286		3/13/91	9.35	5716.75
286		4/2/91	10.13	5715.97
286		5/6/91	5.30	5720.80
286		6/11/91	4.25	5721.85
286		6/19/91	5.42	5720.68
286		7/8/91	7.34	5718.76
286		8/6/91	7.12	5718.98
286		9/3/91	7.95	5718.15
286		9/11/91	8.24	5717.86
286		10/4/91	9.99	5716.11
286		11/5/91	10.07	5716.03
286		11/13/91	10.07	5716.03
286		12/2/91	6.92	5719.18

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
286		1/3/92	7.72	5718.38
286		2/3/92	7.78	5718.32
286		3/3/92	8.15	5717.95
286		3/18/92	2.84	5723.26
286		5/4/92	5.61	5720.49
286		6/1/92	7.95	5718.15
286		6/10/92	6.40	5719.70
286		7/6/92	7.89	5718.21
386	5677.86	8/29/86	12.84	5665.02
386		9/4/86	12.95	5664.91
386		9/5/86	12.96	5664.90
386		9/6/86	13.04	5664.82
386		10/13/86	13.23	5664.63
386		11/26/86	13.62	5664.24
386		1/1/87	14.81	5663.05
386		2/23/87	10.83	5667.03
386		4/1/87	8.81	5669.05
386		5/7/87	7.44	5670.42
386		6/2/87	8.20	5669.66
386		7/8/87	9.00	5668.86
386		7/24/87	9.90	5667.96
386		8/4/87	10.00	5667.86
386		9/1/87	10.90	5666.96
386		10/4/87	10.40	5667.46
386		11/9/87	11.90	5665.96
386		12/14/87	12.00	5665.86
386		1/7/88	11.60	5666.26
386		2/24/88	10.20	5667.66
386		3/7/88	9.20	5668.66
386		4/11/88	8.50	5669.36
386		5/12/88	9.30	5668.56
386		6/15/88	9.60	5668.26
386		7/15/88	10.80	5667.06
386		8/18/88	11.00	5666.86
386		9/15/88	12.10	5665.76
386		10/22/88	12.10	5665.76
386		11/15/88	12.60	5665.26
386		12/15/88	12.70	5665.16
386		1/15/89	13.00	5664.86
386		2/13/89	13.20	5664.66
386		3/14/89	13.40	5664.46
386		4/25/89	13.60	5664.26
386		5/12/89	13.50	5664.36
386		6/29/89	13.88	5663.98

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
386		6/30/89	13.70	5664.16
386		7/12/89	Dry	Dry
386		8/2/89	13.90	5663.96
386		9/12/89	15.20	5662.66
386		10/5/89	14.27	5663.59
386		12/18/89	14.53	5663.33
386		1/15/90	14.40	5663.46
386		3/8/90	14.50	5663.36
386		4/11/90	12.35	5665.51
386		6/8/90	13.65	5664.21
386		7/10/90	14.40	5663.46
386		8/8/90	14.31	5663.55
386		9/6/90	14.60	5663.26
386		9/12/90	14.59	5663.27
386		10/3/90	14.67	5663.19
386		11/1/90	14.80	5663.06
386		11/15/90	14.89	5662.97
386		12/7/90	15.04	5662.82
386		12/14/90	4.55	5673.31
386		1/3/91	15.09	5662.77
386		3/14/91	15.24	5662.62
386		4/2/91	15.36	5662.50
386		5/6/91	15.38	5662.48
386		6/11/91	15.48	5662.38
386		6/20/91	15.50	5662.36
386		7/2/91	15.60	5662.26
386		8/6/91	15.66	5662.20
386		9/3/91	15.72	5662.14
386		9/11/91	15.70	5662.16
386		10/3/91	15.73	5662.13
386		11/5/91	15.86	5662.00
386		11/13/91	15.70	5662.16
386		12/4/91	15.89	5661.97
386		1/3/92	16.02	5661.84
386		2/4/92	Dry	Dry
386		3/3/92	16.04	5661.82
386		3/31/92	15.35	5662.51
386		4/1/92	15.35	5662.51
386		4/2/92	15.35	5662.51
386		5/4/92	15.11	5662.75
386		6/1/92	15.20	5662.66
386		7/7/92	15.46	5662.40
386		8/3/92	15.66	5662.20
386		9/2/92	15.84	5662.02

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
386		9/16/92	15.90	5661.96
386		10/2/92	15.97	5661.89
386		12/7/92	16.17	5661.69
386		1/20/93	16.24	5661.62
386		2/2/93	16.23	5661.63
386		3/22/93	15.98	5661.88
386		3/26/93	15.90	5661.96
386		4/6/93	15.78	5662.08
3386	5952.42	9/12/86	Dry	Dry
3386		10/13/86	Dry	Dry
3386		11/26/86	Dry	Dry
3386		1/1/87	Dry	Dry
3386		2/25/87	Dry	Dry
3386		3/24/87	Dry	Dry
3386		5/8/87	Dry	Dry
3386		6/3/87	Dry	Dry
3386		7/8/87	Dry	Dry
3386		8/4/87	Dry	Dry
3386		9/3/87	Dry	Dry
3386		9/24/87	Dry	Dry
3386		10/21/87	Dry	Dry
3386		11/9/87	Dry	Dry
3386		12/1/87	Dry	Dry
3386		12/21/87	Dry	Dry
3386		1/11/88	Dry	Dry
3386		2/29/88	Dry	Dry
3386		3/21/88	Dry	Dry
3386		4/18/88	Dry	Dry
3386		6/15/88	Dry	Dry
3386		7/15/88	8.50	5943.92
3386		8/18/88	Dry	Dry
3386		9/15/88	Dry	Dry
3386		10/22/88	Dry	Dry
3386		11/15/88	Dry	Dry
3386		12/15/88	Dry	Dry
3386		1/15/89	Dry	Dry
3386		2/24/89	Dry	Dry
3386		3/31/89	Dry	Dry
3386		4/27/89	Dry	Dry
3386		5/25/89	Dry	Dry
3386		6/30/89	Dry	Dry
3386		7/28/89	Dry	Dry
3386		8/30/89	Dry	Dry
3386		9/12/89	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3386		11/16/89	Dry	Dry
3386		1/17/90	Dry	Dry
3386		4/24/90	6.64	5945.78
3386		5/17/90	7.08	5945.34
3386		7/11/90	8.29	5944.13
3386		8/3/90	Dry	Dry
3386		10/1/90	Dry	Dry
3386		11/7/90	Dry	Dry
3386		1/4/91	Dry	Dry
3386		6/11/91	6.15	5946.27
3386		7/3/91	8.10	5944.32
3386		8/5/91	Dry	Dry
3386		10/1/91	Dry	Dry
3386		4/3/92	5.97	5946.45
3386		7/1/92	8.30	5944.12
3386		7/23/92	Dry	Dry
3386		10/5/92	8.68	5943.74
3386		3/26/93	Dry	Dry
3386		4/14/93	5.58	5946.84
3486	5913.95	9/5/86	22.38	5891.57
3486		9/8/86	22.40	5891.55
3486		9/9/86	22.63	5891.32
3486		9/10/86	22.77	5891.18
3486		9/11/86	23.48	5890.47
3486		9/12/86	24.25	5889.70
3486		10/13/86	22.96	5890.99
3486		11/26/86	22.77	5891.18
3486		1/1/87	22.38	5891.57
3486		2/1/87	22.17	5891.78
3486		3/17/87	22.05	5891.90
3486		5/8/87	21.98	5891.97
3486		6/2/87	22.80	5891.15
3486		7/7/87	21.65	5892.30
3486		7/27/87	22.10	5891.85
3486		8/4/87	22.40	5891.55
3486		9/1/87	22.20	5891.75
3486		9/29/87	22.40	5891.55
3486		11/3/87	23.50	5890.45
3486		12/1/87	22.26	5891.69
3486		12/21/87	23.30	5890.65
3486		1/11/88	22.10	5891.85
3486		2/29/88	22.00	5891.95
3486		3/21/88	22.00	5891.95
3486		4/18/88	21.90	5892.05

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3486		5/16/88	22.20	5891.75
3486		6/15/88	21.90	5892.05
3486		7/15/88	21.90	5892.05
3486		8/18/88	22.00	5891.95
3486		9/15/88	22.10	5891.85
3486		10/22/88	22.20	5891.75
3486		11/15/88	22.30	5891.65
3486		12/15/88	22.20	5891.75
3486		1/15/89	21.90	5892.05
3486		2/24/89	21.90	5892.05
3486		3/31/89	21.90	5892.05
3486		4/27/89	21.70	5892.25
3486		5/26/89	21.60	5892.35
3486		6/30/89	21.60	5892.35
3486		7/28/89	21.66	5892.29
3486		8/30/89	21.62	5892.33
3486		9/12/89	21.65	5892.30
3486		11/29/89	21.80	5892.15
3486		1/17/90	21.75	5892.20
3486		1/24/90	21.70	5892.25
3486		4/11/90	21.20	5892.75
3486		5/21/90	21.25	5892.70
3486		7/11/90	21.42	5892.53
3486		7/30/90	21.40	5892.55
3486		10/3/90	21.62	5892.33
3486		10/18/90	22.71	5891.24
3486		1/2/91	21.73	5892.22
3486		3/14/91	21.49	5892.46
3486		4/1/91	21.78	5892.17
3486		4/22/91	21.51	5892.44
3486		7/3/91	21.36	5892.59
3486		7/8/91	21.38	5892.57
3486		10/3/91	21.54	5892.41
3486		10/7/91	21.56	5892.39
3486		1/6/92	21.38	5892.57
3486		4/8/92	20.90	5893.05
3486		7/2/92	21.11	5892.84
3486		8/5/92	21.57	5892.38
3486		10/1/92	21.50	5892.45
3486		12/10/92	21.34	5892.61
3486		1/15/93	21.43	5892.52
3486		3/4/93	21.30	5892.65
3486		4/7/93	21.13	5892.82
3586	5912.76	9/3/86	9.35	5903.41

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3586		9/8/86	9.04	5903.72
3586		9/9/86	9.14	5903.62
3586		9/10/86	9.16	5903.60
3586		9/11/86	9.24	5903.52
3586		9/12/86	9.29	5903.47
3586		10/13/86	9.13	5903.63
3586		11/26/86	9.47	5903.29
3586		1/1/87	9.38	5903.38
3586		2/1/87	8.96	5903.80
3586		3/17/87	6.50	5906.26
3586		5/8/87	6.00	5906.76
3586		6/2/87	7.90	5904.86
3586		7/7/87	6.70	5906.06
3586		7/27/87	8.10	5904.66
3586		8/4/87	6.40	5906.36
3586		9/1/87	8.60	5904.16
3586		9/29/87	9.00	5903.76
3586		11/3/87	8.80	5903.96
3586		12/1/87	8.40	5904.36
3586		12/21/87	8.50	5904.26
3586		1/11/88	8.30	5904.46
3586		2/29/88	7.10	5905.66
3586		3/21/88	6.80	5905.96
3586		4/18/88	7.00	5905.76
3586		5/16/88	8.10	5904.66
3586		6/15/88	8.10	5904.66
3586		7/15/88	8.60	5904.16
3586		8/18/88	8.80	5903.96
3586		9/15/88	9.20	5903.56
3586		10/22/88	9.20	5903.56
3586		11/15/88	9.50	5903.26
3586		12/15/88	9.50	5903.26
3586		1/15/89	9.60	5903.16
3586		2/24/89	9.40	5903.36
3586		3/31/89	9.00	5903.76
3586		4/27/89	7.90	5904.86
3586		5/25/89	8.20	5904.56
3586		6/30/89	8.10	5904.66
3586		7/28/89	9.03	5903.73
3586		9/12/89	9.03	5903.73
3586		12/5/89	9.59	5903.17
3586		1/17/90	9.45	5903.31
3586		1/23/90	9.35	5903.41
3586		4/11/90	4.65	5908.11

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3586		6/18/90	8.90	5903.86
3586		7/11/90	8.50	5904.26
3586		8/21/90	9.20	5903.56
3586		10/3/90	9.47	5903.29
3586		12/3/90	9.64	5903.12
3586		1/2/91	9.60	5903.16
3586		3/14/91	8.57	5904.19
3586		4/1/91	8.60	5904.16
3586		4/29/91	8.28	5904.48
3586		7/3/91	8.23	5904.53
3586		7/8/91	8.48	5904.28
3586		10/3/91	9.19	5903.57
3586		10/7/91	9.31	5903.45
3586		1/6/92	8.82	5903.94
3586		4/8/92	6.15	5906.61
3586		6/1/92	7.70	5905.06
3586		7/2/92	8.26	5904.50
3586		8/4/92	8.89	5903.87
3586		8/5/92	8.90	5903.86
3586		9/3/92	9.08	5903.68
3586		10/1/92	9.87	5902.89
3586		12/3/92	8.85	5903.91
3586		12/10/92	8.86	5903.90
3586		1/15/93	8.77	5903.99
3586		2/2/93	8.42	5904.34
3586		3/4/93	8.35	5904.41
3586		3/26/93	7.67	5905.09
3586		4/7/93	6.65	5906.11
3686	5888.26	8/27/86	9.28	5878.98
3686		9/3/86	Dry	Dry
3686		10/13/86	Dry	Dry
3686		11/26/86	Dry	Dry
3686		1/1/87	7.02	5881.24
3686		2/1/87	6.17	5882.09
3686		5/6/87	6.08	5882.18
3686		6/1/87	5.83	5882.43
3686		7/8/87	5.65	5882.61
3686		7/27/87	5.80	5882.46
3686		8/4/87	7.00	5881.26
3686		9/1/87	5.80	5882.46
3686		9/28/87	7.60	5880.66
3686		11/3/87	7.70	5880.56
3686		12/1/87	7.65	5880.61
3686		12/8/87	7.30	5880.96

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3686		1/7/88	7.50	5880.76
3686		2/24/88	7.40	5880.86
3686		3/14/88	7.30	5880.96
3686		4/11/88	5.80	5882.46
3686		5/12/88	6.10	5882.16
3686		6/15/88	6.00	5882.26
3686		7/15/88	7.20	5881.06
3686		8/18/88	7.60	5880.66
3686		9/15/88	Dry	Dry
3686		10/22/88	Dry	Dry
3686		11/15/88	Dry	Dry
3686		12/15/88	Dry	Dry
3686		1/15/89	Dry	Dry
3686		2/27/89	Dry	Dry
3686		3/10/89	7.30	5880.96
3686		4/26/89	7.30	5880.96
3686		5/5/89	6.60	5881.66
3686		6/18/89	5.70	5882.56
3686		7/14/89	5.93	5882.33
3686		8/11/89	6.11	5882.15
3686		9/12/89	6.69	5881.57
3686		12/14/89	6.16	5882.10
3686		1/17/90	5.71	5882.55
3686		1/24/90	5.66	5882.60
3686		4/11/90	5.35	5882.91
3686		5/17/90	6.21	5882.05
3686		7/11/90	7.42	5880.84
3686		8/22/90	7.66	5880.60
3686		10/3/90	8.17	5880.09
3686		10/15/90	Dry	Dry
3686		1/2/91	6.37	5881.89
3686		3/18/91	6.78	5881.48
3686		4/1/91	7.88	5880.38
3686		4/29/91	7.64	5880.62
3686		7/3/91	6.23	5882.03
3686		7/9/91	6.37	5881.89
3686		10/3/91	7.28	5880.98
3686		10/7/91	7.32	5880.94
3686		1/6/92	8.09	5880.17
3686		1/9/92	8.12	5880.14
3686		4/3/92	5.40	5882.86
3686		6/1/92	5.73	5882.53
3686		7/2/92	6.20	5882.06
3686		7/23/92	6.84	5881.42

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3686		8/4/92	7.92	5880.34
3686		9/3/92	7.97	5880.29
3686		10/2/92	8.14	5880.12
3686		10/12/92	8.19	5880.07
3686		12/2/92	Dry	Dry
3686		1/14/93	8.04	5880.22
3686		2/1/93	7.91	5880.35
3686		2/18/93	7.90	5880.36
3686		3/26/93	6.66	5881.60
3686		4/1/93	6.15	5882.11
3786	5968.99	9/24/86	Dry	Dry
3786		10/13/86	Dry	Dry
3786		11/26/86	Dry	Dry
3786		1/1/87	9.92	5959.07
3786		2/1/87	9.54	5959.45
3786		4/1/87	9.13	5959.86
3786		5/6/87	8.67	5960.32
3786		6/1/87	8.23	5960.76
3786		7/8/87	7.80	5961.19
3786		7/27/87	Dry	Dry
3786		8/4/87	7.40	5961.59
3786		9/1/87	8.60	5960.39
3786		9/28/87	7.10	5961.89
3786		11/3/87	6.80	5962.19
3786		12/8/87	7.70	5961.29
3786		2/24/88	Dry	Dry
3786		3/14/88	6.50	5962.49
3786		5/12/88	7.90	5961.09
3786		5/17/88	7.00	5961.99
3786		6/15/88	7.70	5961.29
3786		7/15/88	6.80	5962.19
3786		8/18/88	6.50	5962.49
3786		9/15/88	6.10	5962.89
3786		10/22/88	6.00	5962.99
3786		11/15/88	7.40	5961.59
3786		12/15/88	7.10	5961.89
3786		1/15/89	6.10	5962.89
3786		2/27/89	6.00	5962.99
3786		3/10/89	5.90	5963.09
3786		5/5/89	2.10	5966.89
3786		6/16/89	3.70	5965.29
3786		9/12/89	3.59	5965.40
3786		11/28/89	5.42	5963.57
3786		1/17/90	7.64	5961.35

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3786		1/25/90	7.17	5961.82
3786		4/11/90	3.22	5965.77
3786		5/16/90	4.63	5964.36
3786		7/12/90	Dry	Dry
3786		7/25/90	4.20	5964.79
3786		10/3/90	5.71	5963.28
3786		10/15/90	5.47	5963.52
3786		1/2/91	1.77	5967.22
3786		3/18/91	4.73	5964.26
3786		4/1/91	9.30	5959.69
3786		4/29/91	7.94	5961.05
3786		7/2/91	6.17	5962.82
3786		7/16/91	5.46	5963.53
3786		10/3/91	6.02	5962.97
3786		10/14/91	5.67	5963.32
3786		1/6/92	5.21	5963.78
3786		1/22/92	5.50	5963.49
3786		4/3/92	4.68	5964.31
3786		7/2/92	5.03	5963.96
3786		9/17/92	2.93	5966.06
3786		10/2/92	8.44	5960.55
3786		10/12/92	8.02	5960.97
3786		1/14/93	4.48	5964.51
3786		2/18/93	4.42	5964.57
3786		4/8/93	2.80	5966.19
3986	5909.41	4/26/86	26.20	5883.21
3986		9/16/86	25.17	5884.24
3986		9/17/86	25.38	5884.03
3986		9/18/86	25.38	5884.03
3986		9/19/86	25.40	5884.01
3986		9/24/86	25.38	5884.03
3986		10/13/86	25.51	5883.90
3986		11/26/86	25.82	5883.59
3986		1/1/87	5.92	5903.49
3986		2/1/87	25.63	5883.78
3986		4/1/87	25.79	5883.62
3986		5/6/87	24.67	5884.74
3986		6/1/87	24.75	5884.66
3986		7/7/87	24.75	5884.66
3986		7/23/87	25.00	5884.41
3986		8/4/87	24.90	5884.51
3986		9/1/87	25.20	5884.21
3986		9/3/87	25.20	5884.21
3986		9/28/87	24.40	5885.01

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3986		11/3/87	25.50	5883.91
3986		12/1/87	25.55	5883.86
3986		12/14/87	25.50	5883.91
3986		1/7/88	25.70	5883.71
3986		2/5/88	25.90	5883.51
3986		3/7/88	26.10	5883.31
3986		4/11/88	26.30	5883.11
3986		5/12/88	26.60	5882.81
3986		6/15/88	26.00	5883.41
3986		7/15/88	25.80	5883.61
3986		8/18/88	25.60	5883.81
3986		9/15/88	25.00	5884.41
3986		10/22/88	25.00	5884.41
3986		11/15/88	25.30	5884.11
3986		12/15/88	25.30	5884.11
3986		1/15/89	25.50	5883.91
3986		2/27/89	25.70	5883.71
3986		3/14/89	25.90	5883.51
3986		5/12/89	26.10	5883.31
3986		6/30/89	25.80	5883.61
3986		7/21/89	25.58	5883.83
3986		8/18/89	25.51	5883.90
3986		9/14/89	25.61	5883.80
3986		11/10/89	25.66	5883.75
3986		1/18/90	25.80	5883.61
3986		2/21/90	25.80	5883.61
3986		4/12/90	25.71	5883.70
3986		6/4/90	25.80	5883.61
3986		7/10/90	26.33	5883.08
3986		8/9/90	26.63	5882.78
3986		10/2/90	27.50	5881.91
3986		10/31/90	27.92	5881.49
3986		1/3/91	28.32	5881.09
3986		3/18/91	28.67	5880.74
3986		4/1/91	28.72	5880.69
3986		5/13/91	28.83	5880.58
3986		7/2/91	28.95	5880.46
3986		8/16/91	28.98	5880.43
3986		10/3/91	29.00	5880.41
3986		12/4/91	29.01	5880.40
3986		1/6/92	29.01	5880.40
3986		1/20/92	29.04	5880.37
3986		4/3/92	28.98	5880.43
3986		7/2/92	25.62	5883.79

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3986		9/8/92	26.24	5883.17
3986		10/2/92	26.63	5882.78
3986		10/19/92	28.90	5880.51
3986		1/20/93	28.06	5881.35
3986		2/23/93	28.34	5881.07
3986		4/6/93	28.60	5880.81
4086	5944.89	10/23/86	Dry	Dry
4086		11/26/86	105.75	5839.14
4086		1/1/87	95.23	5849.66
4086		2/1/87	92.13	5852.76
4086		5/6/87	85.63	5859.26
4086		6/1/87	102.60	5842.29
4086		7/7/87	103.45	5841.44
4086		7/20/87	101.10	5843.79
4086		8/6/87	104.30	5840.59
4086		9/1/87	100.30	5844.59
4086		10/22/87	93.80	5851.09
4086		11/2/87	108.40	5836.49
4086		12/1/87	103.30	5841.59
4086		12/14/87	102.20	5842.69
4086		1/8/88	96.50	5848.39
4086		2/5/88	94.60	5850.29
4086		3/7/88	91.10	5853.79
4086		4/4/88	102.60	5842.29
4086		5/2/88	98.70	5846.19
4086		6/15/88	104.00	5840.89
4086		11/15/88	103.10	5841.79
4086		12/15/88	101.00	5843.89
4086		1/15/89	94.60	5850.29
4086		2/13/89	93.40	5851.49
4086		3/14/89	97.80	5847.09
4086		4/26/89	95.00	5849.89
4086		5/12/89	93.90	5850.99
4086		6/30/89	100.00	5844.89
4086		9/12/89	93.03	5851.86
4086		12/12/89	87.17	5857.72
4086		1/18/90	105.34	5839.55
4086		2/19/90	100.77	5844.12
4086		4/16/90	102.30	5842.59
4086		6/27/90	95.26	5849.63
4086		7/12/90	106.48	5838.41
4086		9/20/90	88.65	5856.24
4086		10/3/90	107.56	5837.33
4086		11/27/90	100.84	5844.05

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4086		1/7/91	104.22	5840.67
4086		1/10/91	103.76	5841.13
4086		4/15/91	99.05	5845.84
4086		7/2/91	100.21	5844.68
4086		9/5/91	95.02	5849.87
4086		10/1/91	106.92	5837.97
4086		11/19/91	101.00	5843.89
4086		1/6/92	103.55	5841.34
4086		2/27/92	98.18	5846.71
4086		4/2/92	104.24	5840.65
4086		7/7/92	102.08	5842.81
4086		9/8/92	96.45	5848.44
4086		10/2/92	105.00	5839.89
4086		12/14/92	97.34	5847.55
4086		3/16/93	97.62	5847.27
4086		1/19/93	103.50	5841.39
4086		4/7/93	105.27	5839.62
4186	5944.36	9/23/86	27.28	5917.08
4186		9/25/86	37.02	5907.34
4186		9/30/86	27.03	5917.33
4186		10/13/86	38.38	5905.98
4186		11/26/86	33.56	5910.80
4186		1/1/87	31.88	5912.48
4186		2/1/87	30.13	5914.23
4186		5/6/87	34.27	5910.09
4186		6/1/87	34.30	5910.06
4186		7/8/87	35.80	5908.56
4186		7/20/87	36.30	5908.06
4186		8/6/87	36.60	5907.76
4186		9/1/87	36.70	5907.66
4186		10/22/87	37.20	5907.16
4186		11/2/87	37.40	5906.96
4186		12/1/87	38.24	5906.12
4186		12/14/87	37.30	5907.06
4186		1/8/88	38.50	5905.86
4186		2/5/88	39.80	5904.56
4186		3/7/88	40.50	5903.86
4186		4/4/88	40.90	5903.46
4186		5/2/88	40.00	5904.36
4186		6/15/88	33.10	5911.26
4186		9/15/88	32.40	5911.96
4186		10/22/88	33.20	5911.16
4186		11/15/88	22.80	5921.56
4186		12/15/88	34.30	5910.06

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4186		1/15/89	37.10	5907.26
4186		2/13/89	37.70	5906.66
4186		3/14/89	38.60	5905.76
4186		4/26/89	37.00	5907.36
4186		5/12/89	34.90	5909.46
4186		6/30/89	31.40	5912.96
4186		7/21/89	33.23	5911.13
4186		9/12/89	34.03	5910.33
4186		12/7/89	34.69	5909.67
4186		1/18/90	34.32	5910.04
4186		2/19/90	34.23	5910.13
4186		4/16/90	36.94	5907.42
4186		6/22/90	41.85	5902.51
4186		7/12/90	Dry	Dry
4186		8/15/90	43.99	5900.37
4186		9/17/90	44.65	5899.71
4186		10/3/90	44.88	5899.48
4186		11/8/90	45.31	5899.05
4186		11/20/90	45.37	5898.99
4186		12/4/90	45.56	5898.80
4186		1/7/91	45.81	5898.55
4186		1/10/91	45.79	5898.57
4186		4/15/91	46.27	5898.09
4186		5/3/91	46.32	5898.04
4186		6/4/91	46.32	5898.04
4186		8/1/91	46.40	5897.96
4186		9/9/91	46.48	5897.88
4186		10/1/91	46.49	5897.87
4186		11/1/91	46.52	5897.84
4186		11/19/91	46.55	5897.81
4186		1/6/92	Dry	Dry
4186		2/3/92	Dry	Dry
4186		3/2/92	Dry	Dry
4186		4/2/92	46.15	5898.21
4186		5/4/92	44.99	5899.37
4186		6/1/92	44.35	5900.01
4186		7/7/92	44.13	5900.23
4186		8/3/92	44.29	5900.07
4186		9/8/92	44.67	5899.69
4186		10/2/92	44.96	5899.40
4186		12/4/92	45.75	5898.61
4186		12/10/92	45.81	5898.55
4186		1/19/93	46.02	5898.34
4186		3/30/93	46.34	5898.02

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4186		4/7/93	46.38	5897.98
4286	5957.87	9/22/86	21.48	5936.39
4286		9/23/86	22.12	5935.75
4286		9/24/86	22.17	5935.70
4286		10/13/86	22.92	5934.95
4286		2/1/87	15.63	5942.24
4286		3/12/87	14.08	5943.79
4286		5/7/87	10.13	5947.74
4286		6/2/87	12.60	5945.27
4286		7/8/87	13.40	5944.47
4286		7/23/87	15.60	5942.27
4286		8/3/87	17.20	5940.67
4286		9/1/87	19.30	5938.57
4286		9/3/87	19.60	5938.27
4286		9/28/87	20.40	5937.47
4286		11/3/87	22.30	5935.57
4286		12/1/87	22.03	5935.84
4286		12/14/87	21.90	5935.97
4286		1/7/88	23.00	5934.87
4286		2/5/88	21.80	5936.07
4286		3/7/88	20.90	5936.97
4286		4/11/88	20.20	5937.67
4286		5/12/88	20.00	5937.87
4286		6/15/88	17.10	5940.77
4286		11/15/88	24.80	5933.07
4286		12/15/88	25.60	5932.27
4286		1/15/89	27.20	5930.67
4286		2/13/89	27.40	5930.47
4286		3/14/89	22.90	5934.97
4286		4/26/89	22.80	5935.07
4286		5/12/89	22.30	5935.57
4286		6/30/89	17.50	5940.37
4286		7/21/89	19.21	5938.66
4286		8/18/89	20.48	5937.39
4286		9/12/89	21.12	5936.75
4286		12/6/89	21.44	5936.43
4286		1/15/90	8.49	5949.38
4286		1/30/90	21.78	5936.09
4286		4/12/90	13.05	5944.82
4286		6/11/90	17.41	5940.46
4286		7/10/90	19.59	5938.28
4286		8/9/90	20.20	5937.67
4286		8/24/90	20.84	5937.03
4286		9/10/90	21.55	5936.32

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4286		10/4/90	22.18	5935.69
4286		11/7/90	22.93	5934.94
4286		11/16/90	22.80	5935.07
4286		12/7/90	22.58	5935.29
4286		1/2/91	23.51	5934.36
4286		3/8/91	26.39	5931.48
4286		4/1/91	26.98	5930.89
4286		5/7/91	25.43	5932.44
4286		5/17/91	24.58	5933.29
4286		6/10/91	15.86	5942.01
4286		7/1/91	17.34	5940.53
4286		8/7/91	20.19	5937.68
4286		9/4/91	20.24	5937.63
4286		9/11/91	20.63	5937.24
4286		10/3/91	21.87	5936.00
4286		11/4/91	23.44	5934.43
4286		12/3/91	22.23	5935.64
4286		1/3/92	20.85	5937.02
4286		2/3/92	21.81	5936.06
4286		3/5/92	22.86	5935.01
4286		4/4/92	11.00	5946.87
4286		5/5/92	14.38	5943.49
4286		6/1/92	17.64	5940.23
4286		7/6/92	19.69	5938.18
4286		8/4/92	21.31	5936.56
4286		8/17/92	22.03	5935.84
4286		9/3/92	22.37	5935.50
4286		10/1/92	22.92	5934.95
4286		12/3/92	25.81	5932.06
4286		1/13/93	26.00	5931.87
4286		2/2/93	26.43	5931.44
4286		3/16/93	27.45	5930.42
4286		3/29/93	27.48	5930.39
4286		4/6/93	26.01	5931.86
4386	5974.46	10/10/86	Dry	Dry
4386		10/13/86	Dry	Dry
4386		11/26/86	16.76	5957.70
4386		1/1/87	18.33	5956.13
4386		2/1/87	16.75	5957.71
4386		3/11/87	15.42	5959.04
4386		5/8/87	13.10	5961.36
4386		6/2/87	14.87	5959.59
4386		7/7/87	14.20	5960.26
4386		7/27/87	16.10	5958.36

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4386		8/4/87	16.80	5957.66
4386		9/1/87	16.50	5957.96
4386		9/29/87	18.00	5956.46
4386		11/3/87	18.30	5956.16
4386		12/1/87	16.75	5957.71
4386		12/21/87	Dry	Dry
4386		1/11/88	Dry	Dry
4386		2/29/88	17.10	5957.36
4386		3/21/88	16.90	5957.56
4386		4/18/88	16.20	5958.26
4386		5/16/88	17.00	5957.46
4386		6/15/88	17.00	5957.46
4386		7/15/88	18.10	5956.36
4386		8/18/88	18.20	5956.26
4386		9/15/88	18.20	5956.26
4386		10/22/88	Dry	Dry
4386		11/15/88	Dry	Dry
4386		12/15/88	Dry	Dry
4386		1/15/89	Dry	Dry
4386		2/14/89	18.40	5956.06
4386		3/27/89	17.50	5956.96
4386		4/27/89	17.50	5956.96
4386		5/28/89	17.80	5956.66
4386		6/30/89	16.00	5958.46
4386		7/21/89	18.11	5956.35
4386		8/30/89	17.47	5956.99
4386		9/12/89	17.83	5956.63
4386		12/6/89	Dry	Dry
4386		1/15/90	Dry	Dry
4386		4/12/90	13.45	5961.01
4386		6/5/90	16.02	5958.44
4386		7/10/90	17.92	5956.54
4386		8/9/90	17.38	5957.08
4386		8/13/90	Dry	Dry
4386		9/10/90	18.23	5956.23
4386		10/1/90	18.19	5956.27
4386		10/11/90	18.41	5956.05
4386		11/6/90	Dry	Dry
4386		12/7/90	18.36	5956.10
4386		1/2/91	Dry	Dry
4386		4/2/91	Dry	Dry
4386		5/7/91	16.21	5958.25
4386		6/11/91	13.85	5960.61
4386		7/2/91	15.99	5958.47

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4386		8/6/91	17.25	5957.21
4386		8/19/91	15.98	5958.48
4386		9/4/91	17.35	5957.11
4386		10/4/91	Dry	Dry
4386		11/8/91	Dry	Dry
4386		12/3/91	15.75	5958.71
4386		1/3/92	17.51	5956.95
4386		1/23/92	17.78	5956.68
4386		1/31/92	17.66	5956.80
4386		2/3/92	Dry	Dry
4386		2/12/92	18.20	5956.26
4386		2/26/92	18.64	5955.82
4386		3/5/92	Dry	Dry
4386		4/9/92	12.90	5961.56
4386		5/5/92	15.45	5959.01
4386		6/1/92	16.91	5957.55
4386		7/2/92	17.25	5957.21
4386		7/27/92	18.08	5956.38
4386		8/5/92	18.43	5956.03
4386		9/3/92	17.60	5956.86
4386		10/1/92	Dry	Dry
4386		12/3/92	18.11	5956.35
4386		1/15/93	18.13	5956.33
4386		2/2/93	Dry	Dry
4386		3/4/93	Dry	Dry
4386		3/26/93	18.19	5956.27
4386		4/7/93	16.05	5958.41
6286	5903.18	10/6/86	27.90	5875.28
6286		10/7/86	27.91	5875.27
6286		10/8/86	27.98	5875.20
6286		10/10/86	28.00	5875.18
6286		10/13/86	27.83	5875.35
6286		10/14/86	27.89	5875.29
6286		10/15/86	28.03	5875.15
6286		10/16/86	27.99	5875.19
6286		11/26/86	27.92	5875.26
6286		1/1/87	27.96	5875.22
6286		5/7/87	27.83	5875.35
6286		6/2/87	27.10	5876.08
6286		6/24/87	27.16	5876.02
6286		7/6/87	26.50	5876.68
6286		8/6/87	26.00	5877.18
6286		9/2/87	25.80	5877.38
6286		10/5/87	25.70	5877.48

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6286		11/9/87	26.00	5877.18
6286		12/1/87	25.90	5877.28
6286		12/16/87	25.90	5877.28
6286		1/8/88	26.30	5876.88
6286		2/4/88	26.50	5876.68
6286		2/24/88	26.30	5876.88
6286		3/7/88	25.10	5878.08
6286		4/4/88	25.70	5877.48
6286		5/16/88	25.60	5877.58
6286		6/15/88	25.20	5877.98
6286		7/15/88	25.10	5878.08
6286		8/18/88	25.20	5877.98
6286		9/15/88	25.80	5877.38
6286		10/22/88	26.10	5877.08
6286		11/15/88	26.50	5876.68
6286		12/15/88	26.60	5876.58
6286		1/15/89	27.30	5875.88
6286		2/27/89	27.40	5875.78
6286		3/24/89	27.70	5875.48
6286		4/25/89	27.90	5875.28
6286		5/19/89	27.90	5875.28
6286		6/10/89	27.90	5875.28
6286		6/29/89	27.90	5875.28
6286		7/14/89	27.73	5875.45
6286		7/27/89	27.61	5875.57
6286		8/18/89	27.58	5875.60
6286		9/13/89	27.45	5875.73
6286		10/19/89	27.34	5875.84
6286		1/16/90	27.02	5876.16
6286		2/16/90	27.30	5875.88
6286		4/16/90	26.93	5876.25
6286		6/13/90	25.58	5877.60
6286		7/12/90	25.75	5877.43
6286		9/18/90	25.65	5877.53
6286		10/3/90	25.77	5877.41
6286		11/20/90	26.06	5877.12
6286		1/7/91	26.73	5876.45
6286		1/9/91	26.72	5876.46
6286		4/5/91	27.69	5875.49
6286		5/13/91	27.85	5875.33
6286		7/3/91	27.57	5875.61
6286		8/22/91	27.22	5875.96
6286		10/3/91	26.99	5876.19
6286		11/22/91	27.31	5875.87

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6286		1/6/92	27.38	5875.80
6286		4/4/92	27.50	5875.68
6286		6/10/92	26.17	5877.01
6286		7/8/92	26.15	5877.03
6286		7/30/92	26.21	5876.97
6286		10/1/92	26.82	5876.36
6286		1/20/93	27.74	5875.44
6286		3/11/93	28.17	5875.01
6286		4/6/93	28.20	5874.98
6386	5902.01	10/6/86	Dry	Dry
6386		10/13/86	Dry	Dry
6386		11/26/86	Dry	Dry
6386		1/1/87	Dry	Dry
6386		5/7/87	Dry	Dry
6386		6/2/87	Dry	Dry
6386		6/24/87	Dry	Dry
6386		7/6/87	Dry	Dry
6386		8/6/87	Dry	Dry
6386		9/2/87	Dry	Dry
6386		10/5/87	Dry	Dry
6386		11/9/87	Dry	Dry
6386		12/1/87	Dry	Dry
6386		12/16/87	Dry	Dry
6386		1/8/88	Dry	Dry
6386		2/4/88	Dry	Dry
6386		2/24/88	Dry	Dry
6386		3/7/88	Dry	Dry
6386		4/4/88	Dry	Dry
6386		6/15/88	Dry	Dry
6386		7/15/88	Dry	Dry
6386		8/18/88	Dry	Dry
6386		9/15/88	16.80	5885.21
6386		10/22/88	Dry	Dry
6386		11/15/88	Dry	Dry
6386		12/15/88	16.80	5885.21
6386		1/15/89	Dry	Dry
6386		2/13/89	Dry	Dry
6386		3/24/89	Dry	Dry
6386		4/25/89	Dry	Dry
6386		5/19/89	Dry	Dry
6386		6/10/89	Dry	Dry
6386		6/29/89	Dry	Dry
6386		7/14/89	Dry	Dry
6386		7/26/89	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6386		8/18/89	15.73	5886.28
6386		9/13/89	Dry	Dry
6386		10/18/89	Dry	Dry
6386		1/16/90	Dry	Dry
6386		4/16/90	8.60	5893.41
6386		6/13/90	10.60	5891.41
6386		7/12/90	15.39	5886.62
6386		8/9/90	15.50	5886.51
6386		9/12/90	15.67	5886.34
6386		9/19/90	16.72	5885.29
6386		10/3/90	16.67	5885.34
6386		11/8/90	Dry	Dry
6386		11/27/90	Dry	Dry
6386		12/4/90	Dry	Dry
6386		1/7/91	Dry	Dry
6386		4/5/91	Dry	Dry
6386		5/3/91	Dry	Dry
6386		6/11/91	13.43	5888.58
6386		7/3/91	13.68	5888.33
6386		8/8/91	14.57	5887.44
6386		8/22/91	14.22	5887.79
6386		9/6/91	16.32	5885.69
6386		10/3/91	16.43	5885.58
6386		11/5/91	16.59	5885.42
6386		11/22/91	16.64	5885.37
6386		12/7/91	16.77	5885.24
6386		1/6/92	Dry	Dry
6386		2/3/92	Dry	Dry
6386		3/5/92	Dry	Dry
6386		4/4/92	13.57	5888.44
6386		5/5/92	13.92	5888.09
6386		6/2/92	14.22	5887.79
6386		6/10/92	14.31	5887.70
6386		7/2/92	16.32	5885.69
6386		7/30/92	16.42	5885.59
6386		8/3/92	16.72	5885.29
6386		9/3/92	16.76	5885.25
6386		10/1/92	16.89	5885.12
6386		12/7/92	Dry	Dry
6386		1/20/93	16.92	5885.09
6386		3/30/93	16.97	5885.04
6386		4/6/93	16.58	5885.43
6486	5841.05	9/13/86	Dry	Dry
6486		10/13/86	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6486		11/26/86	6.98	5834.07
6486		1/1/87	7.27	5833.78
6486		5/8/87	7.02	5834.03
6486		6/2/87	9.60	5831.45
6486		6/24/87	9.50	5831.55
6486		7/7/87	Dry	Dry
6486		7/16/87	7.70	5833.35
6486		8/6/87	10.70	5830.35
6486		9/2/87	10.60	5830.45
6486		10/6/87	10.60	5830.45
6486		11/9/87	10.50	5830.55
6486		12/1/87	9.30	5831.75
6486		2/4/88	6.94	5834.11
6486		6/15/88	7.60	5833.45
6486		7/15/88	9.50	5831.55
6486		8/18/88	9.50	5831.55
6486		9/15/88	10.00	5831.05
6486		10/22/88	10.30	5830.75
6486		11/15/88	10.80	5830.25
6486		12/15/88	10.70	5830.35
6486		1/15/89	10.50	5830.55
6486		2/14/89	10.30	5830.75
6486		3/24/89	6.80	5834.25
6486		4/27/89	7.30	5833.75
6486		5/19/89	7.70	5833.35
6486		5/26/89	7.60	5833.45
6486		7/10/89	8.50	5832.55
6486		9/14/89	10.70	5830.35
6486		10/16/89	Dry	Dry
6486		1/16/90	11.01	5830.04
6486		2/8/90	10.91	5830.14
6486		4/12/90	6.81	5834.24
6486		5/25/90	7.66	5833.39
6486		7/10/90	10.94	5830.11
6486		7/31/90	Dry	Dry
6486		10/1/90	11.12	5829.93
6486		10/5/90	Dry	Dry
6486		1/2/91	Dry	Dry
6486		4/1/91	Dry	Dry
6486		7/2/91	8.06	5832.99
6486		8/22/91	9.95	5831.10
6486		10/3/91	11.14	5829.91
6486		12/5/91	8.44	5832.61
6486		1/3/92	8.44	5832.61

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6486		2/13/92	7.28	5833.77
6486		4/8/92	6.90	5834.15
6486		4/9/92	6.90	5834.15
6486		7/1/92	10.23	5830.82
6486		8/10/92	Dry	Dry
6486		10/1/92	11.21	5829.84
6486		1/19/93	8.10	5832.95
6486		3/10/93	7.17	5833.88
6486		4/8/93	6.72	5834.33
6586	5788.27	9/16/86	7.15	5781.12
6586		9/17/86	7.19	5781.08
6586		9/19/86	7.32	5780.95
6586		9/24/86	7.32	5780.95
6586		10/13/86	6.45	5781.82
6586		11/26/86	6.06	5782.21
6586		1/1/87	6.04	5782.23
6586		3/14/87	5.90	5782.37
6586		5/8/87	5.88	5782.39
6586		6/2/87	6.58	5781.69
6586		7/7/87	7.10	5781.17
6586		8/6/87	7.30	5780.97
6586		9/2/87	7.00	5781.27
6586		9/8/87	7.90	5780.37
6586		10/5/87	7.30	5780.97
6586		11/3/87	6.90	5781.37
6586		12/1/87	6.38	5781.89
6586		12/16/87	6.50	5781.77
6586		1/8/88	5.90	5782.37
6586		2/4/88	5.56	5782.71
6586		2/24/88	5.70	5782.57
6586		3/14/88	5.90	5782.37
6586		4/4/88	5.30	5782.97
6586		5/16/88	6.80	5781.47
6586		6/15/88	6.60	5781.67
6586		7/15/88	7.30	5780.97
6586		8/18/88	7.50	5780.77
6586		9/15/88	7.30	5780.97
6586		10/22/88	7.30	5780.97
6586		11/15/88	6.90	5781.37
6586		12/15/88	6.90	5781.37
6586		1/15/89	6.90	5781.37
6586		2/27/89	5.50	5782.77
6586		3/17/89	5.80	5782.47
6586		4/26/89	7.00	5781.27

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6586		5/19/89	6.80	5781.47
6586		6/1/89	6.79	5781.48
6586		6/29/89	7.10	5781.17
6586		7/20/89	7.70	5780.57
6586		7/21/89	7.57	5780.70
6586		8/18/89	7.51	5780.76
6586		9/15/89	6.52	5781.75
6586		10/25/89	7.02	5781.25
6586		1/18/90	6.68	5781.59
6586		2/7/90	7.57	5780.70
6586		4/16/90	5.75	5782.52
6586		5/25/90	6.60	5781.67
6586		7/10/90	7.01	5781.26
6586		8/2/90	7.12	5781.15
6586		10/2/90	7.12	5781.15
6586		10/17/90	7.10	5781.17
6586		1/2/91	7.28	5780.99
6586		3/18/91	6.82	5781.45
6586		4/1/91	7.12	5781.15
6586		5/9/91	6.61	5781.66
6586		7/2/91	7.38	5780.89
6586		8/16/91	6.85	5781.42
6586		10/2/91	7.29	5780.98
6586		12/6/91	6.19	5782.08
6586		1/3/92	6.52	5781.75
6586		1/23/92	5.98	5782.29
6586		1/23/92	5.98	5782.29
6586		4/1/92	5.34	5782.93
6586		4/2/92	5.34	5782.93
6586		7/7/92	7.41	5780.86
6586		8/6/92	7.55	5780.72
6586		10/1/92	7.55	5780.72
6586		12/14/92	6.28	5781.99
6586		1/19/93	6.85	5781.42
6586		3/16/93	6.23	5782.04
6586		4/6/93	5.62	5782.65
6786	5803.97	8/18/86	15.31	5788.66
6786		9/22/86	4.43	5799.54
6786		9/23/86	3.86	5800.11
6786		9/24/86	4.19	5799.78
6786		9/25/86	4.13	5799.84
6786		10/3/86	3.77	5800.20
6786		10/13/86	4.59	5799.38
6786		1/1/87	11.83	5792.14

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6786		5/7/87	9.42	5794.55
6786		6/1/87	7.20	5796.77
6786		7/7/87	12.10	5791.87
6786		7/20/87	12.90	5791.07
6786		8/6/87	13.50	5790.47
6786		9/1/87	14.40	5789.57
6786		10/22/87	14.80	5789.17
6786		11/9/87	14.80	5789.17
6786		12/1/87	14.75	5789.22
6786		12/14/87	14.70	5789.27
6786		1/8/88	14.50	5789.47
6786		2/24/88	14.10	5789.87
6786		3/7/88	13.90	5790.07
6786		4/4/88	13.80	5790.17
6786		5/16/88	13.90	5790.07
6786		6/15/88	14.10	5789.87
6786		7/15/88	14.80	5789.17
6786		8/18/88	14.90	5789.07
6786		9/15/88	15.30	5788.67
6786		10/22/88	15.30	5788.67
6786		11/15/88	15.30	5788.67
6786		12/15/88	15.00	5788.97
6786		1/15/89	14.60	5789.37
6786		2/27/89	14.50	5789.47
6786		3/17/89	14.20	5789.77
6786		4/26/89	14.00	5789.97
6786		5/19/89	14.00	5789.97
6786		6/29/89	14.00	5789.97
6786		7/21/89	14.58	5789.39
6786		9/14/89	15.45	5788.52
6786		12/13/89	14.95	5789.02
6786		1/19/90	14.81	5789.16
6786		2/8/90	14.54	5789.43
6786		4/12/90	13.33	5790.64
6786		6/12/90	12.44	5791.53
6786		7/11/90	13.57	5790.40
6786		8/22/90	15.07	5788.90
6786		10/4/90	15.57	5788.40
6786		10/5/90	15.60	5788.37
6786		1/3/91	16.07	5787.90
6786		4/2/91	16.54	5787.43
6786		5/20/91	Dry	Dry
6786		7/1/91	Dry	Dry
6786		9/12/91	Dry	Dry

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6786		10/2/91	16.83	5787.14
6786		10/2/91	Dry	Dry
6786		1/6/92	Dry	Dry
6786		4/3/92	Dry	Dry
6786		4/4/92	Dry	Dry
6786		7/9/92	15.44	5788.53
6786		10/2/92	16.12	5787.85
6786		11/4/92	16.32	5787.65
6786		1/19/93	Dry	Dry
6786		4/6/93	16.68	5787.29
687	5906.32	6/24/87	5.67	5900.65
687		7/28/87	6.90	5899.42
687		8/6/87	7.40	5898.92
687		10/5/87	4.70	5901.62
687		11/10/87	3.70	5902.62
687		12/16/87	3.70	5902.62
687		1/8/88	2.90	5903.42
687		2/4/88	2.49	5903.83
687		2/24/88	4.00	5902.32
687		3/7/88	2.40	5903.92
687		4/4/88	2.30	5904.02
687		5/2/88	3.20	5903.12
687		6/15/88	3.30	5903.02
687		7/15/88	4.50	5901.82
687		8/18/88	6.00	5900.32
687		9/15/88	7.30	5899.02
687		10/22/88	7.20	5899.12
687		11/15/88	6.50	5899.82
687		12/15/88	6.20	5900.12
687		1/15/89	5.80	5900.52
687		2/13/89	5.20	5901.12
687		3/24/89	4.80	5901.52
687		4/25/89	4.50	5901.82
687		5/19/89	4.70	5901.62
687		6/10/89	2.90	5903.42
687		7/14/89	6.28	5900.04
687		7/26/89	6.30	5900.02
687		8/18/89	5.16	5901.16
687		9/13/89	5.30	5901.02
687		10/19/89	5.44	5900.88
687		1/16/90	4.28	5902.04
687		1/31/90	4.11	5902.21
687		4/12/90	1.88	5904.44
687		5/3/90	1.90	5904.42

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
687		7/11/90	4.46	5901.86
687		7/20/90	4.92	5901.40
687		10/1/90	5.42	5900.90
687		10/8/90	5.64	5900.68
687		1/2/91	5.10	5901.22
687		3/18/91	5.00	5901.32
687		4/1/91	5.19	5901.13
687		5/14/91	4.74	5901.58
687		7/2/91	5.26	5901.06
687		8/19/91	5.76	5900.56
687		10/2/91	6.96	5899.36
987	5981.70	4/13/90	15.77	5965.93
987		6/8/90	17.16	5964.54
987		7/12/90	17.85	5963.85
987		9/17/90	18.80	5962.90
987		10/2/90	18.86	5962.84
987		12/12/90	19.78	5961.92
987		1/3/91	20.20	5961.50
987		3/7/91	20.75	5960.95
987		4/2/91	20.98	5960.72
987		5/15/91	19.85	5961.85
987		7/5/91	18.25	5963.45
987		8/16/91	18.24	5963.46
987		10/4/91	19.33	5962.37
987		12/16/91	18.83	5962.87
987		2/5/92	19.57	5962.13
987		3/6/92	19.39	5962.31
987		4/7/92	14.83	5966.87
987		4/8/92	14.83	5966.87
987		5/7/92	16.48	5965.22
987		7/9/92	17.87	5963.83
987		7/15/92	17.95	5963.75
987		10/2/92	19.39	5962.31
987		12/10/92	19.68	5962.02
987		1/20/93	20.14	5961.56
987		3/8/93	20.60	5961.10
987		4/14/93	18.48	5963.22
1087	5983.52	8/4/87	Dry	Dry
1087		11/9/87	13.20	5970.32
1087		12/1/87	12.85	5970.67
1087		12/21/87	13.00	5970.52
1087		1/11/88	11.10	5972.42
1087		2/29/88	12.90	5970.62
1087		3/21/88	13.00	5970.52

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1087		4/18/88	13.10	5970.42
1087		5/16/88	13.20	5970.32
1087		6/15/88	13.40	5970.12
1087		7/15/88	13.60	5969.92
1087		8/18/88	13.60	5969.92
1087		9/15/88	13.60	5969.92
1087		10/22/88	Dry	Dry
1087		11/15/88	Dry	Dry
1087		12/15/88	13.60	5969.92
1087		1/15/89	13.30	5970.22
1087		2/14/89	12.10	5971.42
1087		4/27/89	13.00	5970.52
1087		5/28/89	13.00	5970.52
1087		6/30/89	13.20	5970.32
1087		7/21/89	13.55	5969.97
1087		8/25/89	Dry	Dry
1087		12/8/89	13.40	5970.12
1087		1/19/90	12.98	5970.54
1087		3/8/90	11.18	5972.34
1087		4/13/90	13.14	5970.38
1087		6/5/90	13.05	5970.47
1087		7/12/90	13.56	5969.96
1087		8/14/90	13.22	5970.30
1087		9/17/90	13.17	5970.35
1087		9/25/90	12.45	5971.07
1087		10/2/90	12.94	5970.58
1087		11/9/90	11.32	5972.20
1087		12/10/90	13.08	5970.44
1087		12/12/90	13.08	5970.44
1087		1/3/91	13.62	5969.90
1087		3/14/91	Dry	Dry
1087		4/2/91	Dry	Dry
1087		5/7/91	11.93	5971.59
1087		6/11/91	17.86	5965.66
1087		7/5/91	13.05	5970.47
1087		8/8/91	12.89	5970.63
1087		8/26/91	13.02	5970.50
1087		9/5/91	13.60	5969.92
1087		10/4/91	Dry	Dry
1087		11/8/91	11.29	5972.23
1087		2/5/92	12.96	5970.56
1087		3/5/92	Dry	Dry
1087		4/8/92	13.05	5970.47
1087		5/7/92	13.12	5970.40

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1087		6/3/92	11.82	5971.70
1087		7/9/92	13.11	5970.41
1087		7/15/92	13.17	5970.35
1087		8/4/92	18.39	5965.13
1087		9/4/92	13.03	5970.49
1087		10/1/92	Dry	Dry
1087		10/2/92	13.77	5969.75
1087		12/3/92	Dry	Dry
1087		1/20/93	13.28	5970.24
1087		2/2/93	13.51	5970.01
1087		3/8/93	Dry	Dry
1087		3/26/93	Dry	Dry
1087		4/14/93	11.25	5972.27
1187	5915.12	10/5/87	18.30	5896.82
1187		11/9/87	18.60	5896.52
1187		12/1/87	18.60	5896.52
1187		12/16/87	18.60	5896.52
1187		1/8/88	18.90	5896.22
1187		2/24/88	18.50	5896.62
1187		3/7/88	18.20	5896.92
1187		4/4/88	18.00	5897.12
1187		5/16/88	18.00	5897.12
1187		6/15/88	17.90	5897.22
1187		7/15/88	18.30	5896.82
1187		8/18/88	18.50	5896.62
1187		9/15/88	19.10	5896.02
1187		10/22/88	19.10	5896.02
1187		11/15/88	19.40	5895.72
1187		12/15/88	19.30	5895.82
1187		1/15/89	19.70	5895.42
1187		2/27/89	19.80	5895.32
1187		3/24/89	19.70	5895.42
1187		4/26/89	19.50	5895.62
1187		6/29/89	18.80	5896.32
1187		7/21/89	18.58	5896.54
1187		8/18/89	18.56	5896.56
1187		4/16/90	17.91	5897.21
1187		5/19/90	19.40	5895.72
1187		6/15/90	17.57	5897.55
1187		7/12/90	18.17	5896.95
1187		9/18/90	18.73	5896.39
1187		10/3/90	18.83	5896.29
1187		11/27/90	19.19	5895.93
1187		1/7/91	19.45	5895.67

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1187		1/15/91	19.50	5895.62
1187		4/15/91	19.79	5895.33
1187		7/2/91	18.63	5896.49
1187		9/5/91	18.50	5896.62
1187		10/1/91	18.73	5896.39
1187		11/20/91	19.09	5896.03
1187		1/6/92	19.06	5896.06
1187		4/4/92	18.05	5897.07
1187		7/7/92	18.40	5896.72
1187		8/31/92	19.16	5895.96
1187		10/2/92	19.43	5895.69
1187		1/20/93	19.94	5895.18
1187		3/11/93	20.05	5895.07
1187		4/6/93	19.99	5895.13
1287	5936.30	11/9/87	9.10	5927.20
1287		11/11/87	9.10	5927.20
1287		12/1/87	8.95	5927.35
1287		12/18/87	9.00	5927.30
1287		1/9/88	9.60	5926.70
1287		2/3/88	6.80	5929.50
1287		3/21/88	6.60	5929.70
1287		4/4/88	6.20	5930.10
1287		5/16/88	7.20	5929.10
1287		6/15/88	7.40	5928.90
1287		7/15/88	8.40	5927.90
1287		8/18/88	8.80	5927.50
1287		9/15/88	10.60	5925.70
1287		10/22/88	11.40	5924.90
1287		11/15/88	Dry	Dry
1287		12/15/88	Dry	Dry
1287		1/15/89	Dry	Dry
1287		2/14/89	Dry	Dry
1287		3/27/89	Dry	Dry
1287		4/27/89	11.30	5925.00
1287		5/19/89	10.40	5925.90
1287		6/29/89	7.70	5928.60
1287		7/14/89	9.15	5927.15
1287		8/25/89	8.81	5927.49
1287		1/15/90	9.61	5926.69
1287		1/24/90	9.90	5926.40
1287		4/16/90	5.39	5930.91
1287		6/14/90	6.82	5929.48
1287		7/12/90	7.69	5928.61
1287		9/20/90	9.14	5927.16

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1287		10/3/90	9.50	5926.80
1287		11/27/90	10.48	5925.82
1287		1/7/91	11.46	5924.84
1287		1/15/91	11.64	5924.66
1287		4/15/91	Dry	Dry
1287		7/3/91	7.55	5928.75
1287		9/9/91	8.55	5927.75
1287		10/1/91	9.05	5927.25
1287		11/19/91	9.68	5926.62
1287		1/6/92	8.69	5927.61
1287		4/4/92	5.58	5930.72
1287		7/6/92	7.58	5928.72
1287		8/31/92	9.57	5926.73
1287		10/2/92	10.87	5925.43
1287		1/19/93	12.16	5924.14
1287		4/7/93	12.02	5924.28
1487	5856.56	3/14/87	14.30	5842.26
1487		10/5/87	14.60	5841.96
1487		11/9/87	14.60	5841.96
1487		12/1/87	14.57	5841.99
1487		12/16/87	14.60	5841.96
1487		1/8/88	14.70	5841.86
1487		2/24/88	14.50	5842.06
1487		3/14/88	14.30	5842.26
1487		4/4/88	14.20	5842.36
1487		5/16/88	14.20	5842.36
1487		6/15/88	14.20	5842.36
1487		7/15/88	14.60	5841.96
1487		8/18/88	15.00	5841.56
1487		9/15/88	15.10	5841.46
1487		10/22/88	15.00	5841.56
1487		11/15/88	15.20	5841.36
1487		12/15/88	15.20	5841.36
1487		1/15/89	15.30	5841.26
1487		2/27/89	15.30	5841.26
1487		3/17/89	15.20	5841.36
1487		4/25/89	15.20	5841.36
1487		5/19/89	15.20	5841.36
1487		6/29/89	15.30	5841.26
1487		7/21/89	15.42	5841.14
1487		8/18/89	15.42	5841.14
1487		4/16/90	14.37	5842.19
1487		6/14/90	13.99	5842.57
1487		7/12/90	14.44	5842.12

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1487		9/18/90	15.11	5841.45
1487		10/3/90	15.06	5841.50
1487		11/20/90	15.10	5841.46
1487		1/7/91	15.11	5841.45
1487		1/11/91	15.11	5841.45
1487		4/15/91	15.19	5841.37
1487		7/3/91	15.23	5841.33
1487		9/5/91	15.42	5841.14
1487		10/1/91	15.32	5841.24
1487		11/20/91	15.10	5841.46
1487		1/6/92	14.87	5841.69
1487		4/3/92	14.00	5842.56
1487		7/7/92	14.33	5842.23
1487		8/31/92	14.94	5841.62
1487		10/2/92	15.14	5841.42
1487		1/20/93	15.24	5841.32
1487		3/10/93	15.23	5841.33
1487		4/6/93	16.24	5840.32
1587	5972.79	9/29/87	20.80	5951.99
1587		11/11/87	20.40	5952.39
1587		12/1/87	20.55	5952.24
1587		12/21/87	20.10	5952.69
1587		1/11/88	22.30	5950.49
1587		2/29/88	20.20	5952.59
1587		3/21/88	20.00	5952.79
1587		4/18/88	19.60	5953.19
1587		5/16/88	20.20	5952.59
1587		6/15/88	19.20	5953.59
1587		7/15/88	20.70	5952.09
1587		8/18/88	21.10	5951.69
1587		9/15/88	22.00	5950.79
1587		10/22/88	22.60	5950.19
1587		11/15/88	22.80	5949.99
1587		12/15/88	22.80	5949.99
1587		1/15/89	22.40	5950.39
1587		2/14/89	21.60	5951.19
1587		3/27/89	19.70	5953.09
1587		4/27/89	19.80	5952.99
1587		5/25/89	20.10	5952.69
1587		6/30/89	16.70	5956.09
1587		7/21/89	8.30	5964.49
1587		8/25/89	19.78	5953.01
1587		9/12/89	20.03	5952.76
1587		12/4/89	22.10	5950.69

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1587		1/15/90	23.31	5949.48
1587		1/23/90	22.59	5950.20
1587		4/16/90	13.98	5958.81
1587		6/25/90	19.32	5953.47
1587		7/12/90	19.99	5952.80
1587		8/9/90	20.00	5952.79
1587		9/17/90	21.09	5951.70
1587		9/18/90	21.10	5951.69
1587		10/3/90	21.13	5951.66
1587		11/8/90	21.65	5951.14
1587		11/27/90	20.98	5951.81
1587		12/4/90	21.39	5951.40
1587		1/7/91	22.84	5949.95
1587		1/10/91	23.72	5949.07
1587		4/15/91	22.53	5950.26
1587		5/3/91	20.83	5951.96
1587		6/10/91	14.06	5958.73
1587		7/3/91	17.31	5955.48
1587		8/1/91	19.19	5953.60
1587		9/3/91	19.58	5953.21
1587		9/4/91	19.58	5953.21
1587		10/1/91	20.87	5951.92
1587		11/1/91	21.80	5950.99
1587		1/6/92	20.26	5952.53
1587		2/3/92	20.88	5951.91
1587		3/3/92	21.93	5950.86
1587		3/5/92	21.92	5950.87
1587		4/7/92	12.97	5959.82
1587		5/1/92	16.52	5956.27
1587		6/1/92	18.93	5953.86
1587		6/23/92	19.47	5953.32
1587		7/6/92	19.93	5952.86
1587		8/3/92	20.98	5951.81
1587		9/1/92	20.09	5952.70
1587		10/2/92	21.77	5951.02
1587		12/8/92	29.30	5943.49
1587		1/19/93	21.50	5951.29
1587		3/9/93	22.68	5950.11
1587		3/30/93	22.18	5950.61
1587		4/7/93	19.79	5953.00
1687	5970.79	9/29/87	104.30	5866.49
1687		11/11/87	85.20	5885.59
1687		12/1/87	85.47	5885.32
1687		12/21/87	85.00	5885.79

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1687		1/11/88	79.50	5891.29
1687		2/29/88	76.40	5894.39
1687		3/21/88	86.40	5884.39
1687		4/18/88	79.50	5891.29
1687		5/16/88	87.20	5883.59
1687		6/15/88	79.60	5891.19
1687		7/15/88	77.60	5893.19
1687		9/15/88	81.30	5889.49
1687		10/22/88	79.10	5891.69
1687		11/15/88	91.90	5878.89
1687		12/15/88	86.60	5884.19
1687		1/15/89	78.40	5892.39
1687		2/14/89	90.80	5879.99
1687		3/27/89	80.80	5889.99
1687		4/27/89	78.30	5892.49
1687		5/26/89	78.00	5892.79
1687		6/30/89	80.90	5889.89
1687		7/21/89	78.48	5892.31
1687		8/25/89	78.18	5892.61
1687		4/16/90	94.72	5876.07
1687		6/26/90	80.13	5890.66
1687		7/12/90	101.34	5869.45
1687		9/18/90	81.12	5889.67
1687		10/3/90	102.14	5868.65
1687		11/27/90	82.50	5888.29
1687		1/7/91	88.80	5881.99
1687		1/8/91	88.50	5882.29
1687		4/15/91	80.93	5889.86
1687		7/3/91	81.78	5889.01
1687		9/4/91	77.83	5892.96
1687		10/1/91	82.96	5887.83
1687		11/20/91	81.01	5889.78
1687		1/6/92	86.60	5884.19
1687		4/7/92	86.46	5884.33
1687		5/1/92	81.81	5888.98
1687		7/6/92	84.94	5885.85
1687		9/2/92	78.85	5891.94
1687		10/2/92	90.53	5880.26
1687		1/19/93	82.84	5887.95
1687		3/9/93	78.41	5892.38
1687		4/7/93	90.65	5880.14
1787	5969.56	11/9/87	21.10	5948.46
1787		12/1/87	18.33	5951.23
1787		12/21/87	21.00	5948.56

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater	Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater	Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1787		1/11/88	21.60	5947.96	1787		11/5/91	21.66	5947.90	1887		7/10/90	129.82	5839.67
1787		2/29/88	19.30	5950.26	1787		11/18/91	20.48	5949.08	1887		10/1/90	129.79	5839.70
1787		3/21/88	17.80	5951.76	1787		12/3/91	15.72	5953.84	1887		10/22/90	127.35	5842.14
1787		4/18/88	16.00	5953.56	1787		1/3/92	18.66	5950.90	1887		1/2/91	125.42	5844.07
1787		5/16/88	18.20	5951.36	1787		2/3/92	19.92	5949.64	1887		3/18/91	116.77	5852.72
1787		6/15/88	16.40	5953.16	1787		3/2/92	21.38	5948.18	1887		4/2/91	132.66	5836.83
1787		7/15/88	19.50	5950.06	1787		4/7/92	7.66	5961.90	1887		5/9/91	128.04	5841.45
1787		8/18/88	20.20	5949.36	1787		5/5/92	11.84	5957.72	1887		7/2/91	128.48	5841.01
1787		9/15/88	21.20	5948.36	1787		6/1/92	15.92	5953.64	1887		8/19/91	122.31	5847.18
1787		10/22/88	22.00	5947.56	1787		7/2/92	17.58	5951.98	1887		10/3/91	131.55	5837.94
1787		11/15/88	22.90	5946.66	1787		7/29/92	19.88	5949.68	1887		11/19/91	123.36	5846.13
1787		12/15/88	23.00	5946.56	1787		8/3/92	20.29	5949.27	1887		1/3/92	129.43	5840.06
1787		1/15/89	22.20	5947.36	1787		9/4/92	18.72	5950.84	1887		4/7/92	129.46	5840.03
1787		2/24/89	19.97	5949.59	1787		10/1/92	21.20	5948.36	1887		7/2/92	126.22	5843.27
1787		3/27/89	18.20	5951.36	1787		12/3/92	22.02	5947.54	1887		7/29/92	122.24	5847.25
1787		4/27/89	18.40	5951.16	1787		1/15/93	20.83	5948.73	1887		10/1/92	127.00	5842.49
1787		5/25/89	18.50	5951.06	1787		2/2/93	21.68	5947.88	1887		11/4/92	122.70	5846.79
1787		6/30/89	14.30	5955.26	1787		3/26/93	21.60	5947.96	1887		1/15/93	125.20	5844.29
1787		7/28/89	18.15	5951.41	1787		4/7/93	16.80	5952.76	1887		4/7/93	129.87	5839.62
1787		8/30/89	18.41	5951.15	1887	5969.49	11/9/87	127.50	5841.99	1887		3/4/93	119.38	5850.11
1787		9/12/89	18.87	5950.69	1887		12/1/87	30.32	5939.17	1987	5969.91	11/9/87	7.80	5962.11
1787		11/1/89	20.21	5949.35	1887		12/21/87	127.10	5842.39	1987		12/1/87	11.77	5958.14
1787		1/15/90	21.57	5947.99	1887		1/11/88	39.80	5929.69	1987		12/21/87	7.50	5962.41
1787		1/29/90	22.12	5947.44	1887		2/29/88	52.60	5916.89	1987		1/11/88	13.30	5956.61
1787		4/12/90	8.55	5961.01	1887		3/21/88	123.90	5845.59	1987		2/29/88	12.60	5957.31
1787		6/6/90	14.15	5955.41	1887		4/18/88	118.40	5851.09	1987		3/21/88	12.70	5957.21
1787		7/10/90	18.22	5951.34	1887		5/16/88	123.90	5845.59	1987		4/18/88	12.60	5957.31
1787		8/7/90	17.96	5951.60	1887		6/15/88	118.10	5851.39	1987		5/16/88	12.70	5957.21
1787		8/14/90	18.61	5950.95	1887		7/15/88	115.00	5854.49	1987		6/15/88	11.80	5958.11
1787		9/10/90	19.86	5949.70	1887		8/18/88	112.90	5856.59	1987		7/15/88	12.80	5957.11
1787		10/1/90	20.04	5949.52	1887		9/15/88	121.30	5848.19	1987		8/18/88	13.40	5956.51
1787		11/6/90	20.84	5948.72	1887		10/22/88	118.90	5850.59	1987		9/15/88	12.50	5957.41
1787		12/7/90	20.57	5948.99	1887		11/15/88	129.00	5840.49	1987		10/22/88	Dry	Dry
1787		1/2/91	22.06	5947.50	1887		12/15/88	126.60	5842.89	1987		11/15/88	13.60	5956.31
1787		3/9/91	22.61	5946.95	1887		1/15/89	125.10	5844.39	1987		12/15/88	Dry	Dry
1787		4/2/91	22.81	5946.75	1887		2/24/89	130.90	5838.59	1987		1/15/89	Dry	Dry
1787		5/7/91	17.26	5952.30	1887		3/31/89	125.70	5843.79	1987		2/24/89	Dry	Dry
1787		5/13/91	16.09	5953.47	1887		4/27/89	122.30	5847.19	1987		3/31/89	Dry	Dry
1787		6/10/91	10.24	5959.32	1887		5/26/89	121.40	5848.09	1987		4/27/89	Dry	Dry
1787		7/2/91	13.33	5956.23	1887		6/30/89	124.80	5844.69	1987		5/26/89	Dry	Dry
1787		8/6/91	17.05	5952.51	1887		7/28/89	121.33	5848.16	1987		6/30/89	12.10	5957.81
1787		8/19/91	15.40	5954.16	1887		8/30/89	119.92	5849.57	1987		7/28/89	12.90	5957.01
1787		9/6/91	17.75	5951.81	1887		4/12/90	129.87	5839.62	1987		8/30/89	Dry	Dry
1787		10/3/91	20.25	5949.31	1887		6/5/90	123.20	5846.29	1987		9/12/89	Dry	Dry

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1987		12/4/89	Dry	Dry
1987		1/15/90	Dry	Dry
1987		4/12/90	13.54	5956.37
1987		5/22/90	12.41	5957.50
1987		7/10/90	12.98	5956.93
1987		7/25/90	13.25	5956.66
1987		10/1/90	Dry	Dry
1987		11/7/90	Dry	Dry
1987		1/2/91	Dry	Dry
1987		4/2/91	Dry	Dry
1987		7/2/91	11.19	5958.72
1987		8/14/91	12.85	5957.06
1987		10/4/91	Dry	Dry
1987		1/3/92	Dry	Dry
1987		4/7/92	6.94	5962.97
1987		7/2/92	13.05	5956.86
1987		10/1/92	13.72	5956.19
1987		1/15/93	13.74	5956.17
1987		4/7/93	13.75	5956.16
2087	5970.14	9/29/87	108.50	5861.64
2087		11/9/87	112.50	5857.64
2087		12/1/87	108.91	5861.23
2087		12/21/87	112.20	5857.94
2087		1/11/88	101.60	5868.54
2087		2/29/88	98.00	5872.14
2087		3/21/88	113.70	5856.44
2087		4/18/88	108.50	5861.64
2087		5/16/88	115.30	5854.84
2087		6/15/88	109.90	5860.24
2087		7/15/88	105.50	5864.64
2087		8/18/88	103.70	5866.44
2087		9/15/88	106.90	5863.24
2087		10/22/88	104.70	5865.44
2087		11/15/88	113.40	5856.74
2087		12/15/88	111.10	5859.04
2087		1/15/89	103.80	5866.34
2087		2/24/89	112.00	5858.14
2087		3/31/89	106.90	5863.24
2087		4/27/89	104.10	5866.04
2087		5/25/89	103.60	5866.54
2087		6/30/89	105.50	5864.64
2087		7/28/89	102.70	5867.44
2087		8/30/89	101.67	5868.47
2087		4/12/90	108.28	5861.86

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2087		5/22/90	103.95	5866.19
2087		7/10/90	108.89	5861.25
2087		7/27/90	106.85	5863.29
2087		10/1/90	107.58	5862.56
2087		11/8/90	103.62	5866.52
2087		1/2/91	108.53	5861.61
2087		3/18/91	101.02	5869.12
2087		4/2/91	114.79	5855.35
2087		5/9/91	108.86	5861.28
2087		7/2/91	109.78	5860.36
2087		8/14/91	104.69	5865.45
2087		10/4/91	109.58	5860.56
2087		12/5/91	102.75	5867.39
2087		1/3/92	112.31	5857.83
2087		4/7/92	110.49	5859.65
2087		7/2/92	111.68	5858.46
2087		8/6/92	106.90	5863.24
2087		10/1/92	108.80	5861.34
2087		11/4/92	104.90	5865.24
2087		4/7/93	99.59	5870.55
2087		1/15/93	106.72	5863.42
2187	5929.69	11/12/87	7.30	5922.39
2187		12/1/87	Dry	Dry
2187		12/22/87	7.20	5922.49
2187		1/27/88	7.40	5922.29
2187		2/29/88	7.10	5922.59
2187		3/21/88	8.40	5921.29
2187		4/18/88	7.80	5921.89
2187		5/17/88	8.80	5920.89
2187		6/15/88	9.70	5919.99
2187		7/15/88	8.50	5921.19
2187		8/18/88	8.00	5921.69
2187		9/15/88	7.90	5921.79
2187		10/22/88	7.60	5922.09
2187		11/15/88	9.50	5920.19
2187		12/15/88	9.40	5920.29
2187		1/15/89	9.20	5920.49
2187		2/24/89	8.60	5921.09
2187		3/31/89	9.00	5920.69
2187		4/27/89	5.60	5924.09
2187		5/25/89	5.40	5924.29
2187		6/30/89	6.40	5923.29
2187		7/28/89	6.11	5923.58
2187		8/30/89	5.94	5923.75

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2187		9/11/89	8.01	5921.68
2187		11/10/89	7.05	5922.64
2187		1/17/90	10.35	5919.34
2187		2/6/90	9.69	5920.00
2187		4/24/90	8.33	5921.36
2187		5/18/90	7.50	5922.19
2187		7/10/90	8.69	5921.00
2187		9/5/90	6.42	5923.27
2187		10/1/90	10.29	5919.40
2187		12/11/90	8.96	5920.73
2187		1/4/91	10.95	5918.74
2187		4/23/91	7.93	5921.76
2187		6/10/91	8.97	5920.72
2187		7/3/91	10.27	5919.42
2187		8/5/91	8.52	5921.17
2187		10/1/91	8.70	5920.99
2187		10/16/91	8.41	5921.28
2187		1/8/92	9.71	5919.98
2187		1/15/92	9.56	5920.13
2187		2/27/92	9.08	5920.61
2187		4/3/92	10.24	5919.45
2187		7/1/92	7.67	5922.02
2187		7/23/92	6.56	5923.13
2187		10/5/92	7.84	5921.85
2187		10/12/92	7.84	5921.85
2187		1/13/93	8.78	5920.91
2187		2/3/93	8.35	5921.34
2187		4/1/93	8.56	5921.13
2187		4/15/93	8.03	5921.66
2287	5931.18	11/12/87	50.70	5880.48
2287		12/1/87	80.45	5850.73
2287		12/22/87	50.50	5880.68
2287		1/27/88	80.50	5850.68
2287		2/29/88	80.70	5850.48
2287		3/21/88	80.60	5850.58
2287		4/18/88	80.50	5850.68
2287		5/17/88	80.70	5850.48
2287		6/15/88	80.80	5850.38
2287		7/15/88	81.00	5850.18
2287		8/18/88	80.80	5850.38
2287		9/15/88	80.70	5850.48
2287		10/22/88	80.50	5850.68
2287		11/15/88	80.40	5850.78
2287		12/15/88	80.50	5850.68

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2287		1/15/89	80.30	5850.88
2287		2/24/89	80.70	5850.48
2287		3/31/89	80.80	5850.38
2287		4/27/89	80.10	5851.08
2287		5/26/89	80.50	5850.68
2287		6/30/89	80.70	5850.48
2287		7/28/89	80.70	5850.48
2287		8/30/89	80.62	5850.56
2287		4/24/90	80.10	5851.08
2287		5/25/90	80.21	5850.97
2287		7/10/90	80.79	5850.39
2287		8/14/90	80.67	5850.51
2287		10/1/90	80.67	5850.51
2287		12/11/90	80.39	5850.79
2287		1/4/91	80.34	5850.84
2287		4/23/91	80.36	5850.82
2287		6/10/91	80.64	5850.54
2287		7/3/91	80.78	5850.40
2287		8/5/91	80.56	5850.62
2287		10/1/91	80.60	5850.58
2287		10/23/91	80.40	5850.78
2287		1/8/92	80.38	5850.80
2287		1/28/92	80.55	5850.63
2287		4/3/92	80.46	5850.72
2287		7/1/92	80.78	5850.40
2287		7/23/92	80.50	5850.68
2287		10/5/92	80.57	5850.61
2287		10/12/92	80.57	5850.61
2287		1/13/93	80.37	5850.81
2287		2/3/93	80.40	5850.78
2287		4/1/93	80.38	5850.80
2287		4/15/93	80.30	5850.88
2387	5974.49	9/29/87	17.70	5956.79
2387		11/9/87	18.40	5956.09
2387		12/1/87	16.10	5958.39
2387		12/21/87	18.10	5956.39
2387		1/11/88	18.20	5956.29
2387		2/29/88	16.50	5957.99
2387		3/21/88	16.40	5958.09
2387		4/18/88	15.50	5958.99
2387		5/16/88	16.60	5957.89
2387		6/15/88	16.60	5957.89
2387		7/15/88	14.70	5959.79
2387		8/18/88	18.00	5956.49

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2387		9/15/88	17.90	5956.59
2387		10/22/88	18.90	5955.59
2387		11/15/88	19.60	5954.89
2387		12/15/88	19.70	5954.79
2387		1/15/89	19.30	5955.19
2387		2/24/89	16.50	5957.99
2387		3/27/89	17.00	5957.49
2387		4/27/89	17.10	5957.39
2387		5/25/89	17.10	5957.39
2387		6/30/89	15.40	5959.09
2387		7/28/89	17.85	5956.64
2387		8/30/89	17.37	5957.12
2387		4/12/90	12.17	5962.32
2387		6/1/90	15.52	5958.97
2387		7/10/90	17.63	5956.86
2387		8/13/90	33.68	5940.81
2387		10/1/90	17.90	5956.59
2387		11/9/90	17.62	5956.87
2387		1/2/91	19.26	5955.23
2387		3/8/91	18.96	5955.53
2387		4/2/91	19.23	5955.26
2387		4/19/91	17.41	5957.08
2387		7/2/91	15.28	5959.21
2387		8/19/91	15.22	5959.27
2387		10/4/91	18.53	5955.96
2387		11/23/91	15.56	5958.93
2387		1/3/92	17.13	5957.36
2387		1/23/92	17.38	5957.11
2387		1/31/92	17.22	5957.27
2387		2/12/92	17.87	5956.62
2387		2/26/92	18.62	5955.87
2387		2/29/92	19.73	5954.76
2387		4/7/92	11.25	5963.24
2387		7/2/92	16.83	5957.66
2387		7/30/92	17.95	5956.54
2387		10/1/92	18.87	5955.62
2387		11/6/92	19.45	5955.04
2387		1/15/93	17.78	5956.71
2387		4/7/93	15.16	5959.33
2487	5959.69	11/9/87	8.50	5951.19
2487		12/1/87	14.92	5944.77
2487		12/8/87	7.90	5951.79
2487		1/7/88	Dry	Dry
2487		2/5/88	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2487		3/7/88	Dry	Dry
2487		4/11/88	Dry	Dry
2487		5/12/88	14.50	5945.19
2487		6/15/88	13.90	5945.79
2487		8/18/88	14.30	5945.39
2487		9/15/88	15.20	5944.49
2487		10/22/88	Dry	Dry
2487		11/15/88	15.50	5944.19
2487		12/15/88	Dry	Dry
2487		1/15/89	Dry	Dry
2487		2/13/89	Dry	Dry
2487		3/14/89	Dry	Dry
2487		4/25/89	Dry	Dry
2487		5/12/89	Dry	Dry
2487		6/30/89	Dry	Dry
2487		7/21/89	Dry	Dry
2487		8/11/89	Dry	Dry
2487		9/12/89	Dry	Dry
2487		11/1/89	Dry	Dry
2487		1/15/90	Dry	Dry
2487		4/12/90	13.27	5946.42
2487		6/7/90	13.42	5946.27
2487		7/10/90	14.27	5945.42
2487		8/7/90	14.64	5945.05
2487		8/13/90	Dry	Dry
2487		9/10/90	15.01	5944.68
2487		10/1/90	15.18	5944.51
2487		11/7/90	Dry	Dry
2487		11/8/90	Dry	Dry
2487		12/7/90	Dry	Dry
2487		1/2/91	Dry	Dry
2487		4/1/91	Dry	Dry
2487		5/7/91	Dry	Dry
2487		6/10/91	Dry	Dry
2487		7/1/91	14.13	5945.56
2487		8/6/91	14.34	5945.35
2487		8/28/91	14.67	5945.02
2487		9/4/91	15.38	5944.31
2487		10/4/91	15.51	5944.18
2487		11/5/91	15.58	5944.11
2487		11/18/91	Dry	Dry
2487		12/3/91	Dry	Dry
2487		1/3/92	Dry	Dry
2487		1/23/92	15.64	5944.05

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2487		1/31/92	15.58	5944.11
2487		2/4/92	Dry	Dry
2487		2/12/92	15.63	5944.06
2487		2/26/92	15.65	5944.04
2487		4/4/92	9.45	5950.24
2487		5/5/92	12.45	5947.24
2487		6/4/92	13.67	5946.02
2487		6/5/92	13.67	5946.02
2487		7/6/92	14.55	5945.14
2487		8/5/92	14.86	5944.83
2487		8/13/92	14.93	5944.76
2487		9/4/92	15.41	5944.28
2487		10/1/92	15.52	5944.17
2487		10/28/92	15.59	5944.10
2487		12/2/92	Dry	Dry
2487		1/14/93	Dry	Dry
2487		2/2/93	Dry	Dry
2487		3/29/93	15.62	5944.07
2487		4/5/93	15.62	5944.07
2587	5960.98	4/12/90	16.27	5944.71
2587		6/11/90	20.50	5940.48
2587		7/10/90	22.40	5938.58
2587		8/14/90	23.60	5937.38
2587		10/1/90	25.11	5935.87
2587		11/5/90	24.95	5936.03
2587		1/2/91	26.84	5934.14
2587		3/9/91	28.50	5932.48
2587		4/1/91	29.15	5931.83
2587		4/22/91	25.28	5935.70
2587		7/1/91	21.79	5939.19
2587		9/10/91	24.08	5936.90
2587		10/4/91	25.38	5935.60
2587		11/18/91	25.45	5935.53
2587		1/3/92	25.04	5935.94
2587		1/23/92	25.92	5935.06
2587		1/31/92	26.10	5934.88
2587		2/12/92	26.28	5934.70
2587		2/26/92	26.78	5934.20
2587		3/3/92	26.92	5934.06
2587		4/4/92	13.57	5947.41
2587		7/6/92	22.53	5938.45
2587		9/22/92	25.92	5935.06
2587		10/1/92	26.14	5934.84
2587		10/27/92	27.16	5933.82

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2587		1/14/93	28.05	5932.93
2587		2/26/93	28.73	5932.25
2587		4/5/93	26.21	5934.77
2687	5955.90	11/9/87	10.10	5945.80
2687		12/1/87	12.53	5943.37
2687		12/14/87	12.70	5943.20
2687		1/8/88	13.50	5942.40
2687		2/5/88	13.80	5942.10
2687		3/7/88	14.20	5941.70
2687		4/4/88	14.30	5941.60
2687		5/2/88	14.50	5941.40
2687		6/15/88	14.50	5941.40
2687		7/15/88	14.60	5941.30
2687		8/18/88	Dry	Dry
2687		9/15/88	14.70	5941.20
2687		10/22/88	14.80	5941.10
2687		11/15/88	Dry	Dry
2687		12/15/88	Dry	Dry
2687		1/15/89	Dry	Dry
2687		2/13/89	Dry	Dry
2687		3/14/89	Dry	Dry
2687		4/26/89	Dry	Dry
2687		5/12/89	Dry	Dry
2687		6/30/89	Dry	Dry
2687		7/21/89	Dry	Dry
2687		8/18/89	Dry	Dry
2687		9/12/89	Dry	Dry
2687		11/1/89	Dry	Dry
2687		1/15/90	Dry	Dry
2687		4/16/90	Dry	Dry
2687		6/22/90	Dry	Dry
2687		7/12/90	Dry	Dry
2687		8/9/90	Dry	Dry
2687		9/17/90	Dry	Dry
2687		10/3/90	Dry	Dry
2687		11/8/90	Dry	Dry
2687		11/27/90	Dry	Dry
2687		12/4/90	Dry	Dry
2687		1/7/91	Dry	Dry
2687		4/15/91	Dry	Dry
2687		5/3/91	Dry	Dry
2687		6/4/91	Dry	Dry
2687		7/3/91	Dry	Dry
2687		8/1/91	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2687		10/1/91	15.33	5940.57
2687		11/1/91	Dry	Dry
2687		11/20/91	Dry	Dry
2687		1/6/92	Dry	Dry
2687		2/3/92	Dry	Dry
2687		3/2/92	Dry	Dry
2687		4/3/92	Dry	Dry
2687		5/4/92	9.17	5946.73
2687		6/1/92	12.77	5943.13
2687		7/7/92	12.65	5943.25
2687		8/3/92	12.64	5943.26
2687		8/27/92	13.20	5942.70
2687		9/9/92	13.53	5942.37
2687		10/2/92	14.36	5941.54
2687		12/4/92	14.61	5941.29
2687		12/7/92	14.60	5941.30
2687		1/19/93	15.10	5940.80
2687		3/30/93	15.35	5940.55
2687		4/7/93	15.35	5940.55
2787	5949.65	11/9/87	42.40	5907.25
2787		12/1/87	42.65	5907.00
2787		12/14/87	42.70	5906.95
2787		1/8/88	42.30	5907.35
2787		2/5/88	43.00	5906.65
2787		3/7/88	43.80	5905.85
2787		4/4/88	43.90	5905.75
2787		5/2/88	44.00	5905.65
2787		6/15/88	37.60	5912.05
2787		7/15/88	34.20	5915.45
2787		8/18/88	32.20	5917.45
2787		9/15/88	35.70	5913.95
2787		10/22/88	36.50	5913.15
2787		11/15/88	37.40	5912.25
2787		12/15/88	37.70	5911.95
2787		1/15/89	40.50	5909.15
2787		2/13/89	40.80	5908.85
2787		3/14/89	42.30	5907.35
2787		4/28/89	41.80	5907.85
2787		5/12/89	39.70	5909.95
2787		6/30/89	34.50	5915.15
2787		7/21/89	35.93	5913.72
2787		8/18/89	36.21	5913.44
2787		9/12/89	37.19	5912.46
2787		12/5/89	37.38	5912.27

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2787		3/12/90	38.80	5910.85
2787		4/16/90	40.12	5909.53
2787		6/27/90	44.06	5905.59
2787		7/12/90	44.28	5905.37
2787		8/9/90	44.43	5905.22
2787		9/17/90	Dry	Dry
2787		10/3/90	Dry	Dry
2787		11/8/90	Dry	Dry
2787		11/27/90	Dry	Dry
2787		12/4/90	Dry	Dry
2787		1/7/91	Dry	Dry
2787		4/15/91	Dry	Dry
2787		5/3/91	Dry	Dry
2787		6/4/91	Dry	Dry
2787		7/3/91	Dry	Dry
2787		8/1/91	Dry	Dry
2787		10/1/91	44.68	5904.97
2787		11/1/91	Dry	Dry
2787		11/20/91	Dry	Dry
2787		1/6/92	Dry	Dry
2787		2/3/92	Dry	Dry
2787		3/2/92	Dry	Dry
2787		4/1/92	Dry	Dry
2787		4/2/92	Dry	Dry
2787		5/4/92	43.87	5905.78
2787		6/1/92	43.48	5906.17
2787		7/7/92	43.62	5906.03
2787		8/3/92	43.86	5905.79
2787		8/31/92	44.05	5905.60
2787		9/9/92	44.15	5905.50
2787		10/2/92	44.26	5905.39
2787		12/4/92	Dry	Dry
2787		12/7/92	Dry	Dry
2787		1/19/93	44.64	5905.01
2787		3/30/93	44.71	5904.94
2787		4/7/93	44.70	5904.95
2887	5949.90	12/1/87	40.05	5909.85
2887		12/14/87	43.80	5906.10
2887		1/8/88	63.40	5886.50
2887		2/5/88	60.90	5889.00
2887		3/7/88	79.80	5870.10
2887		4/4/88	171.30	5778.60
2887		5/2/88	165.80	5784.10
2887		6/15/88	190.70	5759.20

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2887		7/15/88	181.70	5768.20
2887		8/18/88	176.80	5773.10
2887		9/15/88	188.50	5761.40
2887		10/22/88	183.50	5766.40
2887		11/15/88	191.70	5758.20
2887		12/15/88	188.20	5761.70
2887		1/15/89	175.10	5774.80
2887		2/13/89	172.90	5777.00
2887		3/14/89	187.80	5762.10
2887		4/25/89	181.50	5768.40
2887		5/12/89	179.20	5770.70
2887		6/30/89	182.70	5767.20
2887		7/21/89	177.81	5772.09
2887		8/18/89	172.00	5777.90
2887		4/16/90	189.49	5760.41
2887		6/26/90	174.98	5774.92
2887		7/12/90	194.68	5755.22
2887		9/19/90	180.00	5769.90
2887		10/3/90	194.42	5755.48
2887		11/27/90	182.31	5767.59
2887		1/7/91	190.04	5759.86
2887		1/15/91	188.37	5761.53
2887		4/15/91	178.92	5770.98
2887		9/3/91	171.28	5778.62
2887		10/1/91	192.82	5757.08
2887		11/20/91	182.01	5767.89
2887		1/6/92	188.47	5761.43
2887		2/24/92	178.71	5771.19
2887		4/2/92	189.34	5760.56
2887		4/3/92	189.34	5760.56
2887		7/7/92	187.75	5762.15
2887		8/31/92	177.10	5772.80
2887		10/2/92	19.37	5930.53
2887		1/19/93	190.32	5759.58
2887		4/7/93	193.86	5756.04
2887		12/14/92	182.60	5767.30
2887		3/18/93	178.56	5771.34
2987	5814.29	3/14/87	13.30	5800.99
2987		5/19/87	13.60	5800.69
2987		11/9/87	16.70	5797.59
2987		12/1/87	14.32	5799.97
2987		12/16/87	14.10	5800.19
2987		1/8/88	13.40	5800.89
2987		2/24/88	13.40	5800.89

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2987		3/14/88	13.30	5800.99
2987		4/4/88	13.20	5801.09
2987		5/16/88	14.40	5799.89
2987		6/15/88	13.80	5800.49
2987		7/15/88	11.30	5802.99
2987		8/18/88	18.40	5795.89
2987		9/15/88	14.70	5799.59
2987		10/22/88	17.10	5797.19
2987		11/15/88	15.50	5798.79
2987		12/15/88	16.20	5798.09
2987		1/15/89	16.60	5797.69
2987		2/27/89	15.00	5799.29
2987		3/17/89	13.30	5800.99
2987		4/25/89	14.70	5799.59
2987		5/12/89	13.60	5800.69
2987		6/29/89	14.60	5799.69
2987		7/21/89	18.02	5796.27
2987		8/18/89	14.05	5800.24
2987		9/15/89	14.05	5800.24
2987		11/29/89	14.00	5800.29
2987		1/18/90	15.78	5798.51
2987		2/7/90	15.01	5799.28
2987		4/16/90	12.80	5801.49
2987		5/4/90	13.45	5800.84
2987		7/10/90	14.34	5799.95
2987		7/20/90	17.30	5796.99
2987		10/2/90	15.49	5798.80
2987		10/11/90	15.95	5798.34
2987		1/2/91	18.57	5795.72
2987		3/8/91	13.70	5800.59
2987		4/1/91	14.38	5799.91
2987		5/10/91	13.47	5800.82
2987		7/2/91	17.49	5796.80
2987		8/21/91	14.73	5799.56
2987		10/2/91	13.50	5800.79
2987		12/7/91	13.64	5800.65
2987		1/3/92	13.84	5800.45
2987		4/2/92	12.55	5801.74
2987		6/9/92	14.65	5799.64
2987		7/1/92	13.40	5800.89
2987		7/31/92	16.39	5797.90
2987		10/1/92	19.33	5794.96
2987		10/27/92	18.62	5795.67
2987		1/20/93	17.98	5796.31

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2987		3/22/93	18.74	5795.55
2987		4/6/93	12.78	5801.51
3087	5811.77	3/14/87	32.60	5779.17
3087		11/9/87	25.40	5786.37
3087		12/1/87	24.95	5786.82
3087		12/16/87	27.80	5783.97
3087		1/8/88	24.50	5787.27
3087		2/24/88	27.10	5784.67
3087		3/14/88	32.60	5779.17
3087		4/4/88	26.50	5785.27
3087		5/16/88	37.10	5774.67
3087		6/15/88	28.90	5782.87
3087		7/15/88	26.00	5785.77
3087		8/18/88	25.50	5786.27
3087		9/15/88	27.10	5784.67
3087		10/22/88	26.10	5785.67
3087		11/15/88	31.70	5780.07
3087		12/15/88	29.20	5782.57
3087		1/15/89	25.80	5785.97
3087		2/27/89	29.60	5782.17
3087		3/17/89	26.70	5785.07
3087		4/25/89	25.80	5785.97
3087		5/19/89	29.50	5782.27
3087		6/29/89	26.20	5785.57
3087		7/21/89	25.60	5786.17
3087		8/18/89	25.44	5786.33
3087		4/16/90	26.42	5785.35
3087		5/30/90	25.22	5786.55
3087		7/10/90	27.25	5784.52
3087		7/23/90	26.40	5785.37
3087		10/2/90	26.35	5785.42
3087		10/11/90	26.08	5785.69
3087		1/2/91	25.79	5785.98
3087		3/8/91	25.03	5786.74
3087		4/1/91	30.22	5781.55
3087		5/10/91	26.32	5785.45
3087		7/2/91	26.89	5784.88
3087		8/21/91	25.58	5786.19
3087		10/2/91	26.66	5785.11
3087		12/5/91	25.43	5786.34
3087		1/3/92	29.70	5782.07
3087		4/2/92	27.13	5784.64
3087		6/9/92	25.03	5786.74
3087		7/1/92	62.02	5749.75

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3087		9/14/92	27.31	5784.46
3087		10/1/92	34.18	5777.59
3087		10/26/92	28.46	5783.31
3087		1/20/93	26.30	5785.47
3087		3/21/93	25.66	5786.11
3087		4/6/93	33.53	5778.24
3187	5947.46	11/9/87	95.20	5852.26
3187		12/1/87	94.75	5852.71
3187		12/14/87	94.70	5852.76
3187		1/8/88	76.20	5871.26
3187		2/5/88	94.30	5853.16
3187		3/7/88	94.20	5853.26
3187		4/4/88	94.80	5852.66
3187		5/2/88	94.70	5852.76
3187		6/15/88	95.20	5852.26
3187		7/15/88	95.20	5852.26
3187		12/15/88	96.50	5850.96
3187		1/15/89	95.40	5852.06
3187		2/13/89	95.30	5852.16
3187		3/14/89	95.90	5851.56
3187		5/12/89	95.70	5851.76
3187		6/30/89	96.50	5850.96
3187		7/21/89	96.26	5851.20
3187		1/18/90	94.35	5853.11
3187		4/16/90	96.79	5850.67
3187		6/27/90	97.05	5850.41
3187		7/12/90	98.55	5848.91
3187		8/9/90	38.06	5909.40
3187		9/17/90	87.91	5859.55
3187		9/18/90	87.91	5859.55
3187		10/3/90	99.56	5847.90
3187		11/8/90	98.61	5848.85
3187		11/20/90	98.45	5849.01
3187		12/4/90	99.83	5847.63
3187		1/7/91	98.87	5848.59
3187		1/10/91	98.82	5848.64
3187		4/15/91	98.55	5848.91
3187		5/3/91	99.63	5847.83
3187		6/4/91	98.88	5848.58
3187		7/2/91	98.86	5848.60
3187		8/1/91	98.78	5848.68
3187		9/9/91	98.72	5848.74
3187		10/1/91	99.80	5847.66
3187		11/1/91	99.28	5848.18

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3187		11/20/91	98.86	5848.60
3187		1/6/92	99.20	5848.26
3187		2/5/92	98.89	5848.57
3187		2/27/92	98.78	5848.68
3187		3/2/92	101.01	5846.45
3187		4/3/92	99.07	5848.39
3187		5/4/92	98.92	5848.54
3187		6/1/92	100.09	5847.37
3187		7/7/92	99.55	5847.91
3187		8/3/92	99.47	5847.99
3187		9/8/92	99.25	5848.21
3187		9/9/92	99.25	5848.21
3187		10/2/92	100.30	5847.16
3187		12/4/92	99.42	5848.04
3187		12/14/92	99.25	5848.21
3187		1/19/93	99.80	5847.66
3187		3/16/93	99.22	5848.24
3187		3/30/93	100.40	5847.06
3187		4/7/93	100.40	5847.06
3287	5947.97	11/9/87	41.20	5906.77
3287		12/1/87	41.35	5906.62
3287		12/14/87	41.20	5906.77
3287		1/8/88	41.30	5906.67
3287		2/5/88	42.30	5905.67
3287		3/7/88	43.30	5904.67
3287		4/4/88	43.40	5904.57
3287		5/2/88	42.70	5905.27
3287		6/15/88	35.40	5912.57
3287		7/15/88	32.80	5915.17
3287		8/18/88	30.70	5917.27
3287		11/15/88	35.70	5912.27
3287		12/15/88	36.40	5911.57
3287		1/15/89	39.20	5908.77
3287		2/13/89	40.00	5907.97
3287		7/21/89	35.39	5912.58
3287		9/12/89	35.96	5912.01
3287		12/12/89	36.35	5911.62
3287		1/18/90	36.39	5911.58
3287		2/21/90	36.28	5911.69
3287		4/16/90	39.39	5908.58
3287		6/22/90	44.34	5903.63
3287		7/12/90	45.34	5902.63
3287		8/9/90	46.12	5901.85
3287		9/17/90	46.86	5901.11

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3287		9/19/90	46.85	5901.12
3287		10/3/90	47.00	5900.97
3287		11/8/90	47.23	5900.74
3287		11/29/90	47.35	5900.62
3287		12/4/90	47.36	5900.61
3287		1/7/91	47.48	5900.49
3287		1/15/91	47.50	5900.47
3287		4/16/91	47.68	5900.29
3287		5/3/91	47.74	5900.23
3287		6/10/91	47.77	5900.20
3287		7/2/91	47.79	5900.18
3287		8/1/91	47.85	5900.12
3287		9/3/91	47.83	5900.14
3287		10/1/91	47.84	5900.13
3287		11/1/91	47.85	5900.12
3287		11/20/91	47.87	5900.10
3287		1/6/92	47.85	5900.12
3287		2/5/92	47.94	5900.03
3287		3/2/92	47.91	5900.06
3287		4/3/92	47.70	5900.27
3287		5/6/92	46.93	5901.04
3287		6/1/92	46.29	5901.68
3287		7/7/92	46.17	5901.80
3287		8/3/92	46.25	5901.72
3287		9/9/92	46.56	5901.41
3287		10/2/92	46.82	5901.15
3287		12/4/92	47.28	5900.69
3287		1/19/93	47.36	5900.61
3287		3/30/93	47.71	5900.26
3287		4/7/93	47.73	5900.24
3387	5947.22	11/9/87	21.20	5926.02
3387		12/1/87	20.90	5926.32
3387		12/14/87	22.10	5925.12
3387		1/8/88	Dry	Dry
3387		2/5/88	Dry	Dry
3387		3/7/88	20.60	5926.62
3387		4/4/88	20.50	5926.72
3387		5/2/88	20.00	5927.22
3387		6/15/88	18.40	5928.82
3387		9/15/88	21.10	5926.12
3387		10/22/88	21.60	5925.62
3387		11/15/88	Dry	Dry
3387		12/15/88	Dry	Dry
3387		1/15/89	Dry	Dry
3387		2/13/89	Dry	Dry
3387		3/17/89	21.20	5926.02
3387		4/25/89	21.10	5926.12
3387		5/12/89	21.70	5925.52
3387		6/30/89	20.00	5927.22
3387		7/21/89	20.20	5927.02
3387		8/18/89	20.64	5926.58
3387		9/12/89	Dry	Dry
3387		12/15/89	Dry	Dry
3387		1/15/90	17.30	5929.92
3387		2/21/90	Dry	Dry
3387		4/16/90	17.54	5929.68
3387		6/26/90	19.33	5927.89
3387		7/12/90	19.83	5927.39
3387		8/9/90	20.39	5926.83
3387		9/17/90	20.97	5926.25
3387		9/19/90	20.96	5926.26
3387		10/3/90	Dry	Dry
3387		11/8/90	Dry	Dry
3387		11/20/90	Dry	Dry
3387		12/4/90	Dry	Dry
3387		1/7/91	Dry	Dry
3387		4/16/91	Dry	Dry
3387		5/3/91	Dry	Dry
3387		6/4/91	Dry	Dry
3387		7/1/91	20.20	5927.02
3387		8/1/91	20.35	5926.87
3387		9/4/91	20.58	5926.64
3387		10/1/91	20.88	5926.34
3387		11/1/91	Dry	Dry
3387		11/19/91	Dry	Dry
3387		1/6/92	Dry	Dry
3387		2/4/92	Dry	Dry
3387		3/2/92	Dry	Dry
3387		4/3/92	17.21	5930.01
3387		5/4/92	16.48	5930.74
3387		6/1/92	18.06	5929.16
3387		7/6/92	19.50	5927.72
3387		8/3/92	20.36	5926.86
3387		8/26/92	20.96	5926.26
3387		9/9/92	21.15	5926.07
3387		10/2/92	Dry	Dry
3387		12/4/92	Dry	Dry
3387		1/19/93	Dry	Dry
3387		3/30/93	Dry	Dry
3387		4/7/93	Dry	Dry
3487	5947.22	11/9/87	62.40	5884.82
3487		12/1/87	58.75	5888.47
3487		12/14/87	58.20	5889.02
3487		1/8/88	56.60	5890.62
3487		2/5/88	56.50	5890.72
3487		3/7/88	56.30	5890.92
3487		4/4/88	62.30	5884.92
3487		5/2/88	57.50	5889.72
3487		6/7/88	56.30	5890.92
3487		6/15/88	63.30	5883.92
3487		11/15/88	98.70	5848.52
3487		12/15/88	67.30	5879.92
3487		1/15/89	57.00	5890.22
3487		2/13/89	57.20	5890.02
3487		3/17/89	60.20	5887.02
3487		4/26/89	57.80	5889.42
3487		5/12/89	57.50	5889.72
3487		6/30/89	58.60	5888.62
3487		7/21/89	57.77	5889.45
3487		8/18/89	57.35	5889.87
3487		4/16/90	63.74	5883.48
3487		6/26/90	95.29	5851.93
3487		7/12/90	71.57	5875.65
3487		9/18/90	58.16	5889.06
3487		10/3/90	72.29	5874.93
3487		11/27/90	58.39	5888.83
3487		1/7/91	60.74	5886.48
3487		1/14/91	59.77	5887.45
3487		4/16/91	57.98	5889.24
3487		7/1/91	58.24	5888.98
3487		9/4/91	57.71	5889.51
3487		10/1/91	64.71	5882.51
3487		11/19/91	58.10	5889.12
3487		1/6/92	59.47	5887.75
3487		2/26/92	57.89	5889.33
3487		4/3/92	60.78	5886.44
3487		7/6/92	59.18	5888.04
3487		8/26/92	57.69	5889.53
3487		10/2/92	61.01	5886.21
3487		12/3/92	57.52	5889.70
3487		1/19/93	59.16	5888.06
3487		3/15/93	57.30	5889.92

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3487		4/7/93	65.54	5881.68
3587	5951.39	11/9/87	7.10	5944.29
3587		12/1/87	11.15	5940.24
3587		12/14/87	6.60	5944.79
3587		1/7/88	Dry	Dry
3587		2/5/88	Dry	Dry
3587		3/7/88	Dry	Dry
3587		4/11/88	Dry	Dry
3587		5/12/88	10.30	5941.09
3587		6/15/88	Dry	Dry
3587		7/15/88	Dry	Dry
3587		8/18/88	Dry	Dry
3587		9/15/88	Dry	Dry
3587		10/22/88	Dry	Dry
3587		11/15/88	Dry	Dry
3587		12/15/88	Dry	Dry
3587		1/15/89	Dry	Dry
3587		2/13/89	Dry	Dry
3587		3/14/89	Dry	Dry
3587		4/26/89	Dry	Dry
3587		5/12/89	Dry	Dry
3587		6/30/89	Dry	Dry
3587		7/21/89	Dry	Dry
3587		8/18/89	Dry	Dry
3587		9/12/89	Dry	Dry
3587		11/17/89	Dry	Dry
3587		1/15/90	Dry	Dry
3587		4/12/90	Dry	Dry
3587		5/24/90	Dry	Dry
3587		7/12/90	Dry	Dry
3587		7/24/90	Dry	Dry
3587		8/7/90	Dry	Dry
3587		9/10/90	Dry	Dry
3587		10/2/90	Dry	Dry
3587		11/5/90	Dry	Dry
3587		11/7/90	Dry	Dry
3587		12/7/90	Dry	Dry
3587		1/2/91	Dry	Dry
3587		4/1/91	Dry	Dry
3587		5/7/91	Dry	Dry
3587		6/10/91	Dry	Dry
3587		7/1/91	Dry	Dry
3587		8/6/91	Dry	Dry
3587		9/4/91	34.12	5917.27

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3587		10/3/91	Dry	Dry
3587		11/5/91	11.55	5939.84
3587		12/3/91	Dry	Dry
3587		1/3/92	Dry	Dry
3587		1/23/92	11.58	5939.81
3587		1/31/92	11.55	5939.84
3587		2/4/92	Dry	Dry
3587		2/12/92	11.55	5939.84
3587		2/26/92	11.56	5939.83
3587		6/5/92	Dry	Dry
3587		7/6/92	11.56	5939.83
3587		8/5/92	Dry	Dry
3587		8/14/92	Dry	Dry
3587		9/4/92	Dry	Dry
3587		10/1/92	Dry	Dry
3587		12/2/92	Dry	Dry
3587		1/14/93	Dry	Dry
3587		2/2/93	Dry	Dry
3587		3/29/93	Dry	Dry
3587		4/6/93	Dry	Dry
3687	5951.11	11/9/87	33.80	5917.31
3687		12/1/87	33.90	5917.21
3687		12/14/87	33.30	5917.81
3687		1/7/88	34.50	5916.61
3687		2/5/88	34.80	5916.31
3687		3/7/88	33.90	5917.21
3687		4/11/88	33.20	5917.91
3687		5/12/88	33.10	5918.01
3687		6/15/88	32.00	5919.11
3687		7/15/88	32.70	5918.41
3687		8/18/88	32.90	5918.21
3687		9/15/88	34.20	5916.91
3687		10/22/88	34.50	5916.61
3687		11/15/88	35.50	5915.61
3687		12/15/88	35.80	5915.31
3687		1/15/89	36.90	5914.21
3687		2/13/89	26.90	5924.21
3687		3/14/89	37.10	5914.01
3687		4/28/89	37.00	5914.11
3687		5/12/89	36.90	5914.21
3687		6/30/89	35.10	5916.01
3687		7/21/89	32.60	5918.51
3687		8/18/89	34.48	5916.63
3687		6/5/90	31.45	5919.66

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3687		7/12/90	32.81	5918.30
3687		8/8/90	32.95	5918.16
3687		9/10/90	33.81	5917.30
3687		10/2/90	34.08	5917.03
3687		11/7/90	34.92	5916.19
3687		11/12/90	35.00	5916.11
3687		12/7/90	35.23	5915.88
3687		1/2/91	35.78	5915.33
3687		3/8/91	36.92	5914.19
3687		4/1/91	37.03	5914.08
3687		4/19/91	37.28	5913.83
3687		5/7/91	37.35	5913.76
3687		6/10/91	35.75	5915.36
3687		7/1/91	34.53	5916.58
3687		8/6/91	34.35	5916.76
3687		8/23/91	34.07	5917.04
3687		9/4/91	Dry	Dry
3687		10/3/91	34.66	5916.45
3687		11/5/91	35.56	5915.55
3687		11/25/91	35.45	5915.66
3687		12/3/91	25.22	5925.89
3687		1/3/92	35.21	5915.90
3687		1/23/92	35.55	5915.56
3687		1/31/92	35.74	5915.37
3687		2/4/92	Dry	Dry
3687		2/12/92	35.73	5915.38
3687		2/26/92	35.92	5915.19
3687		6/5/92	30.77	5920.34
3687		7/6/92	31.98	5919.13
3687		8/5/92	33.16	5917.95
3687		8/17/92	33.58	5917.53
3687		9/4/92	34.00	5917.11
3687		10/1/92	34.77	5916.34
3687		10/27/92	35.44	5915.67
3687		12/2/92	36.10	5915.01
3687		1/14/93	36.60	5914.51
3687		2/2/93	36.80	5914.31
3687		3/3/93	37.19	5913.92
3687		3/29/93	37.42	5913.69
3687		4/5/93	37.18	5913.93
4487	5951.10	7/7/87	4.00	5947.10
4487		11/11/87	4.00	5947.10
4487		12/18/87	4.00	5947.10
4487		1/9/88	5.10	5946.00

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4487		2/3/88	Dry	Dry
4487		2/4/88	5.33	5945.77
4487		3/21/88	Dry	Dry
4487		4/4/88	Dry	Dry
4487		6/15/88	Dry	Dry
4487		7/15/88	Dry	Dry
4487		8/18/88	Dry	Dry
4487		9/15/88	Dry	Dry
4487		10/22/88	Dry	Dry
4487		11/15/88	Dry	Dry
4487		12/15/88	5.40	5945.70
4487		1/15/89	Dry	Dry
4487		2/14/89	Dry	Dry
4487		3/27/89	Dry	Dry
4487		4/27/89	Dry	Dry
4487		5/19/89	Dry	Dry
4487		6/10/89	Dry	Dry
4487		6/29/89	Dry	Dry
4487		7/14/89	Dry	Dry
4487		8/17/89	Dry	Dry
4487		8/25/89	Dry	Dry
4487		9/13/89	Dry	Dry
4487		10/26/89	Dry	Dry
4487		1/15/90	Dry	Dry
4487		4/13/90	Dry	Dry
4487		5/24/90	Dry	Dry
4487		7/12/90	Dry	Dry
4487		7/31/90	Dry	Dry
4487		8/9/90	Dry	Dry
4487		9/12/90	Dry	Dry
4487		10/1/90	Dry	Dry
4487		10/15/90	Dry	Dry
4487		11/7/90	Dry	Dry
4487		12/6/90	Dry	Dry
4487		1/3/91	Dry	Dry
4487		4/1/91	Dry	Dry
4487		5/7/91	Dry	Dry
4487		6/11/91	Dry	Dry
4487		7/5/91	Dry	Dry
4487		8/6/91	Dry	Dry
4487		9/5/91	Dry	Dry
4487		10/3/91	Dry	Dry
4487		11/5/91	Dry	Dry
4487		12/2/91	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4487		1/3/92	Dry	Dry
4487		2/3/92	Dry	Dry
4487		3/5/92	Dry	Dry
4487		4/4/92	3.92	5947.18
4487		5/5/92	5.31	5945.79
4487		6/1/92	Dry	Dry
4487		6/22/92	Dry	Dry
4487		7/2/92	90.80	5860.30
4487		8/3/92	5.67	5945.43
4487		8/10/92	Dry	Dry
4487		9/4/92	Dry	Dry
4487		10/1/92	Dry	Dry
4487		12/3/92	Dry	Dry
4487		1/19/93	Dry	Dry
4487		2/2/93	Dry	Dry
4487		3/26/93	Dry	Dry
4487		4/2/93	Dry	Dry
4587	5950.91	7/7/87	91.04	5859.87
4587		11/11/87	91.00	5859.91
4587		12/21/87	91.40	5859.51
4587		1/11/88	91.10	5859.81
4587		2/3/88	91.20	5859.71
4587		2/4/88	90.70	5860.21
4587		3/21/88	91.20	5859.71
4587		4/18/88	91.20	5859.71
4587		5/16/88	91.10	5859.81
4587		6/15/88	91.00	5859.91
4587		7/15/88	91.00	5859.91
4587		8/18/88	90.80	5860.11
4587		9/15/88	90.90	5860.01
4587		10/22/88	91.00	5859.91
4587		11/15/88	90.90	5860.01
4587		12/15/88	91.10	5859.81
4587		1/15/89	91.40	5859.51
4587		2/14/89	91.10	5859.81
4587		3/27/89	91.40	5859.51
4587		4/27/89	91.50	5859.41
4587		5/19/89	91.70	5859.21
4587		6/29/89	91.50	5859.41
4587		7/14/89	91.62	5859.29
4587		8/25/89	91.48	5859.43
4587		1/15/90	89.96	5860.95
4587		4/17/90	91.41	5859.50
4587		6/12/90	90.95	5859.96

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4587		7/12/90	91.08	5859.83
4587		9/10/90	90.87	5860.04
4587		10/1/90	90.81	5860.10
4587		10/25/90	90.98	5859.93
4587		1/3/91	91.14	5859.77
4587		3/7/91	91.07	5859.84
4587		4/1/91	91.06	5859.85
4587		5/14/91	91.09	5859.82
4587		7/5/91	91.28	5859.63
4587		8/16/91	91.34	5859.57
4587		10/3/91	91.16	5859.75
4587		12/11/91	91.22	5859.69
4587		1/3/92	91.18	5859.73
4587		4/4/92	91.15	5859.76
4587		6/23/92	90.80	5860.11
4587		7/2/92	5.65	5945.26
4587		8/10/92	90.86	5860.05
4587		10/1/92	90.74	5860.17
4587		10/29/92	90.68	5860.23
4587		1/19/93	90.86	5860.05
4587		2/26/93	91.07	5859.84
4587		4/2/93	90.86	5860.05
5087	5934.78	11/10/87	11.50	5923.28
5087		12/16/87	11.10	5923.68
5087		1/8/88	Dry	Dry
5087		2/4/88	Dry	Dry
5087		2/24/88	Dry	Dry
5087		3/7/88	Dry	Dry
5087		4/4/88	Dry	Dry
5087		6/15/88	Dry	Dry
5087		7/15/88	Dry	Dry
5087		8/18/88	Dry	Dry
5087		9/15/88	Dry	Dry
5087		10/22/88	Dry	Dry
5087		11/15/88	Dry	Dry
5087		12/15/88	Dry	Dry
5087		1/15/89	Dry	Dry
5087		2/13/89	Dry	Dry
5087		3/24/89	Dry	Dry
5087		4/25/89	Dry	Dry
5087		5/19/89	Dry	Dry
5087		6/9/89	Dry	Dry
5087		6/29/89	Dry	Dry
5087		7/14/89	Dry	Dry

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
5087		7/25/89	Dry	Dry
5087		8/18/89	Dry	Dry
5087		9/13/89	Dry	Dry
5087		10/17/89	Dry	Dry
5087		1/16/90	Dry	Dry
5087		4/12/90	Dry	Dry
5087		5/2/90	Dry	Dry
5087		7/11/90	Dry	Dry
5087		7/31/90	Dry	Dry
5087		10/1/90	Dry	Dry
5087		10/9/90	Dry	Dry
5087		1/2/91	Dry	Dry
5087		4/1/91	Dry	Dry
5087		7/5/91	Dry	Dry
5087		10/2/91	Dry	Dry
5087		1/3/92	Dry	Dry
5087		4/4/92	Dry	Dry
5087		7/1/92	Dry	Dry
5087		10/1/92	Dry	Dry
5087		1/20/93	Dry	Dry
5087		4/9/93	Dry	Dry
B213789	5920.01	1/19/93	Dry	Dry
B213789		4/14/93	Dry	Dry
B213789		10/2/92	Dry	Dry
B213789		7/9/92	Dry	Dry
B217289	5779.10	8/8/90	69.06	5710.04
B217289		9/12/90	69.12	5709.98
B217289		10/5/90	81.02	5698.08
B217289		11/1/90	69.09	5710.01
B217289		12/7/90	69.14	5709.96
B217289		1/3/91	69.11	5709.99
B217289		4/2/91	69.10	5710.00
B217289		5/6/91	69.15	5709.95
B217289		6/11/91	68.98	5710.12
B217289		8/6/91	89.25	5689.85
B217289		9/3/91	69.73	5709.37
B217289		11/6/91	69.32	5709.78
B217289		12/9/91	69.21	5709.89
B217289		1/3/92	69.24	5709.86
B217289		3/3/92	69.18	5709.92
B217289		4/8/92	68.90	5710.20
B217289		4/9/92	68.90	5710.20
B217289		5/6/92	69.01	5710.09
B217289		6/1/92	59.08	5720.02
B217289		6/5/92	69.03	5710.07
B217289		7/7/92	69.29	5709.81
B217289		8/3/92	69.39	5709.71
B217289		9/10/92	Dry	Dry
B217289		9/17/92	73.24	5705.86
B217289		10/2/92	71.12	5707.98
B217289		12/7/92	70.76	5708.34
B217289		1/20/93	69.82	5709.28
B217289		2/2/93	69.88	5709.22
B217289		3/23/93	69.86	5709.24
B217289		3/26/93	71.72	5707.38
B217289		4/6/93	70.01	5709.09
B217489	5963.23	10/22/92	62.16	5901.07
B217489		12/14/92	147.46	5815.77
B217489		1/20/93	125.99	5837.24
B217489		3/20/93	100.81	5862.42
B217489		4/6/93	137.46	5825.77
B217589	5954.89	10/22/92	39.06	5915.83
B217589		12/15/92	80.24	5874.65
B217589		1/20/93	46.65	5908.24
B217589		3/20/93	40.34	5914.55
B217589		4/5/93	61.74	5893.15
B217689	5961.87	10/22/92	39.89	5921.98
B217689		12/15/92	54.93	5906.94
B217689		1/20/93	49.97	5911.90
B217689		3/20/93	42.18	5919.69
B217689		4/9/93	60.34	5901.53
B217789	5956.85	1/7/91	51.85	5905.00
B217789		4/2/92	51.00	5905.85
B217789		4/3/92	51.00	5905.85
B217789		8/4/92	23.19	5933.66
B217789		8/21/92	23.93	5932.92
B217789		9/3/92	23.50	5933.35
B217789		10/22/92	51.64	5905.21
B217789		10/27/92	25.24	5931.61
B217789		12/3/92	26.03	5930.82
B217789		12/14/92	59.35	5897.50
B217789		1/19/93	41.78	5915.07
B217789		1/22/93	26.17	5930.68
B217789		2/2/93	26.40	5930.45
B217789		3/29/93	26.58	5930.27
B217789		3/20/93	51.44	5905.41
B217789		4/6/93	24.66	5932.19
B217789		4/7/93	51.81	5905.04
B218789	5964.52	1/18/90	25.36	5939.16
B218789		3/14/90	23.95	5940.57
B218789		4/16/90	13.33	5951.19
B218789		5/25/90	17.35	5947.17
B218789		7/10/90	21.45	5943.07
B218789		8/7/90	21.64	5942.88
B218789		9/10/90	23.00	5941.52
B218789		9/13/90	23.08	5941.44
B218789		10/1/90	23.26	5941.26
B218789		10/22/90	23.78	5940.74
B218789		11/7/90	23.91	5940.61
B218789		12/7/90	23.78	5940.74
B218789		1/2/91	24.89	5939.63
B218789		3/8/91	27.00	5937.52
B218789		4/1/91	27.37	5937.15
B218789		5/2/91	24.42	5940.10
B218789		5/21/91	20.96	5943.56
B218789		6/13/91	16.70	5947.82
B218789		7/1/91	18.16	5946.36
B218789		8/7/91	21.09	5943.43
B218789		8/20/91	20.44	5944.08
B218789		9/4/91	21.55	5942.97
B218789		10/4/91	23.35	5941.17
B218789		11/5/91	24.47	5940.05
B218789		11/19/91	24.22	5940.30
B218789		12/3/91	21.60	5942.92
B218789		1/3/92	22.52	5942.00
B218789		2/5/92	23.55	5940.97
B218789		2/18/92	23.99	5940.53
B218789		3/5/92	24.50	5940.02
B218789		4/3/92	11.25	5953.27
B218789		4/4/92	11.25	5953.27
B218789		5/5/92	15.68	5948.84
B218789		6/1/92	19.20	5945.32
B218789		7/6/92	21.47	5943.05
B220189	NA	NA	NA	NA
B315289	5965.21	1/7/91	58.09	5907.12
B315289		12/17/92	60.64	5904.57
B315289		1/19/93	58.50	5906.71
B315289		4/7/93	57.71	5907.50
B317189	5726.64	6/1/92	Dry	Dry
B317189		7/6/92	Dry	Dry
B317189		8/3/92	Dry	Dry
B317189		8/4/92	Dry	Dry

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
B317189		9/3/92	Dry	Dry
B317189		10/2/92	Dry	Dry
B317189		12/7/92	Dry	Dry
B317189		1/20/93	Dry	Dry
B317189		2/2/93	Dry	Dry
B317189		3/26/93	Dry	Dry
B317189		4/6/93	Dry	Dry
B303390	5918.41	NA	NA	NA
B303490	5915.55	NA	NA	NA
B303590	5913.89	NA	NA	NA
B303690	5914.19	NA	NA	NA
191	5970.44	5/1/92	12.32	5958.12
191		7/6/92	17.71	5952.73
191		9/1/92	17.25	5953.19
191		10/2/92	20.25	5950.19
191		1/19/93	20.12	5950.32
191		3/12/93	21.41	5949.03
191		4/7/93	16.37	5954.07
291	5967.57	3/5/92	28.34	5939.23
291		4/3/92	18.97	5948.60
291		5/4/92	21.38	5946.19
291		7/6/92	26.05	5941.52
291		9/8/92	27.64	5939.93
291		10/2/92	28.26	5939.31
291		1/19/93	29.32	5938.25
291		3/15/93	30.22	5937.35
291		4/7/93	28.76	5938.81
391	5922.40	12/17/91	6.21	5916.19
391		1/7/92	5.90	5916.50
391		2/4/92	5.57	5916.83
391		2/29/92	5.64	5916.76
391		3/2/92	5.66	5916.74
391		4/3/92	1.77	5920.63
391		5/4/92	1.99	5920.41
391		7/9/92	4.33	5918.07
391		9/8/92	5.95	5916.45
391		10/2/92	6.84	5915.56
391		1/20/93	7.28	5915.12
391		3/9/93	7.53	5914.87
391		4/6/93	6.82	5915.58
491	5904.97	11/4/91	18.92	5886.05
491		12/18/91	14.36	5890.61
491		1/7/92	14.35	5890.62
491		2/4/92	13.96	5891.01
491		2/29/92	13.75	5891.22
491		3/2/92	16.16	5888.81
491		4/3/92	9.87	5895.10
491		4/9/92	13.94	5891.03
491		5/4/92	9.52	5895.45
491		7/8/92	12.23	5892.74
491		9/1/92	15.02	5889.95
491		10/2/92	15.70	5889.27
491		1/20/93	14.96	5890.01
491		3/10/93	15.23	5889.74
491		4/9/93	14.23	5890.74
691	5896.13	5/4/92	13.59	5882.54
691		7/8/92	15.82	5880.31
691		9/9/92	Dry	Dry
691		10/2/92	15.81	5880.32
691		1/20/93	16.36	5879.77
691		4/6/93	16.39	5879.74
791	5908.27	5/1/92	Dry	Dry
791		6/1/92	Dry	Dry
791		7/7/92	Dry	Dry
791		8/3/92	Dry	Dry
791		9/9/92	Dry	Dry
791		9/11/92	Dry	Dry
791		10/2/92	Dry	Dry
791		12/7/92	Dry	Dry
791		1/20/93	21.72	5886.55
791		2/2/93	Dry	Dry
791		3/30/93	21.69	5886.58
791		4/6/93	21.68	5886.59
891	5869.95	2/3/92	20.01	5849.94
891		3/2/92	19.99	5849.96
891		4/3/92	20.10	5849.85
891		5/4/92	20.24	5849.71
891		6/3/92	20.37	5849.58
891		7/7/92	Dry	Dry
891		8/5/92	20.56	5849.39
891		9/9/92	20.64	5849.31
891		9/11/92	Dry	Dry
891		10/2/92	20.68	5849.27
891		12/7/92	20.93	5849.02
891		1/20/93	21.06	5848.89
891		2/2/93	21.05	5848.90
891		3/30/93	21.25	5848.70
891		4/6/93	21.30	5848.65
991	5868.56	4/4/92	Dry	Dry
991		5/1/92	Dry	Dry
991		6/1/92	Dry	Dry
991		7/7/92	Dry	Dry
991		8/3/92	Dry	Dry
991		9/9/92	Dry	Dry
991		9/11/92	Dry	Dry
991		10/2/92	Dry	Dry
991		12/7/92	Dry	Dry
991		1/20/93	Dry	Dry
991		2/2/93	Dry	Dry
991		3/30/93	Dry	Dry
991		4/6/93	Dry	Dry
1291	5852.85	3/2/92	9.10	5843.75
1291		4/3/92	9.75	5843.10
1291		5/4/92	13.80	5839.05
1291		7/7/92	15.21	5837.64
1291		9/1/92	15.00	5837.85
1291		10/2/92	16.43	5836.42
1291		1/20/93	Dry	Dry
1291		4/6/93	17.48	5835.37
1391	5975.30	1/6/92	Dry	Dry
1391		2/3/92	16.64	5958.66
1391		3/3/92	14.46	5960.84
1391		5/1/92	14.18	5961.12
1391		7/2/92	12.92	5962.38
1391		7/30/92	11.94	5963.36
1391		10/1/92	12.99	5962.31
1391		1/20/93	13.12	5962.18
1391		3/1/93	12.42	5962.88
1391		4/8/93	13.31	5961.99
1491	5972.03	1/6/92	15.99	5956.04
1491		2/4/92	15.86	5956.17
1491		3/3/92	16.28	5955.75
1491		5/1/92	15.15	5956.88
1491		7/2/92	15.19	5956.84
1491		7/30/92	15.32	5956.71
1491		10/1/92	16.21	5955.82
1491		1/20/93	16.31	5955.72
1491		3/1/93	15.89	5956.14
1491		4/8/93	13.70	5958.33
1791	5967.41	12/19/91	13.10	5954.31
1791		1/6/92	14.33	5953.08
1791		2/4/92	14.10	5953.31

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
1791		3/3/92	15.38	5952.03
1791		4/9/92	8.89	5958.52
1791		5/4/92	11.27	5956.14
1791		7/2/92	13.24	5954.17
1791		8/3/92	14.57	5952.84
1791		10/1/92	15.21	5952.20
1791		11/5/92	15.38	5952.03
1791		1/15/93	14.60	5952.81
1791		3/2/93	14.87	5952.54
1791		4/7/93	12.04	5955.37
1891	5973.37	12/23/91	16.54	5956.83
1891		1/6/92	17.97	5955.40
1891		2/4/92	17.60	5955.77
1891		2/28/92	19.34	5954.03
1891		3/2/92	19.55	5953.82
1891		4/9/92	9.10	5964.27
1891		5/1/92	22.20	5951.17
1891		7/2/92	16.56	5956.81
1891		7/29/92	18.02	5955.35
1891		10/1/92	19.42	5953.95
1891		11/6/92	19.62	5953.75
1891		1/15/93	18.25	5955.12
1891		3/2/93	18.82	5954.55
1891		4/7/93	14.89	5958.48
1991	5963.61	5/4/92	14.58	5949.03
1991		6/4/92	18.05	5945.56
1991		7/6/92	20.60	5943.01
1991		9/14/92	22.72	5940.89
1991		10/1/92	23.34	5940.27
1991		10/23/92	24.31	5939.30
1991		1/15/93	25.40	5938.21
1991		3/1/93	26.43	5937.18
1991		4/6/93	23.40	5940.21
2091	5966.65	12/14/91	17.85	5948.80
2091		1/6/92	20.03	5946.62
2091		2/4/92	21.03	5945.62
2091		2/27/92	22.03	5944.62
2091		3/3/92	22.26	5944.39
2091		4/9/92	8.21	5958.44
2091		5/4/92	11.62	5955.03
2091		6/1/92	16.03	5950.62
2091		7/31/92	21.82	5944.83
2091		10/1/92	22.11	5944.54
2091		11/6/92	23.99	5942.66
2091		1/15/93	22.00	5944.65
2091		3/4/93	22.53	5944.12
2091		4/7/93	18.02	5948.63
2091		4/28/93	16.25	5950.40
2191	5967.51	1/6/92	Dry	Dry
2191		2/3/92	Dry	Dry
2191		3/3/92	Dry	Dry
2191		5/4/92	Dry	Dry
2191		7/2/92	Dry	Dry
2191		8/4/92	Dry	Dry
2191		9/3/92	Dry	Dry
2191		9/11/92	Dry	Dry
2191		10/1/92	Dry	Dry
2191		12/9/92	Dry	Dry
2191		1/15/93	Dry	Dry
2191		2/2/93	Dry	Dry
2191		3/26/93	Dry	Dry
2191		4/7/93	Dry	Dry
2291	5938.26	12/16/91	12.96	5925.30
2291		1/6/92	13.12	5925.14
2291		2/4/92	13.54	5924.72
2291		2/27/92	13.72	5924.54
2291		3/3/92	13.78	5924.48
2291		4/9/92	8.08	5930.18
2291		5/4/92	9.02	5929.24
2291		7/2/92	10.95	5927.31
2291		7/31/92	12.03	5926.23
2291		10/1/92	13.51	5924.75
2291		10/29/92	14.15	5924.11
2291		1/15/93	14.56	5923.70
2291		1/22/93	14.53	5923.73
2291		4/7/93	13.76	5924.50
2291		4/29/93	12.78	5925.48
2391	5958.43	12/17/91	8.07	5950.36
2391		1/7/92	Dry	Dry
2391		3/3/92	Dry	Dry
2391		4/4/92	Dry	Dry
2391		5/1/92	Dry	Dry
2391		5/4/92	Dry	Dry
2391		6/1/92	Dry	Dry
2391		7/2/92	Dry	Dry
2391		8/4/92	Dry	Dry
2391		9/3/92	Dry	Dry
2391		9/11/92	Dry	Dry
2391		10/2/92	Dry	Dry
2391		12/2/92	Dry	Dry
2391		1/15/93	Dry	Dry
2391		2/2/93	Dry	Dry
2391		3/29/93	Dry	Dry
2391		4/6/93	Dry	Dry
2491	5946.21	12/9/91	16.20	5930.01
2491		12/16/91	16.19	5930.02
2491		1/6/92	16.54	5929.67
2491		3/3/92	17.46	5928.75
2491		4/9/92	9.41	5936.80
2491		5/4/92	10.67	5935.54
2491		7/6/92	13.23	5932.98
2491		7/31/92	14.71	5931.50
2491		10/1/92	16.90	5929.31
2491		1/15/93	16.94	5929.27
2491		3/4/93	14.82	5931.39
2491		4/7/93	10.43	5935.78
2491		4/29/93	10.44	5935.77
2591	5925.34	4/9/92	40.10	5885.24
2591		5/4/92	39.96	5885.38
2591		6/9/92	39.93	5885.41
2591		7/6/92	40.02	5885.32
2591		8/11/92	40.14	5885.20
2591		10/2/92	46.22	5879.12
2591		10/20/92	40.26	5885.08
2591		1/15/93	40.53	5884.81
2591		2/24/93	40.58	5884.76
2591		4/6/93	40.46	5884.88
2691	5936.38	12/3/91	7.24	5929.14
2691		12/19/91	7.44	5928.94
2691		1/6/92	7.93	5928.45
2691		2/4/92	8.27	5928.11
2691		2/28/92	7.64	5928.74
2691		3/3/92	8.65	5927.73
2691		4/9/92	5.34	5931.04
2691		5/4/92	6.49	5929.89
2691		7/2/92	7.00	5929.38
2691		8/3/92	7.57	5928.81
2691		10/1/92	8.81	5927.57
2691		1/15/93	8.62	5927.76
2691		2/22/93	8.94	5927.44
2691		4/7/93	8.66	5927.72
2791	5955.79	12/6/91	11.22	5944.57

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
2791		1/7/92	Dry	Dry
2791		2/3/92	Dry	Dry
2791		3/3/92	Dry	Dry
2791		4/4/92	Dry	Dry
2791		5/4/92	Dry	Dry
2791		6/1/92	Dry	Dry
2791		7/6/92	Dry	Dry
2791		8/4/92	Dry	Dry
2791		9/3/92	Dry	Dry
2791		9/11/92	Dry	Dry
2791		10/2/92	Dry	Dry
2791		12/2/92	Dry	Dry
2791		1/20/93	Dry	Dry
2791		2/2/93	Dry	Dry
2791		3/29/93	Dry	Dry
2791		4/5/93	Dry	Dry
2891	5954.61	12/9/91	8.67	5945.94
2891		12/17/91	10.82	5943.79
2891		1/7/92	Dry	Dry
2891		3/3/92	Dry	Dry
2891		4/4/92	9.65	5944.96
2891		5/4/92	10.74	5943.87
2891		6/4/92	10.99	5943.62
2891		7/6/92	13.05	5941.56
2891		8/18/92	Dry	Dry
2891		10/1/92	Dry	Dry
2891		1/20/93	Dry	Dry
2891		4/5/93	13.05	5941.56
2991	5957.90	1/7/92	25.37	5932.53
2991		2/4/92	26.35	5931.55
2991		3/3/92	26.85	5931.05
2991		4/4/92	14.85	5943.05
2991		5/4/92	18.50	5939.40
2991		7/6/92	22.72	5935.18
2991		8/21/92	25.68	5932.22
2991		10/2/92	26.22	5931.68
2991		10/20/92	26.79	5931.11
2991		1/14/93	28.05	5929.85
2991		3/3/93	28.91	5928.99
2991		4/5/93	26.32	5931.58
3091	5954.23	12/6/91	41.60	5912.63
3091		12/14/91	35.64	5918.59
3091		1/7/92	35.71	5918.52
3091		2/4/92	36.21	5918.02
3091		3/3/92	36.35	5917.88
3091		4/4/92	28.27	5925.96
3091		5/4/92	30.46	5923.77
3091		7/6/92	33.16	5921.07
3091		8/19/92	34.78	5919.45
3091		10/1/92	35.55	5918.68
3091		10/22/92	36.09	5918.14
3091		1/14/93	36.85	5917.38
3091		3/4/93	37.38	5916.85
3091		4/5/93	37.34	5916.89
3191	5952.02	12/6/91	19.87	5932.15
3191		12/18/91	22.29	5929.73
3191		1/7/92	25.05	5926.97
3191		3/3/92	25.04	5926.98
3191		4/4/92	15.27	5936.75
3191		5/4/92	18.76	5933.26
3191		7/6/92	22.56	5929.46
3191		8/13/92	22.17	5929.85
3191		10/1/92	22.71	5929.31
3191		10/28/92	22.64	5929.38
3191		1/14/93	23.28	5928.74
3191		3/1/93	23.29	5928.73
3191		4/6/93	Dry	Dry
3391	5946.22	12/2/91	24.15	5922.07
3391		12/5/91	24.52	5921.70
3391		1/7/92	25.08	5921.14
3391		1/23/92	25.41	5920.81
3391		1/31/92	25.48	5920.74
3391		2/4/92	25.47	5920.75
3391		2/12/92	25.47	5920.75
3391		2/26/92	25.64	5920.58
3391		3/3/92	25.61	5920.61
3391		4/4/92	20.51	5925.71
3391		5/4/92	22.69	5923.53
3391		6/2/92	23.27	5922.95
3391		7/6/92	24.16	5922.06
3391		7/9/92	24.76	5921.46
3391		10/2/92	25.91	5920.31
3391		10/16/92	26.02	5920.20
3391		1/15/93	26.52	5919.70
3391		2/25/93	26.76	5919.46
3391		3/3/93	27.62	5918.60
3391		4/6/93	25.04	5921.18
3591	5950.80	12/2/91	30.07	5920.73
3591		12/18/91	30.09	5920.71
3591		1/7/92	30.36	5920.44
3591		3/3/92	31.06	5919.74
3591		4/4/92	23.32	5927.48
3591		5/4/92	22.86	5927.94
3591		6/4/92	24.38	5926.42
3591		7/6/92	26.11	5924.69
3591		8/13/92	28.13	5922.67
3591		10/1/92	30.48	5920.32
3591		10/22/92	31.17	5919.63
3591		1/14/93	32.05	5918.75
3591		3/1/93	32.25	5918.55
3591		4/6/93	Dry	Dry
3691	5934.43	4/9/92	30.89	5903.54
3691		5/4/92	31.76	5902.67
3691		6/5/92	32.62	5901.81
3691		7/6/92	33.01	5901.42
3691		7/8/92	33.00	5901.43
3691		10/2/92	33.64	5900.79
3691		10/21/92	33.72	5900.71
3691		1/22/93	33.92	5900.51
3691		3/2/93	34.10	5900.33
3691		4/6/93	34.08	5900.35
3791	5938.24	12/2/91	38.33	5899.91
3791		12/6/91	38.25	5899.99
3791		1/7/92	38.42	5899.82
3791		1/23/92	38.60	5899.64
3791		1/31/92	38.62	5899.62
3791		2/4/92	Dry	Dry
3791		2/12/92	38.72	5899.52
3791		2/26/92	38.79	5899.45
3791		3/3/92	38.80	5899.44
3791		4/4/92	35.16	5903.08
3791		5/4/92	35.36	5902.88
3791		6/10/92	36.50	5901.74
3791		7/6/92	37.10	5901.14
3791		7/10/92	37.16	5901.08
3791		10/2/92	38.42	5899.82
3791		10/16/92	38.62	5899.62
3791		1/15/93	39.02	5899.22
3791		2/25/93	39.24	5899.00
3791		4/6/93	39.21	5899.03
3891	5942.95	12/6/91	10.23	5932.72
3891		1/7/92	Dry	Dry

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
3891		2/3/92	Dry	Dry
3891		3/3/92	Dry	Dry
3891		4/4/92	10.84	5932.11
3891		5/4/92	10.46	5932.49
3891		6/3/92	10.71	5932.24
3891		7/6/92	Dry	Dry
3891		8/5/92	Dry	Dry
3891		9/9/92	Dry	Dry
3891		9/11/92	Dry	Dry
3891		10/2/92	Dry	Dry
3891		12/2/92	Dry	Dry
3891		1/14/93	Dry	Dry
3891		2/2/93	Dry	Dry
3891		4/6/93	Dry	Dry
3991	5936.87	4/9/92	31.01	5905.86
3991		5/4/92	41.47	5895.40
3991		6/23/92	33.00	5903.87
3991		7/6/92	33.10	5903.77
3991		7/8/92	33.16	5903.71
3991		10/2/92	34.92	5901.95
3991		10/21/92	35.15	5901.72
3991		1/20/93	35.39	5901.48
3991		3/1/93	36.62	5900.25
3991		4/6/93	35.75	5901.12
4091	5930.14	4/9/92	37.16	5892.98
4091		5/6/92	37.12	5893.02
4091		6/23/92	37.25	5892.89
4091		7/6/92	37.27	5892.87
4091		8/11/92	37.28	5892.86
4091		10/2/92	37.32	5892.82
4091		10/21/92	37.35	5892.79
4091		1/15/93	37.42	5892.72
4091		2/23/93	37.46	5892.68
4091		4/6/93	37.46	5892.68
4191	5956.99	3/5/92	18.69	5938.30
4191		4/3/92	19.98	5937.01
4191		5/4/92	14.01	5942.98
4191		7/6/92	15.16	5941.83
4191		8/27/92	16.15	5940.84
4191		10/2/92	15.47	5941.52
4191		12/7/92	18.10	5938.89
4191		1/19/93	19.94	5937.05
4191		3/15/93	19.52	5937.47
4191		4/7/93	19.44	5937.55

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4291	5953.90	3/3/92	26.01	5927.89
4291		4/3/92	26.00	5927.90
4291		5/4/92	20.89	5933.01
4291		7/6/92	24.24	5929.66
4291		9/1/92	24.77	5929.13
4291		10/2/92	26.23	5927.67
4291		12/7/92	26.22	5927.68
4291		1/19/93	Dry	Dry
4291		4/7/93	27.08	5926.82
4491	5951.15	4/3/92	29.06	5922.09
4491		5/4/92	29.09	5922.06
4491		6/1/92	26.01	5925.14
4491		6/3/92	25.82	5925.33
4491		7/6/92	25.94	5925.21
4491		9/1/92	26.32	5924.83
4491		10/2/92	28.41	5922.74
4491		12/7/92	29.40	5921.75
4491		1/19/93	31.24	5919.91
4491		4/7/93	31.22	5919.93
4591	5950.25	11/1/91	45.25	5905.00
4591		12/20/91	45.33	5904.92
4591		1/7/92	45.21	5905.04
4591		3/2/92	45.13	5905.12
4591		4/3/92	44.97	5905.28
4591		5/4/92	44.45	5905.80
4591		7/6/92	44.16	5906.09
4591		8/31/92	44.52	5905.73
4591		10/2/92	44.71	5905.54
4591		12/8/92	44.93	5905.32
4591		1/19/93	44.82	5905.43
4591		3/16/93	44.94	5905.31
4591		4/7/93	45.02	5905.23
4691	5946.43	1/1/92	Dry	Dry
4691		3/2/92	45.99	5900.44
4691		4/3/92	47.95	5898.48
4691		5/4/92	46.41	5900.02
4691		7/7/92	44.84	5901.59
4691		9/1/92	44.96	5901.47
4691		10/2/92	45.50	5900.93
4691		12/7/92	45.66	5900.77
4691		1/19/93	46.10	5900.33
4691		3/16/93	45.94	5900.49
4691		4/7/93	46.92	5899.51
4891	5940.76	11/1/91	41.66	5899.10

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
4891		12/5/91	41.75	5899.01
4891		1/7/92	44.02	5896.74
4891		2/3/92	Dry	Dry
4891		3/2/92	Dry	Dry
4891		4/2/92	Dry	Dry
4891		5/4/92	43.81	5896.95
4891		6/3/92	40.93	5899.83
4891		7/7/92	40.37	5900.39
4891		8/18/92	40.62	5900.14
4891		10/2/92	41.25	5899.51
4891		12/7/92	41.68	5899.08
4891		1/20/93	41.76	5899.00
4891		2/2/93	41.80	5898.96
4891		3/29/93	41.84	5898.92
4891		4/6/93	41.86	5898.90
4891		4/29/93	41.88	5898.88
4991	5938.63	11/1/91	41.74	5896.89
4991		12/5/91	41.69	5896.94
4991		1/7/92	42.01	5896.62
4991		2/3/92	42.12	5896.51
4991		3/2/92	41.84	5896.79
4991		4/2/92	41.05	5897.58
4991		5/4/92	40.04	5898.59
4991		7/7/92	38.93	5899.70
4991		7/27/92	39.03	5899.60
4991		10/2/92	39.76	5898.87
4991		1/20/93	41.00	5897.63
4991		3/21/93	41.40	5897.23
4991		4/6/93	41.88	5896.75
4991		4/29/93	41.51	5897.12
5091	5939.24	11/1/91	43.70	5895.54
5091		12/5/91	43.48	5895.76
5091		1/7/92	43.68	5895.56
5091		3/2/92	43.90	5895.34
5091		4/2/92	42.24	5897.00
5091		5/4/92	40.95	5898.29
5091		7/7/92	40.73	5898.51
5091		7/28/92	40.95	5898.29
5091		10/2/92	41.80	5897.44
5091		10/28/92	42.19	5897.05
5091		1/20/93	43.18	5896.06
5091		3/20/93	43.52	5895.72
5091		4/6/93	43.46	5895.78
5091		4/29/93	43.11	5896.13

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
5191	5939.85	12/5/91	44.37	5895.48
5191		12/17/91	44.12	5895.73
5191		1/7/92	44.27	5895.58
5191		2/4/92	44.50	5895.35
5191		3/2/92	44.49	5895.36
5191		4/2/92	42.58	5897.27
5191		5/4/92	41.30	5898.55
5191		7/7/92	41.30	5898.55
5191		7/24/92	41.50	5898.35
5191		10/2/92	42.54	5897.31
5191		10/28/92	42.96	5896.89
5191		1/20/93	43.95	5895.90
5191		3/24/93	44.34	5895.51
5191		4/6/93	44.14	5895.71
5291	5943.00	4/3/92	34.59	5908.41
5291		5/4/92	34.63	5908.37
5291		7/7/92	36.22	5906.78
5291		9/11/92	Dry	Dry
5291		10/2/92	37.08	5905.92
5291		12/4/92	37.03	5905.97
5291		1/19/93	37.02	5905.98
5291		3/30/93	37.10	5905.90
5291		4/7/93	37.26	5905.74
5391	5941.67	11/1/91	35.50	5906.17
5391		12/2/91	34.95	5906.72
5391		12/5/91	34.93	5906.74
5391		1/7/92	34.84	5906.83
5391		2/4/92	35.22	5906.45
5391		3/3/92	35.34	5906.33
5391		4/4/92	28.62	5913.05
5391		5/4/92	31.42	5910.25
5391		7/6/92	33.43	5908.24
5391		9/10/92	34.88	5906.79
5391		10/2/92	35.20	5906.47
5391		10/28/92	35.55	5906.12
5391		1/20/93	35.44	5906.23
5391		3/4/93	35.87	5905.80
5391		4/6/93	35.73	5905.94
5691	5948.99	11/1/91	29.53	5919.46
5691		12/2/91	28.29	5920.70
5691		12/4/91	28.46	5920.53
5691		1/7/92	29.35	5919.64
5691		1/23/92	28.84	5920.15
5691		1/31/92	29.94	5919.05

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
5691		2/4/92	Dry	Dry
5691		2/12/92	28.95	5920.04
5691		2/26/92	30.15	5918.84
5691		3/3/92	30.21	5918.78
5691		4/9/92	21.41	5927.58
5691		7/9/92	25.11	5923.88
5691		8/21/92	27.39	5921.60
5691		10/1/92	29.11	5919.88
5691		1/14/93	31.15	5917.84
5691		3/4/93	32.00	5916.99
5691		4/6/93	29.85	5919.14
5991	5909.91	11/4/91	23.70	5886.21
5991		1/7/92	24.40	5885.51
5991		2/3/92	25.45	5884.46
5991		3/3/92	25.42	5884.49
5991		4/3/92	25.43	5884.48
5991		5/4/92	25.46	5884.45
5991		6/2/92	25.49	5884.42
5991		7/7/92	Dry	Dry
5991		8/3/92	25.47	5884.44
5991		9/9/92	25.47	5884.44
5991		9/11/92	Dry	Dry
5991		10/2/92	25.45	5884.46
5991		12/7/92	25.51	5884.40
5991		1/20/93	25.48	5884.43
5991		2/2/93	25.46	5884.45
5991		3/30/93	25.49	5884.42
5991		4/6/93	25.50	5884.41
6091	5931.60	11/1/91	37.47	5894.13
6091		12/2/91	36.80	5894.80
6091		12/4/91	36.90	5894.70
6091		1/7/92	37.40	5894.20
6091		2/4/92	37.64	5893.96
6091		3/3/92	37.66	5893.94
6091		4/9/92	35.28	5896.32
6091		5/4/92	34.73	5896.87
6091		7/6/92	34.81	5896.79
6091		8/6/92	35.22	5896.38
6091		10/2/92	35.98	5895.62
6091		10/19/92	36.21	5895.39
6091		1/15/93	37.20	5894.40
6091		3/1/93	37.40	5894.20
6091		4/6/93	36.30	5895.30
6191	5920.72	2/3/92	Dry	Dry

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6191		3/3/92	Dry	Dry
6191		5/4/92	32.41	5888.31
6191		7/6/92	31.60	5889.12
6191		8/13/92	32.14	5888.58
6191		10/2/92	32.80	5887.92
6191		10/19/92	33.00	5887.72
6191		1/15/93	33.55	5887.17
6191		2/23/93	33.64	5887.08
6191		4/6/93	33.88	5886.84
6291	5899.28	11/1/91	Dry	Dry
6291		12/2/91	35.73	5863.55
6291		1/6/92	34.26	5865.02
6291		2/3/92	35.10	5864.18
6291		3/3/92	34.03	5865.25
6291		4/9/92	33.03	5866.25
6291		5/4/92	34.34	5864.94
6291		6/4/92	33.56	5865.72
6291		7/2/92	34.03	5865.25
6291		9/2/92	32.56	5866.72
6291		10/2/92	33.92	5865.36
6291		10/12/92	33.74	5865.54
6291		1/20/93	32.46	5866.82
6291		2/23/93	31.98	5867.30
6291		4/6/93	33.85	5865.43
6391	5905.17	11/1/91	23.57	5881.60
6391		12/2/91	24.04	5881.13
6391		1/6/92	24.92	5880.25
6391		3/3/92	Dry	Dry
6391		4/9/92	24.18	5880.99
6391		5/4/92	23.01	5882.16
6391		6/3/92	23.27	5881.90
6391		6/4/92	23.24	5881.93
6391		7/2/92	23.54	5881.63
6391		9/2/92	23.89	5881.28
6391		10/2/92	24.55	5880.62
6391		10/12/92	24.40	5880.77
6391		1/20/93	25.08	5880.09
6391		2/23/93	25.08	5880.09
6391		4/6/93	26.37	5878.80
6491	5673.25	12/9/91	19.59	5653.66
6491		1/6/92	17.54	5655.71
6491		3/3/92	16.68	5656.57
6491		4/7/92	15.77	5657.48
6491		5/4/92	11.78	5661.47

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6491		6/22/92	12.62	5660.63
6491		7/7/92	14.91	5658.34
6491		9/9/92	13.40	5659.85
6491		10/2/92	16.19	5657.06
6491		1/20/93	16.12	5657.13
6491		3/23/93	15.37	5657.88
6491		4/6/93	17.76	5655.49
6591	5979.90	4/7/92	10.32	5969.58
6591		5/1/92	15.30	5964.60
6591		7/6/92	18.25	5961.65
6591		8/27/92	19.45	5960.45
6591		10/2/92	20.01	5959.89
6591		1/19/93	20.34	5959.56
6591		3/10/93	21.08	5958.82
6591		4/7/93	18.61	5961.29
6691	5979.94	5/1/92	16.80	5963.14
6691		7/6/92	21.27	5958.67
6691		8/27/92	21.95	5957.99
6691		10/2/92	22.02	5957.92
6691		1/19/93	21.52	5958.42
6691		3/18/93	21.81	5958.13
6691		4/7/93	21.95	5957.99
6791	5980.38	5/1/92	16.55	5963.83
6791		7/6/92	20.50	5959.88
6791		8/26/92	22.73	5957.65
6791		10/2/92	22.85	5957.53
6791		1/19/93	22.74	5957.64
6791		3/11/93	22.91	5957.47
6791		4/7/93	24.47	5955.91
6891	5975.62	4/7/92	6.24	5969.38
6891		5/1/92	8.85	5966.77
6891		7/6/92	12.12	5963.50
6891		8/26/92	6.98	5968.64
6891		10/2/92	16.18	5959.44
6891		1/19/93	13.50	5962.12
6891		3/18/93	8.25	5967.37
6891		4/7/93	5.16	5970.46
6991	5974.57	4/7/92	8.91	5965.66
6991		5/1/92	12.67	5961.90
6991		7/6/92	17.60	5956.97
6991		8/26/92	19.17	5955.40
6991		10/2/92	20.99	5953.58
6991		1/19/93	20.16	5954.41
6991		3/12/93	21.34	5953.23

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
6991		4/7/93	14.77	5959.80
7191	5976.34	4/7/92	14.57	5961.77
7191		5/1/92	17.20	5959.14
7191		7/6/92	19.95	5956.39
7191		8/26/92	20.42	5955.92
7191		10/2/92	21.21	5955.13
7191		1/15/93	14.60	5961.74
7191		1/19/93	20.90	5955.44
7191		3/9/93	21.40	5954.94
7191		4/7/93	18.13	5958.21
7291	5978.80	4/7/92	16.06	5962.74
7291		5/1/92	18.60	5960.20
7291		7/6/92	21.47	5957.33
7291		8/27/92	21.26	5957.54
7291		10/2/92	22.12	5956.68
7291		1/19/93	23.16	5955.64
7291		3/9/93	22.73	5956.07
7291		4/7/93	23.97	5954.83
7391	5950.61	3/5/92	5.96	5944.65
7391		4/4/92	5.06	5945.55
7391		5/1/92	6.84	5943.77
7391		7/6/92	8.17	5942.44
7391		8/27/92	8.22	5942.39
7391		10/2/92	7.88	5942.73
7391		1/19/93	9.24	5941.37
7391		3/15/93	9.35	5941.26
7391		4/7/93	8.67	5941.94
7891	5959.45	3/3/92	27.58	5931.87
7891		5/6/92	18.11	5941.34
7891		7/6/92	23.55	5935.90
7891		8/20/92	26.05	5933.40
7891		10/1/92	26.87	5932.58
7891		10/23/92	27.78	5931.67
7891		1/14/93	29.40	5930.05
7891		3/2/93	29.74	5929.71
7891		4/5/93	Dry	Dry
7991	5956.78	3/3/92	27.59	5929.19
7991		4/3/92	19.11	5937.67
7991		5/4/92	19.30	5937.48
7991		7/6/92	22.94	5933.84
7991		8/26/92	24.90	5931.88
7991		10/2/92	26.36	5930.42
7991		12/3/92	26.65	5930.13
7991		1/19/93	28.08	5928.70

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
7991		3/15/93	27.90	5928.88
7991		4/7/93	29.22	5927.56
8091	5949.51	3/3/92	17.78	5931.73
8091		4/3/92	18.11	5931.40
8091		5/4/92	14.69	5934.82
8091		7/6/92	17.55	5931.96
8091		8/26/92	17.68	5931.83
8091		10/2/92	18.81	5930.70
8091		12/3/92	18.87	5930.64
8091		1/19/93	20.00	5929.51
8091		3/15/93	Dry	Dry
8091		3/29/93	20.00	5929.51
8091		4/7/93	Dry	Dry
8291	5951.94	2/3/92	Dry	Dry
8291		3/3/92	Dry	Dry
8291		4/3/92	Dry	Dry
8291		5/4/92	15.98	5935.96
8291		6/1/92	15.75	5936.19
8291		7/6/92	Dry	Dry
8291		8/3/92	16.02	5935.92
8291		9/9/92	16.10	5935.84
8291		9/11/92	Dry	Dry
8291		10/2/92	16.15	5935.79
8291		12/4/92	16.27	5935.67
8291		1/19/93	16.26	5935.68
8291		3/30/93	16.34	5935.60
8291		4/7/93	16.34	5935.60
8391	5948.65	3/3/92	40.29	5908.36
8391		4/3/92	Dry	Dry
8391		5/4/92	39.71	5908.94
8391		6/1/92	39.46	5909.19
8391		7/6/92	39.40	5909.25
8391		8/3/92	39.50	5909.15
8391		9/2/92	39.53	5909.12
8391		10/2/92	41.28	5907.37
8391		12/7/92	40.65	5908.00
8391		1/19/93	41.92	5906.73
8391		4/7/93	41.93	5906.72
8491	5952.16	2/3/92	Dry	Dry
8491		3/3/92	Dry	Dry
8491		4/3/92	Dry	Dry
8491		5/4/92	Dry	Dry
8491		6/1/92	Dry	Dry
8491		7/6/92	Dry	Dry

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
8491		8/10/92	17.82	5934.34
8491		9/9/92	17.69	5934.47
8491		9/11/92	Dry	Dry
8491		10/2/92	17.62	5934.54
8491		12/4/92	17.79	5934.37
8491		1/19/93	17.94	5934.22
8491		3/30/93	18.05	5934.11
8491		4/7/93	18.06	5934.10
8591	5950.12	3/3/92	43.64	5906.48
8591		4/3/92	Dry	Dry
8591		5/4/92	45.70	5904.42
8591		6/1/92	45.05	5905.07
8591		7/7/92	44.54	5905.58
8591		8/26/92	44.25	5905.87
8591		10/2/92	Dry	Dry
8591		1/19/93	45.80	5904.32
8591		3/16/93	45.75	5904.37
8591		3/29/93	45.76	5904.36
8591		4/7/93	46.18	5903.94
8891	5978.06	4/7/92	12.77	5965.29
8891		5/1/92	16.08	5961.98
8891		6/23/92	19.59	5958.47
8891		7/6/92	20.38	5957.68
8891		8/31/92	21.37	5956.69
8891		10/2/92	23.55	5954.51
8891		1/19/93	22.94	5955.12
8891		3/11/93	24.22	5953.84
8891		4/7/93	19.67	5958.39
9091	5976.79	4/7/92	14.86	5961.93
9091		5/1/92	18.12	5958.67
9091		7/6/92	21.20	5955.59
9091		8/31/92	21.65	5955.14
9091		10/2/92	23.40	5953.39
9091		1/19/93	22.86	5953.93
9091		3/19/93	22.87	5953.92
9091		4/7/93	19.99	5956.80
9691	5937.05	4/4/92	5.99	5931.06
9691		5/1/92	6.73	5930.32
9691		7/6/92	7.88	5929.17
9691		8/31/92	10.03	5927.02
9691		10/2/92	11.30	5925.75
9691		1/19/93	12.70	5924.35
9691		3/15/93	13.11	5923.94
9691		4/7/93	11.94	5925.11

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
10991	5941.64	2/4/92	44.71	5896.93
10991		4/2/92	43.77	5897.87
10991		5/4/92	42.58	5899.06
10991		7/7/92	41.88	5899.76
10991		7/28/92	41.99	5899.65
10991		10/2/92	42.71	5898.93
10991		10/23/92	43.05	5898.59
10991		1/20/93	43.93	5897.71
10991		3/21/93	44.32	5897.32
10991		4/6/93	44.38	5897.26
11291	5932.12	11/1/91	Dry	Dry
11291		12/2/91	Dry	Dry
11291		1/7/92	Dry	Dry
11291		2/3/92	Dry	Dry
11291		3/3/92	Dry	Dry
11291		4/9/92	Dry	Dry
11291		5/4/92	Dry	Dry
11291		6/3/92	Dry	Dry
11291		7/6/92	Dry	Dry
11291		8/5/92	Dry	Dry
11291		9/8/92	Dry	Dry
11291		9/11/92	Dry	Dry
11291		10/2/92	Dry	Dry
11291		12/3/92	Dry	Dry
11291		1/15/93	Dry	Dry
11291		2/2/93	Dry	Dry
11291		3/29/93	Dry	Dry
11291		4/6/93	Dry	Dry
11491	5949.76	1/31/92	28.32	5921.44
11491		2/3/92	Dry	Dry
11491		2/12/92	28.32	5921.44
11491		2/26/92	28.32	5921.44
11491		3/3/92	Dry	Dry
11491		4/9/92	22.28	5927.48
11491		5/4/92	22.49	5927.27
11491		7/9/92	25.66	5924.10
11491		9/10/92	26.35	5923.41
11491		10/1/92	Dry	Dry
11491		10/23/92	28.32	5921.44
11491		1/14/93	Dry	Dry
11491		4/6/93	Dry	Dry
11691	5939.91	12/2/91	33.83	5906.08
11691		12/20/91	33.79	5906.12
11691		1/7/92	33.87	5906.04

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
11691		1/23/92	34.06	5905.85
11691		1/31/92	34.16	5905.75
11691		2/12/92	34.23	5905.68
11691		2/26/92	34.34	5905.57
11691		3/3/92	34.34	5905.57
11691		4/4/92	31.83	5908.08
11691		5/1/92	31.58	5908.33
11691		5/4/92	31.78	5908.13
11691		6/8/92	32.35	5907.56
11691		7/6/92	32.63	5907.28
11691		7/10/92	32.67	5907.24
11691		10/2/92	33.74	5906.17
11691		10/19/92	33.92	5905.99
11691		1/15/93	34.37	5905.54
11691		2/25/93	34.66	5905.25
11691		4/6/93	34.75	5905.16
11791	5925.03	3/2/92	5.73	5919.30
11791		4/3/92	2.21	5922.82
11791		5/4/92	2.28	5922.75
11791		7/9/92	4.30	5920.73
11791		9/8/92	8.22	5916.81
11791		10/2/92	6.96	5918.07
11791		1/20/93	7.56	5917.47
11791		3/9/93	7.78	5917.25
11791		4/6/93	7.05	5917.98
11891	5947.44	12/4/91	24.60	5922.84
11891		12/19/91	25.17	5922.27
11891		1/7/92	25.46	5921.98
11891		1/23/92	25.90	5921.54
11891		1/31/92	25.90	5921.54
11891		2/4/92	Dry	Dry
11891		2/12/92	25.90	5921.54
11891		2/26/92	26.09	5921.35
11891		3/3/92	26.09	5921.35
11891		4/4/92	19.21	5928.23
11891		5/4/92	22.50	5924.94
11891		6/2/92	21.55	5925.89
11891		7/6/92	24.71	5922.73
11891		7/9/92	24.43	5923.01
11891		10/2/92	25.72	5921.72
11891		10/16/92	26.32	5921.12
11891		1/15/93	26.20	5921.24
11891		3/3/93	26.50	5920.94
11891		4/6/93	24.00	5923.44

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
12091	5973.27	12/6/91	15.34	5957.93
12091		12/19/91	16.37	5956.90
12091		1/6/92	18.08	5955.19
12091		2/4/92	17.88	5955.39
12091		3/3/92	19.65	5953.62
12091		4/9/92	9.77	5963.50
12091		5/1/92	13.03	5960.24
12091		7/2/92	16.90	5956.37
12091		7/29/92	18.28	5954.99
12091		10/1/92	19.48	5953.79
12091		1/15/93	18.41	5954.86
12091		3/2/93	19.10	5954.17
12091		4/7/93	13.35	5959.92
12091		4/29/93	15.12	5958.15
12191	5958.19	1/7/92	25.20	5932.99
12191		2/4/92	26.22	5931.97
12191		3/3/92	26.72	5931.47
12191		4/4/92	13.64	5944.55
12191		5/4/92	17.22	5940.97
12191		6/3/92	19.93	5938.26
12191		7/6/92	23.47	5934.72
12191		8/19/92	25.06	5933.13
12191		10/1/92	25.92	5932.27
12191		10/21/92	26.53	5931.66
12191		1/14/93	27.85	5930.34
12191		2/26/93	28.51	5929.68
12191		4/5/93	27.14	5931.05
12291	5972.73	1/6/92	16.30	5956.43
12291		3/3/92	16.29	5956.44
12291		4/9/92	14.29	5958.44
12291		5/1/92	15.57	5957.16
12291		7/2/92	15.58	5957.15
12291		7/30/92	15.74	5956.99
12291		10/1/92	16.30	5956.43
12291		11/4/92	16.55	5956.18
12291		1/20/93	16.38	5956.35
12291		3/1/93	16.18	5956.55
12291		4/8/93	14.14	5958.59
12391	5941.70	2/4/92	49.61	5892.09
12391		3/3/92	49.42	5892.28
12391		5/4/92	46.59	5895.11
12391		7/6/92	45.53	5896.17
12391		9/15/92	46.46	5895.24
12391		10/2/92	46.91	5894.79
12391		12/3/92	47.83	5893.87
12391		1/20/93	48.53	5893.17
12391		3/5/93	49.19	5892.51
12391		4/6/93	49.04	5892.66
12491	5948.35	2/4/92	29.93	5918.42
12491		3/3/92	30.10	5918.25
12491		5/6/92	22.14	5926.21
12491		7/9/92	25.02	5923.33
12491		9/14/92	28.37	5919.98
12491		10/1/92	28.97	5919.38
12491		10/22/92	29.74	5918.61
12491		1/20/93	31.14	5917.21
12491		3/3/93	31.91	5916.44
12491		4/6/93	30.27	5918.08
12691	5951.08	2/4/92	33.92	5917.16
12691		3/3/92	34.15	5916.93
12691		5/4/92	26.04	5925.04
12691		7/6/92	28.87	5922.21
12691		9/10/92	31.98	5919.10
12691		10/2/92	32.76	5918.32
12691		10/23/92	33.58	5917.50
12691		1/14/93	35.10	5915.98
12691		3/1/93	35.83	5915.25
12691		4/6/93	35.81	5915.27
12891	5948.35	3/5/92	38.05	5910.30
12891		4/3/92	38.07	5910.28
12891		5/4/92	38.10	5910.25
12891		6/3/92	38.12	5910.23
12891		7/6/92	Dry	Dry
12891		8/5/92	38.12	5910.23
12891		9/9/92	38.12	5910.23
12891		9/11/92	Dry	Dry
12891		10/2/92	38.12	5910.23
12891		12/4/92	38.14	5910.21
12891		1/19/93	38.12	5910.23
12891		3/30/93	38.11	5910.24
12891		4/7/93	38.11	5910.24
12991	5967.22	3/5/92	22.24	5944.98
12991		4/3/92	12.02	5955.20
12991		5/4/92	15.55	5951.67
12991		7/6/92	20.34	5946.88
12991		8/28/92	22.24	5944.98
12991		10/2/92	22.65	5944.57
12991		1/19/93	23.76	5943.46
12991		3/11/93	24.91	5942.31
12991		4/7/93	23.04	5944.18
13091	5975.20	5/1/92	16.12	5959.08
13091		7/6/92	19.52	5955.68
13091		9/8/92	20.34	5954.86
13091		10/2/92	21.68	5953.52
13091		1/19/93	21.16	5954.04
13091		3/18/93	21.13	5954.07
13091		4/7/93	16.54	5958.66
13191	5979.78	4/7/92	11.60	5968.18
13191		5/1/92	15.07	5964.71
13191		7/6/92	17.77	5962.01
13191		9/2/92	18.72	5961.06
13191		10/2/92	19.48	5960.30
13191		1/19/93	19.90	5959.88
13191		3/10/93	20.55	5959.23
13191		4/7/93	16.07	5963.71
13291	5979.97	4/7/92	9.21	5970.76
13291		5/1/92	14.69	5965.28
13291		7/6/92	17.52	5962.45
13291		8/31/92	17.72	5962.25
13291		10/1/92	Dry	Dry
13291		10/2/92	Dry	Dry
13291		1/19/93	Dry	Dry
13291		4/7/93	Dry	Dry
13391	5925.35	4/9/92	38.08	5887.27
13391		5/4/92	37.90	5887.45
13391		6/8/92	37.85	5887.50
13391		7/6/92	37.86	5887.49
13391		8/20/92	37.91	5887.44
13391		10/2/92	37.99	5887.36
13391		10/20/92	38.08	5887.27
13391		1/15/93	38.29	5887.06
13391		2/24/93	38.30	5887.05
13391		4/6/93	38.31	5887.04
13491	5963.42	5/4/92	14.21	5949.21
13491		6/24/92	19.43	5943.99
13491		7/6/92	20.23	5943.19
13491		8/21/92	22.72	5940.70
13491		10/1/92	23.02	5940.40
13491		10/22/92	23.93	5939.49
13491		1/15/93	25.06	5938.36
13491		3/2/93	26.21	5937.21
13491		4/6/93	22.94	5940.48

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
13591	5967.55	5/4/92	14.99	5952.56
13591		6/29/92	17.92	5949.63
13591		7/6/92	Dry	Dry
13591		10/2/92	Dry	Dry
13591		1/19/93	Dry	Dry
13591		4/7/93	Dry	Dry
34591	5954.63	11/91	Dry	Dry
34591		01/92	Dry	Dry
34591		02/92	13.32	5941.31
34591		03/92	12.95	5941.68
34591		04/92	12.80	5941.83
34591		05/92	12.69	5941.94
34591		6/2/92	13.69	5940.94
34591		7/6/92	Dry	Dry
34591		8/3/92	13.66	5940.97
34591		9/10/92	13.64	5940.99
34591		9/11/92	Dry	Dry
34591		10/2/92	13.61	5941.02
34591		12/7/92	Dry	Dry
34591		1/19/93	13.64	5940.99
34591		2/2/93	13.61	5941.02
34591		3/30/93	13.63	5941.00
34591		4/7/93	13.61	5941.02
34791	5953.91	11/91	7.43	5946.48
34791		12/91	5.65	5948.26
34791		01/92	5.27	5948.64
34791		03/92	5.76	5948.15
34791		04/92	1.92	5951.99
34791		05/92	3.90	5950.01
34791		05/92	4.61	5949.3
34791		7/6/92	4.93	5948.98
34791		9/1/92	4.42	5949.49
34791		10/2/92	6.41	5947.50
34791		1/19/93	7.04	5946.87
34791		3/10/93	7.80	5946.11
34791		4/7/93	3.15	5950.76
37691	5985.24	11/91	Dry	Dry
37691		12/91	18.14	5967.1
37691		01/92	Dry	Dry
37691		02/92	Dry	Dry
37691		04/92	13.28	5971.96
37691		05/92	17.00	5968.24
37691		6/22/92	16.90	5968.34
37691		7/6/92	17.63	5967.61
37691		8/13/92	18.81	5966.43
37691		10/1/92	Dry	Dry
37691		1/20/93	Dry	Dry
37691		4/8/93	20.47	5964.77
40491	5678.66	6/3/92	Dry	Dry
40491		7/7/92	Dry	Dry
40491		8/6/92	14.05	5664.61
40491		9/8/92	Dry	Dry
40491		9/11/92	Dry	Dry
40491		10/2/92	Dry	Dry
40491		12/7/92	Dry	Dry
40491		1/20/93	Dry	Dry
40491		2/2/93	Dry	Dry
40491		3/26/93	Dry	Dry
40491		4/6/93	Dry	Dry
40791		10/2/92	Dry	Dry
40791	5690.24	7/6/92	Dry	Dry
40791		8/4/92	Dry	Dry
40791		9/2/92	Dry	Dry
40791		9/11/92	Dry	Dry
40791		10/2/92	Dry	Dry
40791		12/7/92	Dry	Dry
40791		1/20/93	Dry	Dry
40791		2/2/93	Dry	Dry
40791		3/26/93	Dry	Dry
40791		4/6/93	Dry	Dry
41591	5727.27	6/10/92	7.21	5720.06
41591		7/6/92	8.82	5718.45
41591		9/15/92	9.17	5718.10
41591		10/2/92	9.93	5717.34
41591		1/20/93	11.16	5716.11
41591		3/22/93	8.63	5718.64
41591		4/6/93	6.21	5721.06
41691	5645.88	6/11/92	8.27	5637.61
41691		7/7/92	10.06	5635.82
41691		9/16/92	7.38	5638.50
41691		10/2/92	8.83	5637.05
41691		1/20/93	8.58	5637.30
41691		3/17/93	8.13	5637.75
41691		4/6/93	7.02	5638.86
OB20191	5948.49	NR	NR	NR
OB20291	5948.58	NR	NR	NR
OB20491	5948.71	NR	NR	NR
OB20591	5969.61	NR	NR	NR
PW20691	5969.63	NR	NR	NR
OB20791	5969.49	NR	NR	NR
PW20891	5951.30	NR	NR	NR
OB20991	5951.39	NR	NR	NR
OB21091	5950.12	NR	NR	NR
OB21191	5948.52	NR	NR	NR
46692	5958.25	8/7/92	58.04	5900.21
46692		9/23/92	56.83	5901.42
46692		10/1/92	62.50	5895.75
46692		12/3/92	49.71	5908.54
46692		12/8/92	45.94	5912.31
46792		12/8/92	98.00	5860.44
46692		12/17/92	80.83	5877.42
46692		1/13/93	43.50	5914.75
46692		2/2/93	41.38	5916.87
46692		3/3/93	40.55	5917.70
46692		3/29/93	42.94	5915.31
46692		4/6/93	41.55	5916.70
46792	5958.44	8/7/92	106.40	5852.04
46792		10/1/92	106.00	5852.44
46792		12/3/92	101.92	5856.52
46792		12/8/92	98	5860.44
46792		12/16/92	104.58	5853.86
46792		1/13/93	93.25	5865.19
46792		2/2/93	77.75	5880.69
46792		3/2/93	65.18	5893.26
46792		3/29/93	89.90	5868.54
46792		4/6/93	82.90	5875.54
46892	5958.36	8/7/92	153.90	5804.46
46892		10/2/92	152.20	5806.16
46892		12/3/92	147.90	5810.46
46892		12/8/92	139.87	5818.49
46892		12/16/92	154.12	5804.24
46892		1/13/93	133.80	5824.56
46892		2/2/93	114.44	5843.92
46892		3/2/93	98.62	5859.74
46892		3/29/93	131.26	5827.10
46892		4/6/93	122.50	5835.86
22093	5947.43	10/93	49.28	5898.15
22193	5963.36	10/93	40.04	5923.32
22293	5884.12	10/93	41.33	5842.79
22393	5972.14	8/93	Dry	-
22593	5950.13	10/93	86.38	5863.75
23193	5950.46	10/93	37.69	5912.77

TABLE B3-1
OU-2 GROUNDWATER ELEVATION DATA

Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater	Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater	Well Number	Elevation Top of Casing	Date	Depth to Groundwater	Elevation of Groundwater
23293	5958.02	8/93	Dry	-										

NA = No water level data available through RFEDS database.

NR = No water level data recorded

TABLE B3-2
HYDROGEOLOGIC DATA

Stratigraphy of Screened Interval	Well Number	Paired Well Number(s)	Elevation Top of Casing (ft) *	Elevation Bottom of Screen (ft) **	Elevation Top of Bedrock (ft) **	Thickness Screened Bedrock (ft)@	First Quarter				Second Quarter				Third Quarter			
							March Water Level Depth (ft)	March Water Level Elevation (ft) *	March Alluv. Sat. Thickness (ft)@	March WL Above Screen Bottom (ft)@	May Water Level Depth (ft)	May Water Level Elevation (ft) *	May Alluv. Sat. Thickness (ft)@	May WL Above Screen Bottom (ft)@	July Water Level Depth (ft)	July Water Level Elevation (ft)	July Alluv. Sat. Thickness (ft)@	July WL Above Screen Bottom (ft)@
Rocky Flats Alluvium	3986	None	5909.41	5876.73	5877.73	1.00	NR	NR	NR	NR	NR	NR	NR	NR	25.62	5883.79	6.06	7.06
	4186	4086	5944.36	5897.92	5898.02	0.10	Dry	Dry	Dry	Dry	44.99	5899.37	1.35	1.45	44.13	5900.23	2.21	2.31
	4286	None	5957.87	5926.57	5928.07	1.50	22.86	5935.01	6.94	8.44	14.38	5943.49	15.42	16.92	19.69	5938.18	10.11	11.61
	4386	2387	5974.46	5956.16	5955.91	-0.25	Dry	Dry	Dry	Dry	15.45	5959.01	3.10	2.85	17.25	5957.21	1.30	1.05
	1087	987	5983.52	5969.95	5970.65	0.70	Dry	Dry	Dry	Dry	13.12	5970.40	Dry	0.45	13.11	5970.41	Dry	0.46
	1587	1687	5972.79	5949.21	5949.47	0.26	21.92	5950.87	1.40	1.66	16.52	5956.27	6.80	7.06	19.93	5952.86	3.39	3.65
	1787	1887	5969.56	5942.51	5943.01	0.50	21.38	5948.18	5.17	5.67	11.84	5957.72	14.71	15.21	17.58	5951.98	8.97	9.47
	1987	2087	5969.91	5956.79	5957.64	0.85	NR	NR	NR	NR	NR	NR	NR	NR	13.05	5956.86	Dry	0.07
	2487	2587	5959.69	5944.69	5943.19	-1.50	15.65	5944.04	Dry	BSB	12.45	5947.24	4.05	2.55	14.55	5945.14	1.95	0.45
	2687	None	5955.90	5940.83	5939.78	-1.05	Dry	Dry	Dry	Dry	9.17	5946.73	6.95	5.90	12.65	5943.25	3.47	2.42
	2787	2887	5949.65	5904.80	5903.60	-1.20	Dry	Dry	Dry	Dry	43.87	5905.78	2.18	0.98	43.62	5906.03	2.43	1.23
	3287	3187	5947.97	5899.83	5900.38	0.55	47.91	5900.06	Dry	0.23	46.93	5901.04	0.66	1.21	46.17	5901.80	1.42	1.97
	3387	3487	5947.22	5925.78	5926.78	1.00	Dry	Dry	Dry	Dry	16.48	5930.74	3.96	4.96	19.50	5927.72	0.94	1.94
	3587	3687	5951.39	5940.61	5940.86	0.25	11.56	5939.83	Dry	BSB	NR	NR	NR	NR	11.56	5939.83	Dry	BSB
	B218789	None	5964.52	5934.30	5935.80	1.50	24.50	5940.02	4.22	5.72	15.68	5948.84	13.04	14.54	21.47	5943.05	7.25	8.75
	B220189	374?	ND	5934.37	5934.27	-0.10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	00191	None	5970.44	5943.86	5944.66	0.80	NR	NR	NR	NR	12.32	5958.12	13.46	14.26	17.71	5952.73	8.07	8.87
	01391	None	5975.30	5959.70	5959.20	-0.50	14.46	5960.84	1.64	1.14	14.18	5961.12	1.92	1.42	12.92	5962.38	3.18	2.68
	02191	None	5967.51	5952.81	5952.31	-0.50	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	02391	None	5958.43	5950.82	5949.92	-0.90	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	02791	None	5955.79	5944.84	5946.34	1.50	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	02891	None	5954.61	5944.09	5943.99	-0.10	Dry	Dry	Dry	Dry	10.74	5943.87	Dry	BSB	13.05	5941.56	Dry	SBS
	03191	12691	5952.02	5929.15	5929.25	0.10	25.04	5926.98	Dry	BSB	18.76	5933.26	4.01	4.11	22.56	5929.46	0.21	0.31
	03591	None	5950.80	5918.92	5918.92	0.00	31.06	5919.74	0.82	0.82	22.86	5927.94	9.02	9.02	26.11	5924.69	5.77	5.77
	03891	None	5942.95	5933.89	5933.49	-0.40	Dry	Dry	Dry	Dry	10.46	5932.49	Dry	BSB	Dry	Dry	Dry	Dry
	03991	None	5936.87	5897.77	5898.17	0.40	NR	NR	NR	NR	41.47	5895.40	Dry	BSB	33.10	5903.77	5.60	6.00
	04091	None	5930.14	5892.52	5892.52	0	NR	NR	NR	NR	37.12	5893.02	0.50	0.50	37.27	5892.87	0.35	0.35
	04191	None	5956.99	5938.48	5938.48	0.00	18.69	5938.30	Dry	BSB	14.01	5942.98	4.50	4.50	15.16	5941.83	3.35	3.35
	04491	None	5951.15	5922.51	5922.51	0.00	NR	NR	NR	NR	29.09	5922.06	Dry	BSB	25.94	5925.21	2.70	2.70
	04591	None	5950.25	5904.59	5904.49	-0.10	45.13	5905.12	0.63	0.53	44.45	5905.80	1.31	1.21	44.16	5906.09	1.60	1.50
	04691	None	5946.43	5900.80	5900.80	0.00	45.99	5900.44	Dry	BSB	46.41	5900.02	Dry	BSB	44.84	5901.59	0.79	0.79
	04891	None	5940.76	5899.50	5899.50	0.00	Dry	Dry	Dry	Dry	43.81	5896.95	Dry	BSB	40.37	5900.39	0.89	0.89
	04991	None	5938.63	5896.64	5896.74	0.10	41.84	5896.79	0.05	0.15	40.04	5898.59	1.85	1.95	38.93	5899.70	2.96	3.06
	05091	None	5939.24	5893.63	5894.13	0.50	43.90	5895.34	1.21	1.71	40.95	5898.29	4.16	4.66	40.73	5898.51	4.38	4.88
	05191	None	5939.85	5892.40	5893.60	1.20	44.49	5895.36	1.76	2.96	41.30	5898.55	4.95	6.15	41.30	5898.55	4.95	6.15
	05291	None	5943.00	5906.13	5906.53	0.40	Dry	Dry	Dry	Dry	34.63	5908.37	1.84	2.24	36.22	5906.78	0.25	0.65
	05391	12391	5941.67	5905.09	5905.49	0.40	35.34	5906.33	0.84	1.24	31.42	5910.25	4.76	5.16	33.43	5908.24	2.75	3.15
	05691	11491,12491	5948.99	5912.51	5912.41	-0.10	30.21	5918.78	6.37	6.27	21.41	5927.58	15.17	15.07	25.11	5923.88	11.47	11.37
	06091	11291	5931.60	5889.38	5890.98	1.60	37.66	5893.94	2.96	4.56	34.73	5896.87	5.89	7.49	34.81	5896.79	5.81	7.41
	06191	None	5920.72	5887.11	5887.21	0.10	Dry	Dry	Dry	Dry	32.41	5888.31	1.10	1.20	31.60	5889.12	1.91	2.01
	06391	None	5905.17	5881.03	5882.43	1.40	Dry	Dry	Dry	Dry	23.01	5882.16	Dry	1.13	23.54	5881.63	Dry	0.60
	06691	None	5979.94	5955.24	5956.34	1.10	NR	NR	NR	NR	16.80	5963.14	6.80	7.90	21.27	5958.67	2.33	3.43
	06791	None	5980.38	5957.67	5957.77	0.10	NR	NR	NR	NR	16.55	5963.83	6.06	6.16	20.50	5959.88	2.11	2.21
	06891	None	5975.62	5960.14	5960.04	-0.10	NR	NR	NR	NR	8.85	5966.77	6.73	6.63	12.12	5963.50	3.46	3.36
	06991	None	5974.57	5943.91	5944.31	0.40	NR	NR	NR	NR	12.67	5961.90	17.59	17.99	17.60	5956.97	12.66	13.06
	07191	None	5976.34	5953.69	5955.29	1.60	NR	NR	NR	NR	17.20	5959.14	3.85	5.45	19.95	5956.39	1.10	2.70

TABLE B3-2
HYDROGEOLOGIC DATA

Stratigraphy of Screened Interval	Well Number	Paired Well Number(s)	Elevation Top of Casing (ft) *	Elevation Bottom of Screen (ft) **	Elevation Top of Bedrock (ft) **	Thickness Screened Bedrock (ft)@	First Quarter				Second Quarter				Third Quarter			
							March Water Level Depth	March Water Level Elevation	March Alluv. Sat. Thickness	March WL Above Screen Bottom	May Water Level Depth	May Water Level Elevation	May Alluv. Sat. Thickness	May WL Above Screen Bottom	July Water Level Depth	July Water Level Elevation	July Alluv. Sat. Thickness	July WL Above Screen Bottom
Rocky Flats Alluvium	07291	None	5978.80	5956.67	5957.27	0.60	NR	NR	NR	NR	18.60	5960.20	2.93	3.53	21.47	5957.33	0.06	0.66
	07891	None	5959.45	5929.78	5930.28	0.50	27.58	5931.87	1.59	2.09	18.11	5941.34	11.06	11.56	23.55	5935.90	5.62	6.12
	07991	None	5956.78	5928.81	5924.91	-3.90	27.59	5929.19	4.28	0.38	19.30	5937.48	12.57	8.67	22.94	5933.84	8.93	5.03
	08091	None	5949.51	5931.60	5931.80	0.20	17.78	5931.73	Dry	0.13	14.69	5934.82	3.02	3.22	17.55	5931.96	0.16	0.36
	08291	None	5951.94	5936.18	5936.18	0.00	Dry	Dry	Dry	Dry	15.98	5935.96	Dry	BSB	Dry	Dry	Dry	Dry
	08391	None	5948.65	5909.20	5910.00	0.80	40.29	5908.36	Dry	BSB	39.71	5908.94	Dry	BSB	39.40	5909.25	Dry	0.05
	08491	None	5952.16	5934.58	5934.58	0.00	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	08591	None	5950.12	5906.57	5907.87	1.30	43.64	5906.48	Dry	BSB	45.70	5904.42	Dry	BSB	44.54	5905.58	Dry	BSB
	08891	None	5978.06	5951.06	5953.36	2.30	NR	NR	NR	NR	16.08	5961.98	8.62	10.92	20.38	5957.68	4.32	6.62
	09091	None	5976.79	5950.46	5951.16	0.70	NR	NR	NR	NR	18.12	5958.67	7.51	8.21	21.20	5955.59	4.43	5.13
	11291	06091	5932.12	5899.55	NE	NA	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	11491	05691,12491	5949.76	5922.92	NE	NA	Dry	Dry	Dry	Dry	22.49	5927.27	NA	4.35	25.66	5924.10	NA	1.18
	12891	None	5948.35	5911.26	5911.26	0.00	38.05	5910.30	Dry	BSB	38.10	5910.25	Dry	BSB	Dry	Dry	Dry	Dry
	13091	None	5975.20	5952.38	5954.18	1.80	NR	NR	NR	NR	16.12	5959.08	4.90	6.70	19.52	5955.68	1.50	3.30
	13291	06591,13191	5979.97	5962.78	5962.78	0.00	NR	NR	NR	NR	14.69	5965.28	2.50	2.50	17.52	5962.45	Dry	BSB
	13391	02591	5925.35	5884.83	5885.23	0.40	NR	NR	NR	NR	37.90	5887.45	2.22	2.62	37.86	5887.49	2.26	2.66
	13491	01991	5963.42	5932.92	5932.52	-0.40	NR	NR	NR	NR	14.21	5949.21	16.69	16.29	20.23	5943.19	10.67	10.27
	13591	00291,12991	5967.55	5949.92	5949.92	0.00	NR	NR	NR	NR	14.99	5952.56	2.64	2.64	Dry	Dry	Dry	Dry
	20291	201,204,21191	5948.58	5914.19	5914.09	-0.10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	20491	201,202,21191	5948.71	5915.63	5914.33	-1.30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	20591	20691,20791	5969.61	5943.91	5943.51	-0.40	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	20891	20991,21091	5951.30	5886.15	5930.45	44.30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	21091	20891,20991	5950.12	5885.57	5933.57	48.00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	37691	None	5985.24	5967.96	5968.26	0.30	NR	NR	NR	NR	NR	NR	NR	NR	17.63	5967.61	Dry	BSB
Colluvium	286	None	5726.10	5716.01	5717.21	1.20	8.15	5717.95	0.74	1.94	5.61	5720.49	3.28	4.48	7.89	5718.21	1.00	2.20
	6386	6286	5902.01	5885.84	5886.29	0.45	Dry	Dry	Dry	Dry	13.92	5888.09	1.80	2.25	16.32	5885.69	Dry	BSB
	6786	None	5803.97	5787.58	5788.33	0.75	NR	NR	NR	NR	NR	NR	NR	NR	15.44	5788.53	0.20	0.95
	687	None	5906.32	5897.89	5898.26	0.37	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2987	3087	5814.29	5792.31	5793.81	1.50	NR	NR	NR	NR	NR	NR	NR	NR	13.40	5800.89	7.08	8.58
	4487	4587	5951.10	5945.93	5946.43	0.50	Dry	Dry	Dry	Dry	5.31	5945.79	Dry	BSB	NR	NR	NR	NR
	5087	None	5934.78	5919.64	5920.64	1.00	NR	NR	NR	NR	NR	NR	NR	NR	Dry	Dry	Dry	Dry
	B213789	None	5920.01	5910.90	5911.40	0.50	NR	NR	NR	NR	NR	NR	NR	NR	Dry	Dry	Dry	Dry
	B303390	None	5918.41	5908.40	5908.40	0.00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	B303490	None	5915.55	5906.10	5906.10	0.00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	B303590	None	5913.89	5902.20	5902.20	0.00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	B303690	None	5914.19	5895.70	5895.00	-0.70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	00491	None	5904.97	5885.97	5892.57	6.60	16.16	5888.81	Dry	2.84	9.52	5895.45	2.88	9.48	12.23	5892.74	0.17	6.77
	00691	None	5896.13	5882.17	5882.17	0.00	NR	NR	NR	NR	13.59	5882.54	0.37	0.37	15.82	5880.31	Dry	BSB
	00791	None	5908.27	5888.61	5888.61	0.00	NR	NR	NR	NR	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	00891	None	5869.95	5850.45	5850.15	-0.30	19.99	5849.96	Dry	BSB	20.24	5849.71	Dry	BSB	Dry	Dry	Dry	Dry
	01291	None	5852.85	5837.91	5837.91	0.00	9.10	5843.75	5.84	5.84	13.80	5839.05	1.14	1.14	15.21	5837.64	Dry	BSB
	05991	None	5909.91	5886.22	5886.22	0.00	25.42	5884.49	Dry	BSB	25.46	5884.45	Dry	BSB	Dry	Dry	Dry	Dry
	07391	None	5950.61	5937.74	5938.24	0.50	5.96	5944.65	6.41	6.91	6.84	5943.77	5.53	6.03	8.17	5942.44	4.20	4.70
	34591	None	5954.63	5943.99	5943.99	0.00	NR	NR	NR	NR	NR	NR	NR	NR	Dry	Dry	Dry	Dry
	34791	None	5953.91	5943.39	5943.39	0.00	NR	NR	NR	NR	NR	NR	NR	NR	4.93	5948.98	5.59	5.59

TABLE B3-2
HYDROGEOLOGIC DATA

Stratigraphy of Screened Interval	Well Number	Paired Well Number(s)	Elevation Top of Casing (ft) *	Elevation Bottom of Screen (ft) **	Elevation Top of Bedrock (ft) **	Thickness Screened Bedrock (ft)@	First Quarter				Second Quarter				Third Quarter			
							March Water Level Depth	March Water Level Elevation	March Alluv. Sat. Thickness	March WL Above Screen Bottom	May Water Level Depth	May Water Level Elevation	May Alluv. Sat. Thickness	May WL Above Screen Bottom	July Water Level Depth	July Water Level Elevation	July Alluv. Sat. Thickness	July WL Above Screen Bottom
Valley Fill	3386	None	5952.42	5944.06	5944.60	0.54	Dry	Dry	Dry	Dry	NR	NR	NR	NR	8.30	5944.12	Dry	0.06
	3586	3486	5912.76	5899.15	5900.25	1.10	NR	NR	NR	NR	NR	NR	NR	NR	8.26	5904.50	4.25	5.35
	3686	None	5885.22	5878.72	5879.72	1.00	NR	NR	NR	NR	NR	NR	NR	NR	6.20	5879.02	Dry	0.30
	3786	None	5968.99	5958.48	5959.53	1.05	NR	NR	NR	NR	NR	NR	NR	NR	5.03	5963.96	4.43	5.48
	6486	None	5841.05	5830.06	5830.56	0.50	NR	NR	NR	NR	NR	NR	NR	NR	10.23	5830.82	0.26	0.76
	6586	None	5788.27	5780.16	5779.56	-0.60	NR	NR	NR	NR	NR	NR	NR	NR	7.41	5780.86	1.30	0.70
	2187	2287	5929.69	5918.03	5920.43	2.40	9.08	5920.61	0.18	2.58	NR	NR	NR	NR	7.67	5922.02	1.59	3.99
	40491	None	5678.66	5667.13	5667.13	0.00	NR	NR	NR	NR	NR	NR	NR	NR	Dry	Dry	Dry	Dry
	40791	None	5710.16	5701.51	5701.51	0.00	NR	NR	NR	NR	NR	NR	NR	NR	Dry	Dry	Dry	Dry
	41591	None	5727.27	5714.54	5714.54	0.00	NR	NR	NR	NR	NR	NR	NR	NR	8.82	5718.45	3.91	3.91
	41691	None	5645.88	5629.25	5629.25	0.00	NR	NR	NR	NR	NR	NR	NR	NR	10.06	5635.82	6.57	6.57
Arapahoe/Laramie Formation																		
Kl (ss)	386	None	5677.86	5652.54	5668.24	NA	16.04	5661.82	NA	9.28	15.11	5662.75	NA	10.21	15.46	5662.40	NA	9.86
Kl (ss)	3486	3586	5913.95	5855.75	5898.50	NA	NR	NR	NA	NR	NR	NR	NA	NR	21.11	5892.84	NA	37.09
Kl (cs)	4086	4186	5944.89	5832.35	5898.85	NA	98.18	5846.71	NA	14.36	NR	NR	NA	NR	102.08	5842.81	NA	10.46
Kl (ss)	6286	6386	5903.18	5866.82	5880.01	NA	NR	NR	NA	NR	NR	NR	NA	NR	26.15	5877.03	NA	10.21
Ka (No.1)	987	1087	5981.70	5948.07	5967.72	NA	19.39	5962.31	NA	14.24	16.48	5965.22	NA	NR	17.87	5963.83	NA	15.76
Kl (ss)	1187	None	5915.12	5893.35	5908.40	NA	NR	NR	NA	NR	NR	NR	NA	17.15	18.40	5896.72	NA	3.37
Ka (No.1)	1287	None	5936.30	5924.81	5931.31	NA	NR	NR	NA	NR	NR	NR	NA	NR	7.58	5928.72	NA	3.91
Kl (ss,cs)	1487	None	5856.56	5830.93	5849.78	NA	NR	NR	NA	NR	NR	NR	NA	NR	14.33	5842.23	NA	11.30
Kl (ss)	1687	1587	5970.79	5844.49	5947.29	NA	NR	NR	NA	NR	81.81	5888.98	NA	NR	84.94	5885.85	NA	41.36
Kl (ss)	1887	1787	5969.49	5834.54	5940.99	NA	NR	NR	NA	NR	NR	NR	NA	NR	126.22	5843.27	NA	8.73
Kl (cs)	2087	1987	5970.14	5852.55	5956.86	NA	NR	NR	NA	NR	NR	NR	NA	NR	111.68	5858.46	NA	5.91
Kl (ss)	2287	2187	5931.18	5842.24	5917.90	NA	NR	NR	NA	NR	NR	NR	NA	NR	80.78	5850.40	NA	8.16
Ka (No.1)	2387	4386	5974.49	5935.18	5957.49	NA	19.73	5954.76	NA	NR	NR	NR	NA	NR	16.83	5957.66	NA	22.48
Ka (No.1)	2587	2487	5960.98	5916.03	5942.98	NA	26.92	5934.06	NA	18.03	NR	NR	NA	NR	22.53	5938.45	NA	22.42
Kl (ss)	2887	2787	5949.90	5750.19	5902.06	NA	178.71	5771.19	NA	21.00	NR	NR	NA	NR	187.75	5762.15	NA	11.96
Kl (sltst)	3087	2987	5811.77	5715.77	5794.12	NA	NR	NR	NA	NR	NR	NR	NA	NR	62.02	5749.75	NA	33.98
Kl (ss)	3187	3287	5947.46	5815.90	5901.31	NA	101.01	5846.45	NA	30.55	98.92	5848.54	NA	32.64	99.55	5847.91	NA	32.01
Kl (sltst)	3487	3387	5947.22	5841.31	5927.60	NA	57.89	5889.33	NA	NR	NR	NR	NA	NR	59.18	5888.04	NA	46.73
Ka (No.1)	3687	3587	5951.11	5886.32	5942.27	NA	35.92	5915.19	NA	NR	NR	NR	NA	NR	31.98	5919.13	NA	32.81
Kl (ss)	4587	4487	5950.91	5848.27	5946.32	NA	NR	NR	NA	NR	NR	NR	NA	NR	5.65	5945.26	NA	96.99
Kl (ss,sltst)	B217289	None	5779.10	5643.30	5772.40	NA	NR	NR	NA	NR	NR	NR	NA	NR	69.29	5709.81	NA	66.51
Kl (ss)	B217489	None	5963.23	5814.77	5936.20	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NA
Kl (cs)	B217589	None	5954.89	5862.16	5936.20	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NA
Kl (ss)	B217689	None	5961.87	5857.62	5938.53	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NA
Kl (cs)	B217789	None	5956.85	5891.06	5931.30	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NA
Kl (ss)	B315289	None	5965.21	5865.20	5944.20	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NA
Kl (ss)	B317189	None	5726.64	5649.90	5717.00	NA	NR	NR	NA	NR	NR	NR	NA	NR	Dry	NR	NA	NA
Ka (No.1)	00291	12991,13591	5967.57	5912.17	5950.17	NA	28.34	5939.23	NA	27.06	21.38	5946.19	NA	34.02	26.05	5941.52	NA	29.35
Kl (ss)	00391	11791	5922.40	5899.04	5903.94	NA	5.66	5916.74	NA	17.70	1.99	5920.41	NA	21.37	4.33	5918.07	NA	19.03
Kl (cs)	00991	None	5868.56	5857.00	5864.10	NA	NR	NR	NA	NR	Dry	Dry	NA	Dry	Dry	Dry	NA	NA
Ka (No.1)	01491	12291	5972.03	5946.37	5968.77	NA	16.28	5955.75	NA	9.38	15.15	5956.88	NA	10.51	15.19	5956.84	NA	10.47
Ka (No.1)	01791	07791	5967.41	5947.78	5957.78	NA	15.38	5952.03	NA	4.25	11.27	5956.14	NA	8.36	13.24	5954.17	NA	6.39
Ka (No.1)	01891	12091	5973.37	5941.76	5959.36	NA	19.55	5953.82	NA	12.06	22.20	5951.17	NA	9.41	16.56	5956.81	NA	15.05
Ka?(cs)	01991	13491	5963.61	5923.39	5932.79	NA	NR	NR	NA	NR	14.58	5949.03	NA	25.64	20.60	5943.01	NA	19.62

TABLE B3-2
HYDROGEOLOGIC DATA

Stratigraphy of Screened Interval	Well Number	Paired Well Number(s)	Elevation Top of Casing (ft) *	Elevation Bottom of Screen (ft) **	Elevation Top of Bedrock (ft) **	Thickness Screened Bedrock (ft)@	First Quarter March Water Level Depth	First Quarter March Water Level Elevation	First Quarter March Alluv. Sat. Thickness	First Quarter March WL Above Screen Bottom	Second Quarter May Water Level Depth	Second Quarter May Water Level Elevation	Second Quarter May Alluv. Sat. Thickness	Second Quarter May WL Above Screen Bottom	Third Quarter July Water Level Depth	Third Quarter July Water Level Elevation	Third Quarter July Alluv. Sat. Thickness	Third Quarter July WL Above Screen Bottom
Ka (No.1)	02091	None	5966.65	5932.59	5949.09	NA	22.26	5944.39	NA	11.80	11.62	5955.03	NA	22.44	21.82	5944.83	NA	12.24
Ka (No.1)	02291	None	5938.26	5920.16	5927.86	NA	13.78	5924.48	NA	4.32	9.02	5929.24	NA	9.08	10.95	5927.31	NA	7.15
Ka (No.1)	02491	None	5946.21	5927.74	5936.04	NA	17.46	5928.75	NA	1.01	12.45	5933.76	NA	6.02	13.23	5932.98	NA	5.24
Ka (No.1?)	02591	13391	5925.34	5874.47	5883.77	NA	NR	NR	NA	NR	39.96	5885.38	NA	10.91	40.02	5885.32	NA	10.85
Ka (No.1)	02691	None	5936.38	5918.78	5933.68	NA	8.65	5927.73	NA	8.95	6.49	5929.89	NA	11.11	7.00	5929.38	NA	10.60
Ka (No.1)	02991	12191	5957.90	5904.30	5940.50	NA	26.85	5931.05	NA	26.75	18.50	5939.40	NA	35.10	22.72	5935.18	NA	30.88
Ka (No.1)	03091	None	5954.23	5902.88	5935.58	NA	36.35	5917.88	NA	15.00	30.46	5923.77	NA	20.89	33.16	5921.07	NA	18.19
Ka (No.1)	03391	11891	5946.22	5904.64	5933.74	NA	25.61	5920.61	NA	15.97	22.69	5923.53	NA	18.89	24.16	5922.06	NA	17.42
Ka (No.1)	03691	None	5934.43	5892.55	5924.85	NA	NR	NR	NA	NR	31.76	5902.67	NA	10.12	33.01	5901.42	NA	8.87
Ka (No.1)	03791	None	5938.24	5888.80	5932.30	NA	38.80	5899.44	NA	10.64	35.36	5902.88	NA	14.08	37.10	5901.14	NA	12.34
Ka?(cs)	04291	None	5953.90	5929.40	5935.50	NA	26.01	Dry	NA	BSB	20.89	5933.01	NA	3.61	24.24	5929.66	NA	0.26
Ka?(cs)	06291	None	5899.28	5865.00	5874.60	NA	34.03	5865.25	NA	0.25	34.34	Dry	NA	BSB	34.03	5865.25	NA	0.25
Kl (ss)	06491	None	5673.25	5655.55	5669.25	NA	16.68	5656.57	NA	1.02	11.78	5661.47	NA	5.92	14.91	5658.34	NA	2.79
Ka (No.1)	06591	13191,13291	5979.90	5930.25	5962.85	NA	NR	NR	NA	NR	15.30	5964.60	NA	34.35	18.25	5961.65	NA	31.40
Ka(No. 1)	09691	1287	5937.05	5921.64	5933.44	NA	NR	NR	NA	NR	6.73	5930.32	NA	8.68	7.88	5929.17	NA	7.53
Ka(No.1)	10991	None	5941.64	5889.01	5894.81	NA	NR	NR	NA	NR	42.58	5899.06	NA	10.05	41.88	5899.76	NA	10.75
Ka (No.1)	11691	03791	5939.91	5905.13	5929.13	NA	34.34	5905.57	NA	0.44	31.78	5908.13	NA	3.00	32.63	5907.28	NA	2.15
Kl(cs)	11791	00391	5925.03	5909.59	5916.39	NA	5.73	5919.30	NA	9.71	2.28	5922.75	NA	13.16	4.30	5920.73	NA	11.14
Ka (No.1)	11891	03391	5947.44	5917.51	5933.51	NA	26.09	5921.35	NA	3.84	22.50	5924.94	NA	7.43	24.71	5922.73	NA	5.22
Ka (No.1)	12091	01891	5973.27	5947.59	5958.39	NA	19.65	5953.62	NA	6.03	13.03	5960.24	NA	12.65	16.90	5956.37	NA	8.78
Ka (No.1)	12191	02991	5958.19	5923.49	5940.79	NA	26.72	5931.47	NA	7.98	17.22	5940.97	NA	17.48	23.47	5934.72	NA	11.23
Ka (No.1)	12291	01491	5972.73	5956.88	5968.98	NA	16.29	Dry	NA	BSB	15.57	5957.16	NA	0.28	15.58	5957.15	NA	0.27
Ka (No.1)&Kl(ss)	12391	05391	5941.70	5871.67	5903.57	NA	49.42	5892.28	NA	20.61	46.59	5895.11	NA	23.44	45.53	5896.17	NA	24.50
Ka (No.1)	12491	05691,11491	5948.35	5886.84	5916.84	NA	30.10	5918.25	NA	31.41	22.14	5926.21	NA	39.37	25.02	5923.33	NA	36.49
Ka (No.1)	12691	03191	5951.08	5886.58	5929.68	NA	34.15	5916.93	NA	30.35	26.04	5925.04	NA	38.46	28.87	5922.21	NA	35.63
Ka (No.1)	12991	00291,13591	5967.22	5931.21	5949.61	NA	22.24	5944.98	NA	13.77	15.55	5951.67	NA	20.46	20.34	5946.88	NA	15.67
Ka (No.1)	13191	06591,13291	5979.78	5952.58	5962.58	NA	NR	NR	NA	NR	15.07	5964.71	NA	12.13	17.77	5962.01	NA	9.43
Ka (No.1)	20191	20291,20491,21191	5948.49	5889.93	5913.83	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Ka (No.1)	20691	20591,20791	5969.63	5943.59	5943.59	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Ka?(cs)	20791	20591,20691	5969.49	5933.40	5943.40	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Ka (No.1)	20991	20891,21091	5951.39	5886.78	5930.38	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Ka (No.1)	21191	20191,20291,20491	5948.52	5889.05	5915.25	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	46692	46792,46892	5958.25	5868.90	ND	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	46792	46692,46892	5958.44	5844.20	5931.80	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	46892	46692,46792	5958.36	5794.30	ND	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	22093	None	5957.43	5882.00	5937.00	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	22293	None	5884.12	5799.50	5860.50	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	22393	None	5972.14	5851.30	5956.60	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	22593	None	5950.13	5852.60	5940.60	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	23193	None	5950.46	5869.00	5940.20	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR
Kl(ss)	23293	None	5958.02	5867.90	5940.10	NA	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR

NOTES:

ND = Data Not Available From RFEDS Database
NA = Not Applicable
NR = Not Recorded
NE = Not Encountered
BSB = Water Level Below Screen Bottom

* = True Elevations
** = Elevations are determined by subtracting depths below ground surface from the top of the concrete pad elevation. Reported elevations in these columns are therefore an average of six inches higher than true elevations.
@ = Values in these columns are calculated using elevations of bottom of screen or top of bedrock which are not true elevations. Values are an average of six inches less than the true value.

APPENDIX B4
OU-2 GROUNDWATER ELEVATION HYDROGRAPHS

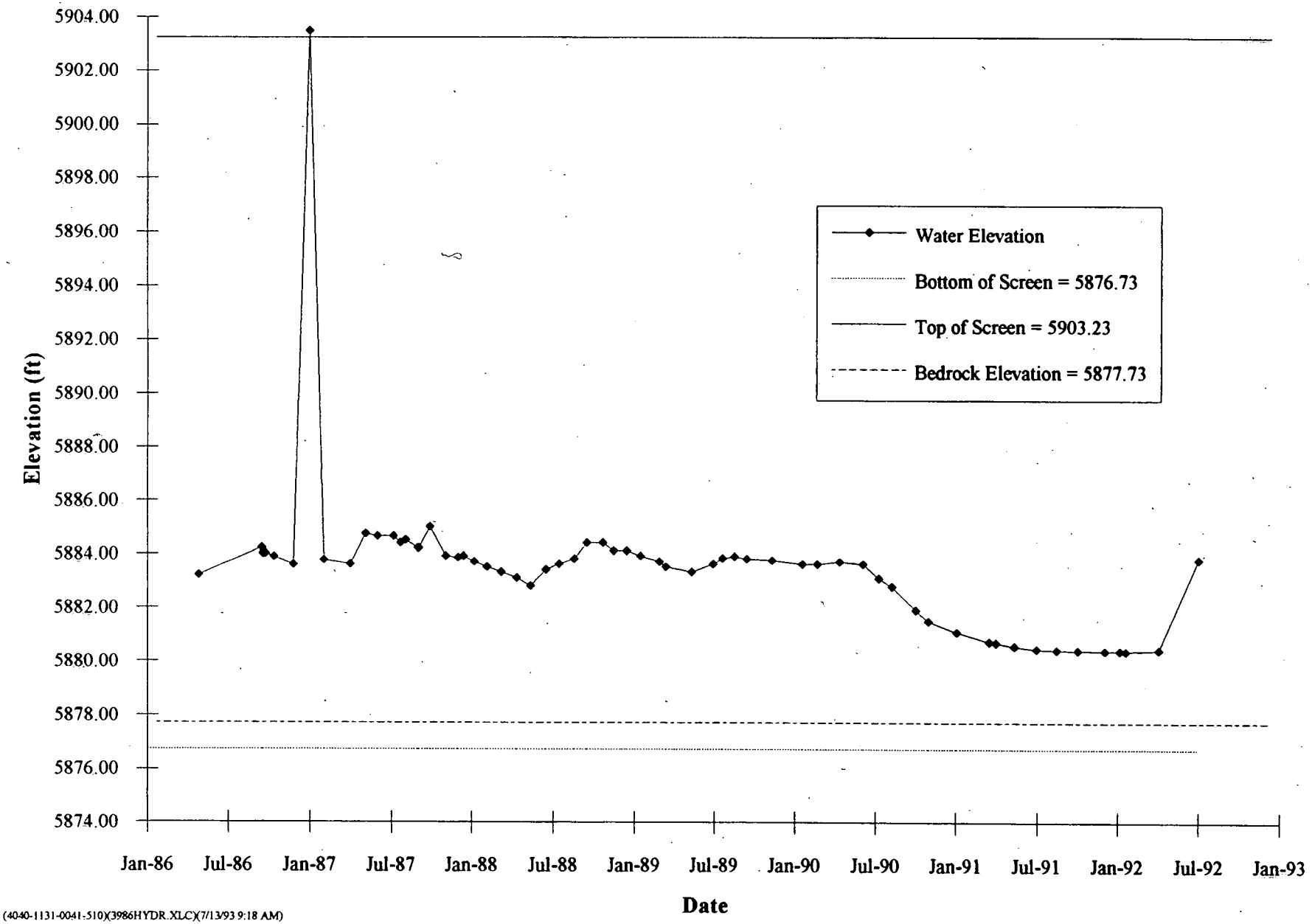
APPENDIX B4
OU-2 GROUNDWATER ELEVATION HYDROGRAPHS

Appendix B4 contains groundwater hydrographs for the OU-2 monitoring wells. Each hydrograph illustrates: groundwater level elevation measurements plotted versus time from well installation through July 1992; and, the bottom of well screen, top of well screen, and bedrock elevations for each monitoring well. Groundwater levels which occur below the bottom of the well screen are considered stagnant water within the well sump and are not considered to be representative of the groundwater elevations in the water-bearing unit. All such measurements are graphically illustrated in the hydrographs as points at screen bottom elevation. Groundwater level measurements used to construct hydrographs were obtained from the RFEDS database and are presented in Appendix B3. Due to the absence of groundwater level measurements in the RFEDS database, hydrographs were not constructed for the following monitoring wells:

B217489	46692
B217589	46792
B217689	46892
B220189	22093
B303390	22293
B303490	22193
B303590	22393
B303690	22593
OB20191	23193
OB20291	23293
OB20491	
OB20591	
PW20691	
OB20791	
PW20891	
OB20991	
OB21091	
OB21191	

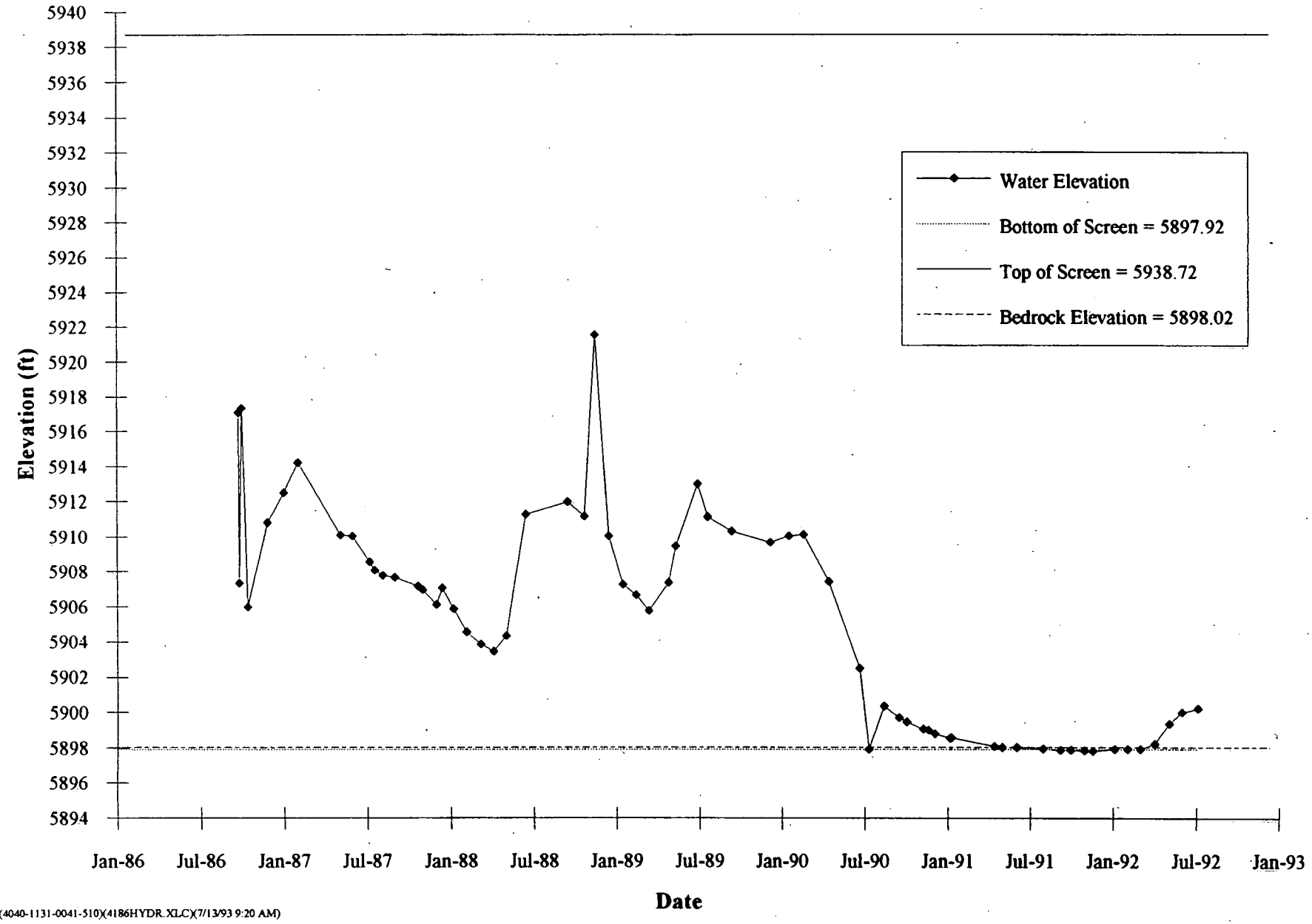
ROCKY FLATS ALLUVIUM

Well 3986 Hydrograph
Rocky Flats Alluvium

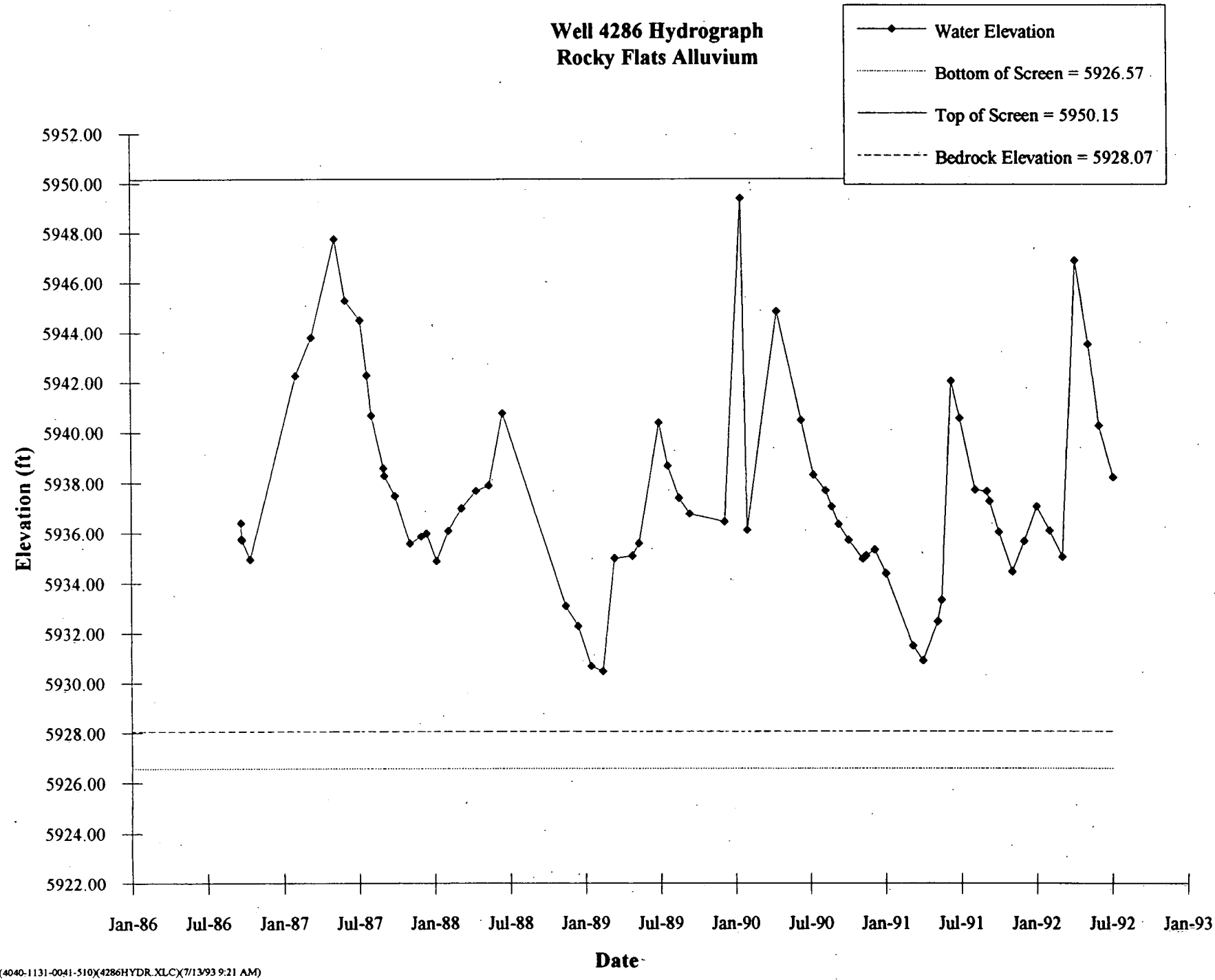


(4040-1131-0041-510)(3986HYDR.XLC)(7/13/93 9:18 AM)

Well 4186 Hydrograph
Rocky Flats Alluvium



(4040-1131-0041-510)(4186HYDR.XLC)(7/13/93 9:20 AM)



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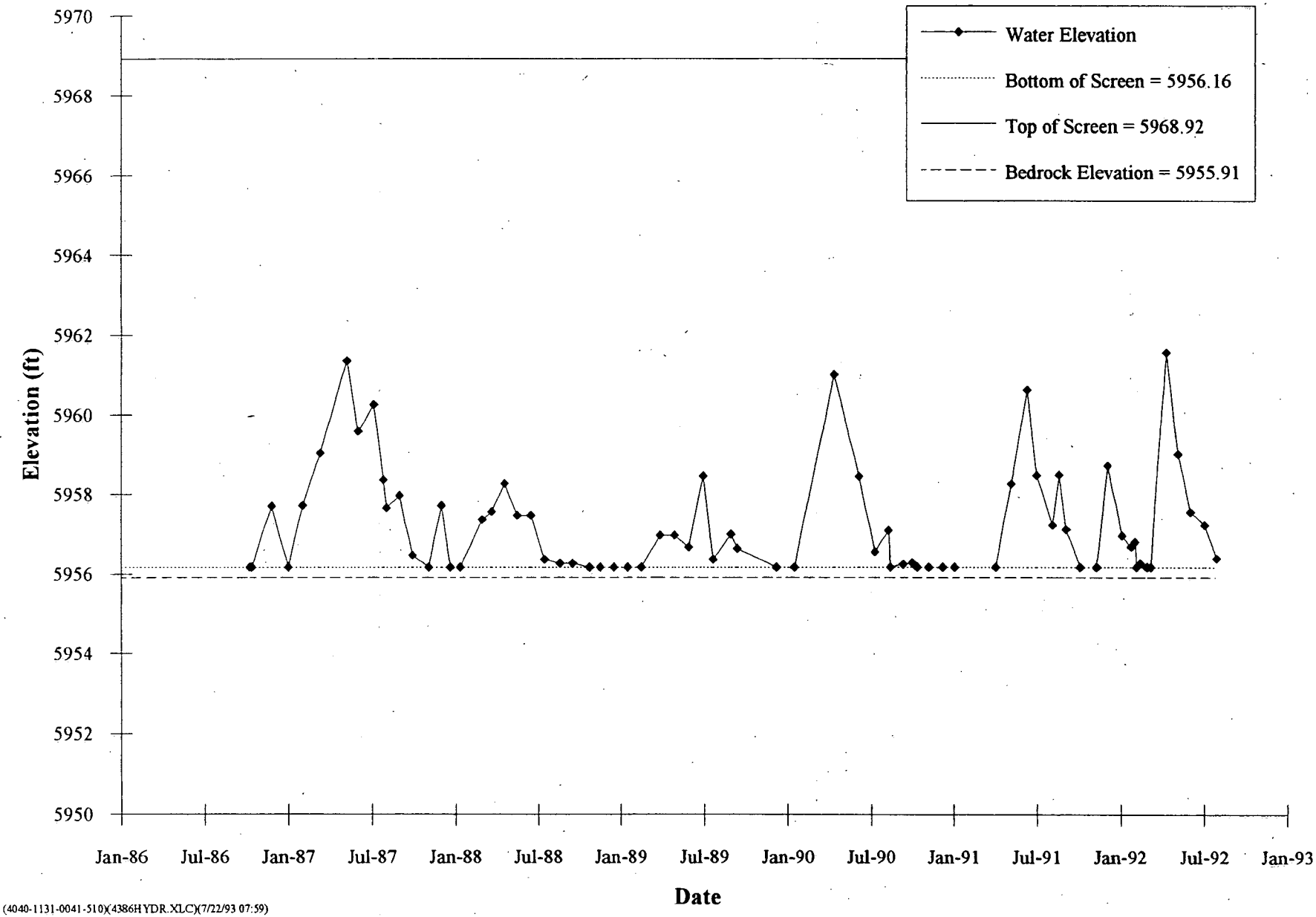
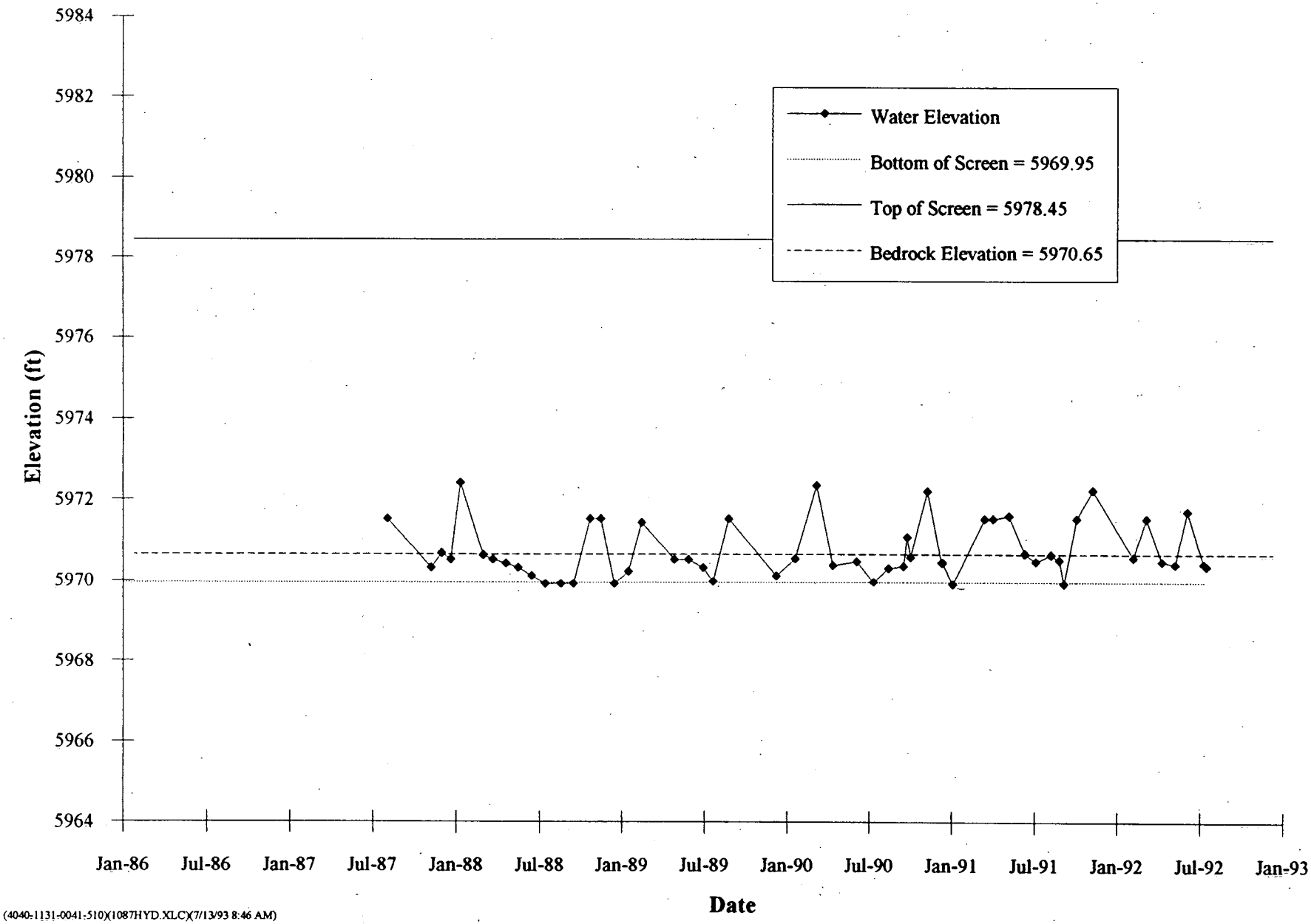
Well 4386 Hydrograph
Rocky Flats Alluvium



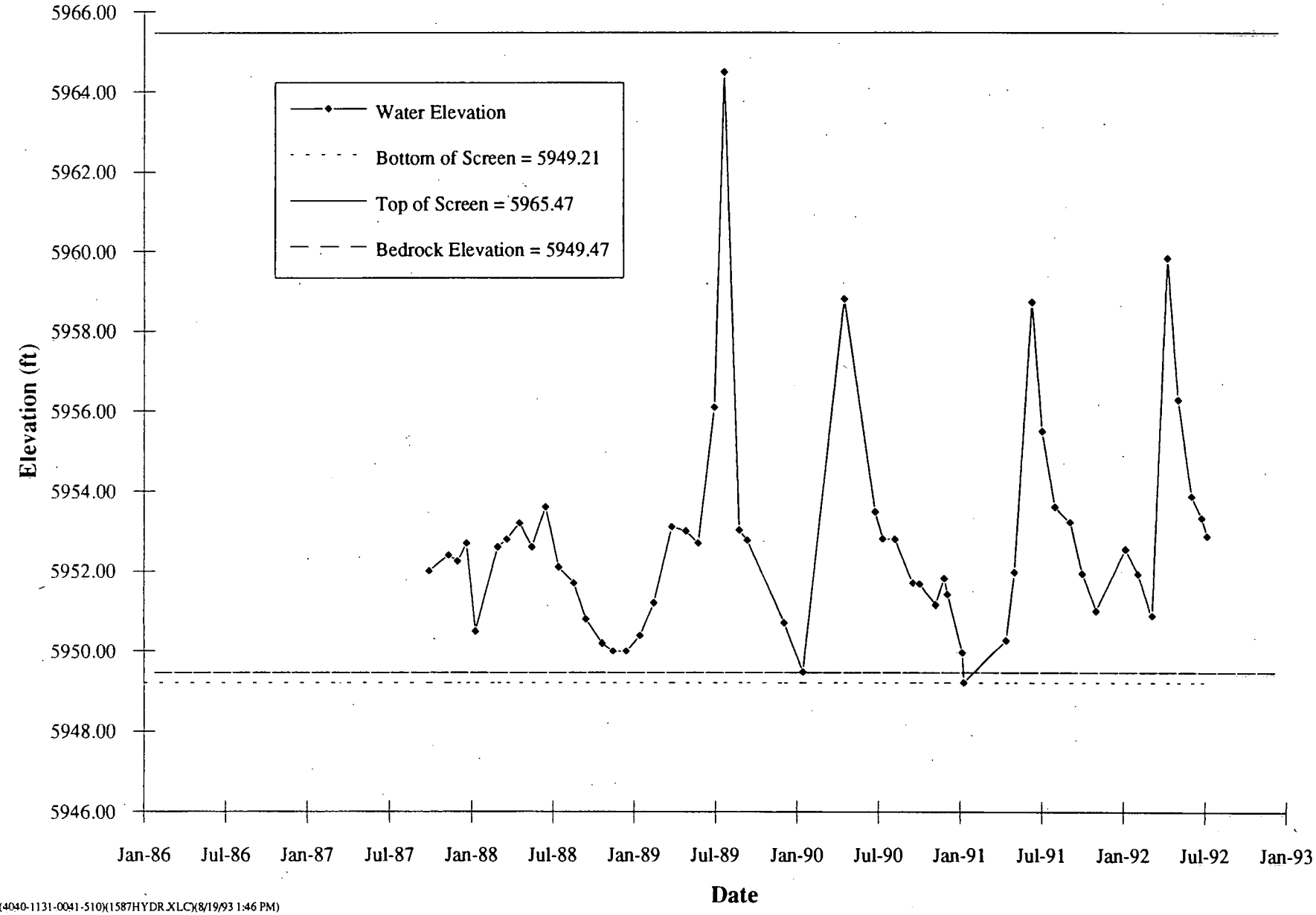
(4040-1131-0041-510)(4386HYDR.XLC)(7/22/93 07:59)

Well 1087 Hydrograph
Rocky Flats Alluvium



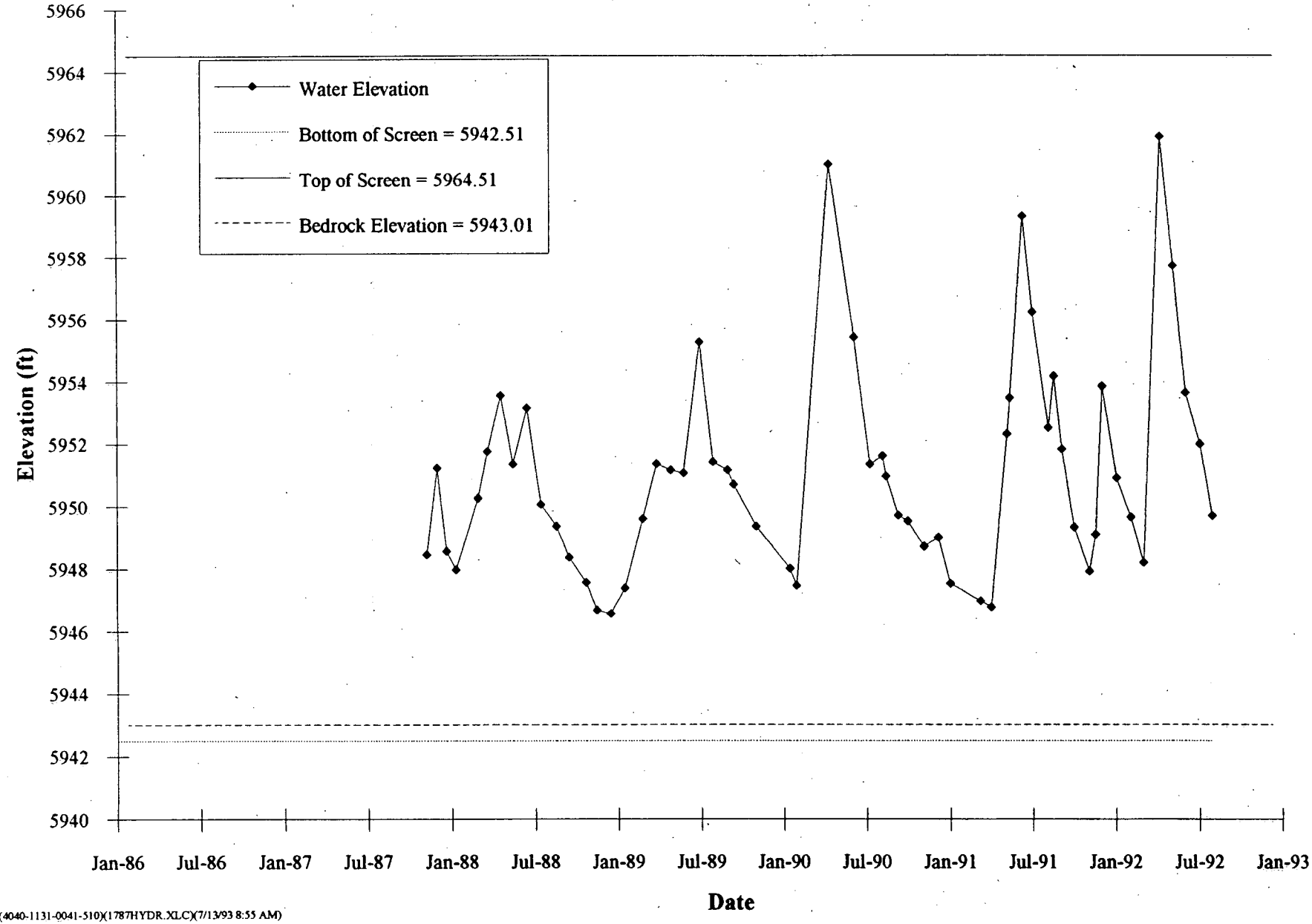
(4040-1131-0041-510)(1087HYD.XLC)(7/13/93 8:46 AM)

Well 1587 Hydrograph
Rocky Flats Alluvium



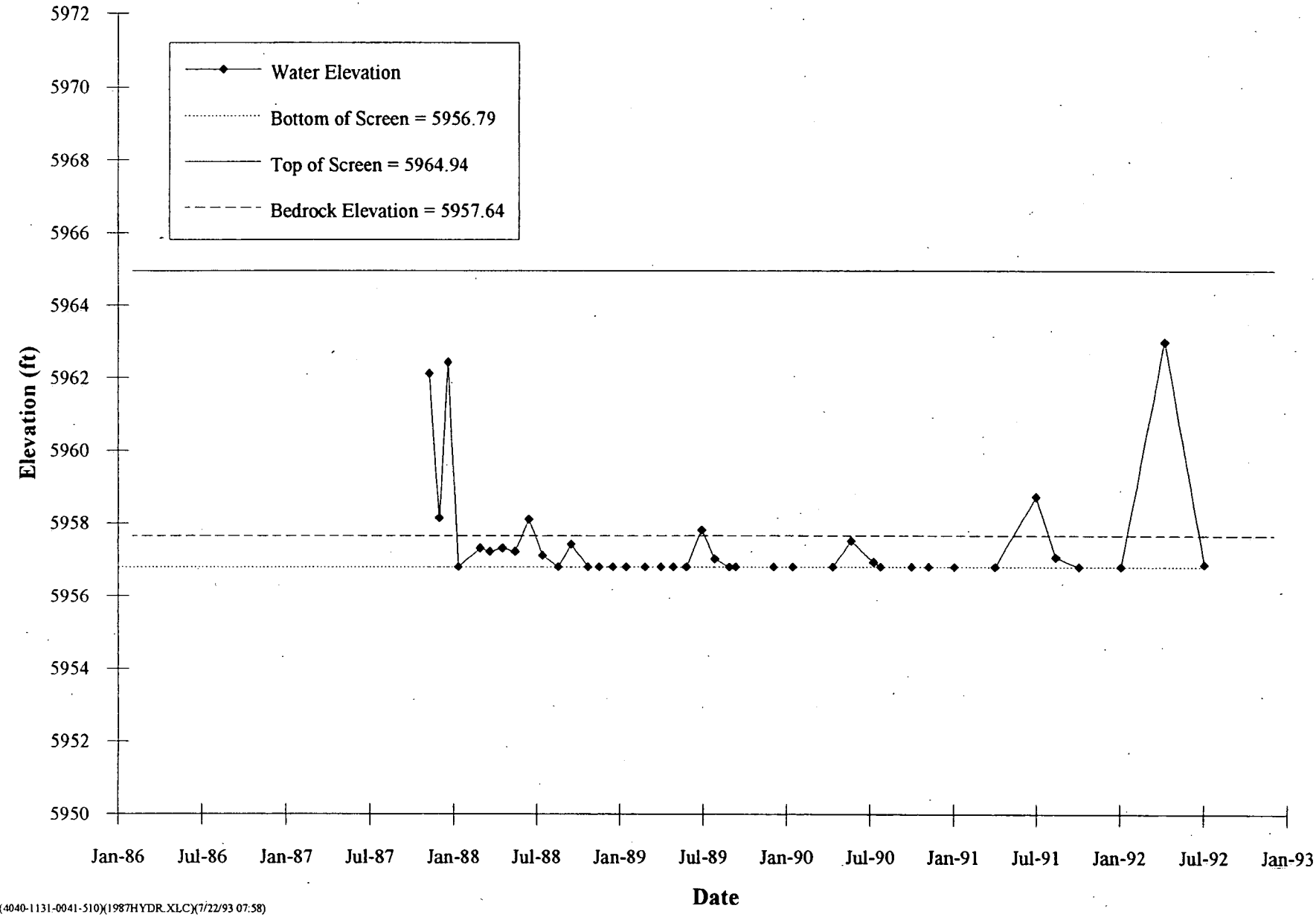
(4040-1131-0041-510)(1587HYDR.XLC)(8/19/93 1:46 PM)

Well 1787 Hydrograph
Rocky Flats Alluvium



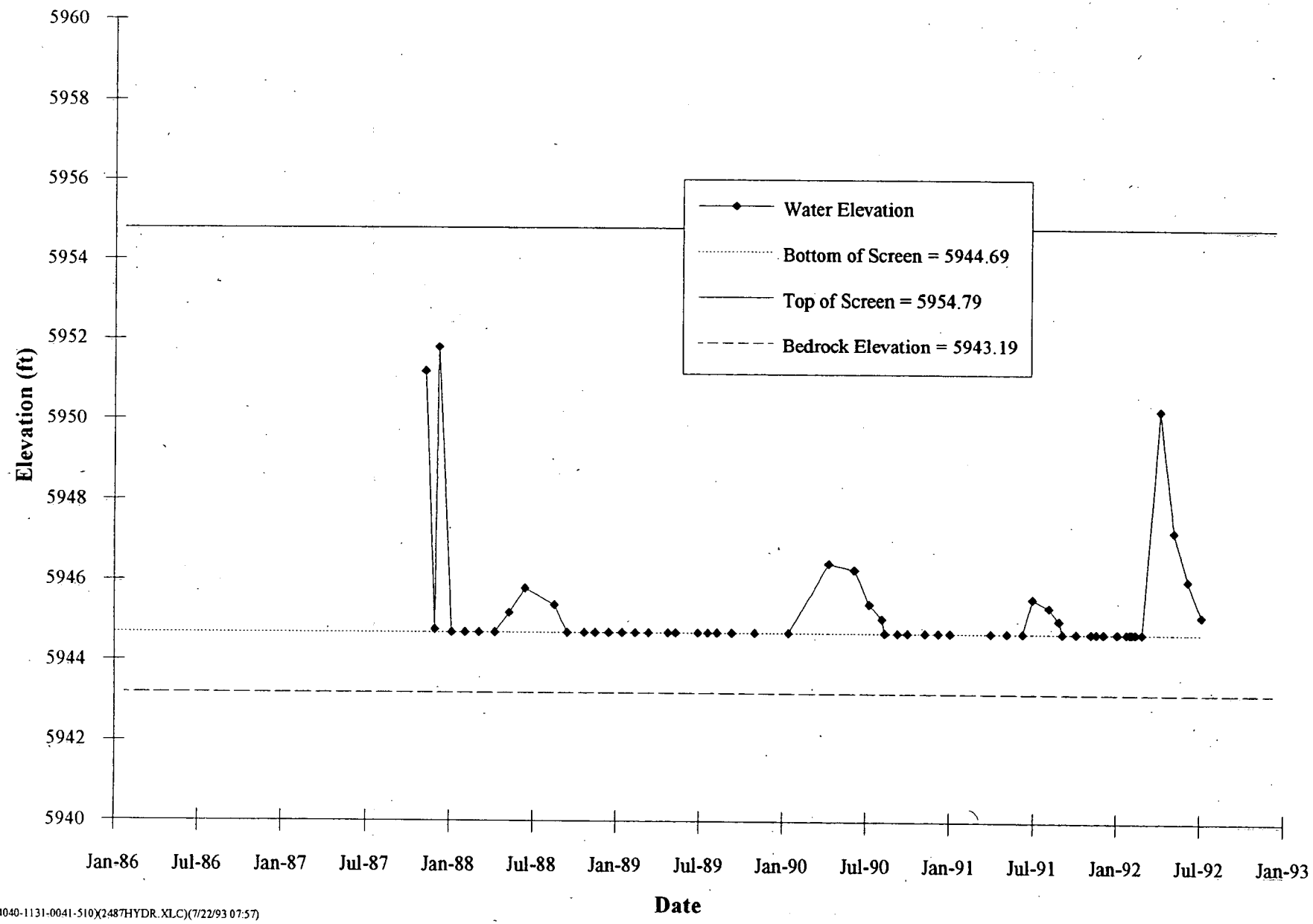
(4040-1131-0041-510)(1787HYDR.XLC)(7/13/93 8:55 AM)

Well 1987 Hydrograph
Rocky Flats Alluvium



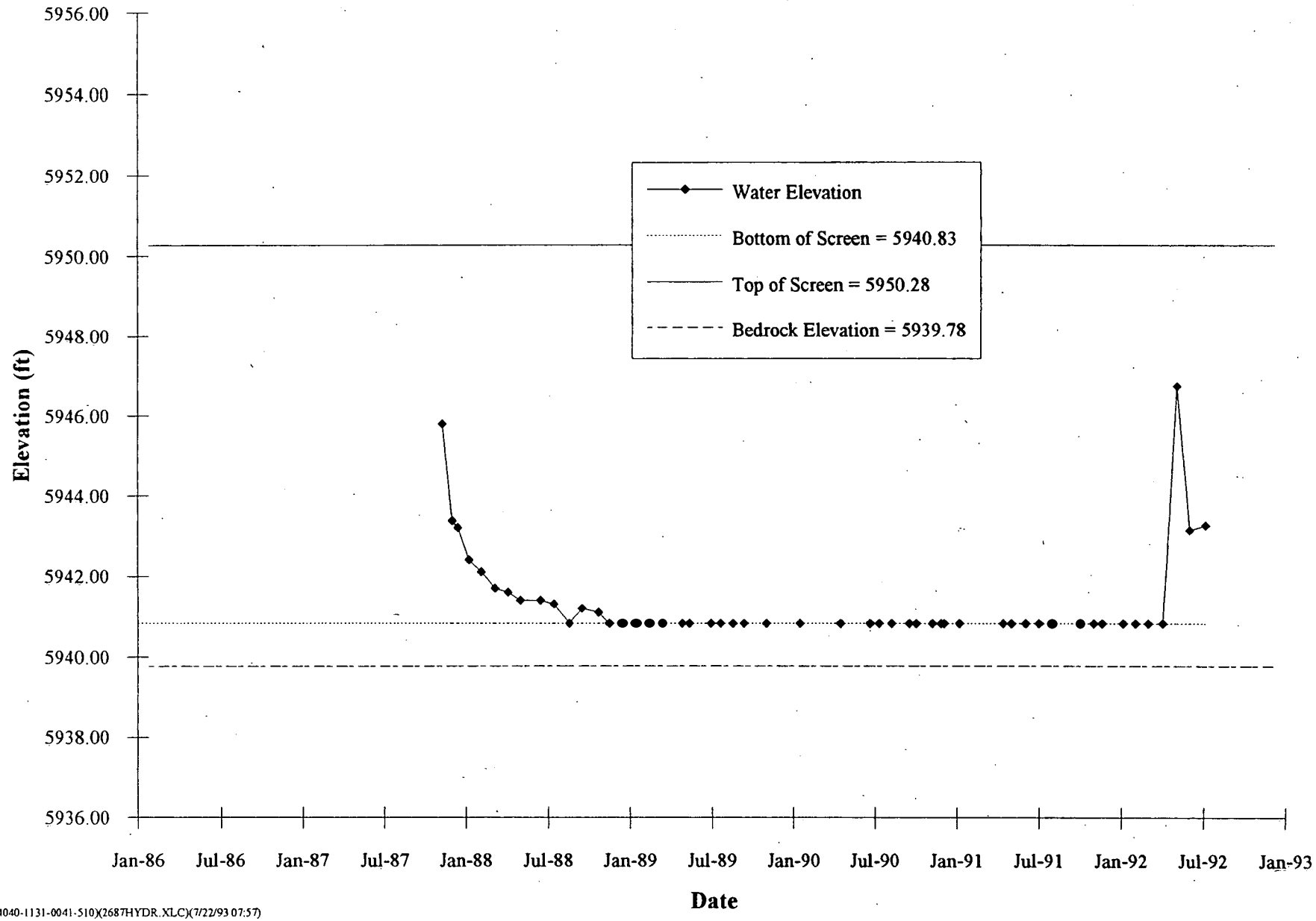
(4040-1131-0041-510)(1987HYDR.XLC)(7/22/93 07:58)

Well 2487 Hydrograph
Rocky Flats Alluvium



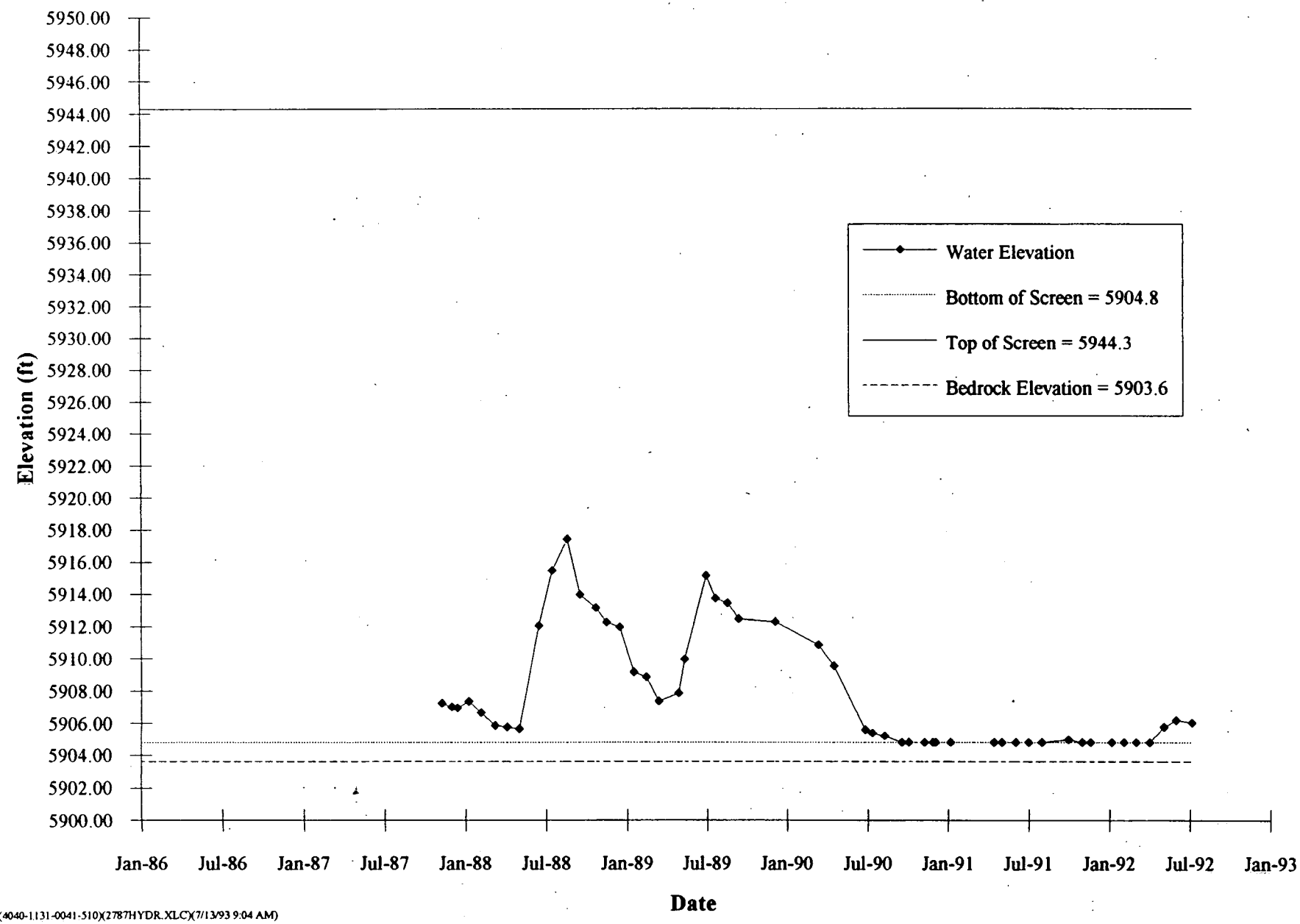
(4040-1131-0041-510)(2487HYDR.XLC)(7/22/93 07:57)

Well 2687 Hydrograph
Rocky Flats Alluvium

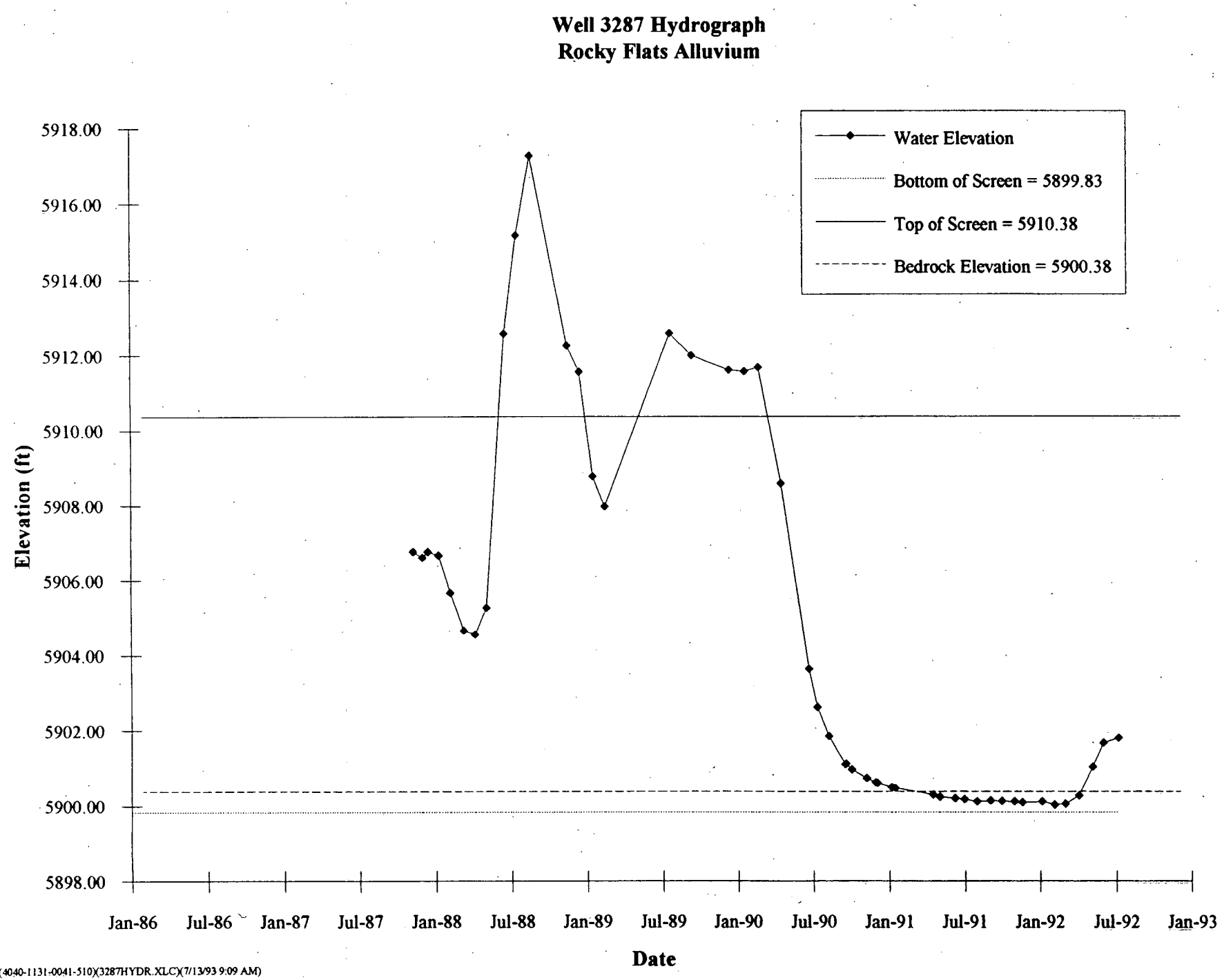


(4040-1131-0041-510)(2687HYDR.XLC)(7/22/93 07:57)

Well 2787 Hydrograph
Rocky Flats Alluvium

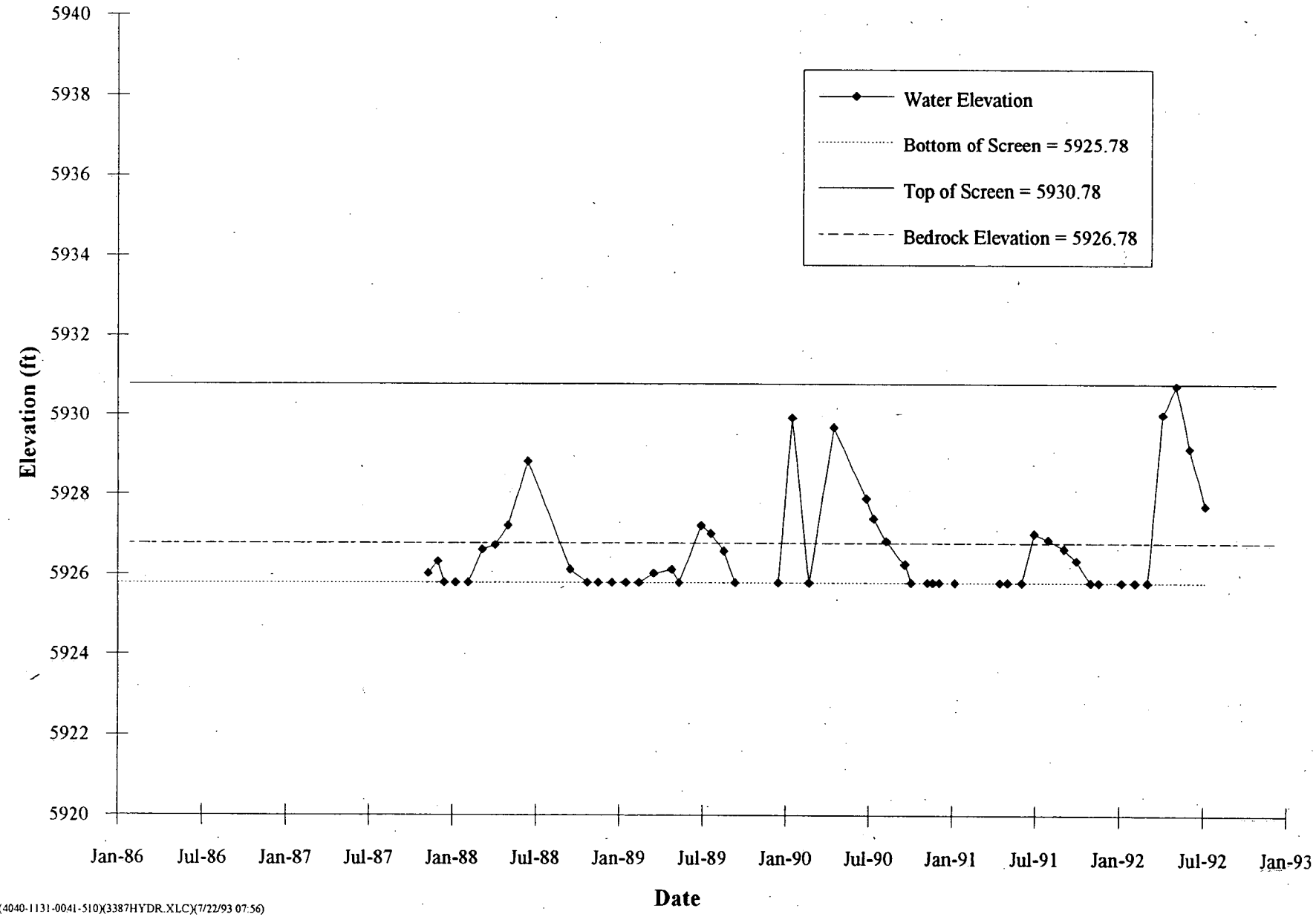


(4040-1131-0041-510)(2787HYDR.XLC)(7/13/93 9:04 AM)

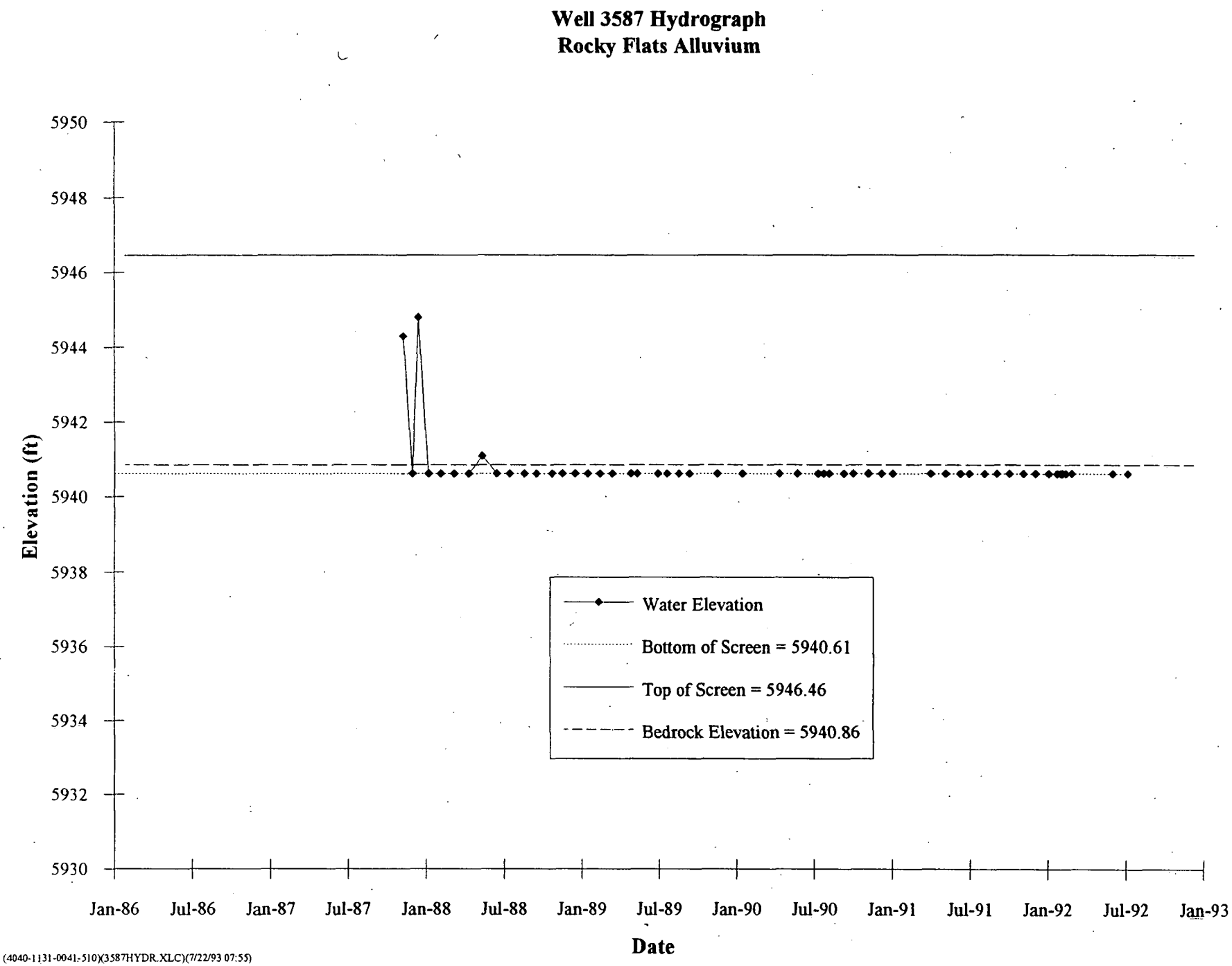


(4040-1131-0041-510)(3287HYDR.XLC)(7/13/93 9:09 AM)

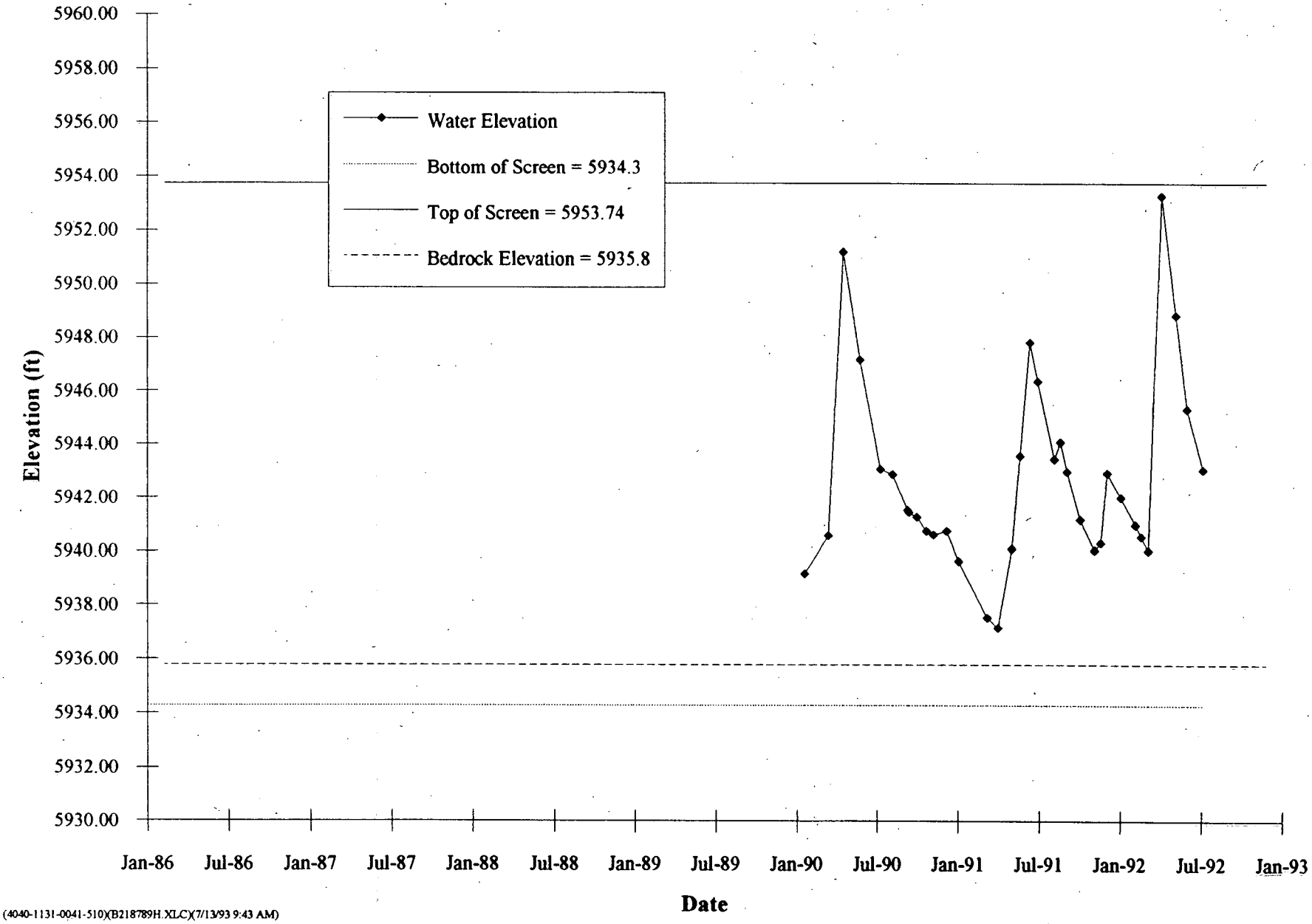
Well 3387 Hydrograph
Rocky Flats Alluvium



(4040-1131-0041-510)(3387HYDR.XLC)(7/22/93 07:56)

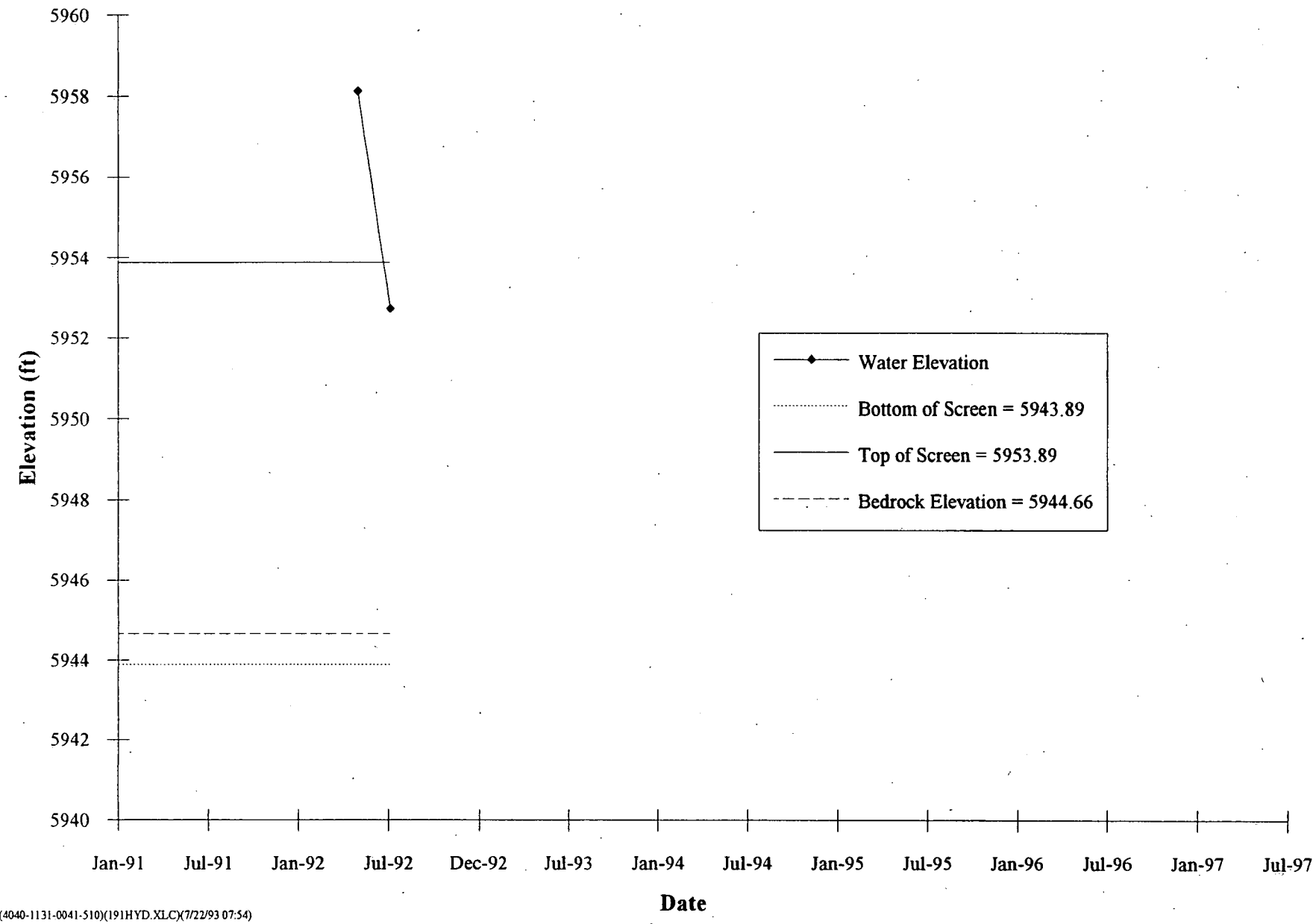

Well 3587 Hydrograph
Rocky Flats Alluvium
Elevation (ft)
5950
5948
5946
5944
5942
5940
5938
5936
5934
5932
5930
Jan-86
Jul-86
Jan-87
Jul-87
Jan-88
Jul-88
Jan-89
Jul-89
Jan-90
Jul-90
Jan-91
Jul-91
Jan-92
Jul-92
Jan-93
Date
Water Elevation
Bottom of Screen = 5940.61
Top of Screen = 5946.46
Bedrock Elevation = 5940.86
(4040-1131-0041-510)(3587HYDR.XLC)(7/22/93 07:55)

Well B218789 Hydrograph
Rocky Flats Alluvium



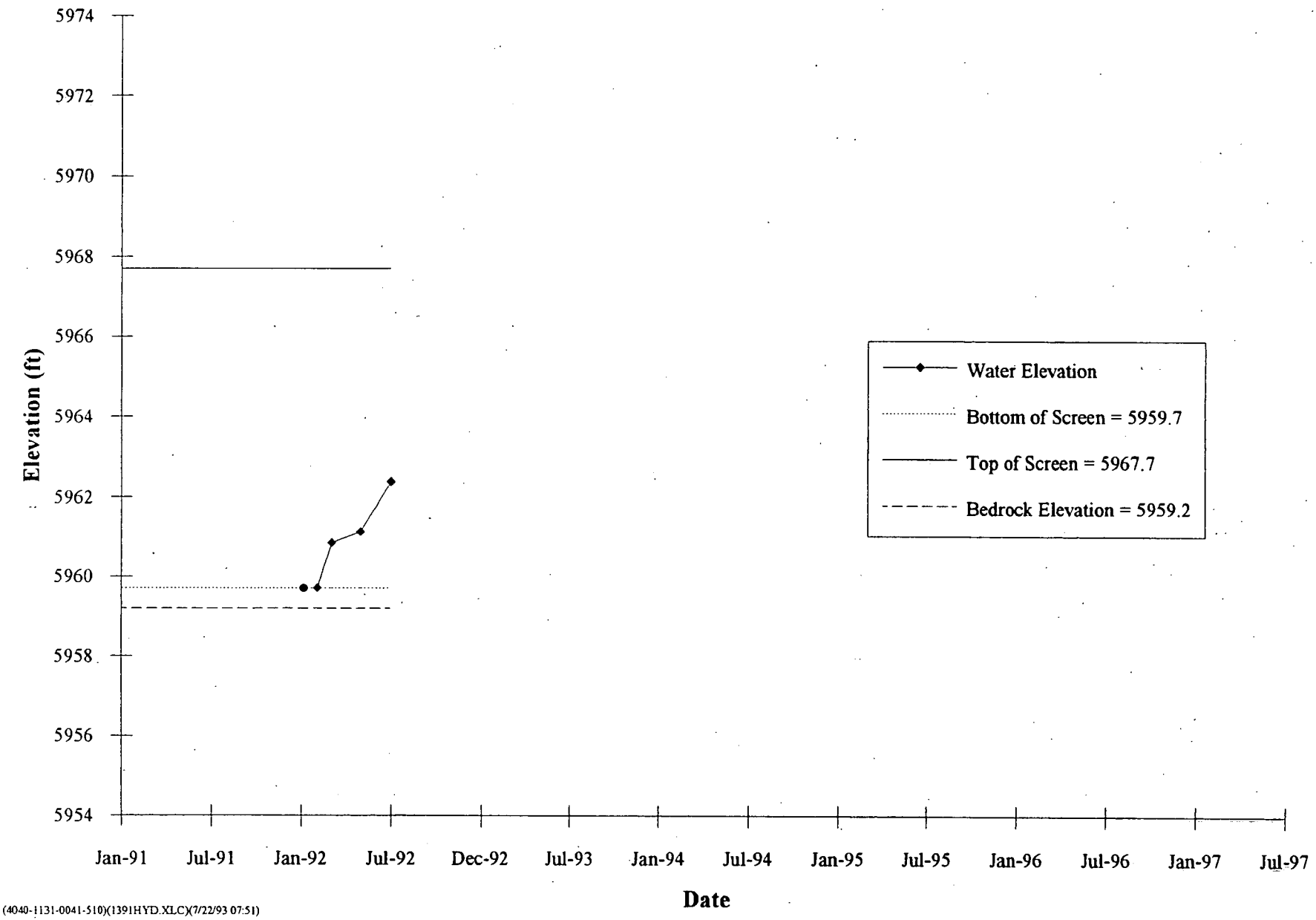
(4040-1131-0041-510)(B218789H.XLC)(7/13/93 9:43 AM)

Well 00191 Hydrograph
Rocky Flats Alluvium



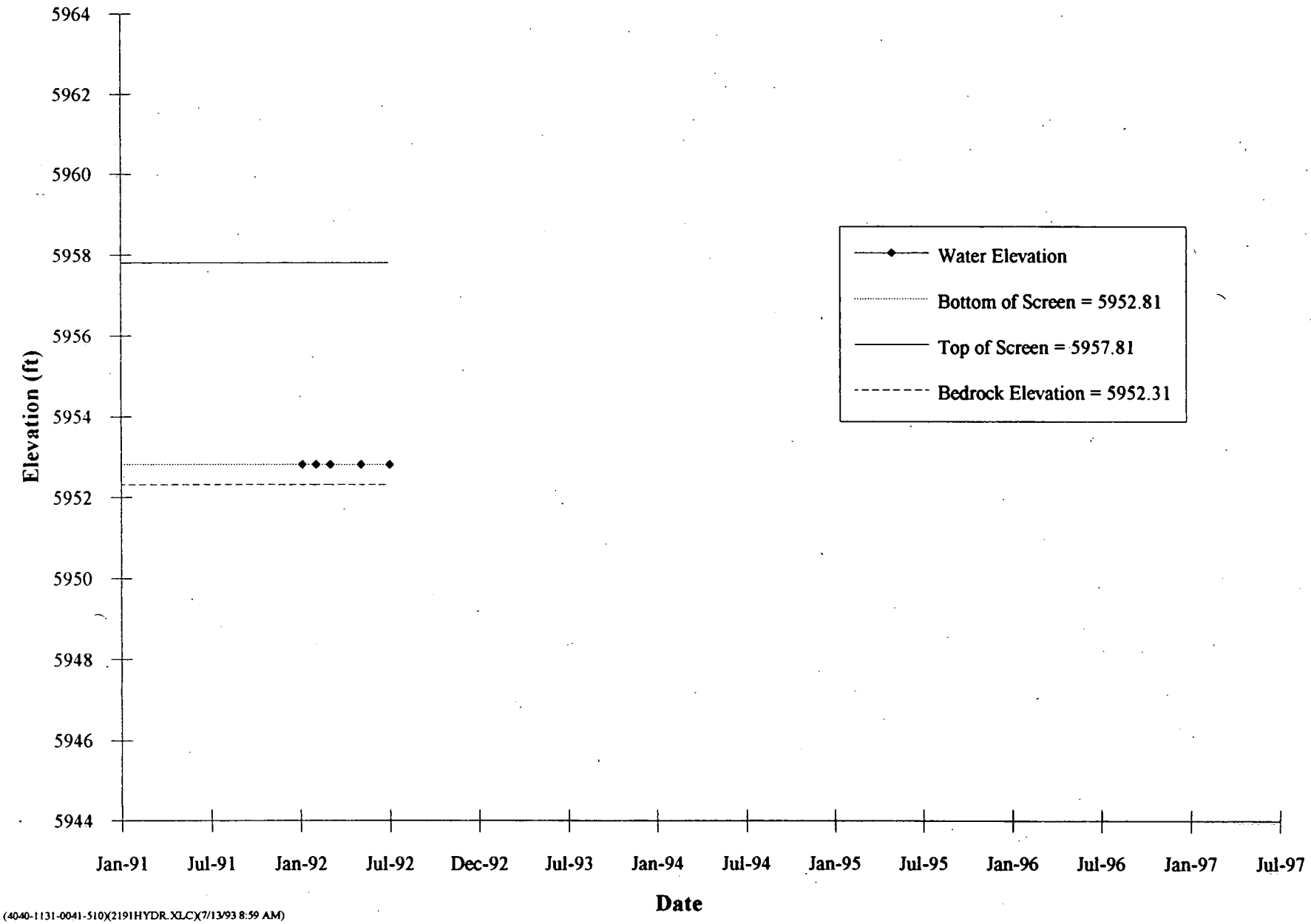
(4040-1131-0041-510)(191HYD.XLC)(7/22/93 07:54)

Well 01391 Hydrograph
Rocky Flats Alluvium



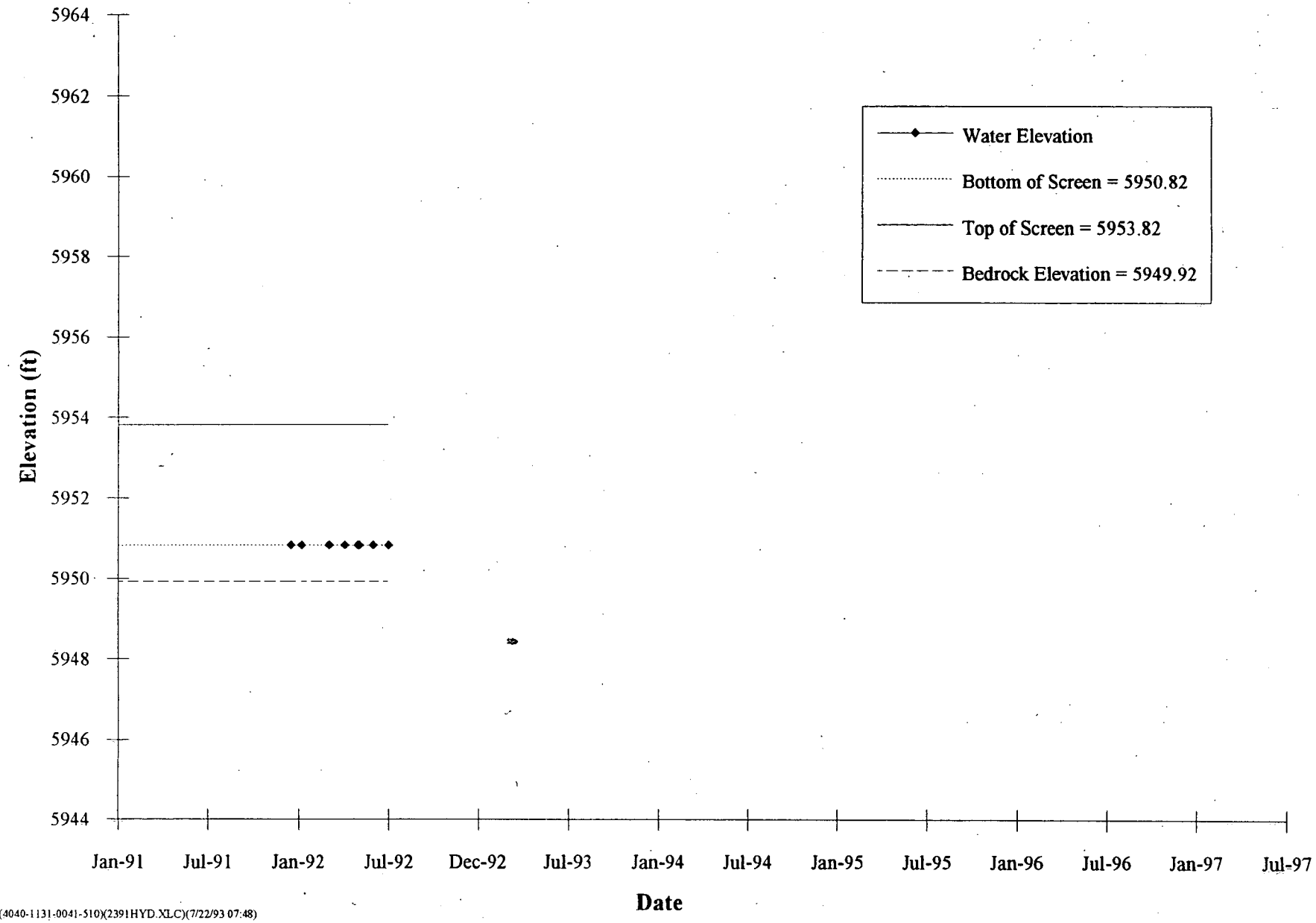
(4040-1131-0041-510)(1391HYD.XLC)(7/22/93 07:51)

Well 02191 Hydrograph
Rocky Flats Alluvium



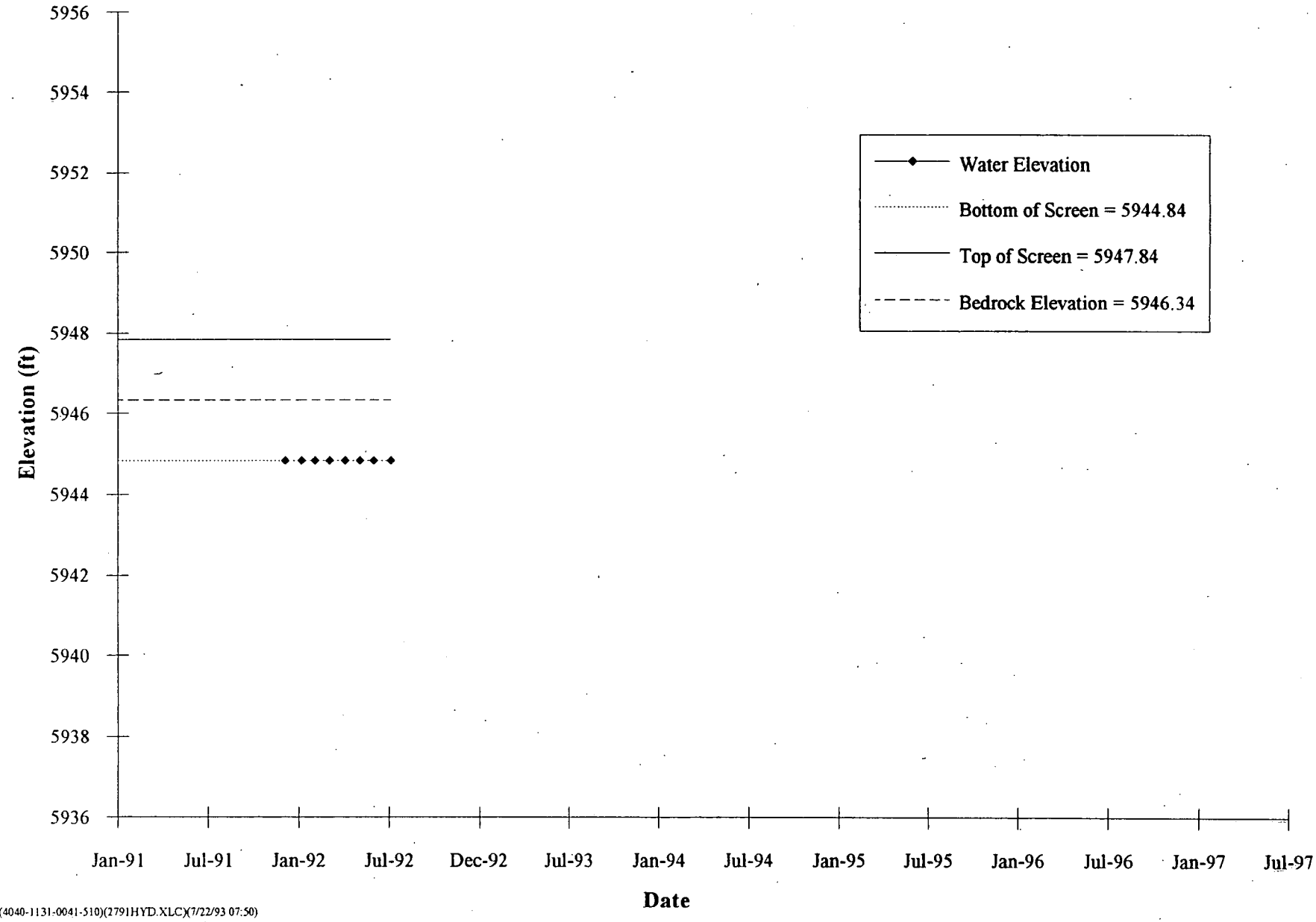
(4040-1131-0041-510)(2191HYDR.XLC)(7/13/93 8:59 AM)

Well 02391 Hydrograph
Rocky Flats Alluvium



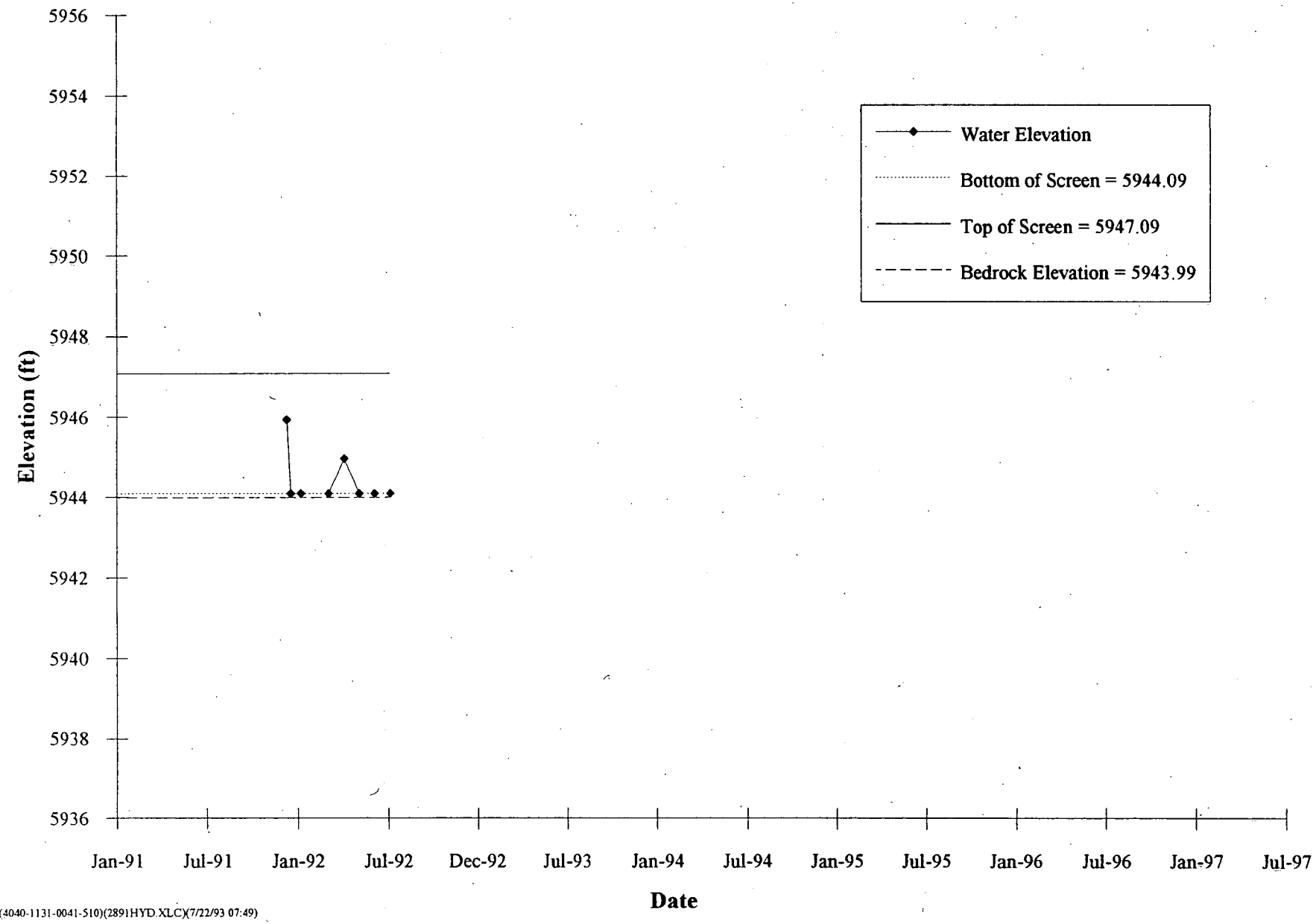
(4040-1131-0041-510)(2391HYD.XLC)(7/22/93 07:48)

Well 02791 Hydrograph
Rocky Flats Alluvium



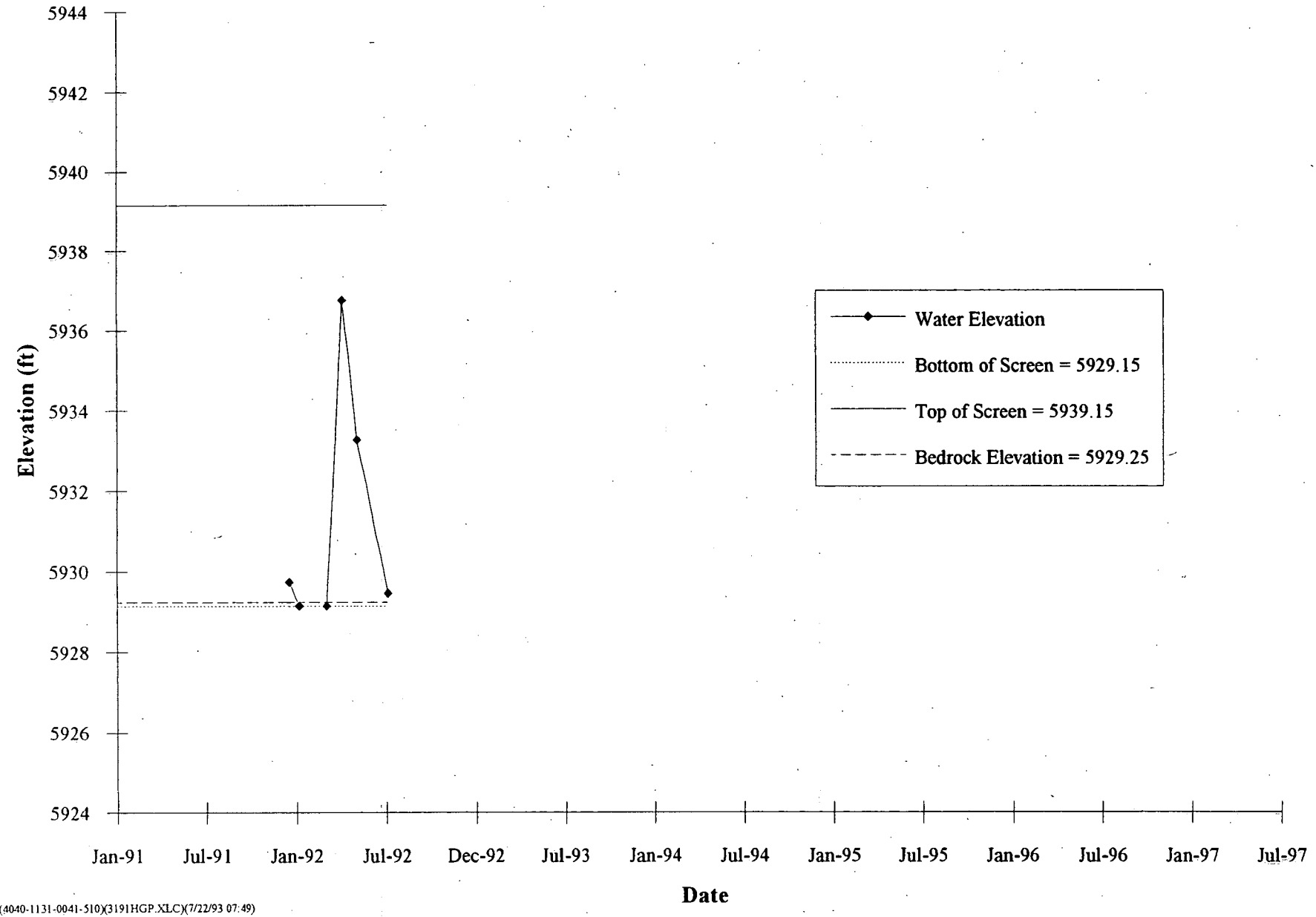
(4040-1131-0041-510)(2791HYD.XLC)(7/22/93 07:50)

Well 02891 Hydrograph
Rocky Flats Alluvium



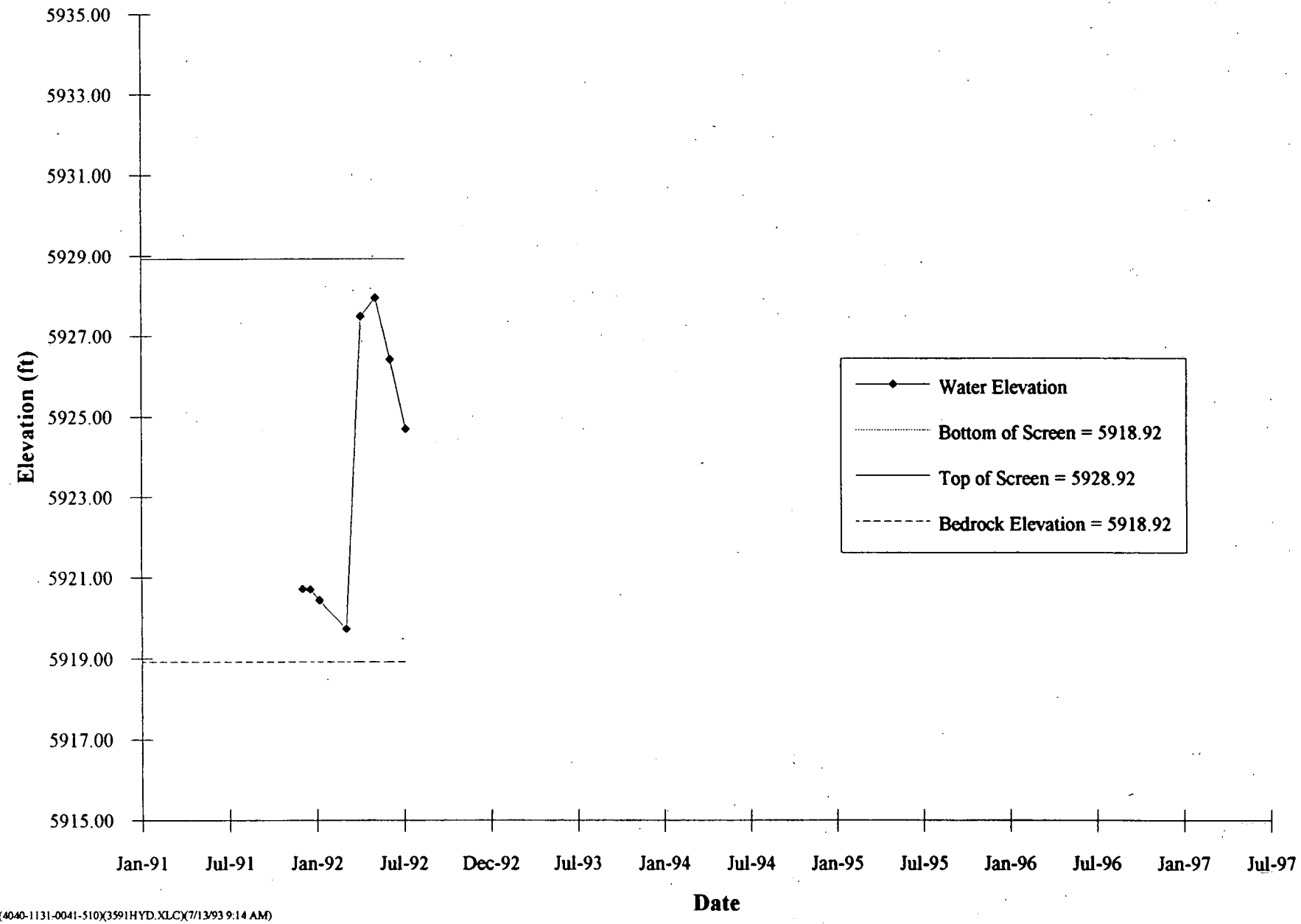
(4040-1131-0041-510)(2891HYD.XLC)(7/22/93 07:49)

Well 03191 Hydrograph
Rocky Flats Alluvium



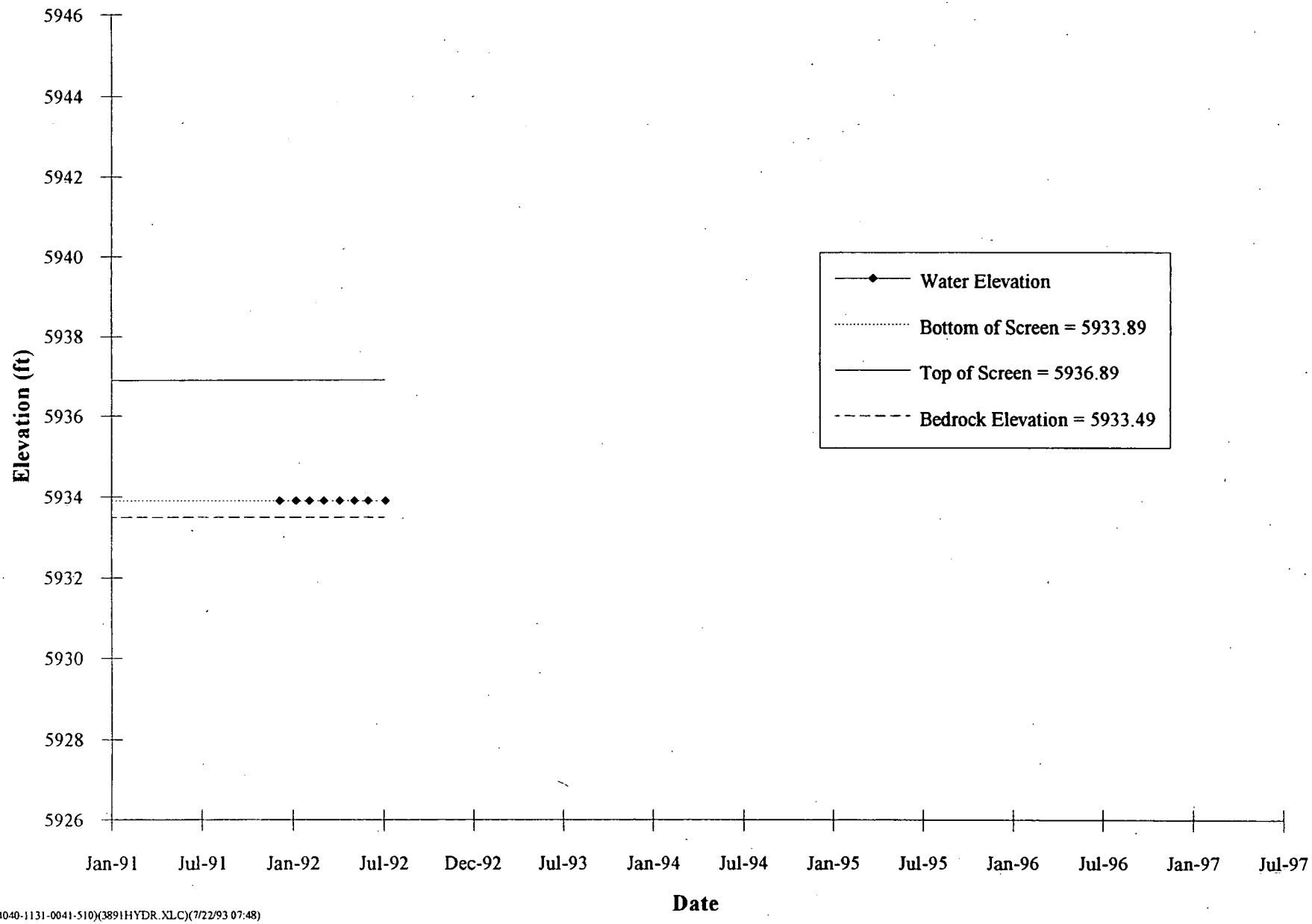
(4040-1131-0041-510)(3191HGP.XLC)(7/22/93 07:49)

Well 03591 Hydrograph
Rocky Flats Alluvium



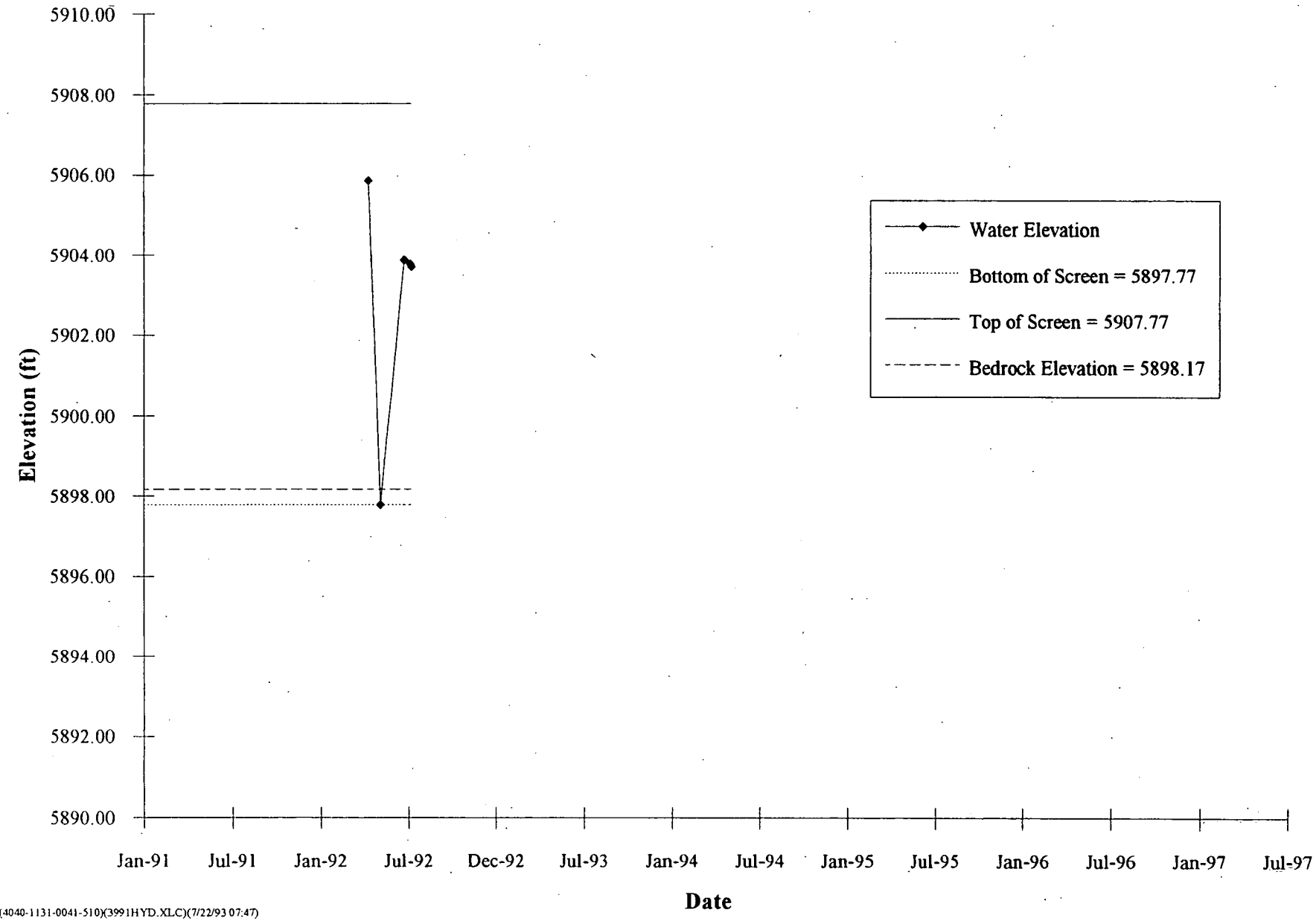
(4040-1131-0041-510)(3591HYD.XLC)(7/13/93 9:14 AM)

Well 03891 Hydrograph
Rocky Flats Alluvium



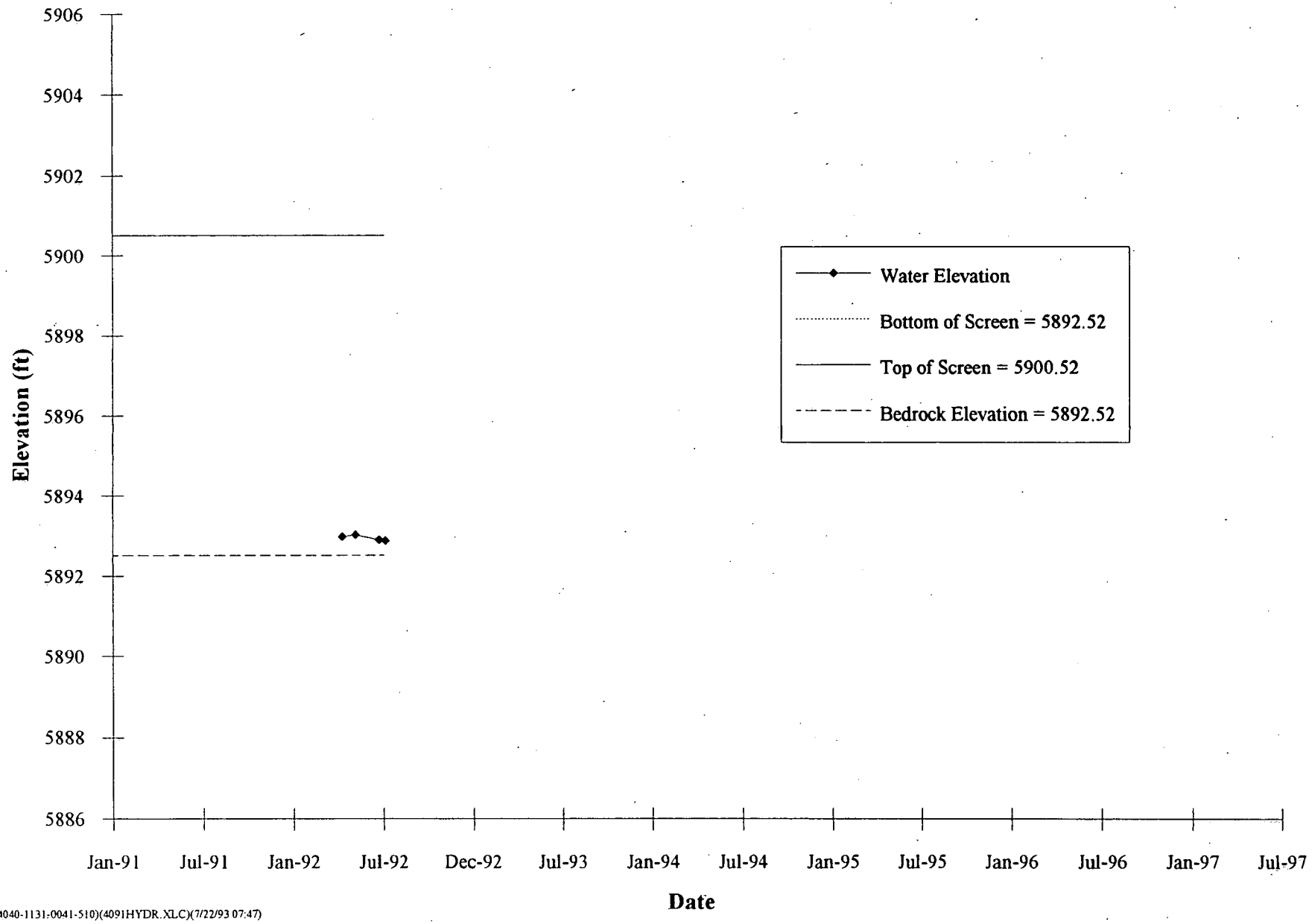
(4040-1131-0041-510)(3891HYDR.XLC)(7/22/93 07:48)

Well 03991 Hydrograph
Rocky Flats Alluvium



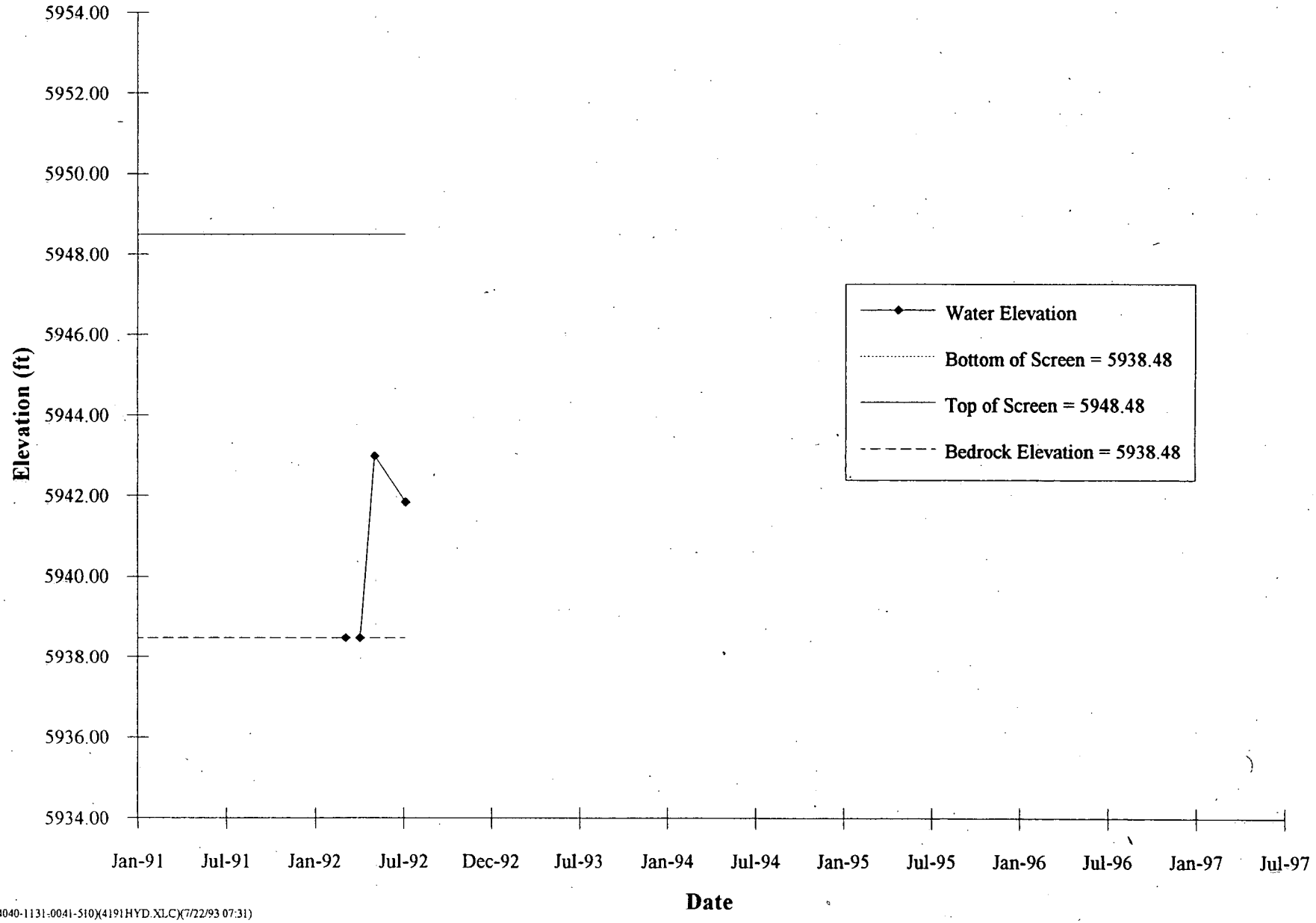
(4040-1131-0041-510)(3991HYD.XLC)(7/22/93 07:47)

Well 04091 Hydrograph
Rocky Flats Alluvium



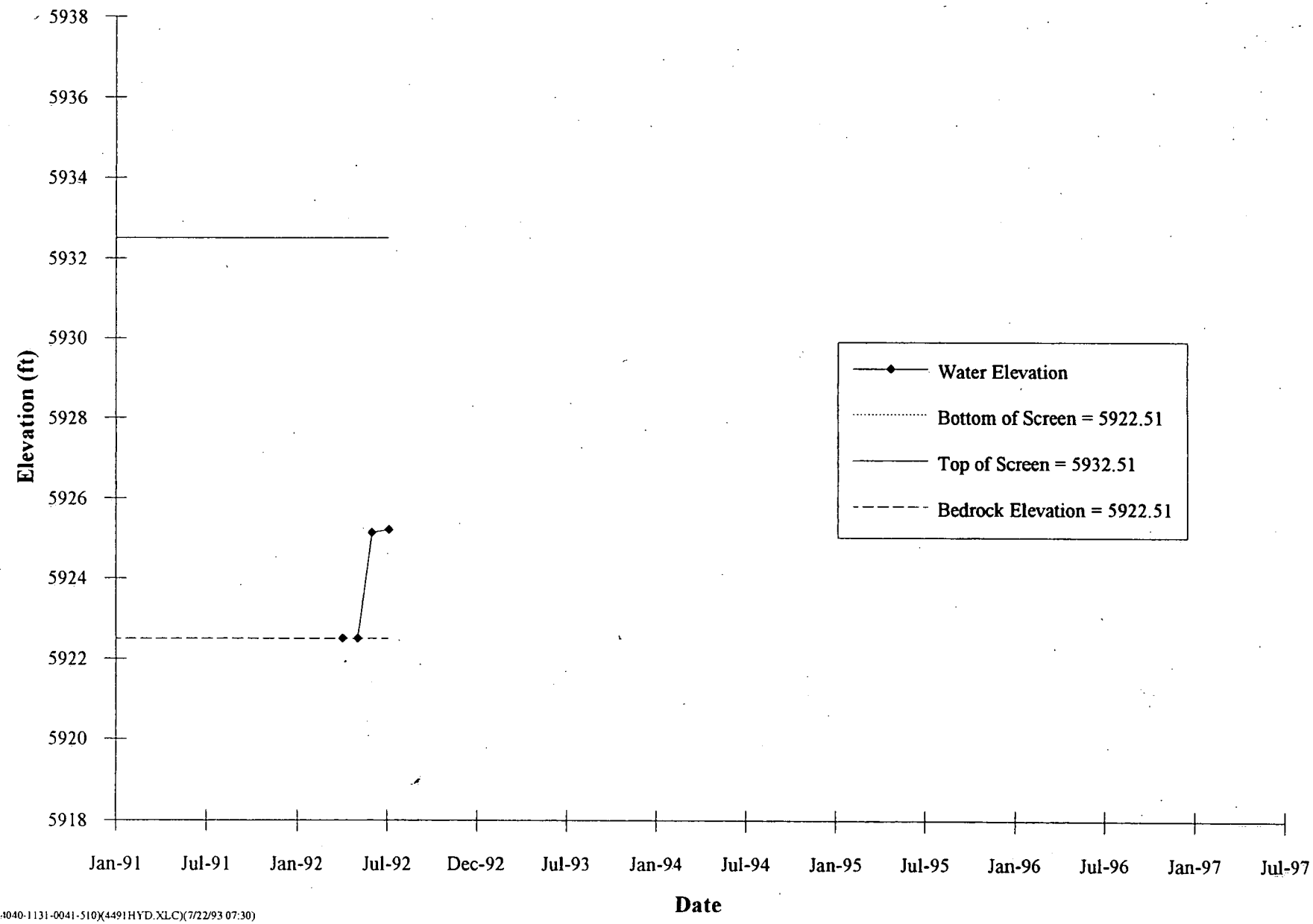
(4040-1131-0041-510)(4091HYDR.XLC)(7/22/93 07:47)

Well 04191 Hydrograph
Rocky Flats Alluvium



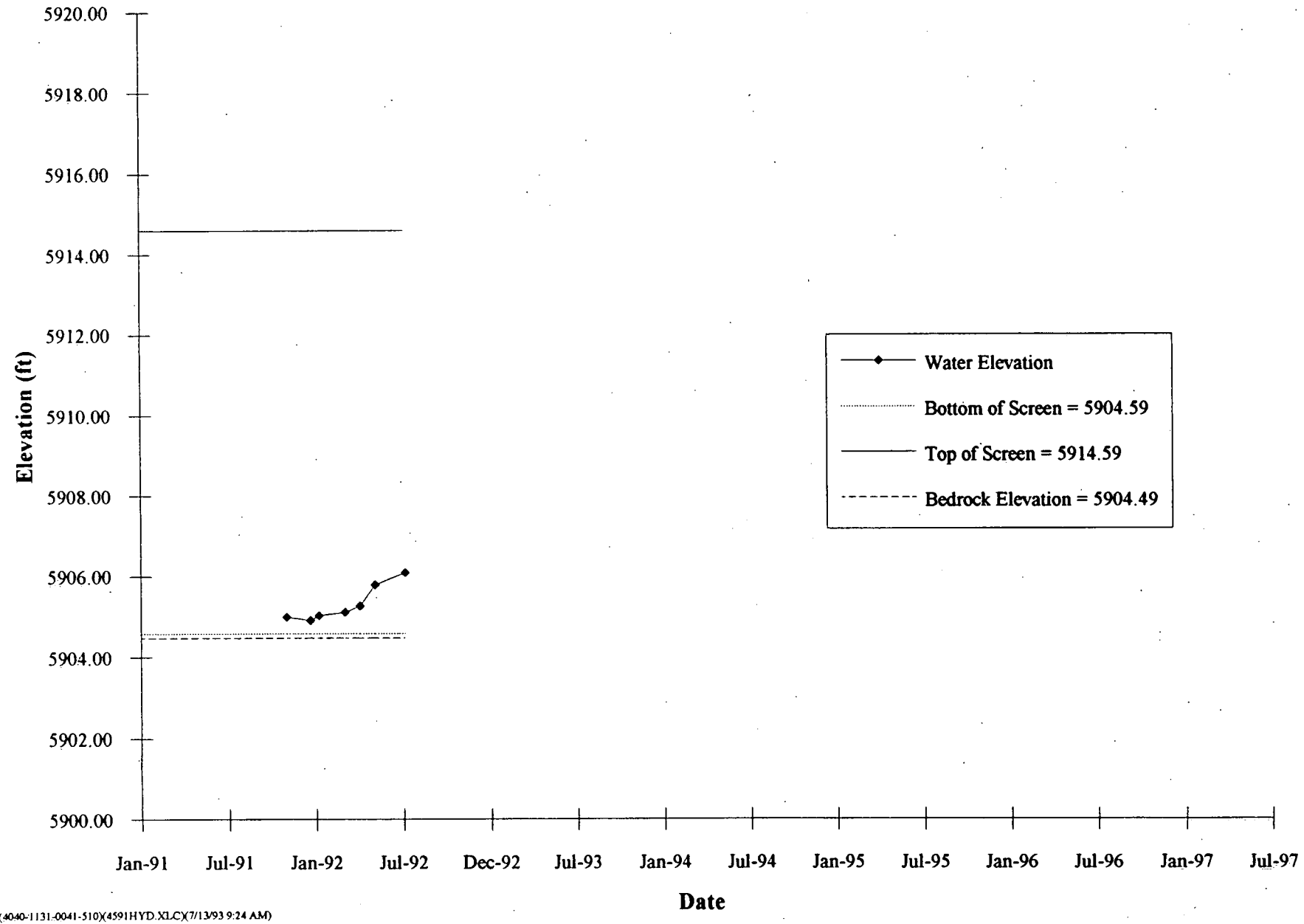
(4040-1131-0041-510)(4191HYD.XLC)(7/22/93 07:31)

Well 04491 Hydrograph
Rocky Flats Alluvium



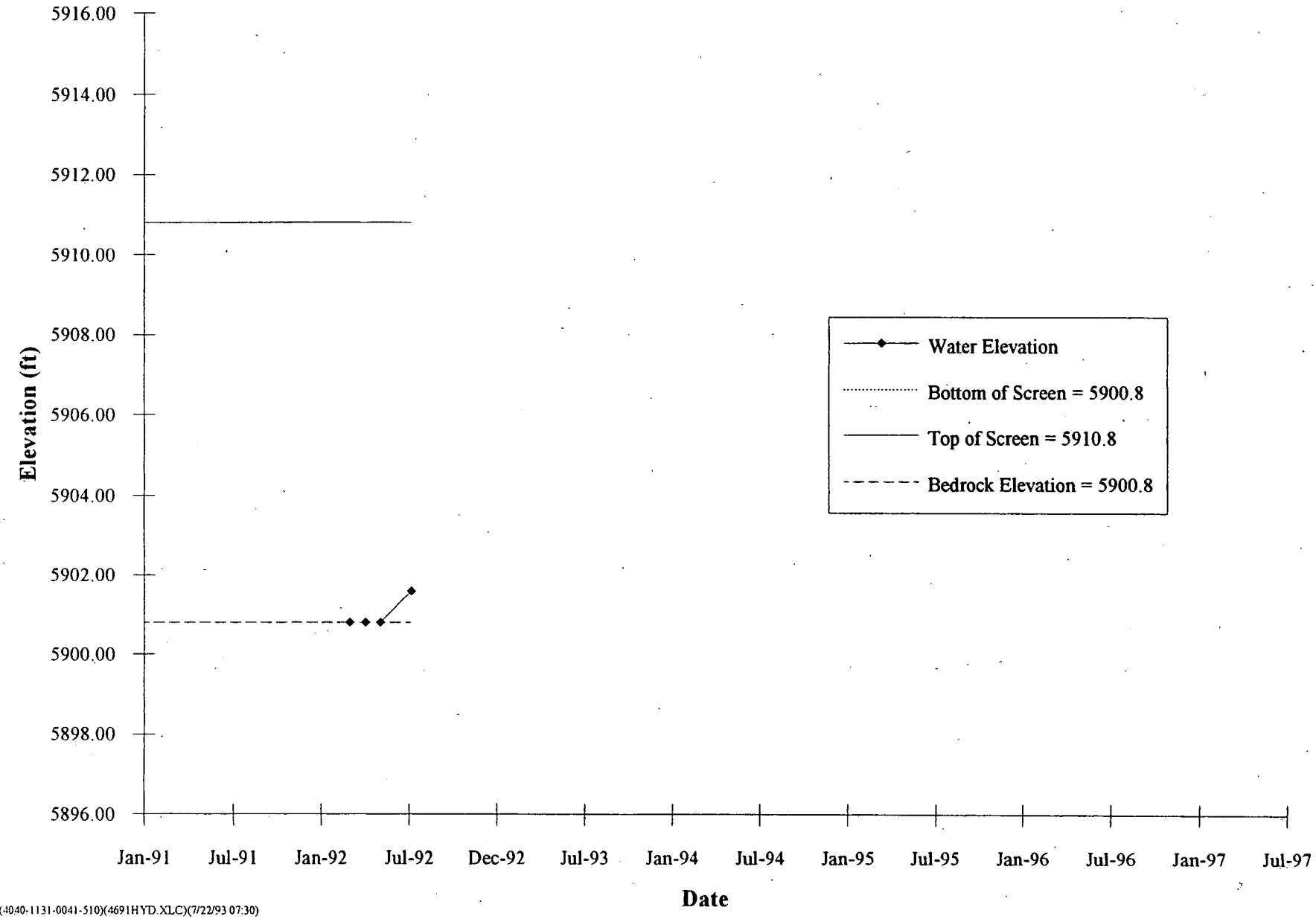
(4040-1131-0041-510)(4491HYD.XLC)(7/22/93 07:30)

Well 04591 Hydrograph
Rocky Flats Alluvium

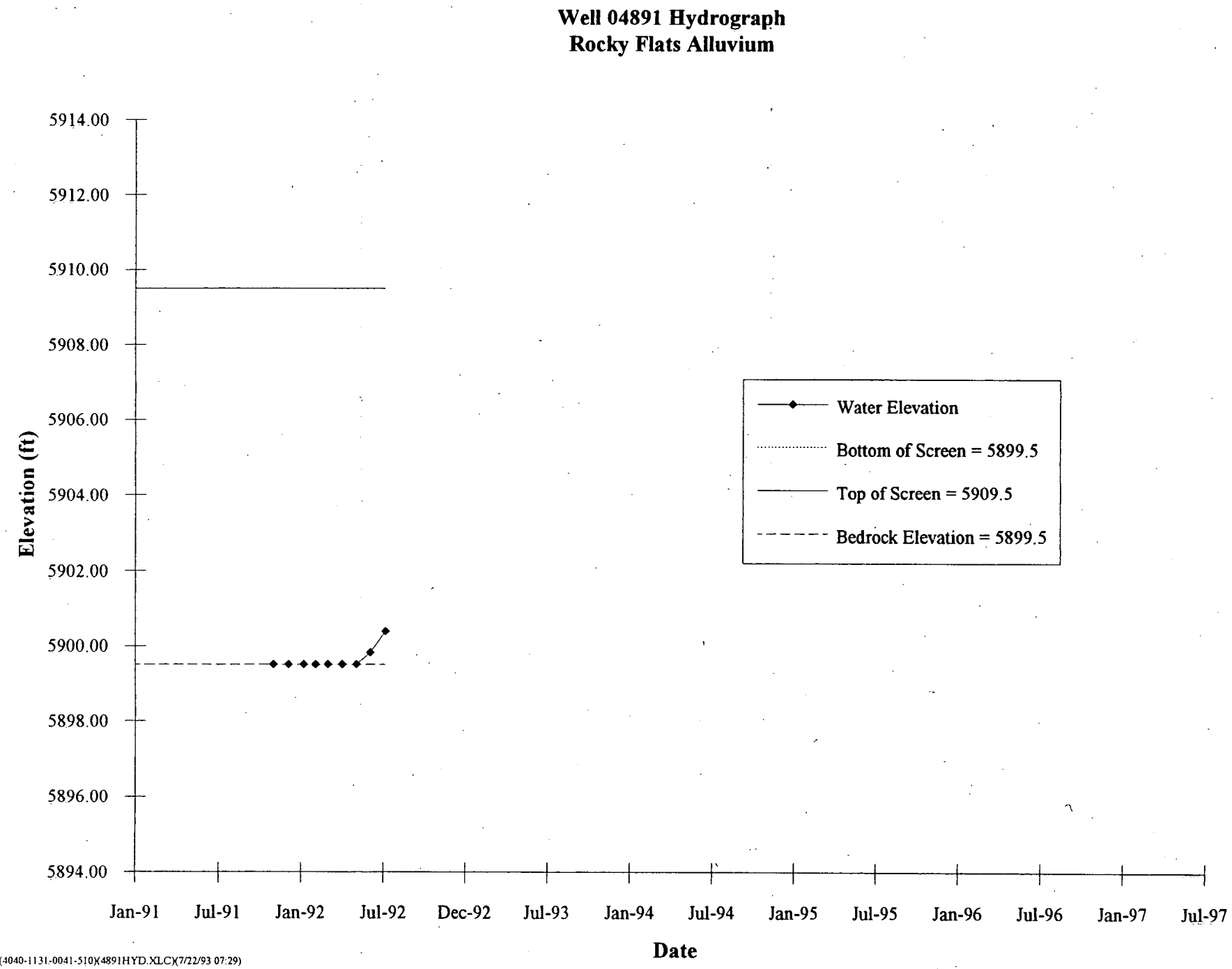


(4040-1131-0041-510)(4591HYD.XLC)(7/13/93 9:24 AM)

Well 04691 Hydrograph
Rocky Flats Alluvium

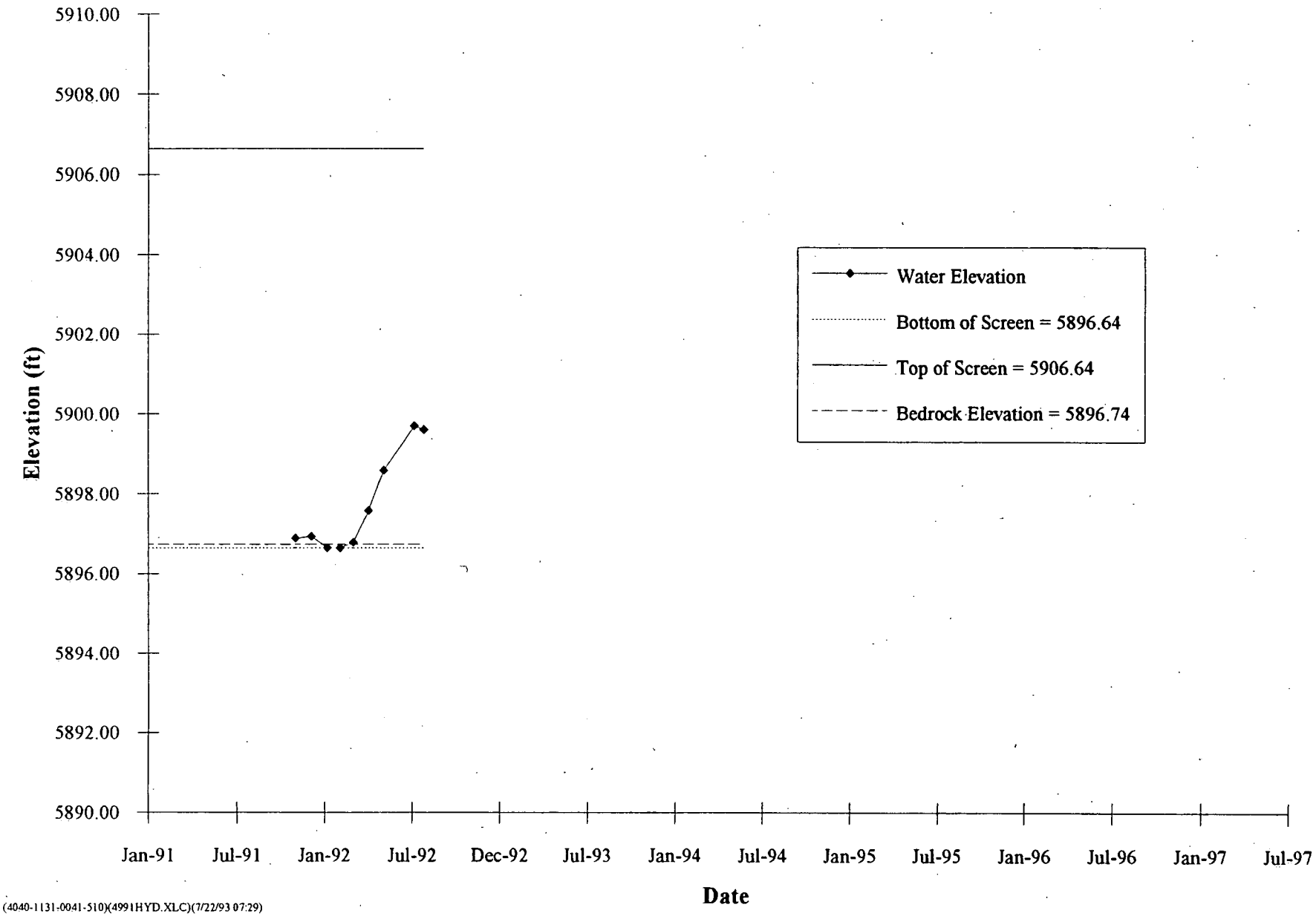


(4040-1131-0041-510)(4691HYD.XLC)(7/22/93 07:30)



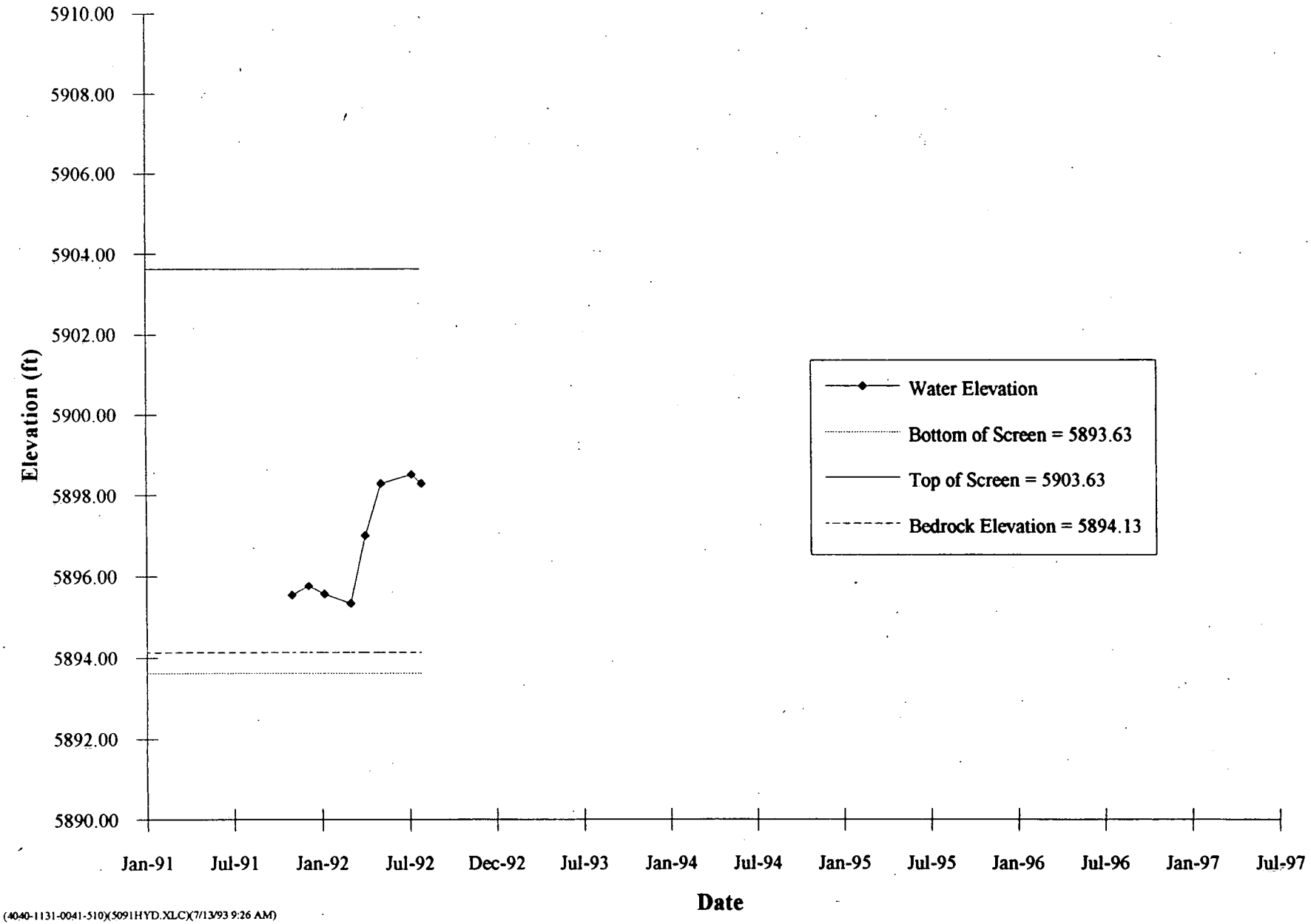
(4040-1131-0041-510)(4891HYD.XLC)(7/22/93 07:29)

Well 04991 Hydrograph
Rocky Flats Alluvium



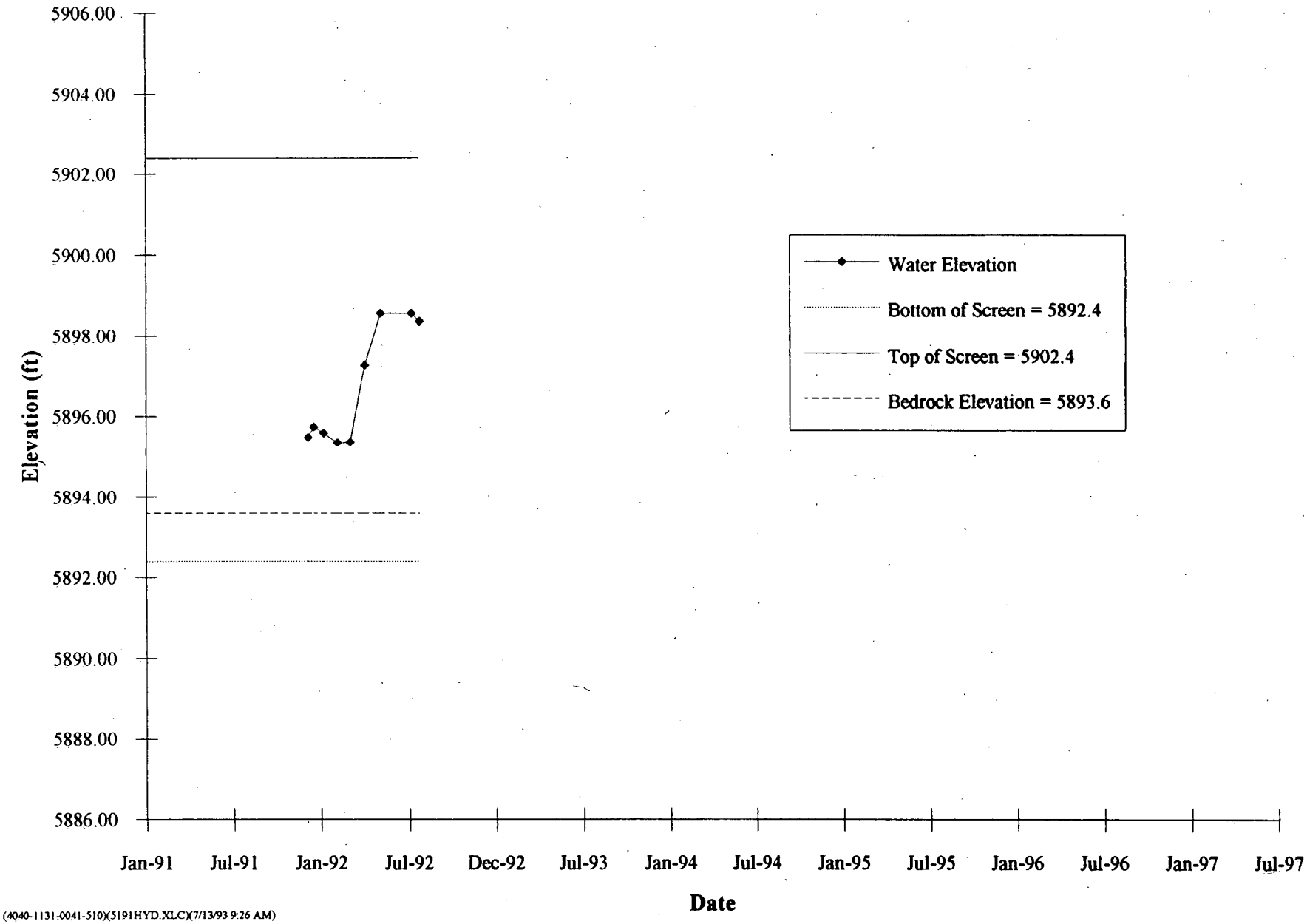
(4040-1131-0041-510)(4991HYD.XLC)(7/22/93 07:29)

Well 05091 Hydrograph
Rocky Flats Alluvium



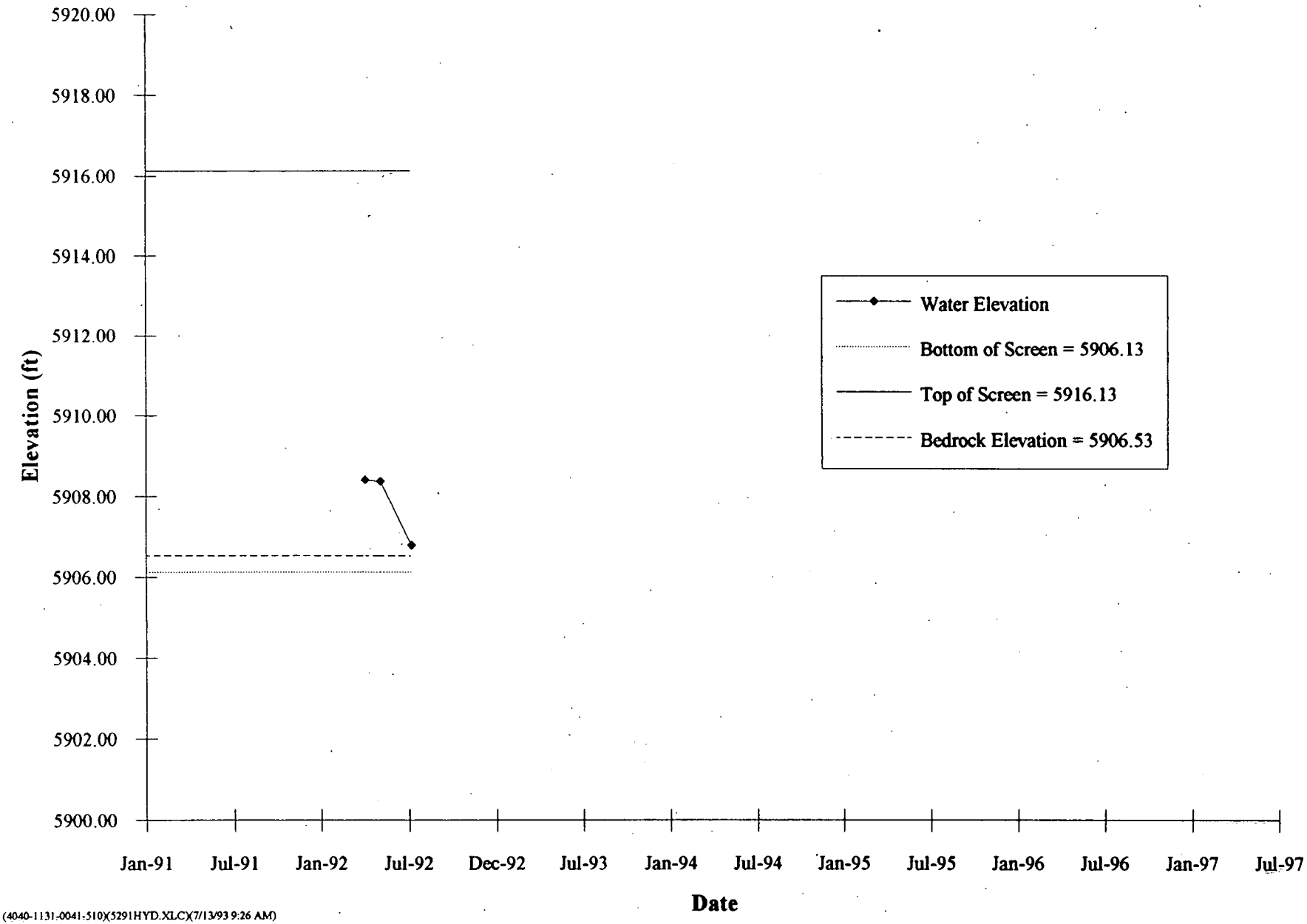
(4040-1131-0041-510)(5091HYD.XLC)(7/13/93 9:26 AM)

Well 05191 Hydrograph
Rocky Flats Alluvium



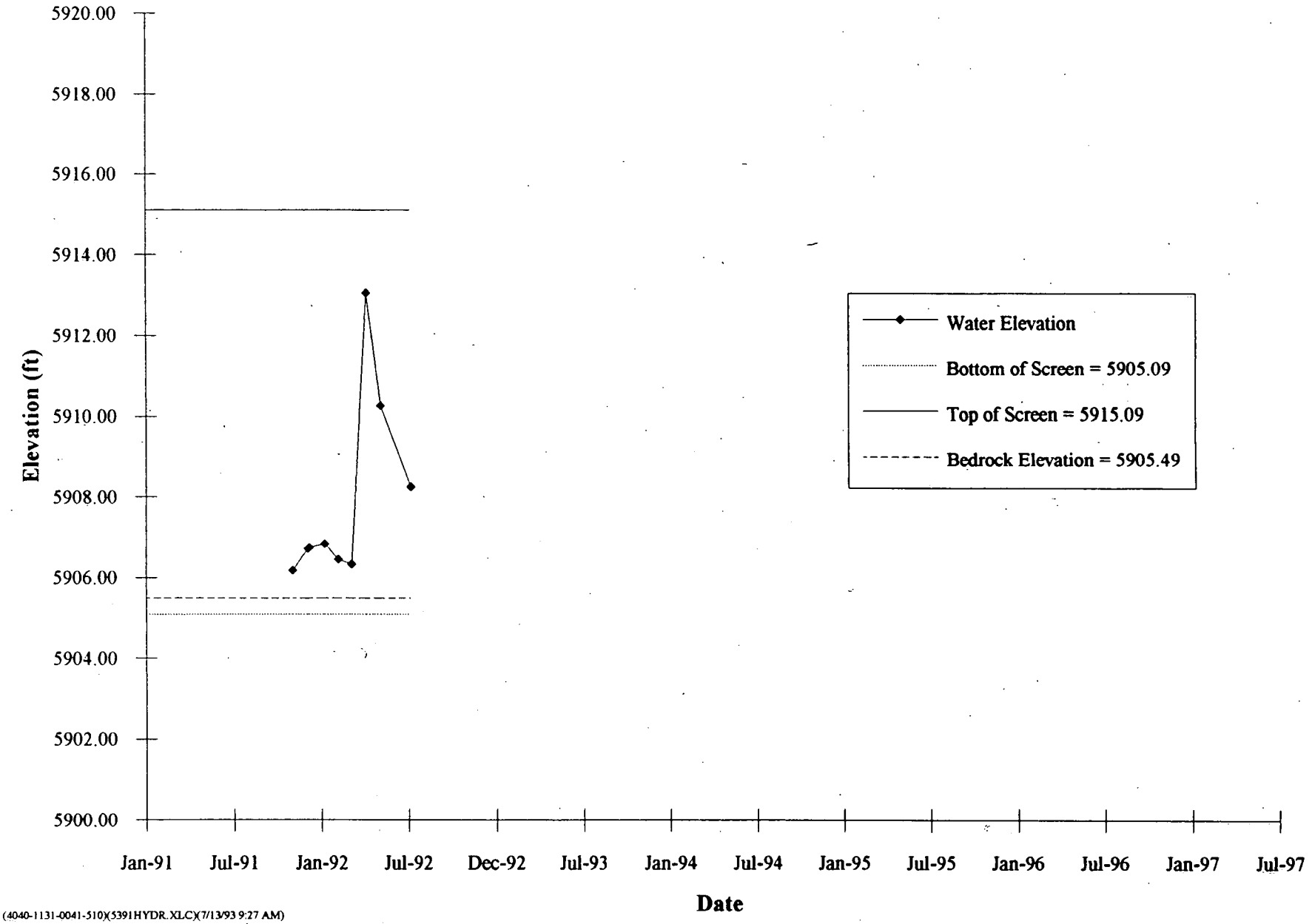
(4040-1131-0041-510)(5191HYD.XLC)(7/13/93 9:26 AM)

Well 05291 Hydrograph
Rocky Flats Alluvium



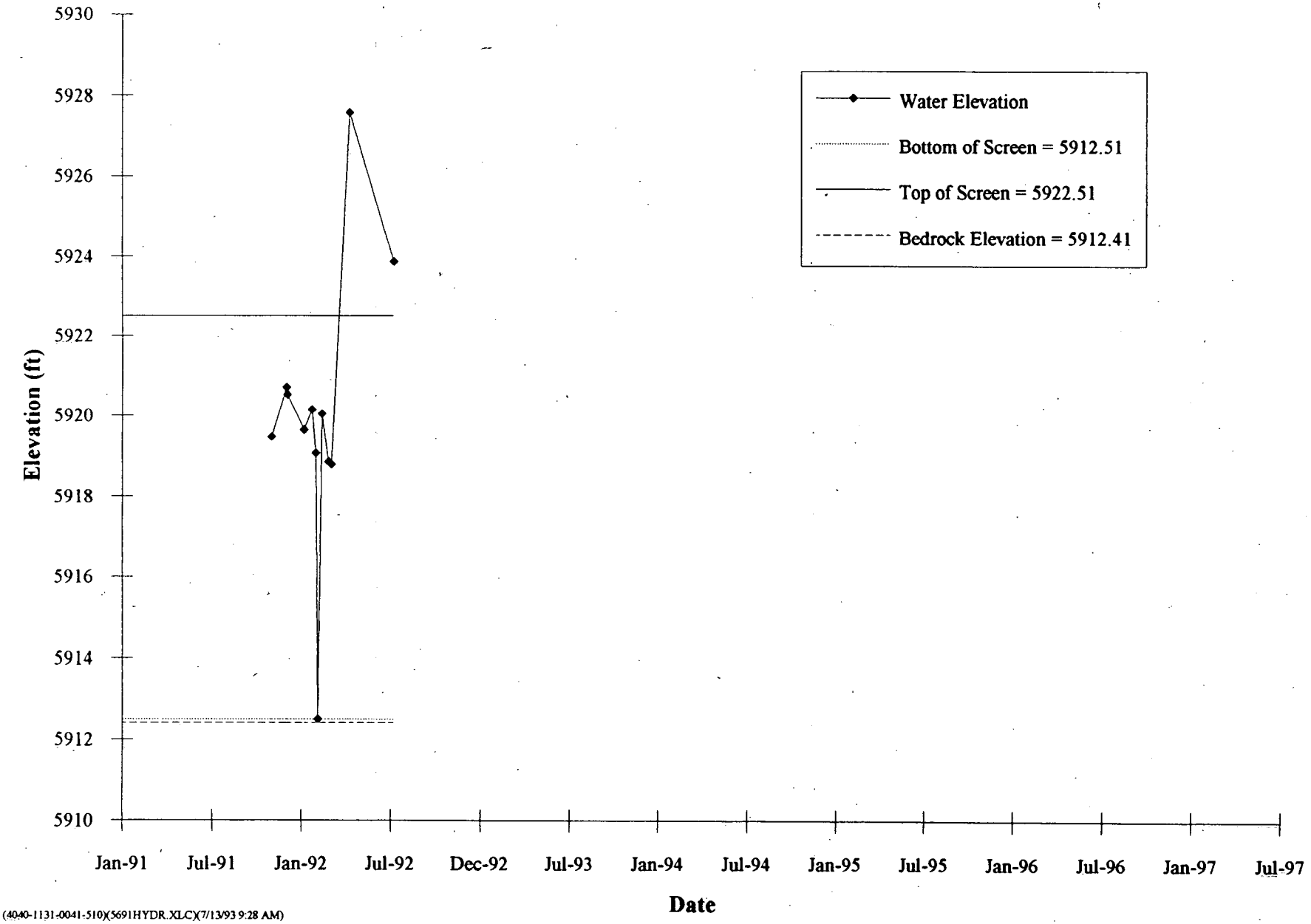
(4040-1131-0041-510)(5291HYD.XLC)(7/13/93 9:26 AM)

Well 05391 Hydrograph
Rocky Flats Alluvium



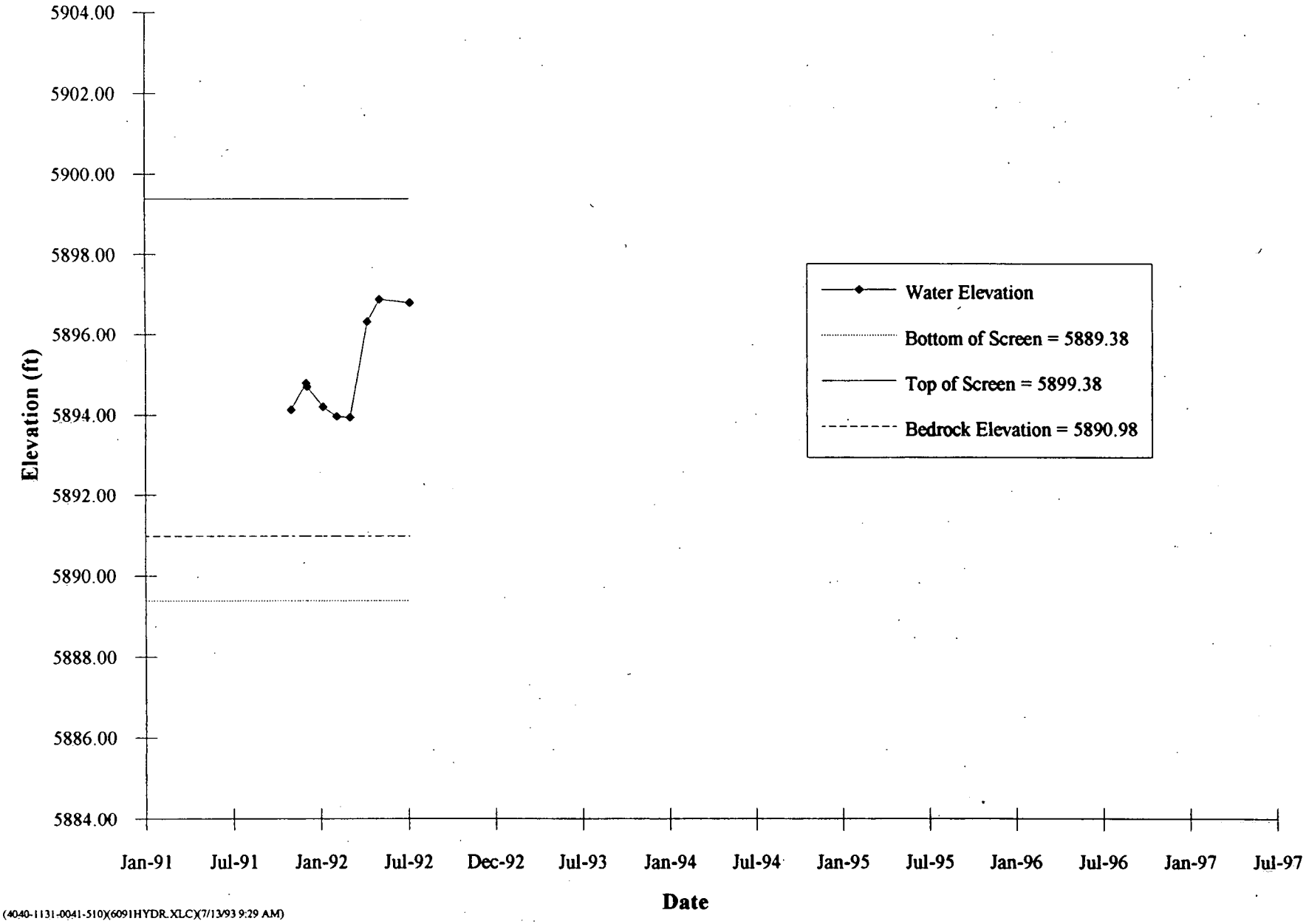
(4040-1131-0041-510)(5391HYDR.XLC)(7/13/93 9:27 AM)

Well 05691 Hydrograph
Rocky Flats Alluvium



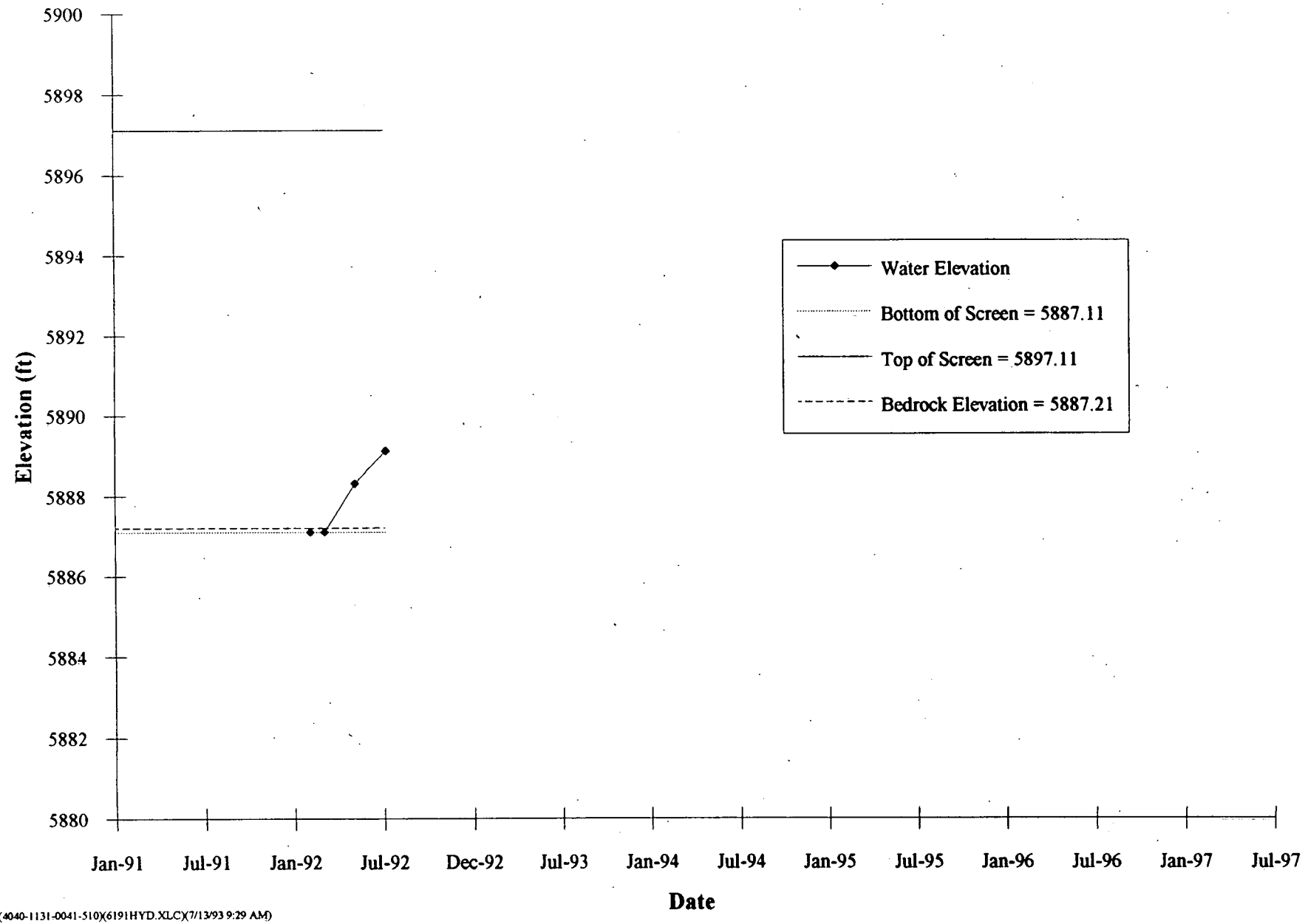
(4040-1131-0041-510)(5691HYDR.XLC)(7/13/93 9:28 AM)

Well 06091 Hydrograph
Rocky Flats Alluvium



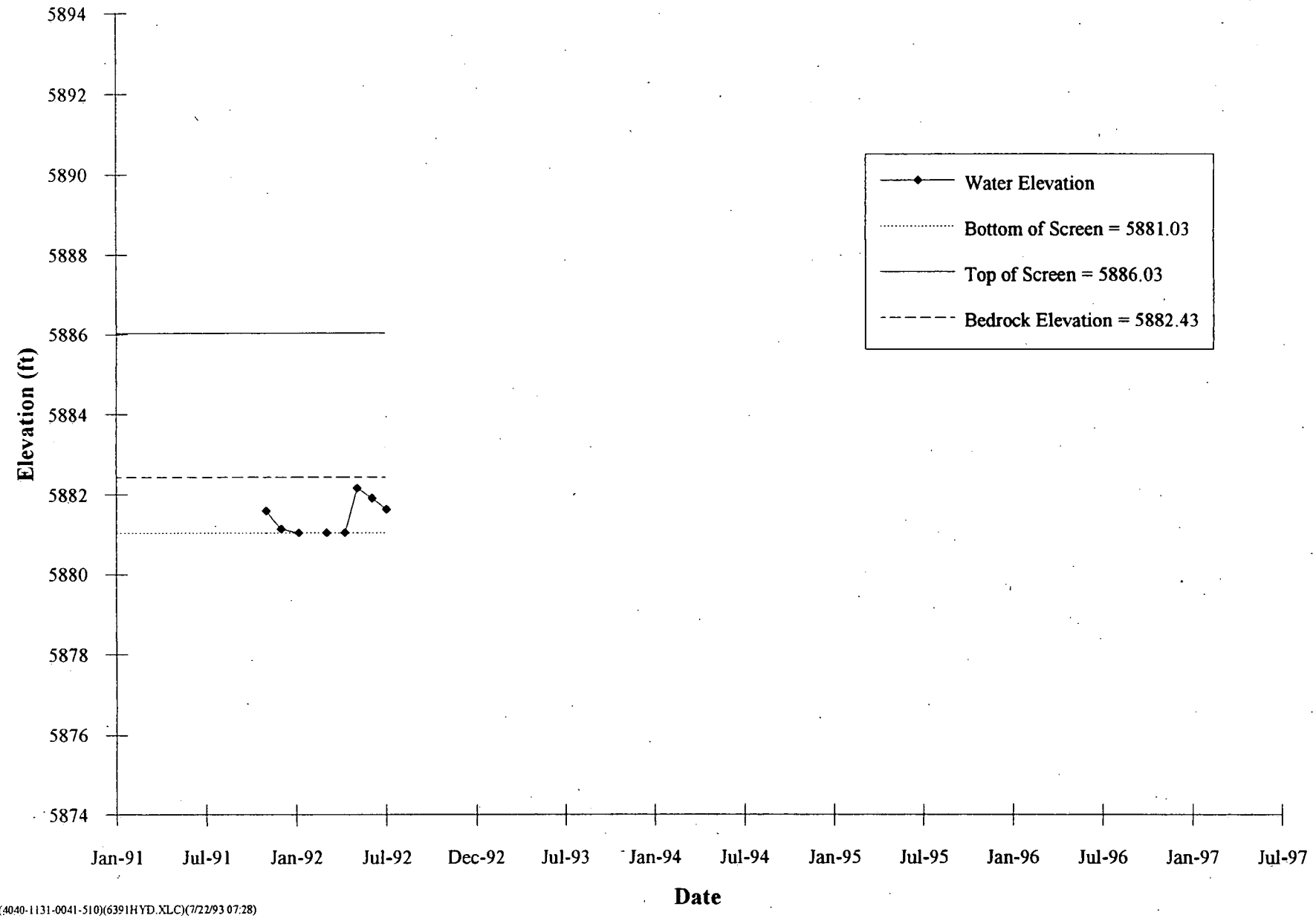
(4040-1131-0041-510)(6091HYDR.XLC)(7/13/93 9:29 AM)

Well 06191 Hydrograph
Rocky Flats Alluvium



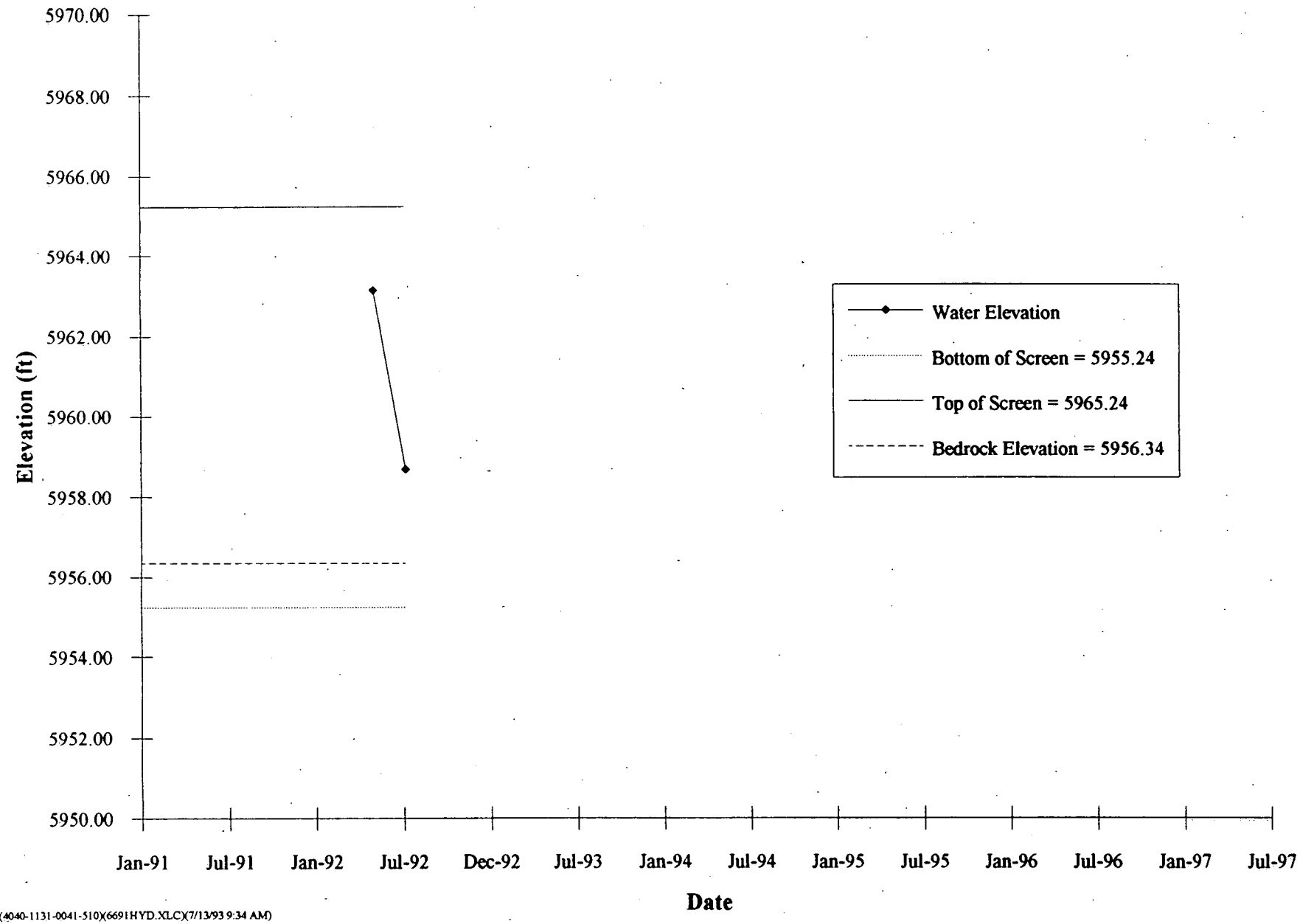
(4040-1131-0041-510)(6191HYD.XLC)(7/13/93 9:29 AM)

Well 06391 Hydrograph
Rocky Flats Alluvium



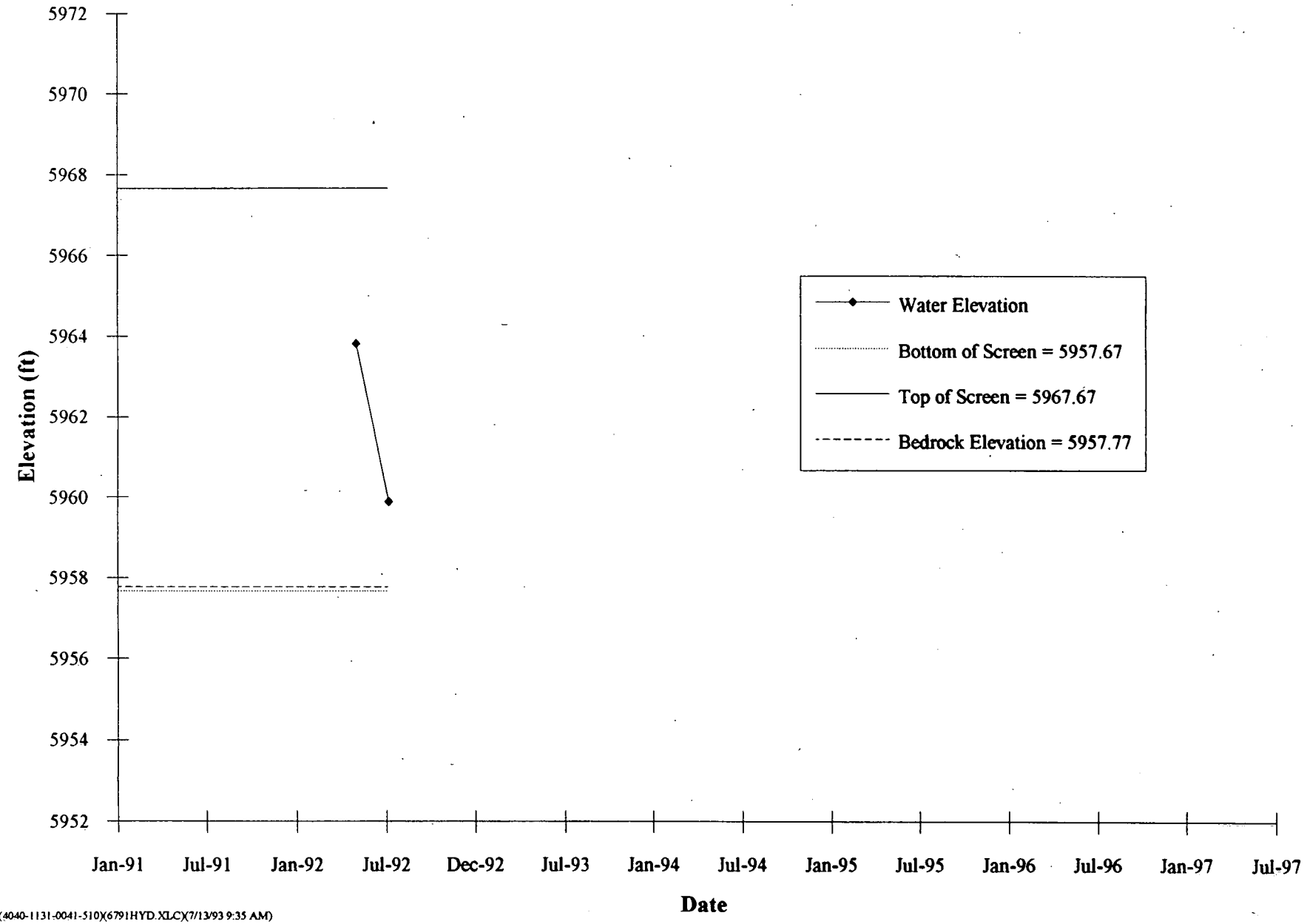
(4040-1131-0041-510)(6391HYD.XLC)(7/22/93 07:28)

Well 06691 Hydrograph
Rocky Flats Alluvium



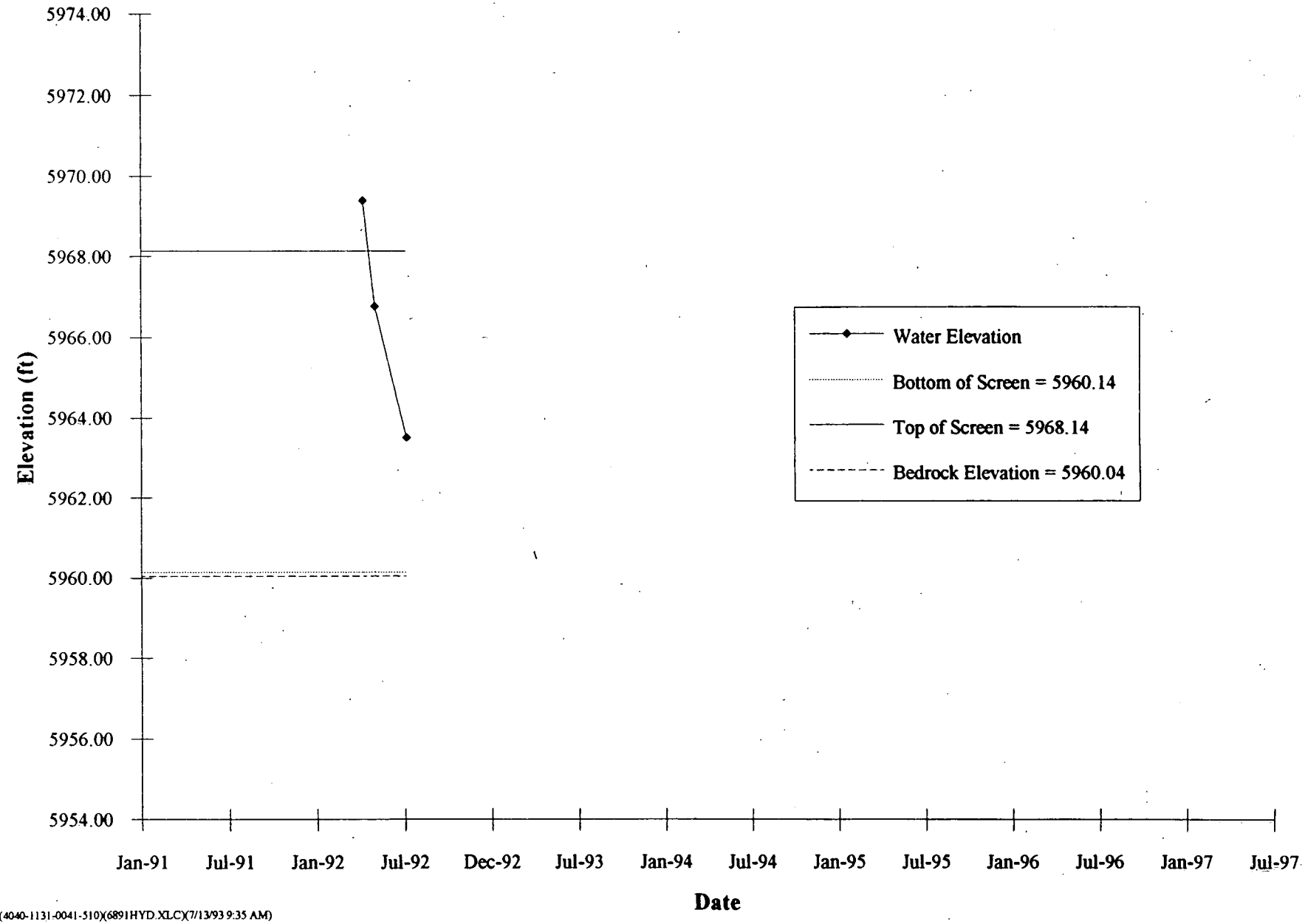
(4040-1131-0041-510)(6691HYD.XLC)(7/13/93 9:34 AM)

Well 06791 Hydrograph
Rocky Flats Alluvium



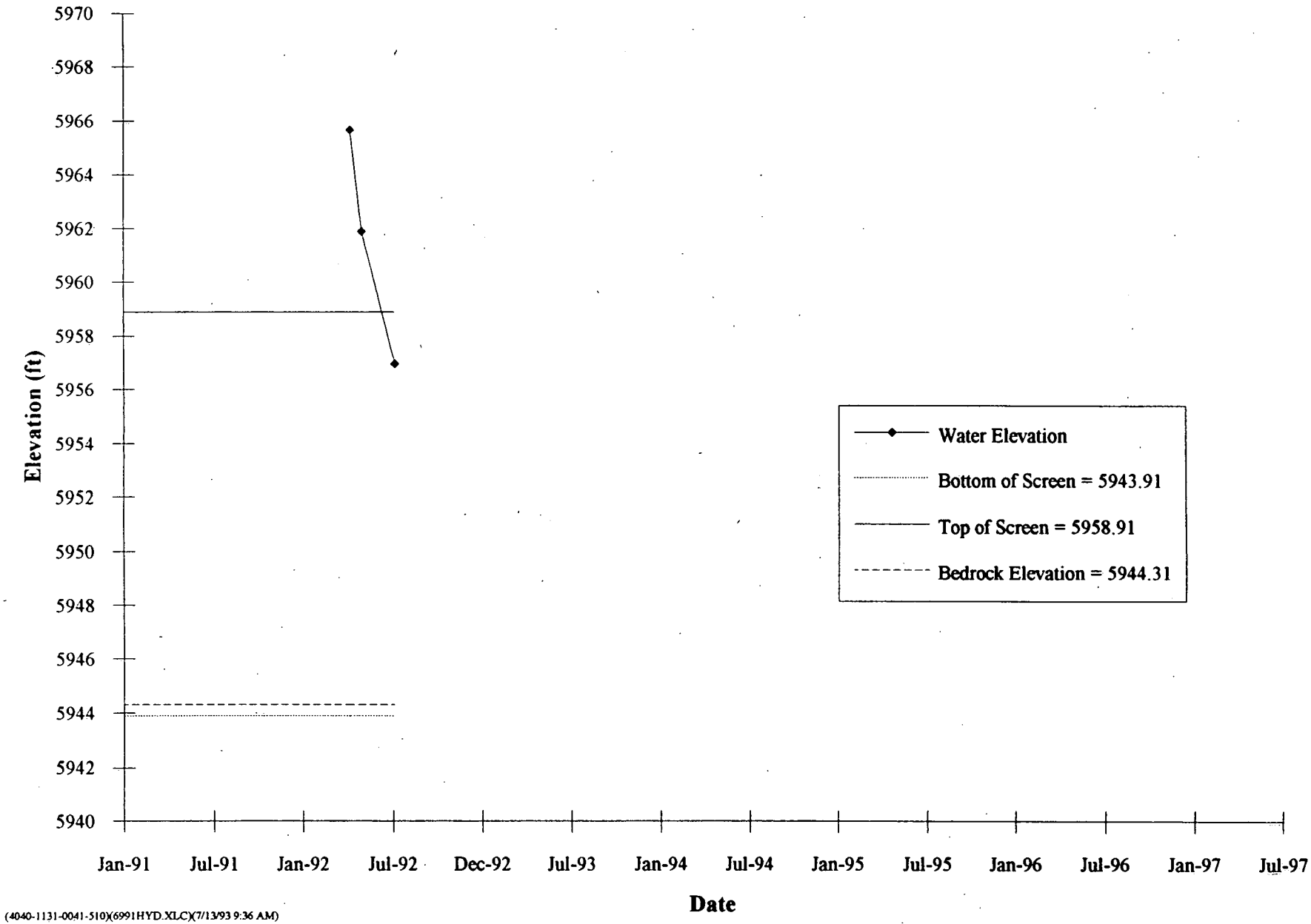
(4040-1131-0041-510)(6791HYD.XLC)(7/13/93 9:35 AM)

Well 06891 Hydrograph
Rocky Flats Alluvium

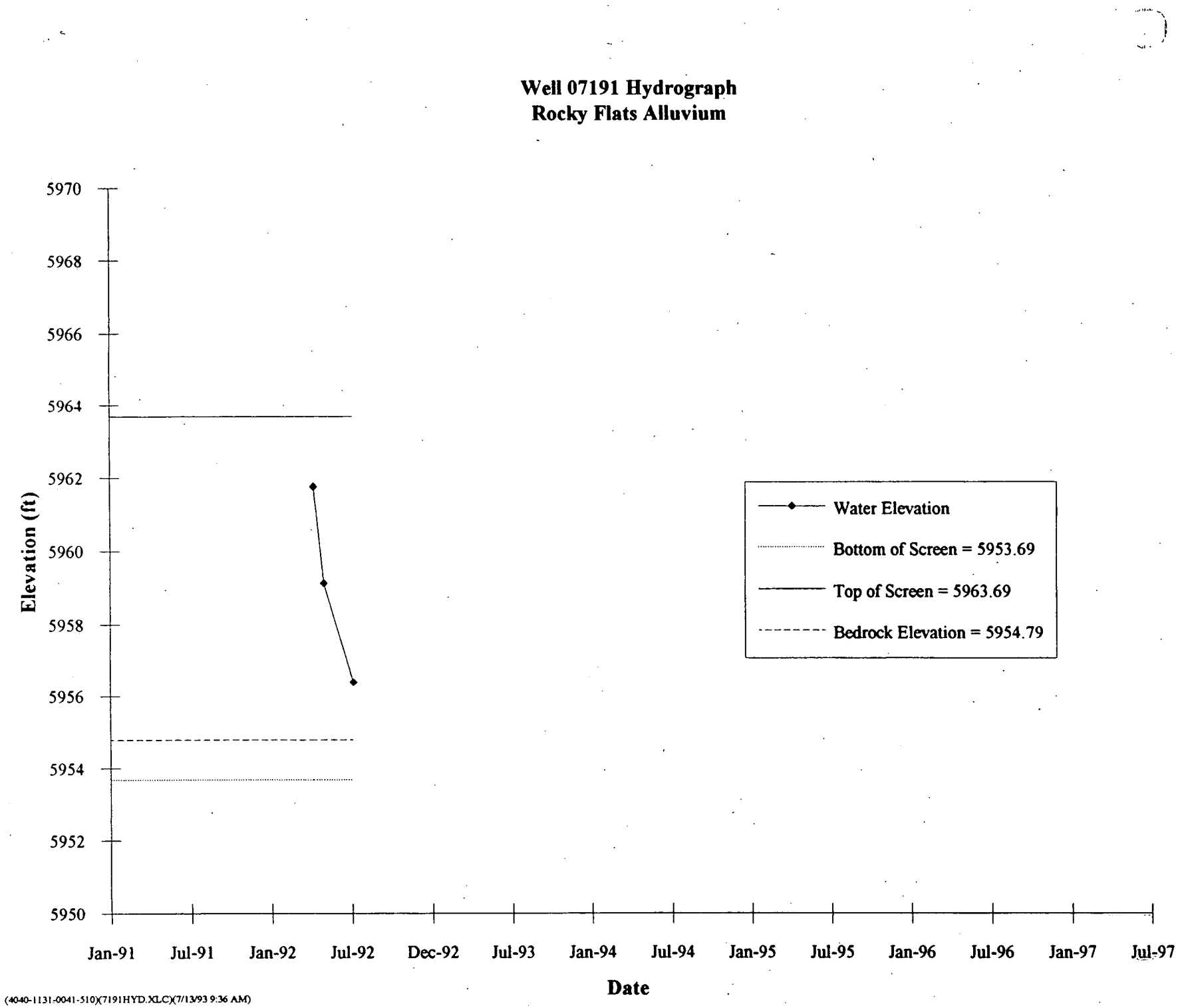


(4040-1131-0041-510)(6891HYD.XLC)(7/13/93 9:35 AM)

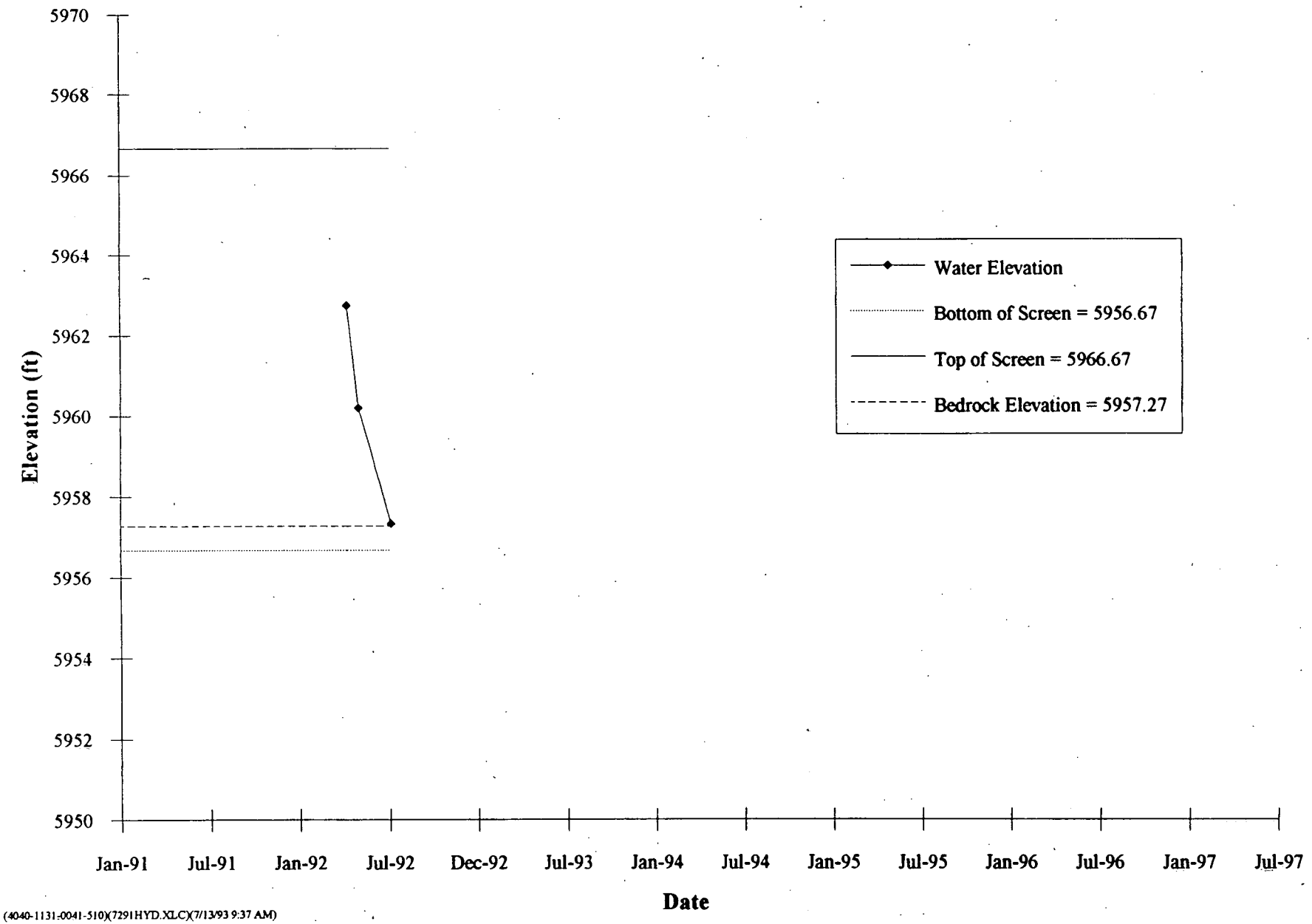
Well 06991 Hydrograph
Rocky Flats Alluvium



(4040-1131-0041-510)(6991HYD.XLC)(7/13/93 9:36 AM)

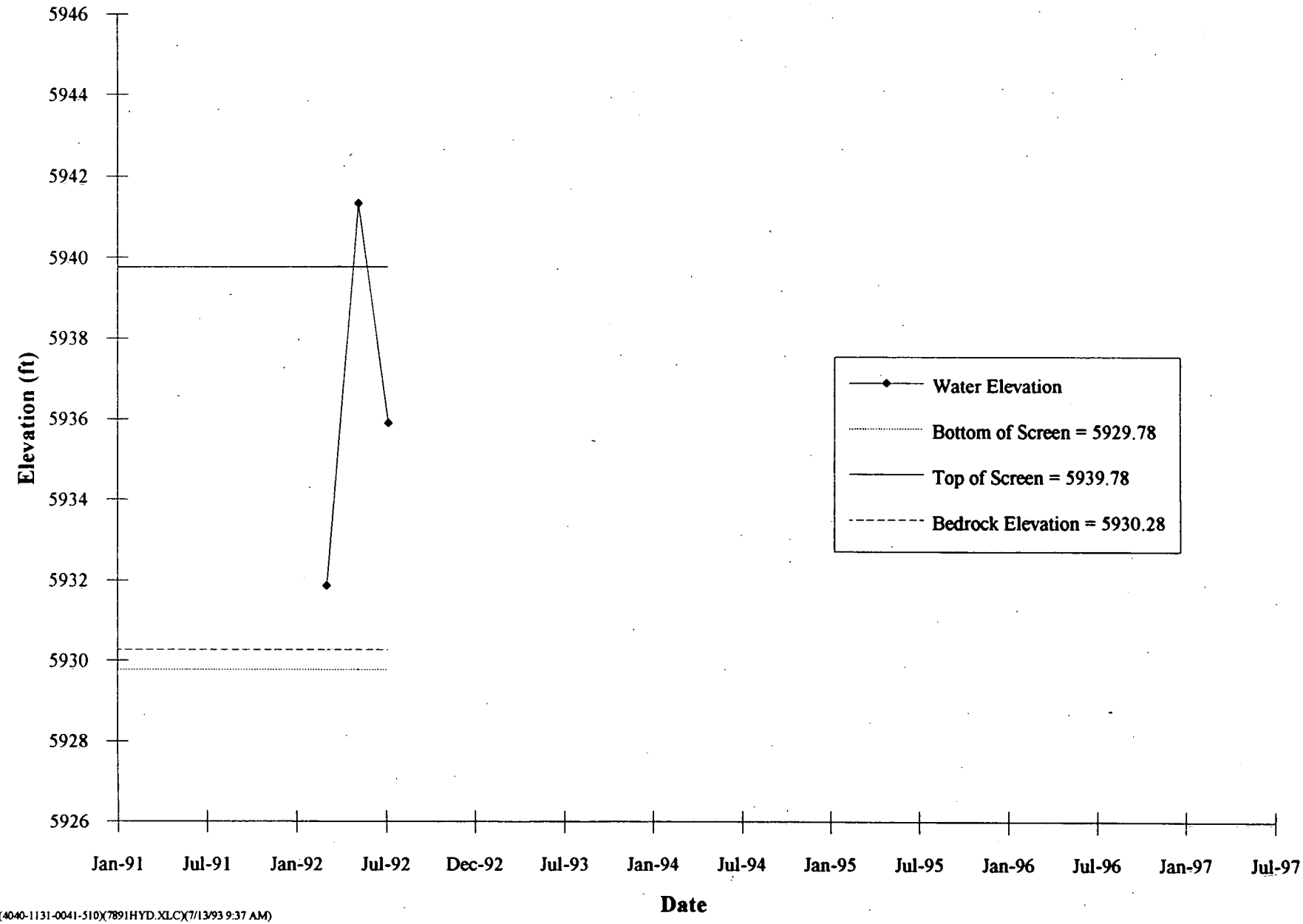

Well 07191 Hydrograph
Rocky Flats Alluvium
Elevation (ft)
5970
5968
5966
5964
5962
5960
5958
5956
5954
5952
5950
Jan-91
Jul-91
Jan-92
Jul-92
Dec-92
Jul-93
Jan-94
Jul-94
Jan-95
Jul-95
Jan-96
Jul-96
Jan-97
Jul-97
Date
Water Elevation
Bottom of Screen = 5953.69
Top of Screen = 5963.69
Bedrock Elevation = 5954.79
(4040-1131-0041-510)(7191HYD.XLC)(7/13/93 9:36 AM)

Well 07291 Hydrograph
Rocky Flats Alluvium



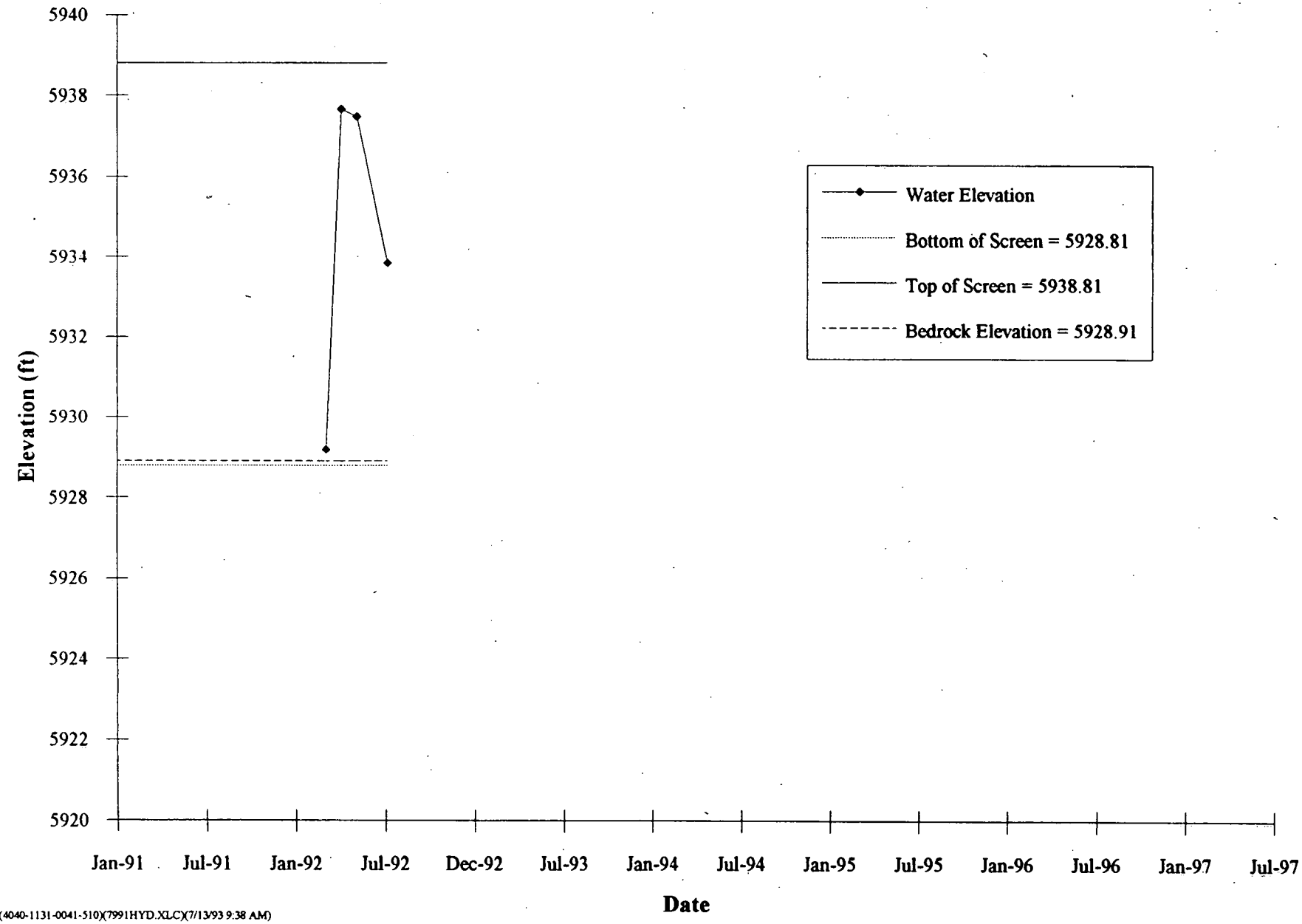
(4040-1131-0041-510)(7291HYD.XLC)(7/13/93 9:37 AM)

Well 07891 Hydrograph
Rocky Flats Alluvium



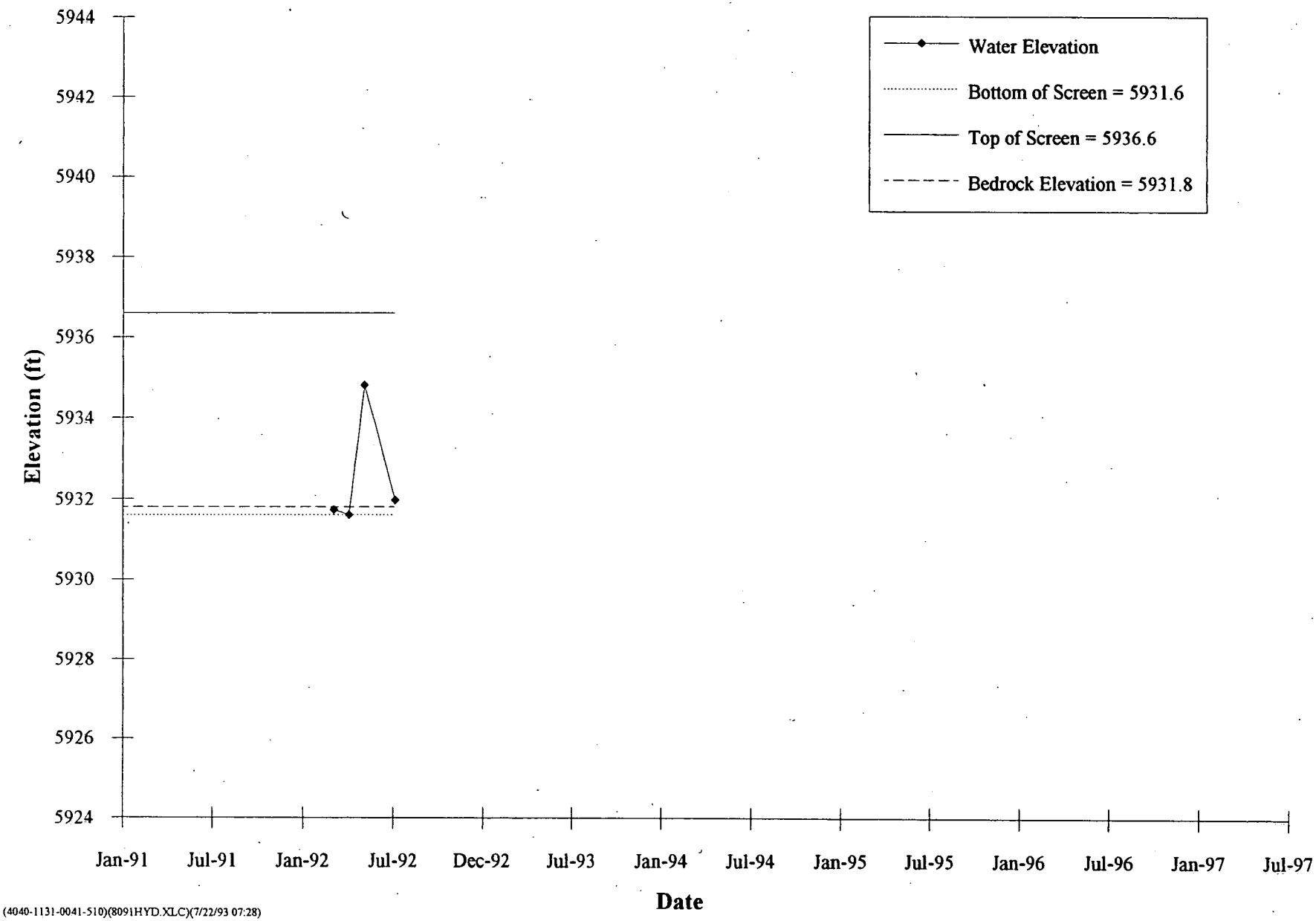
(4040-1131-0041-510)(7891HYD.XLC)(7/13/93 9:37 AM)

Well 07991 Hydrograph
Rocky Flats Alluvium



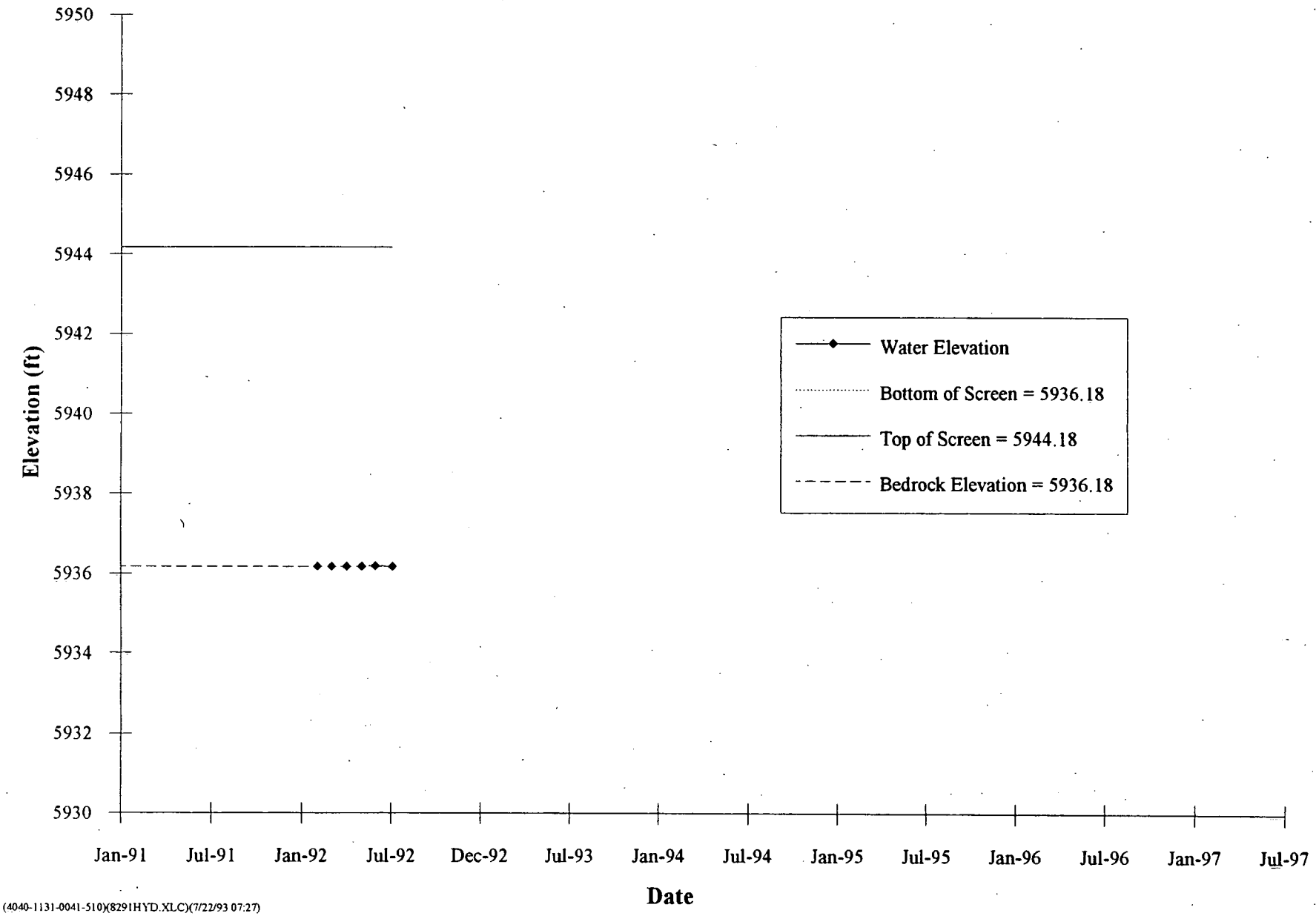
(4040-1131-0041-510)(7991HYD.XLC)(7/13/93 9:38 AM)

Well 08091 Hydrograph
Rocky Flats Alluvium



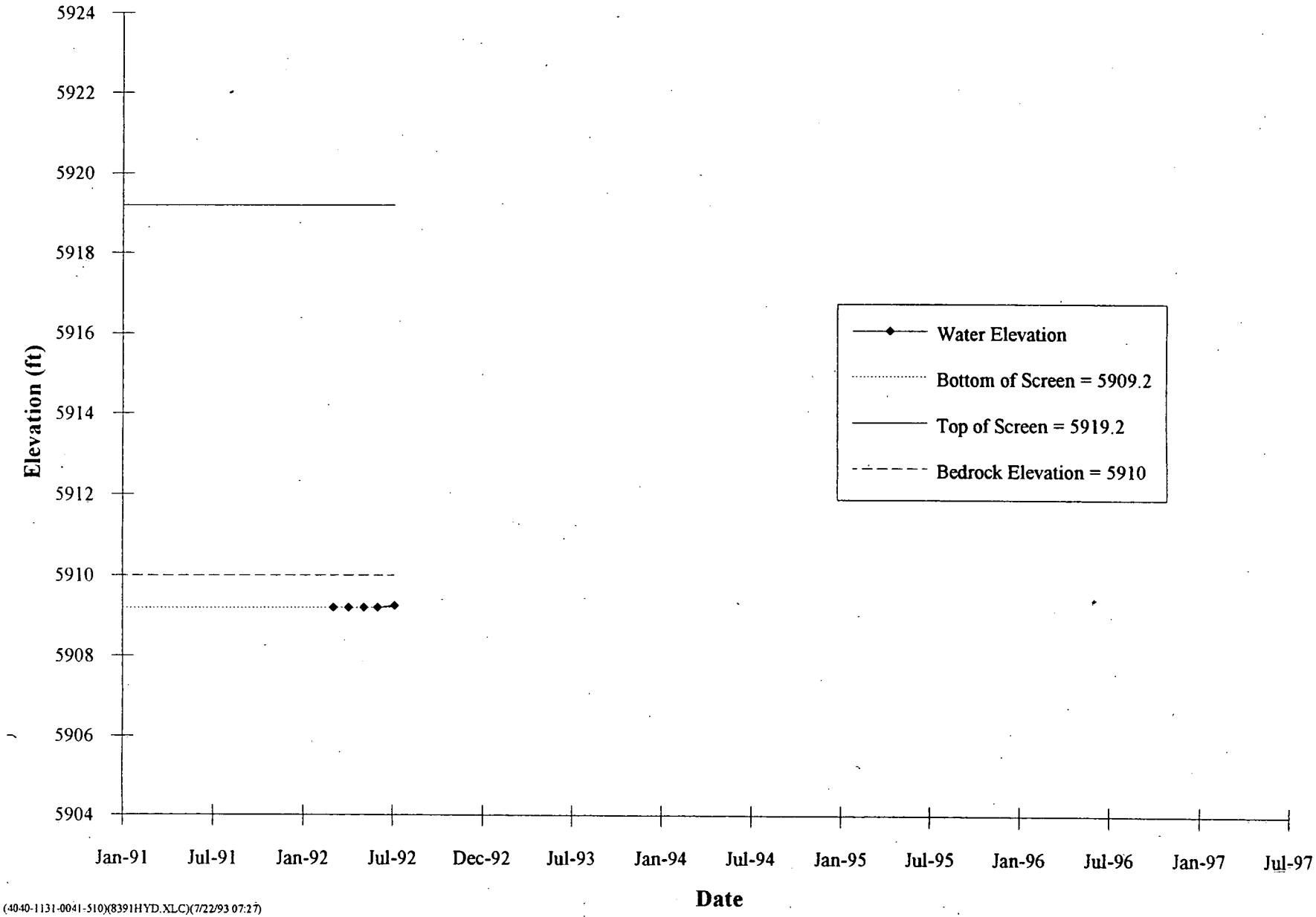
(4040-1131-0041-510)(8091HYD.XLC)(7/22/93 07:28)

Well 08291 Hydrograph
Rocky Flats Alluvium



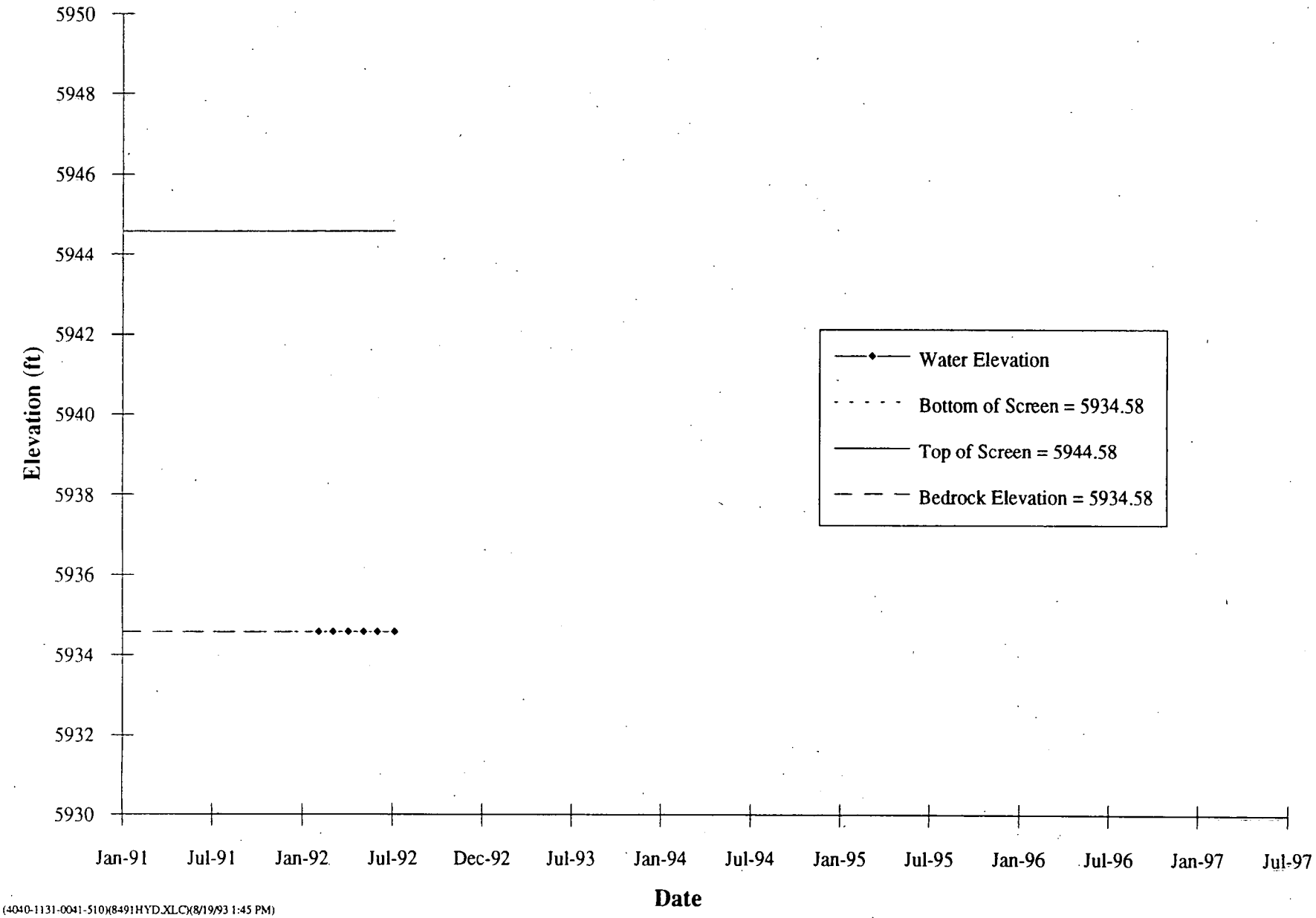
(4040-1131-0041-510)(8291HYD.XLC)(7/22/93 07:27)

Well 08391 Hydrograph
Rocky Flats Alluvium



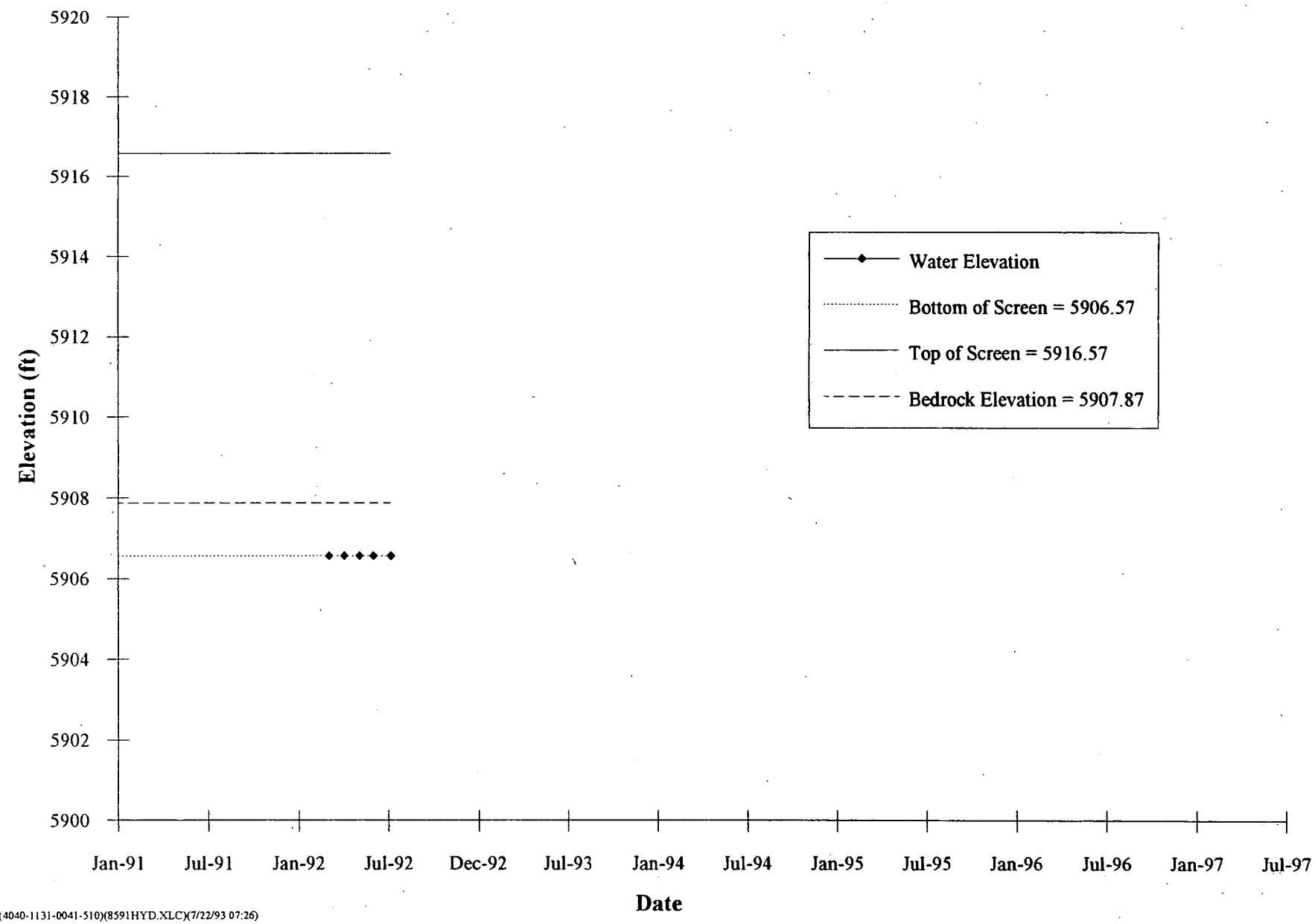
(4040-1131-0041-510)(8391HYD.XLC)(7/22/93 07:27)

Well 08491 Hydrograph
Rocky Flats Alluvium



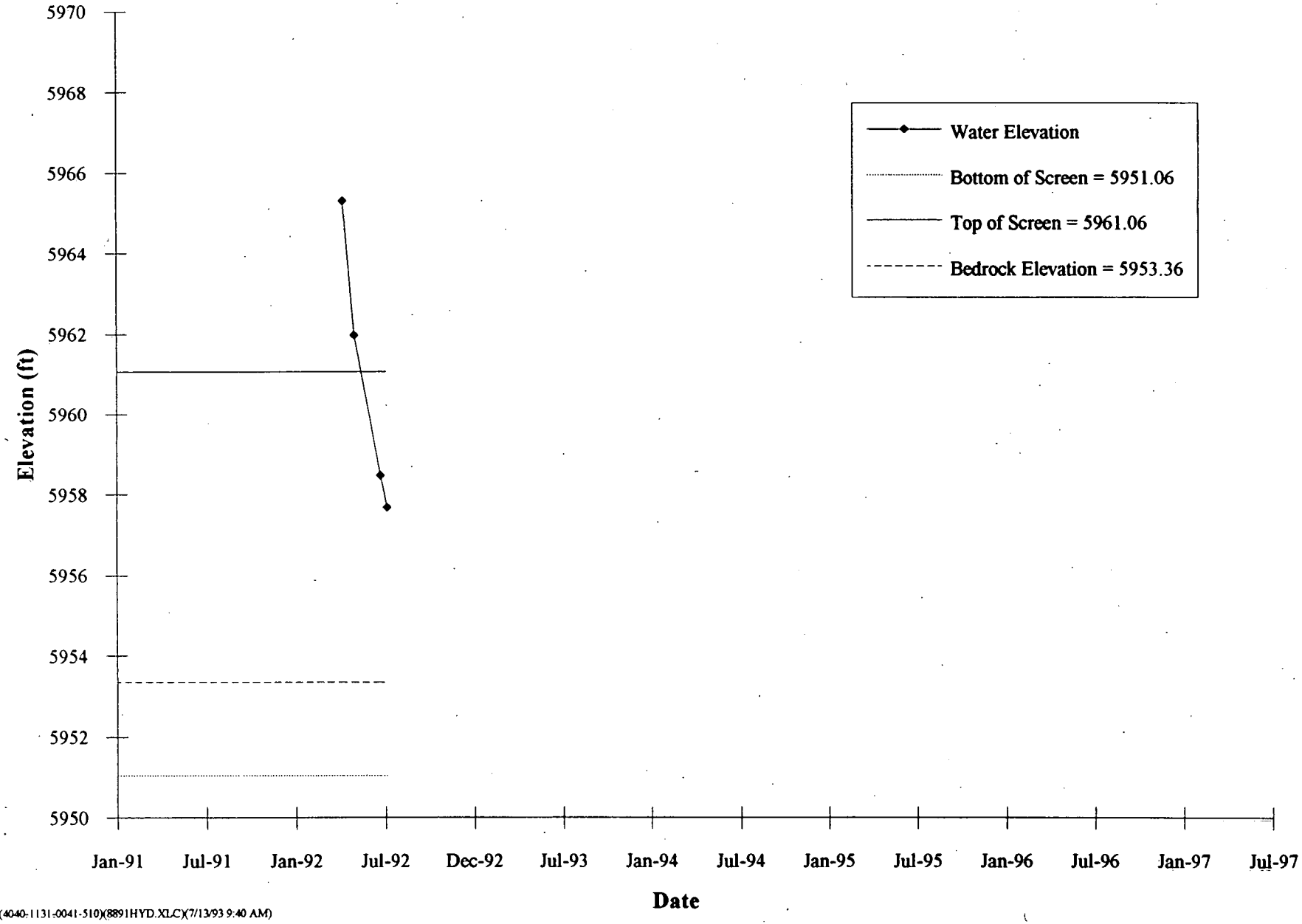
(4040-1131-0041-510)(8491HYD.XLC)(8/19/93 1:45 PM)

Well 08591 Hydrograph
Rocky Flats Alluvium



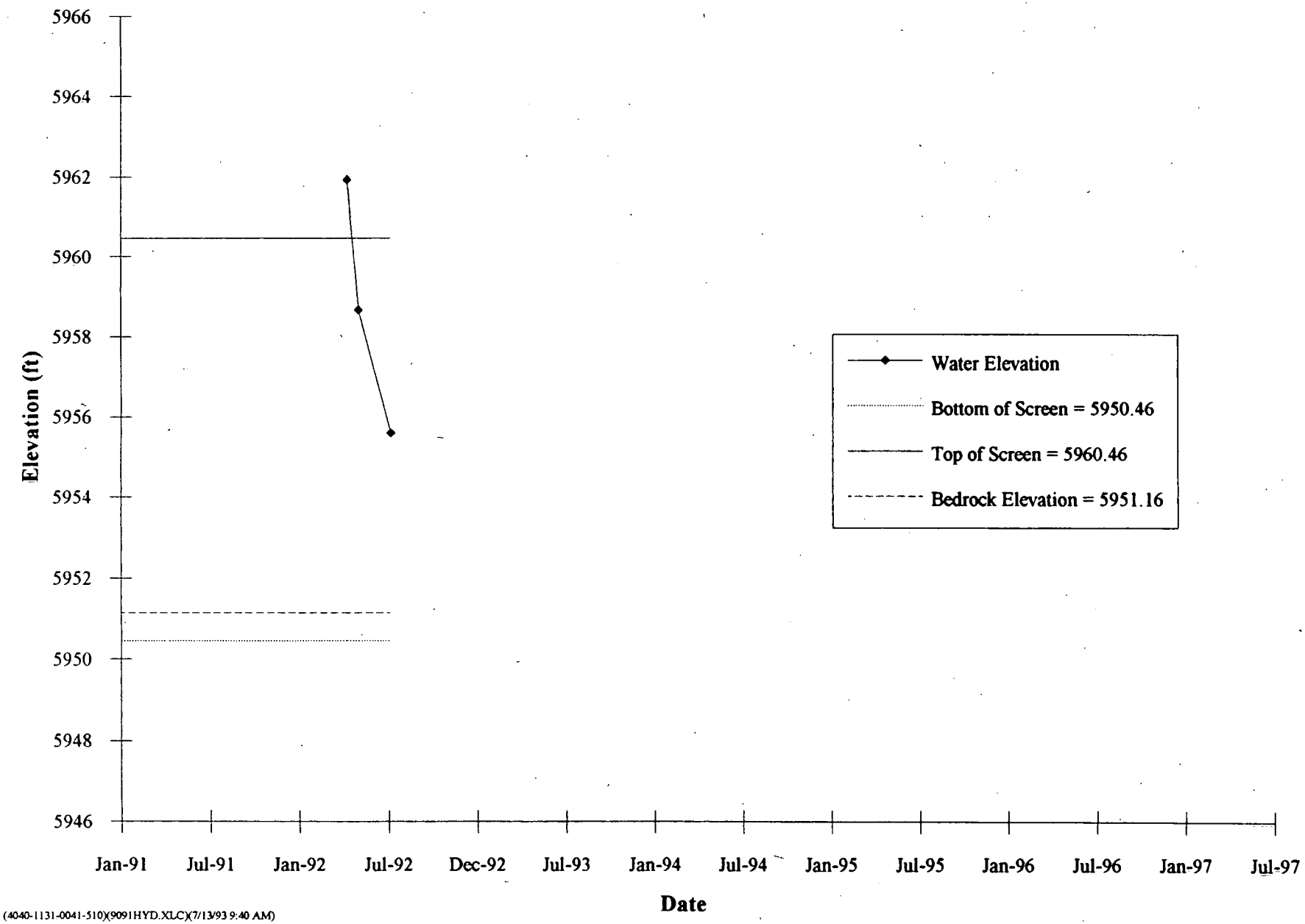
(4040-1131-0041-510)(8591HYD.XLC)(7/22/93 07:26)

Well 08891 Hydrograph
Rocky Flats Alluvium



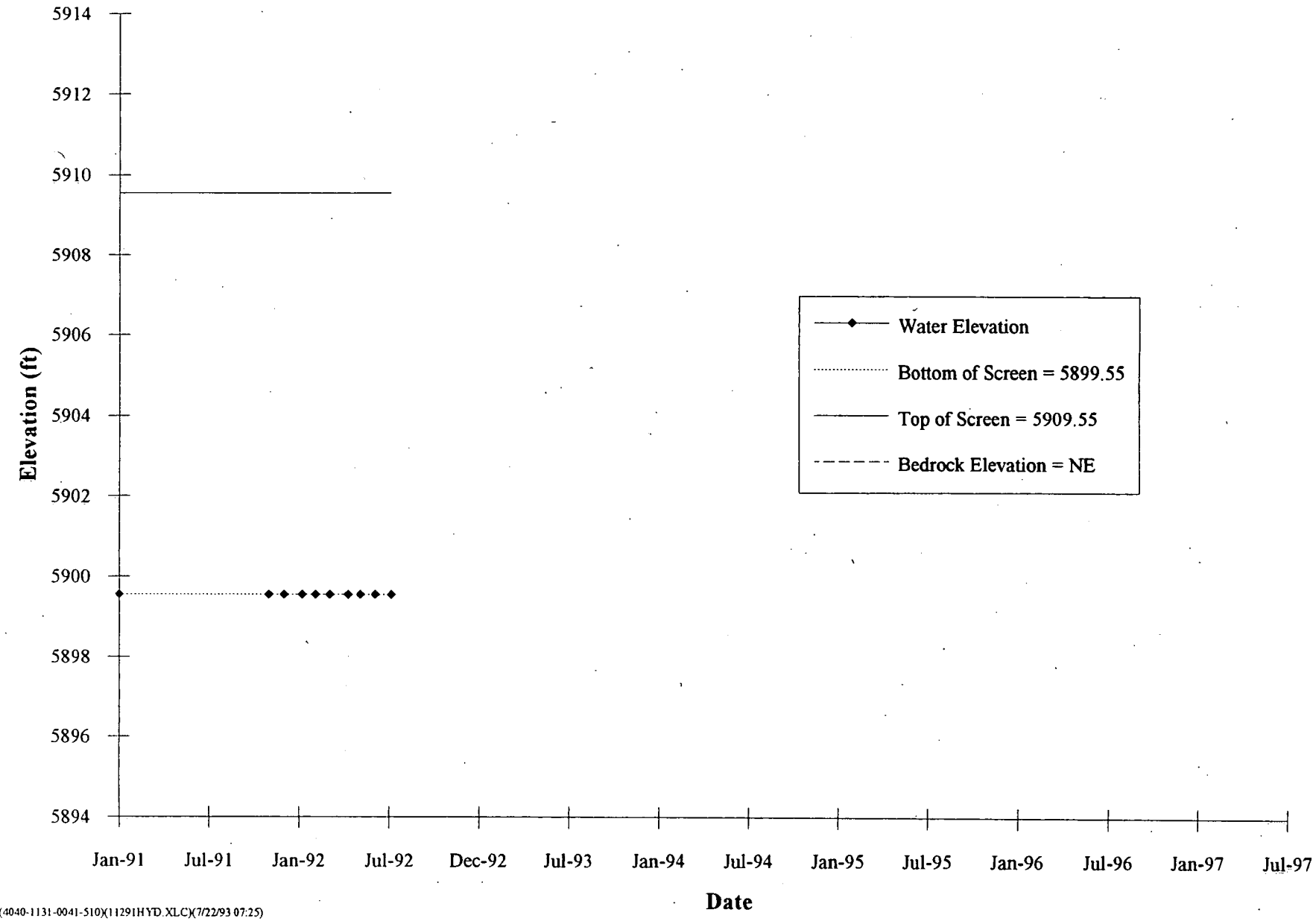
(4040-1131-0041-510)(8891HYD.XLC)(7/13/93 9:40 AM)

Well 09091 Hydrograph
Rocky Flats Alluvium



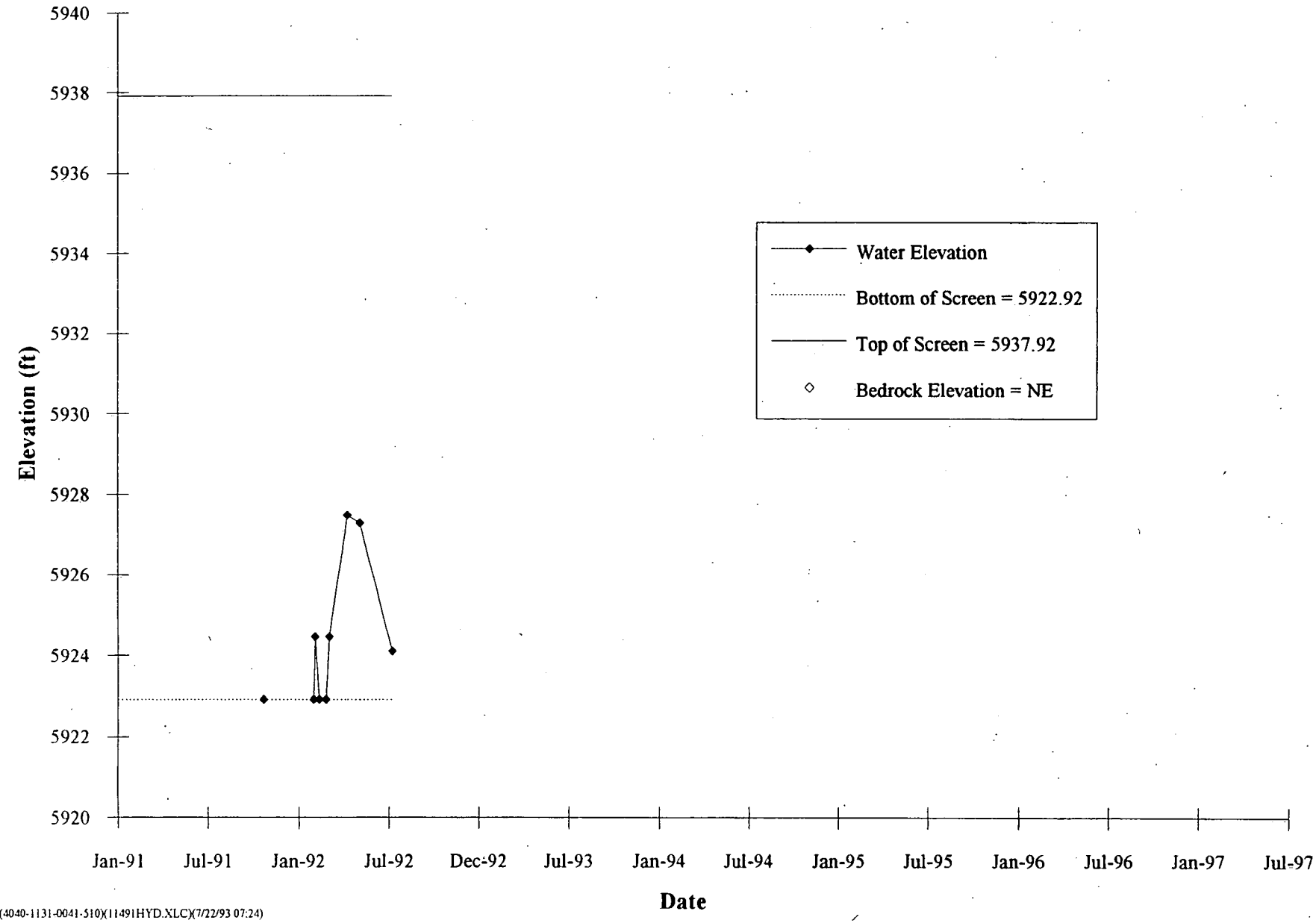
(4040-1131-0041-510)(9091HYD.XLC)(7/13/93 9:40 AM)

Well 11291 Hydrograph
Rocky Flats Alluvium



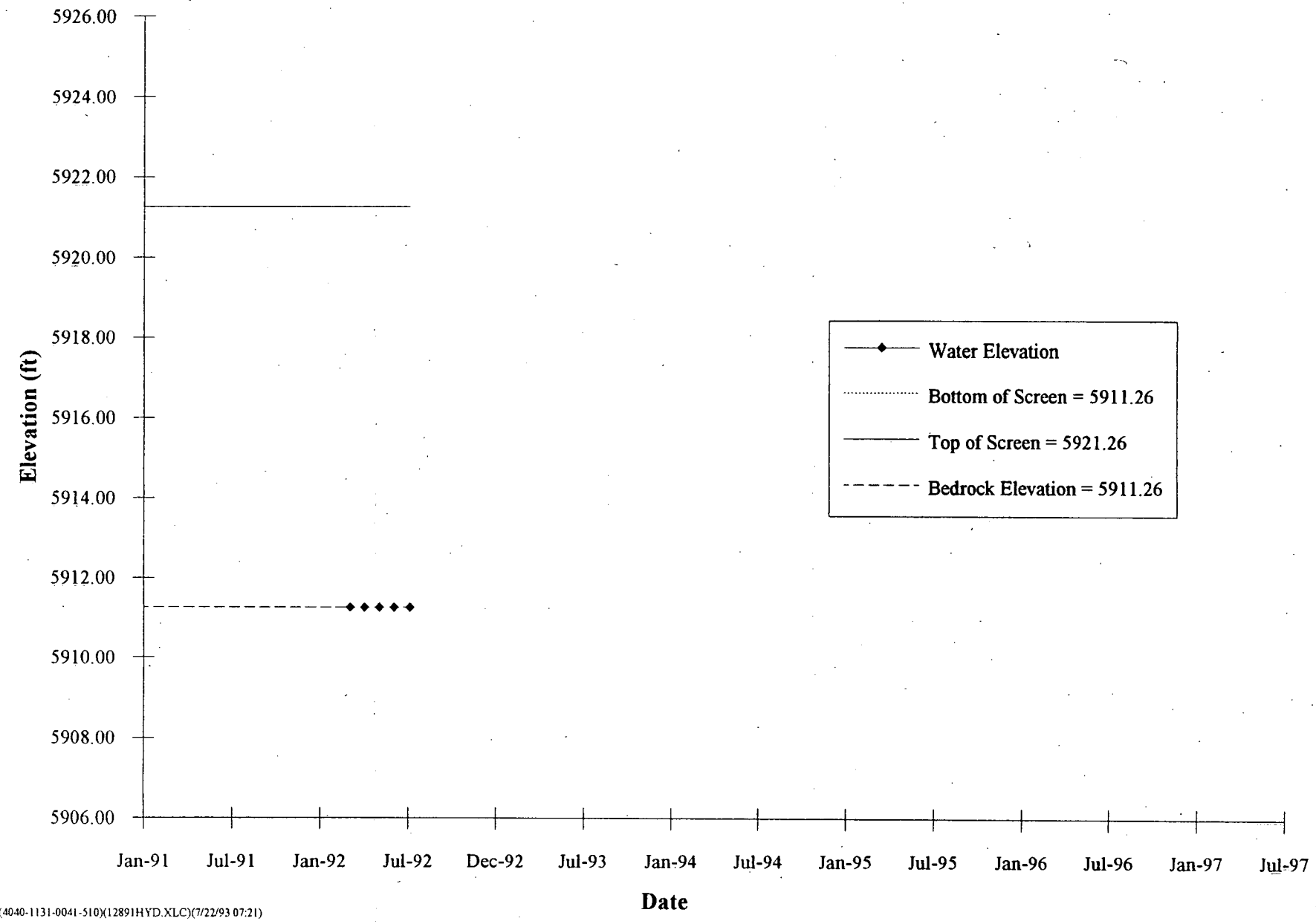
(4040-1131-0041-510)(11291HYD.XLC)(7/22/93 07:25)

Well 11491 Hydrograph
Rocky Flats Alluvium



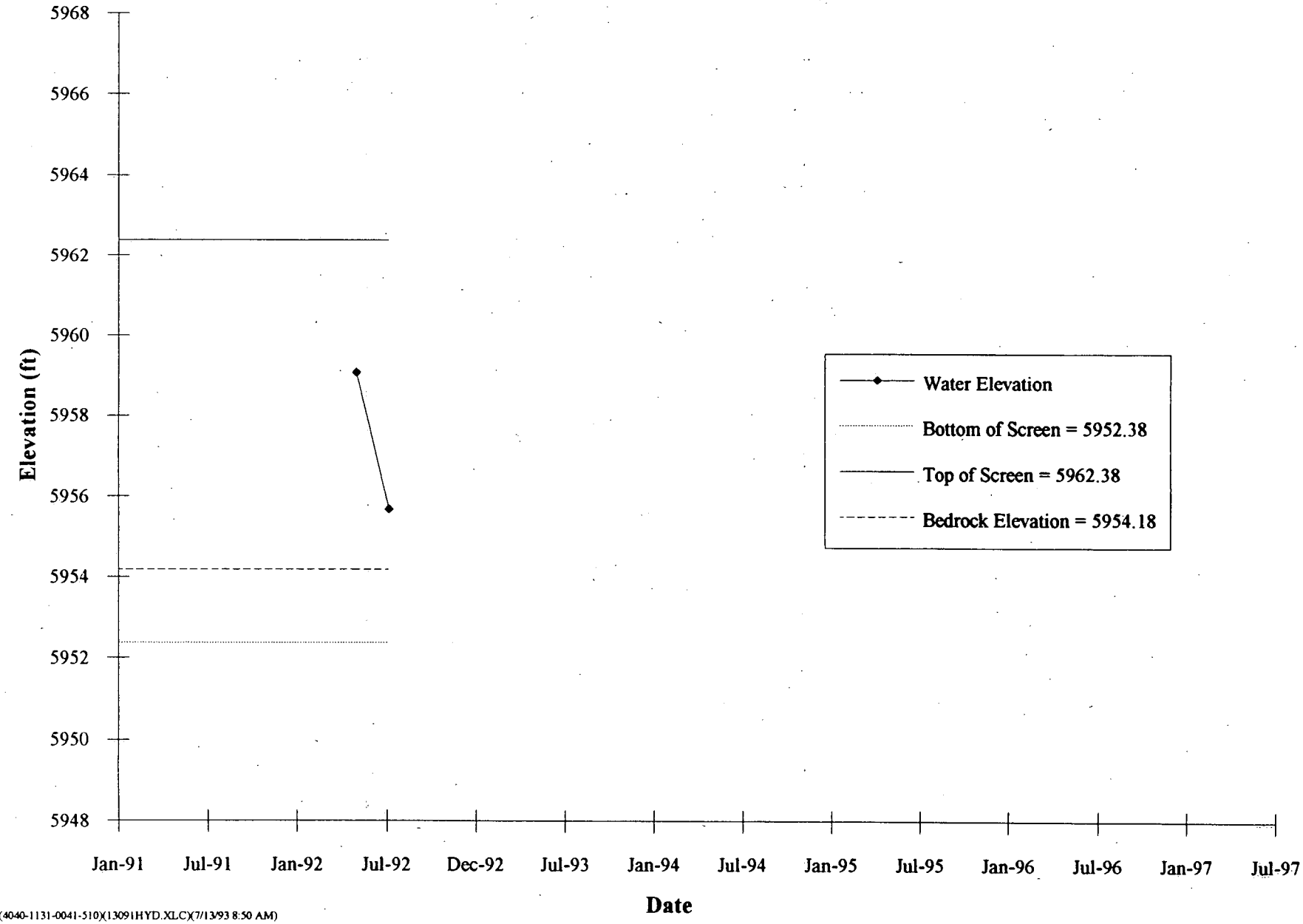
(4040-1131-0041-510)(11491HYD.XLC)(7/22/93 07:24)

Well 12891 Hydrograph
Rocky Flats Alluvium



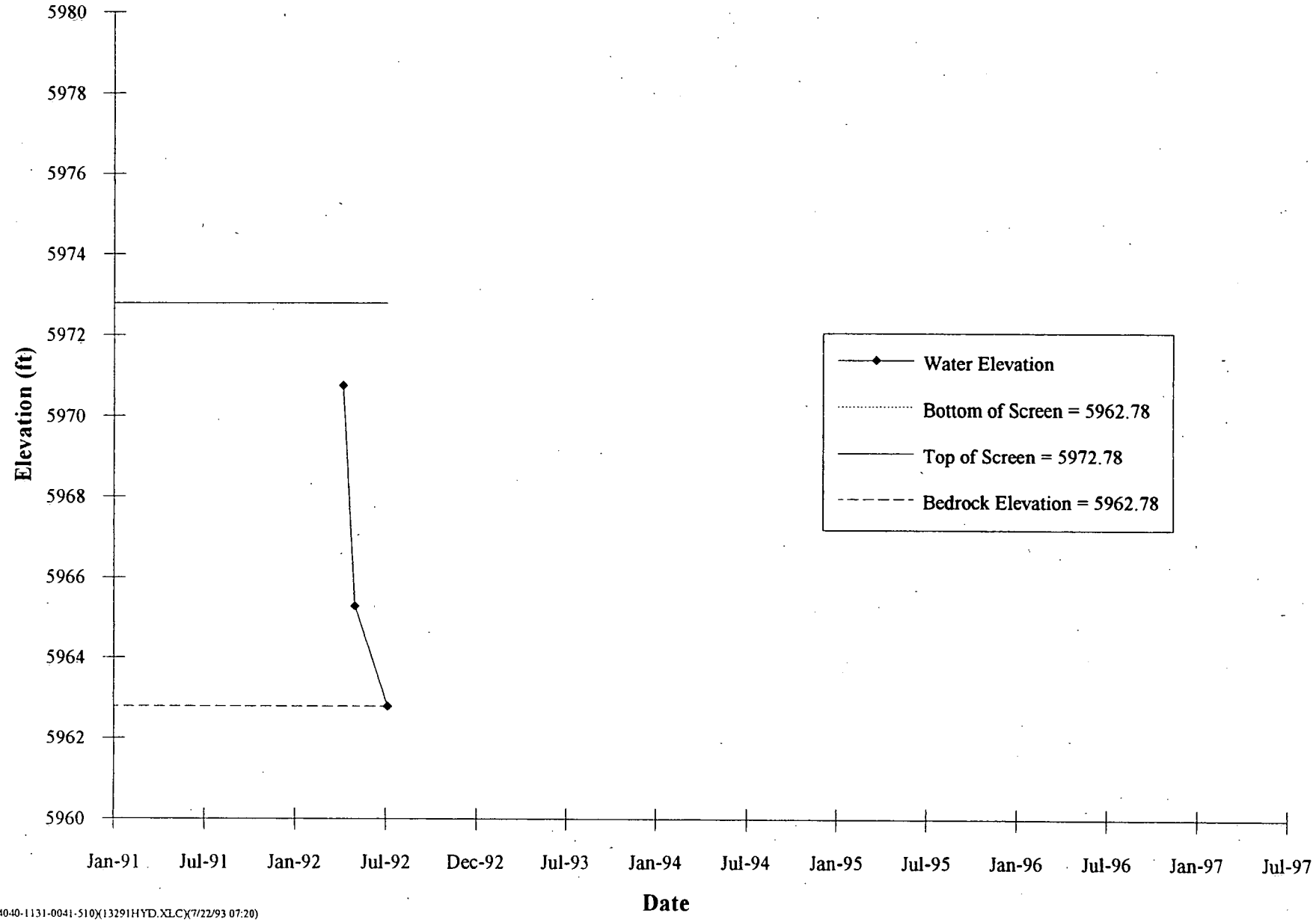
(4040-1131-0041-510)(12891HYD.XLC)(7/22/93 07:21)

Well 13091 Hydrograph
Rocky Flats Alluvium



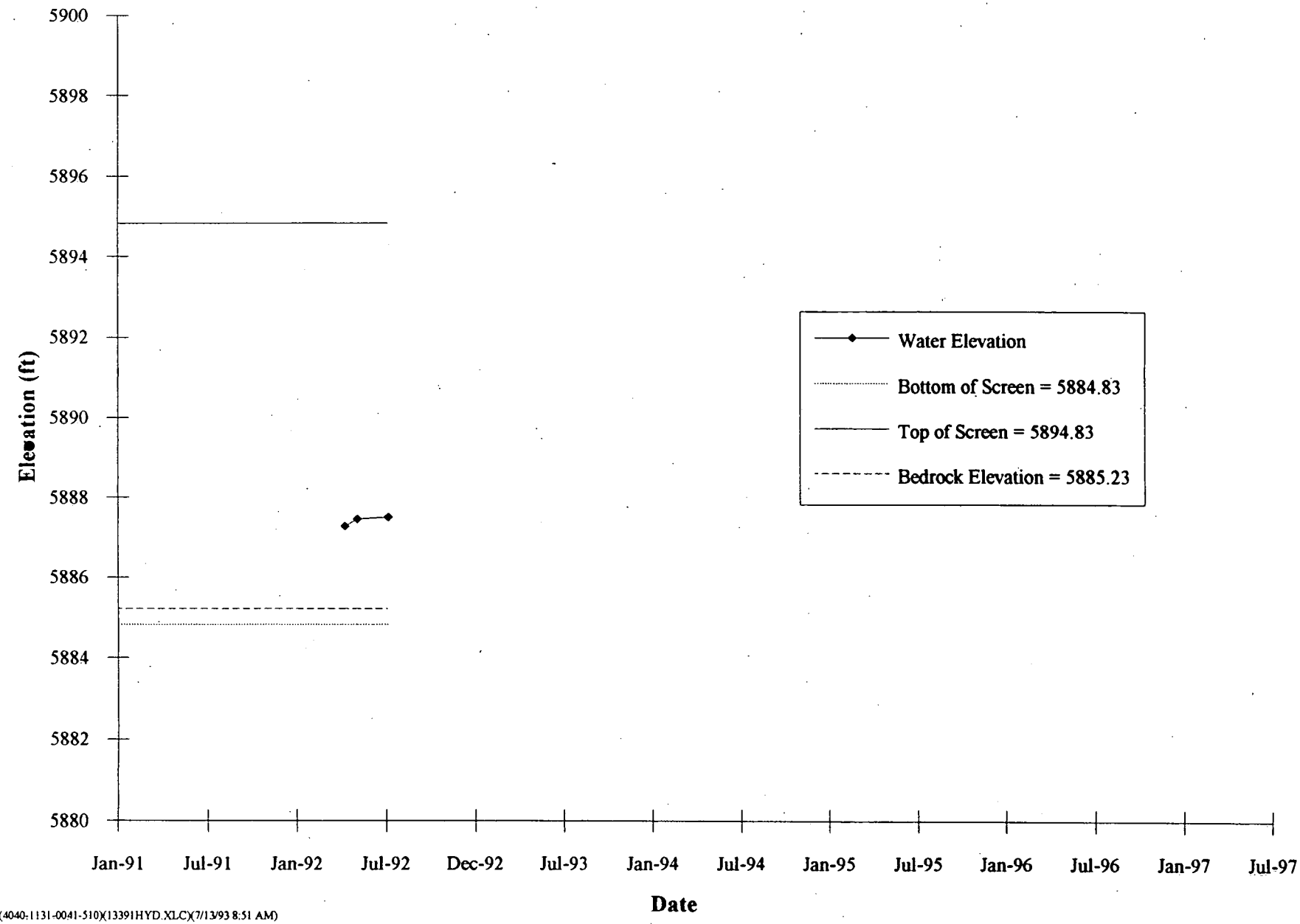
(4040-1131-0041-510)(13091HYD.XLC)(7/13/93 8:50 AM)

Well 13291 Hydrograph
Rocky Flats Alluvium



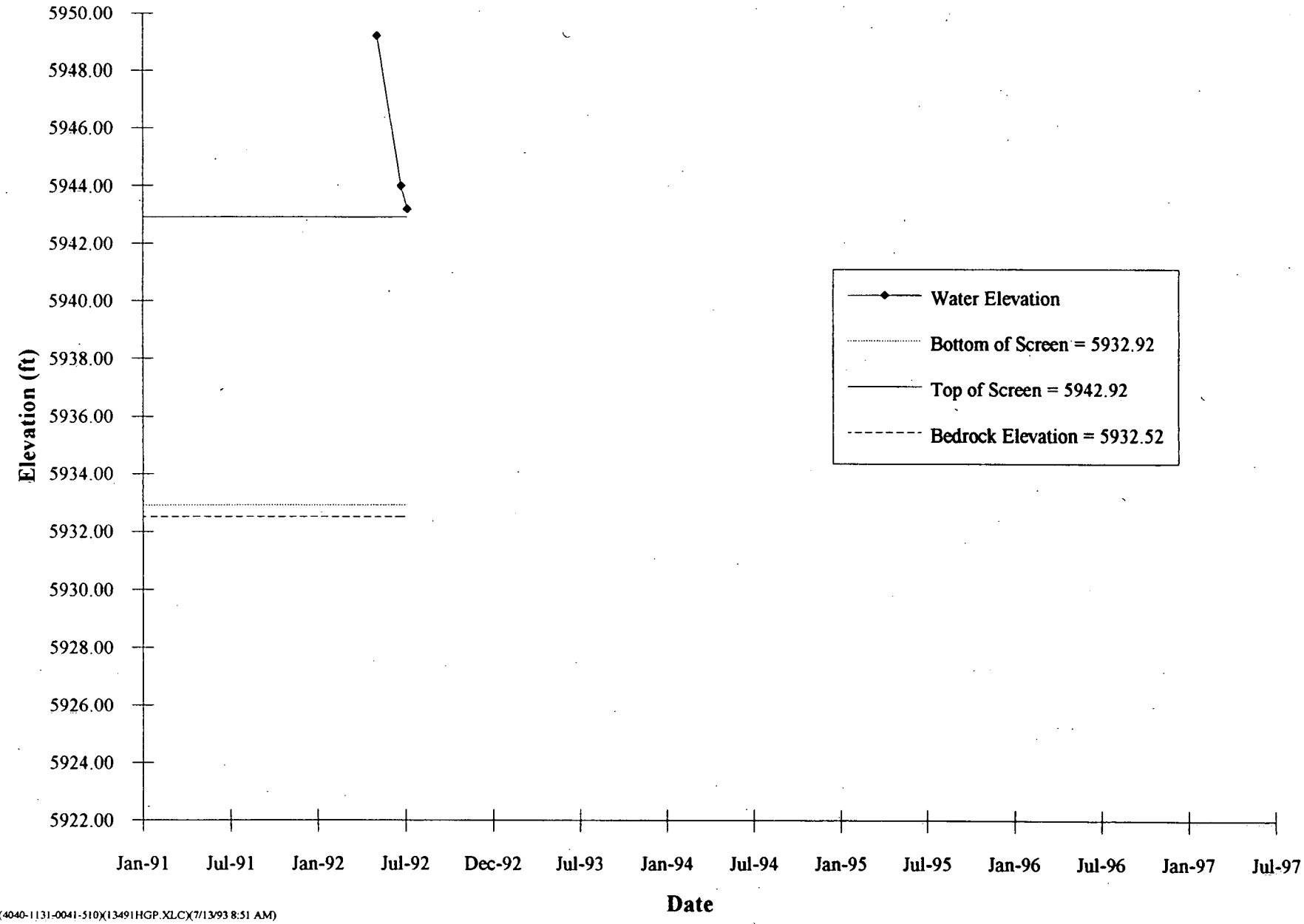
(4040-1131-0041-510)(13291HYD.XLC)(7/22/93 07:20)

Well 13391 Hydrograph
Rocky Flats Alluvium



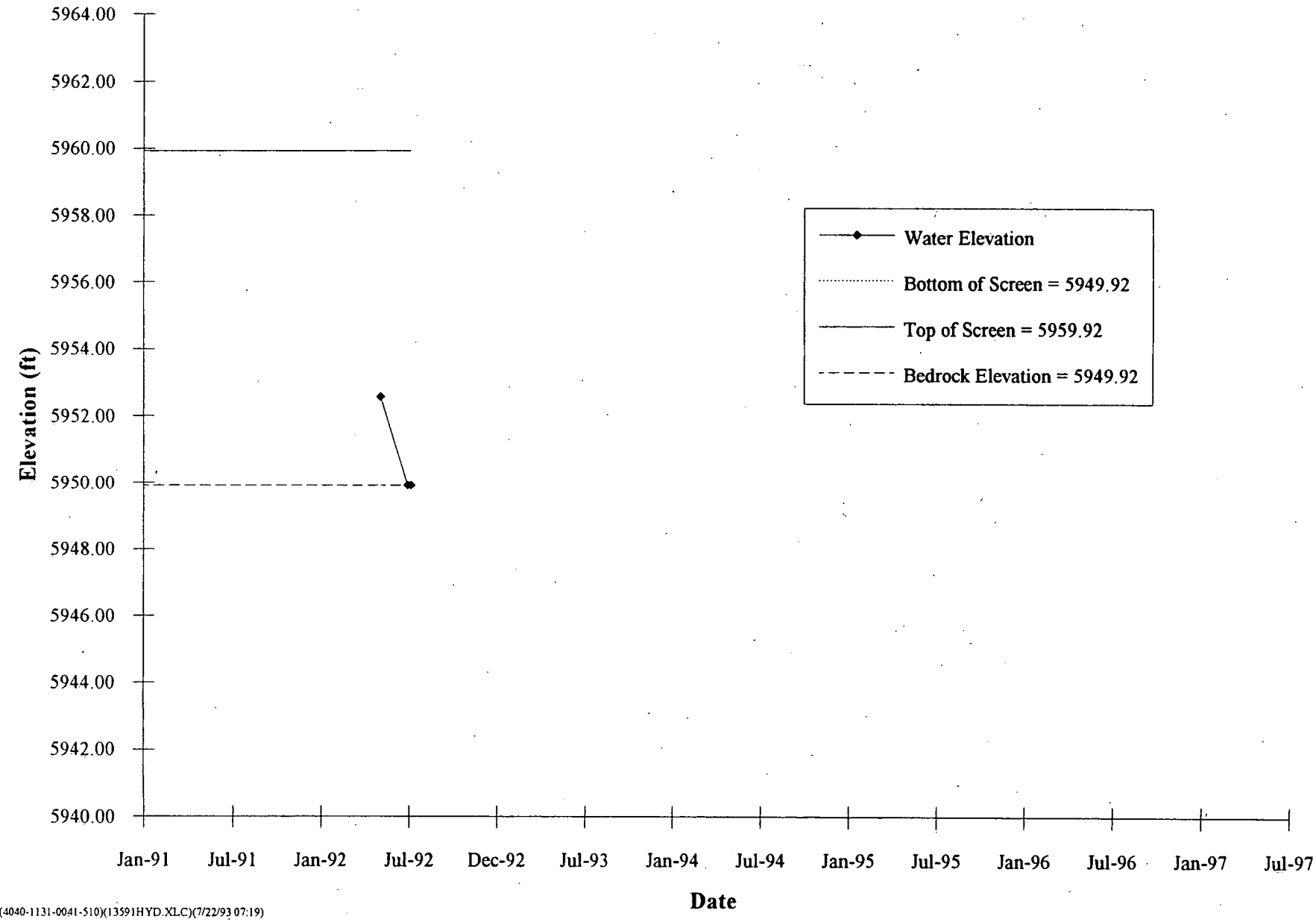
(4040-1131-0041-510)(13391HYD.XLC)(7/13/93 8:51 AM)

Well 13491 Hydrograph
Rocky Flats Alluvium



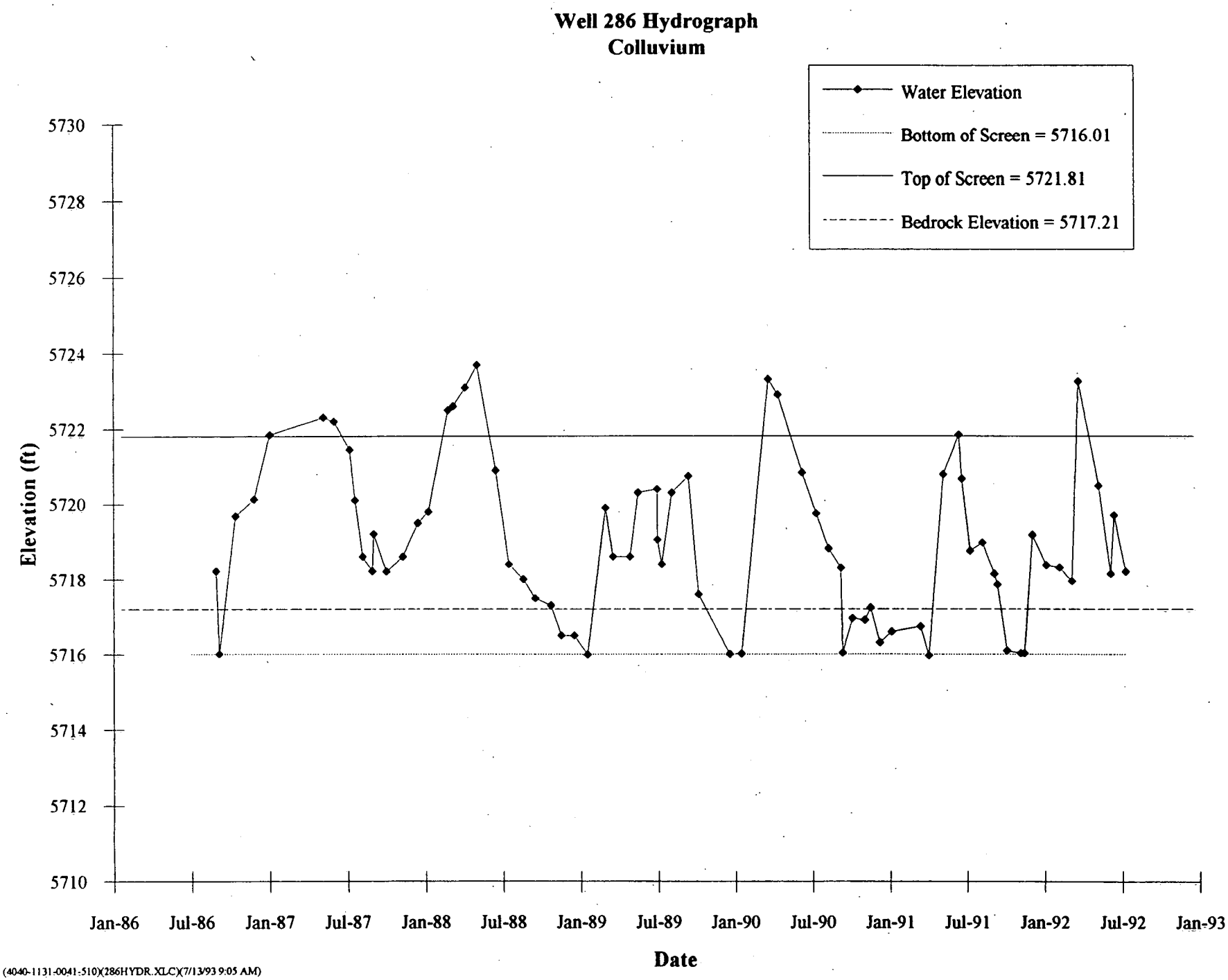
(4040-1131-0041-510)(13491HGP.XLC)(7/13/93 8:51 AM)

Well 13591 Hydrograph
Rocky Flats Alluvium



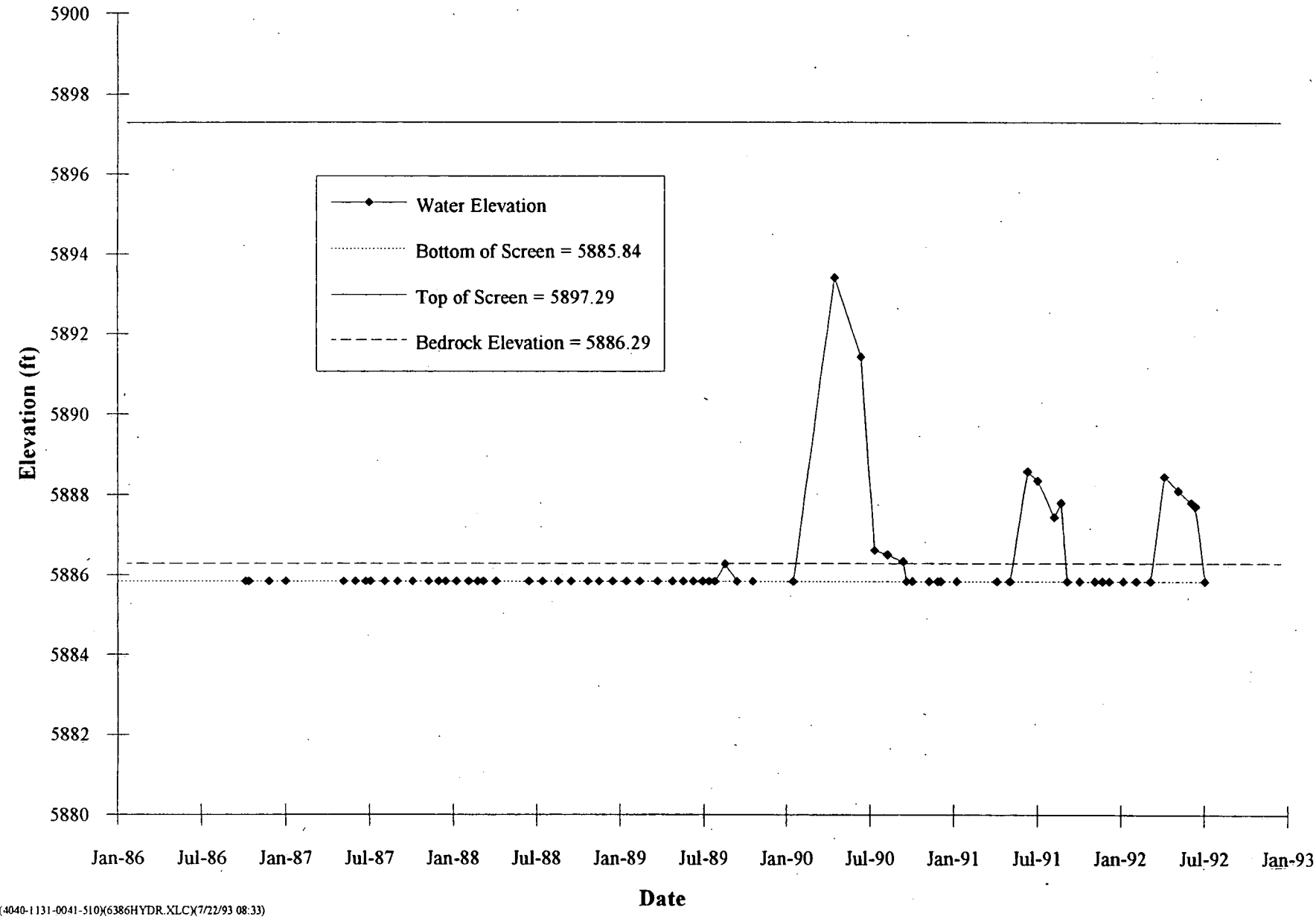
(4040-1131-0041-510)(13591HYD.XLC)(7/22/93 07:19)

COLLUVIUM

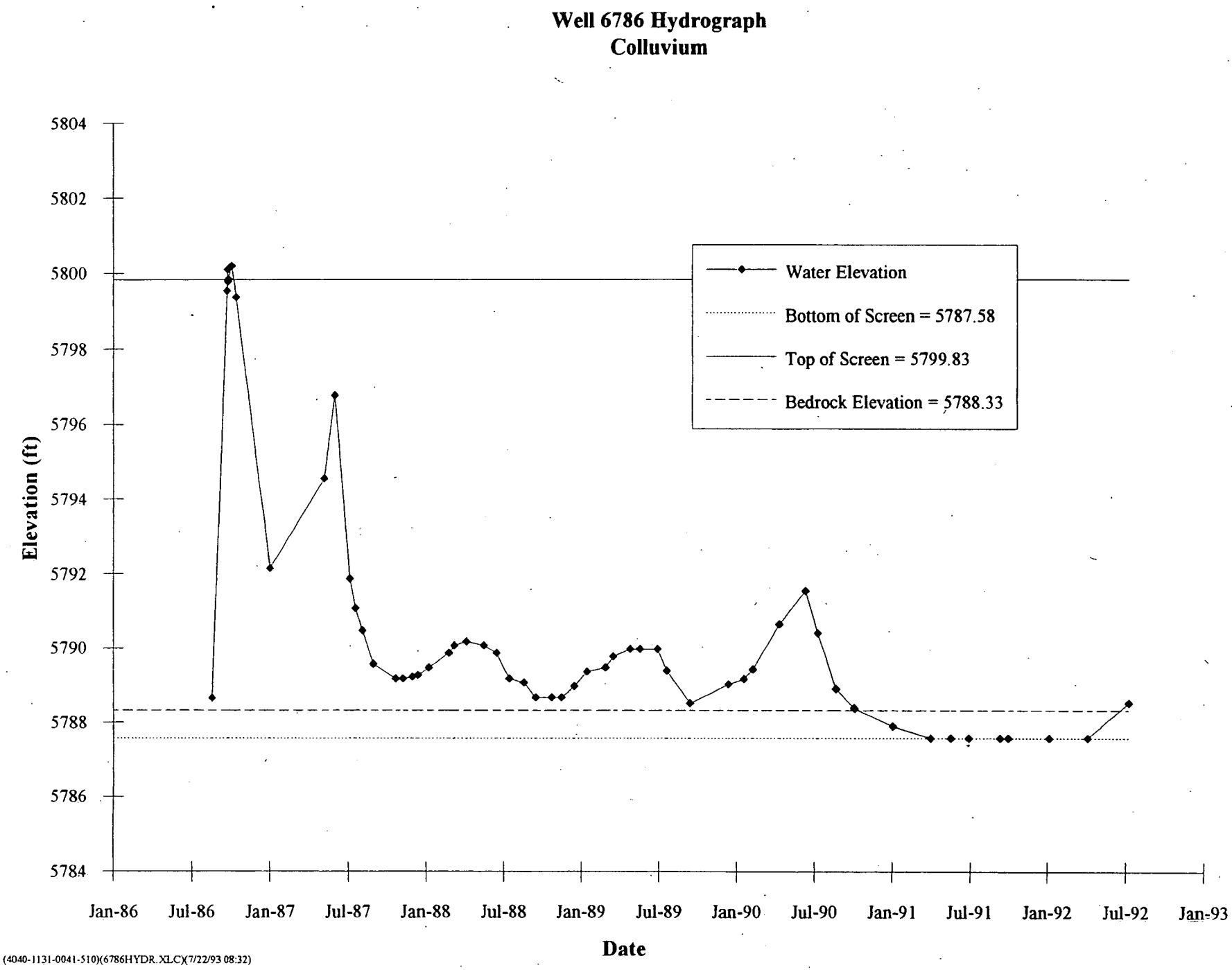


(4040-1131-0041-510)(286HYDR.XLC)(7/13/93 9:05 AM)

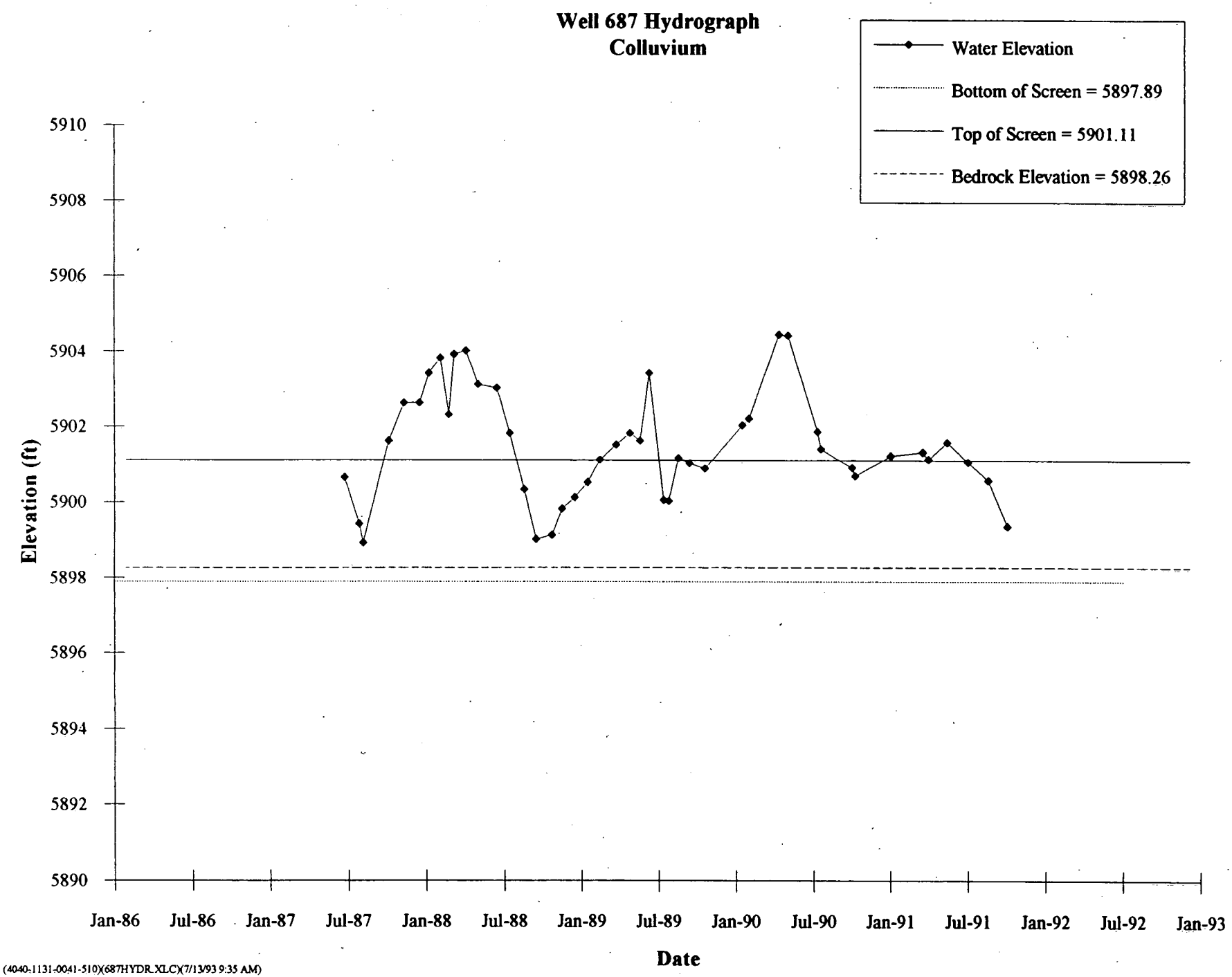
Well 6386 Hydrograph
Colluvium



(4040-1131-0041-510)(6386HYDR.XLC)(7/22/93 08:33)

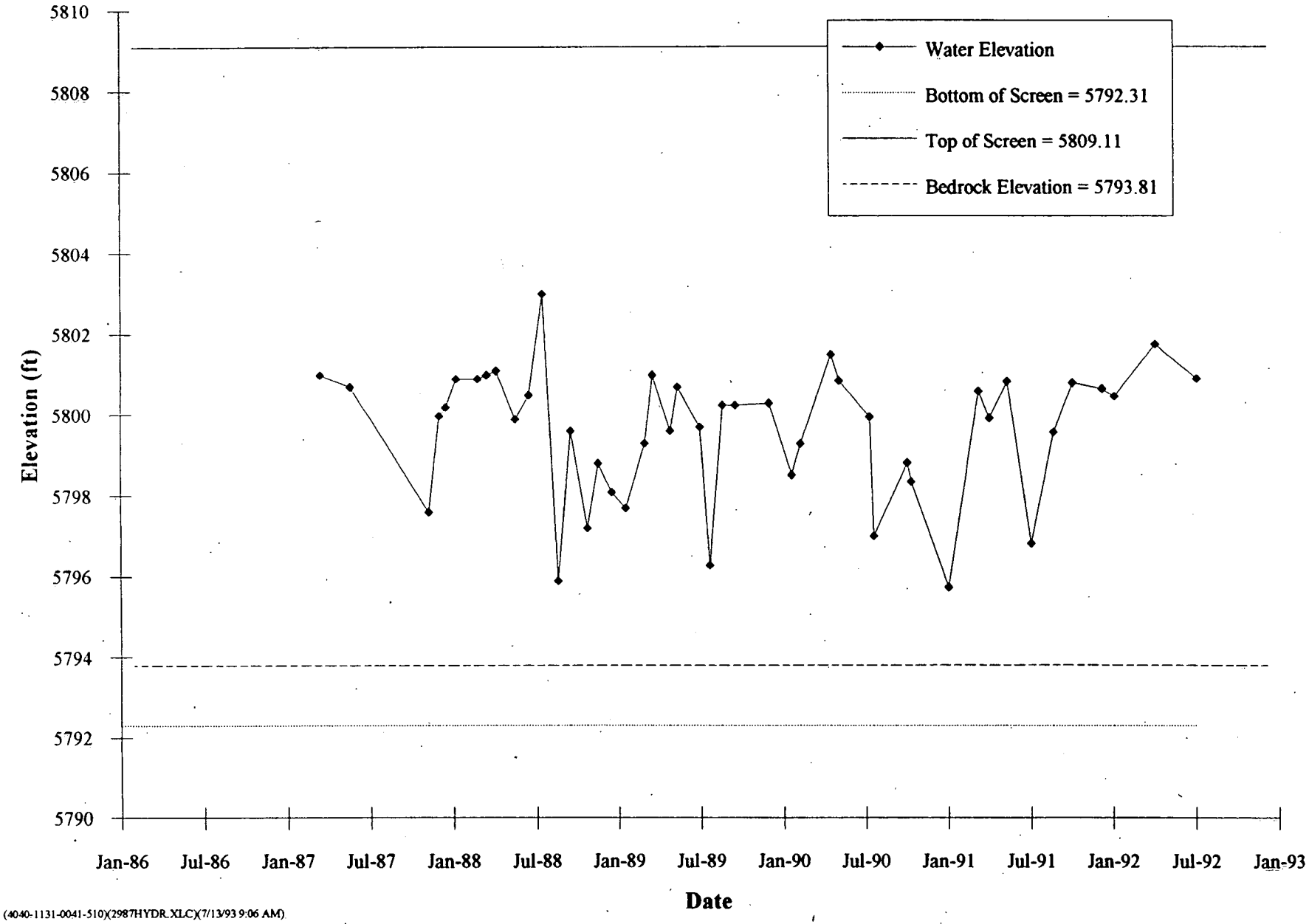


(4040-1131-0041-510)(6786HYDR.XLC)(7/22/93 08:32)



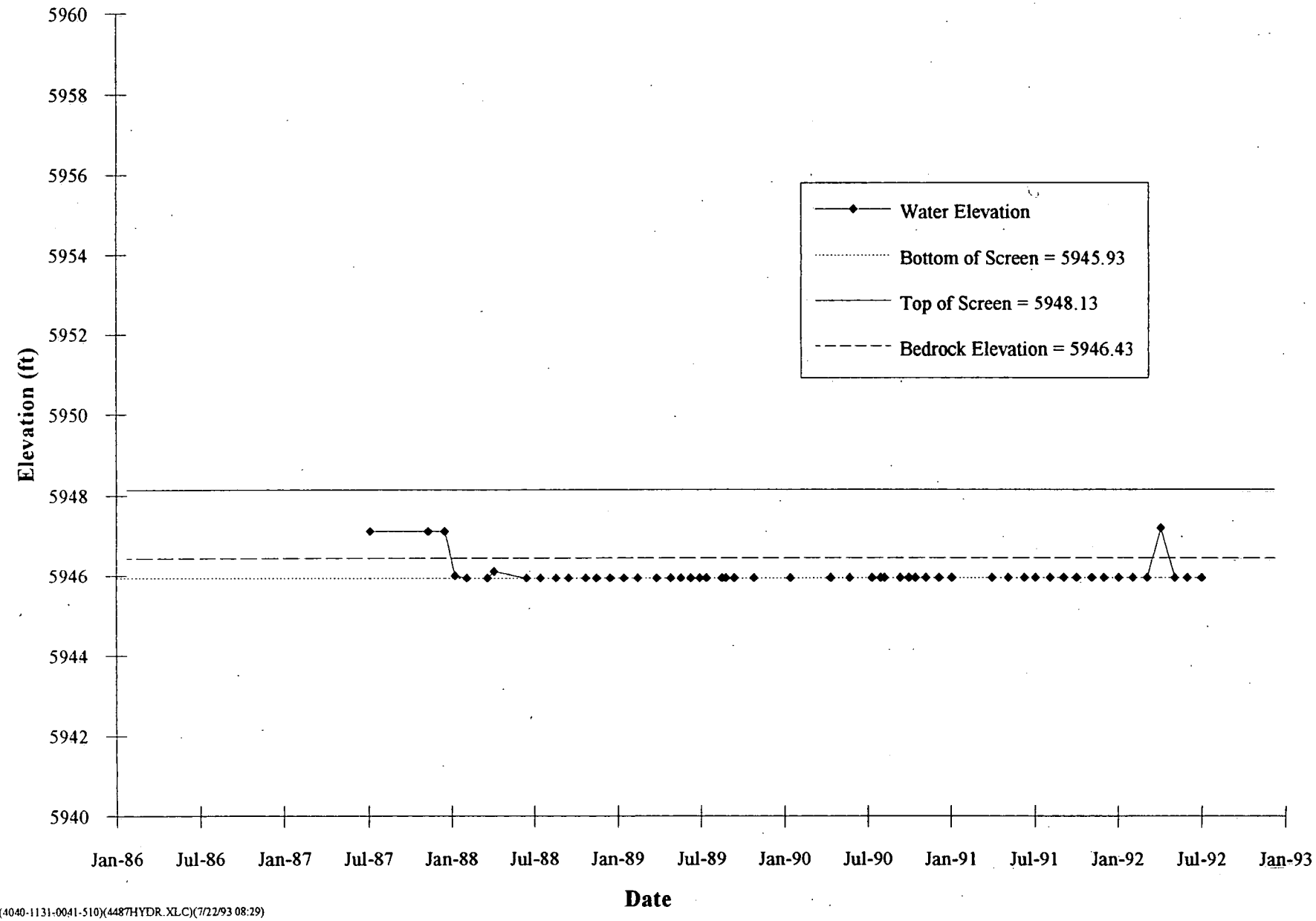
(4040-1131-0041-510)(687HYDR.XLC)(7/13/93 9:35 AM)

Well 2987 Hydrograph
Colluvium



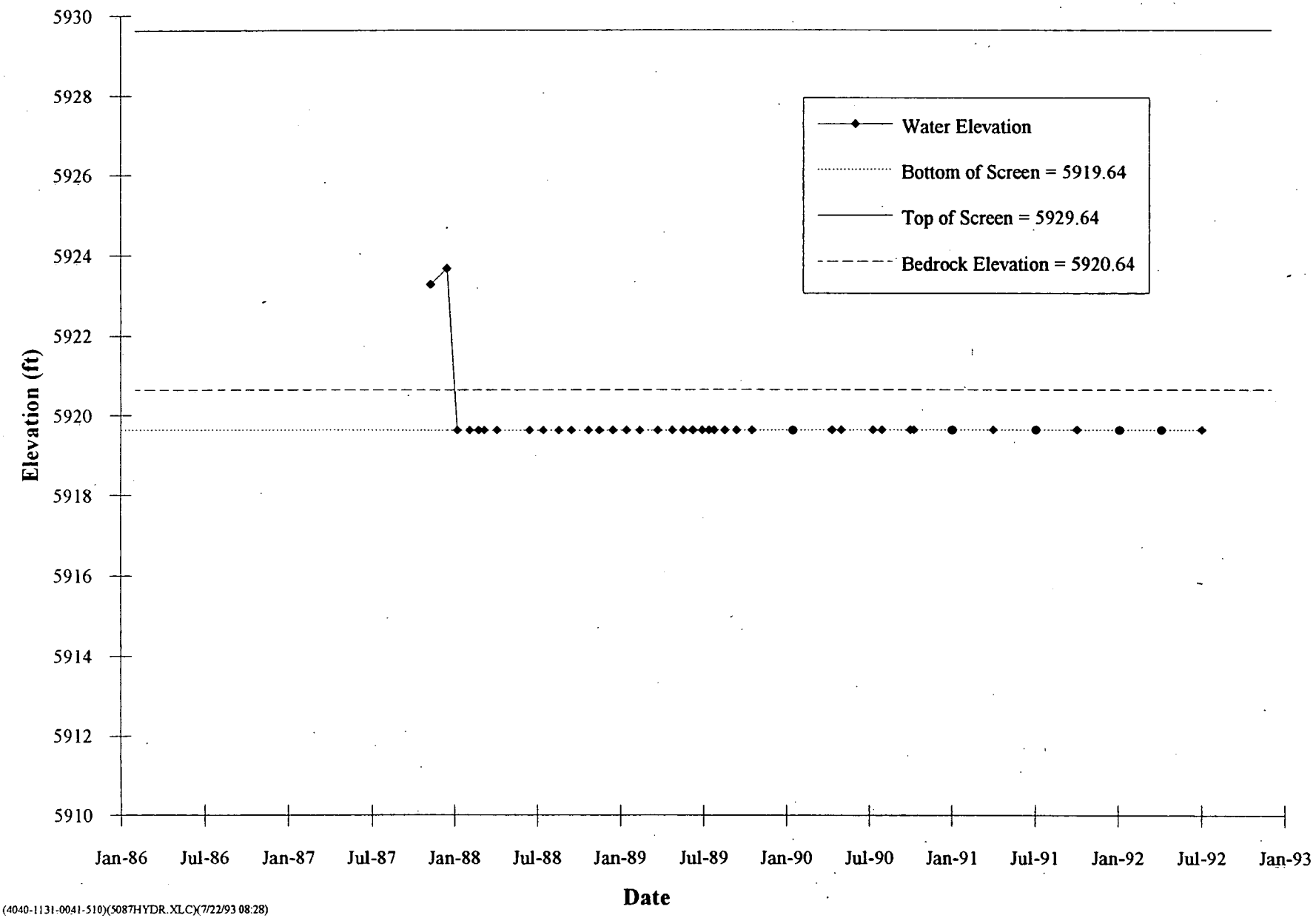
(4040-1131-0041-510)(2987HYDR.XLC)(7/13/93 9:06 AM)

Well 4487 Hydrograph
Colluvium



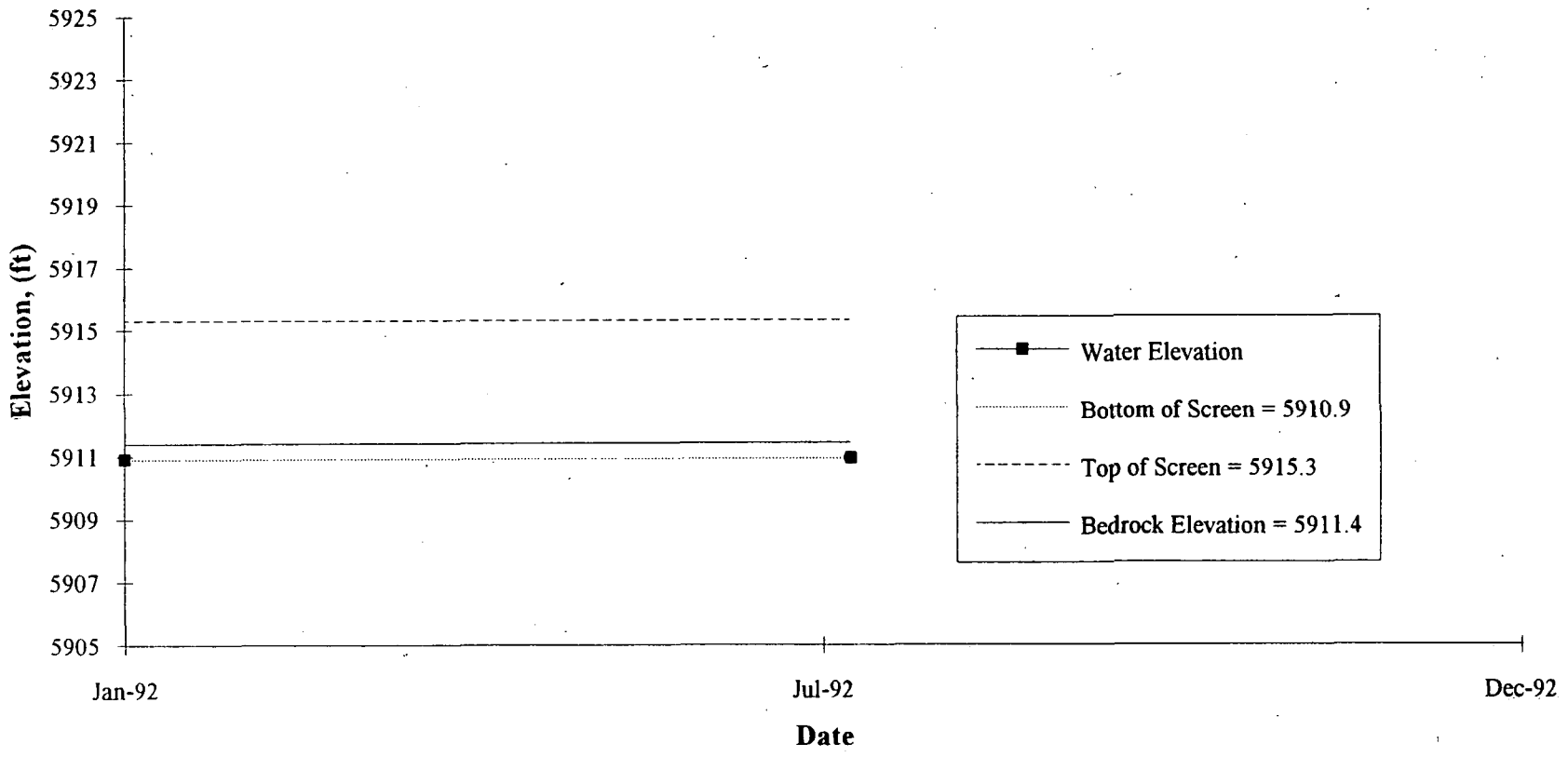
(4040-1131-0041-510)(4487HYDR.XLC)(7/22/93 08:29)

Well 5087 Hydrograph
Colluvium



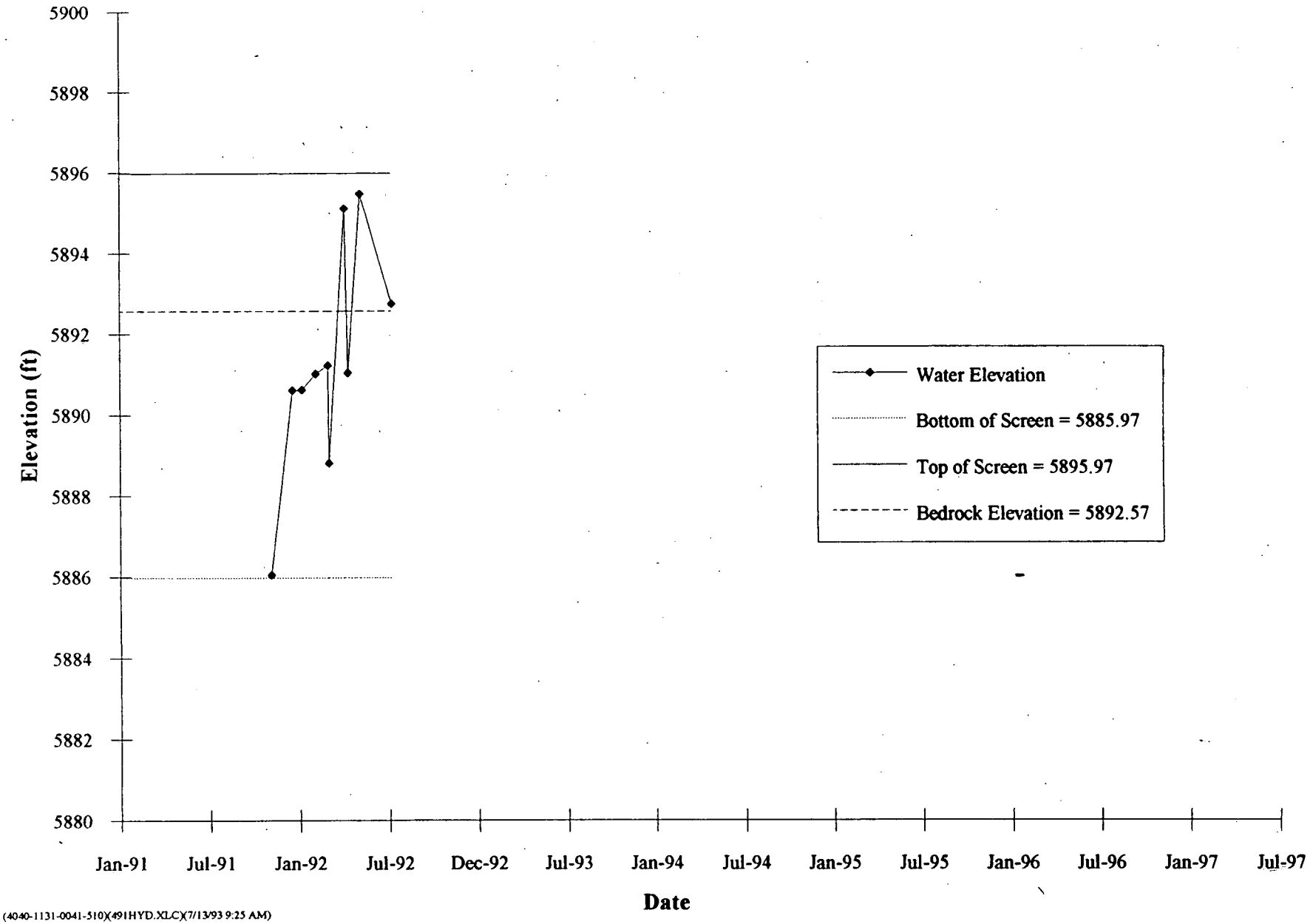
(4040-1131-0041-510)(5087HYDR.XLC)(7/22/93 08:28)

Well B213789 Hydrograph
(Colluvium)



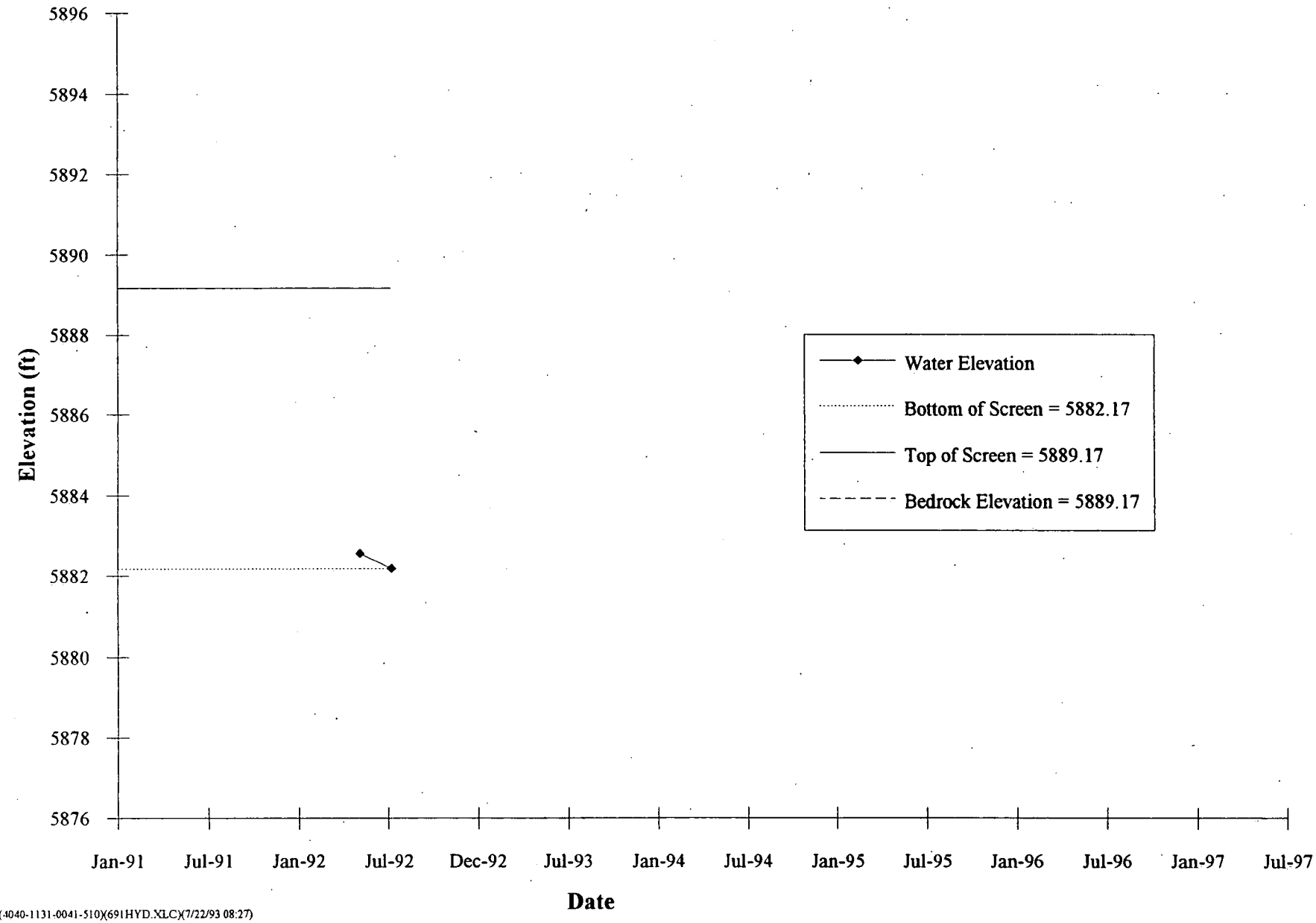
(4040-1131-0041-510)(B213789H.XLC)(9/30/93 11:33)

Well 00491 Hydrograph
Colluvium



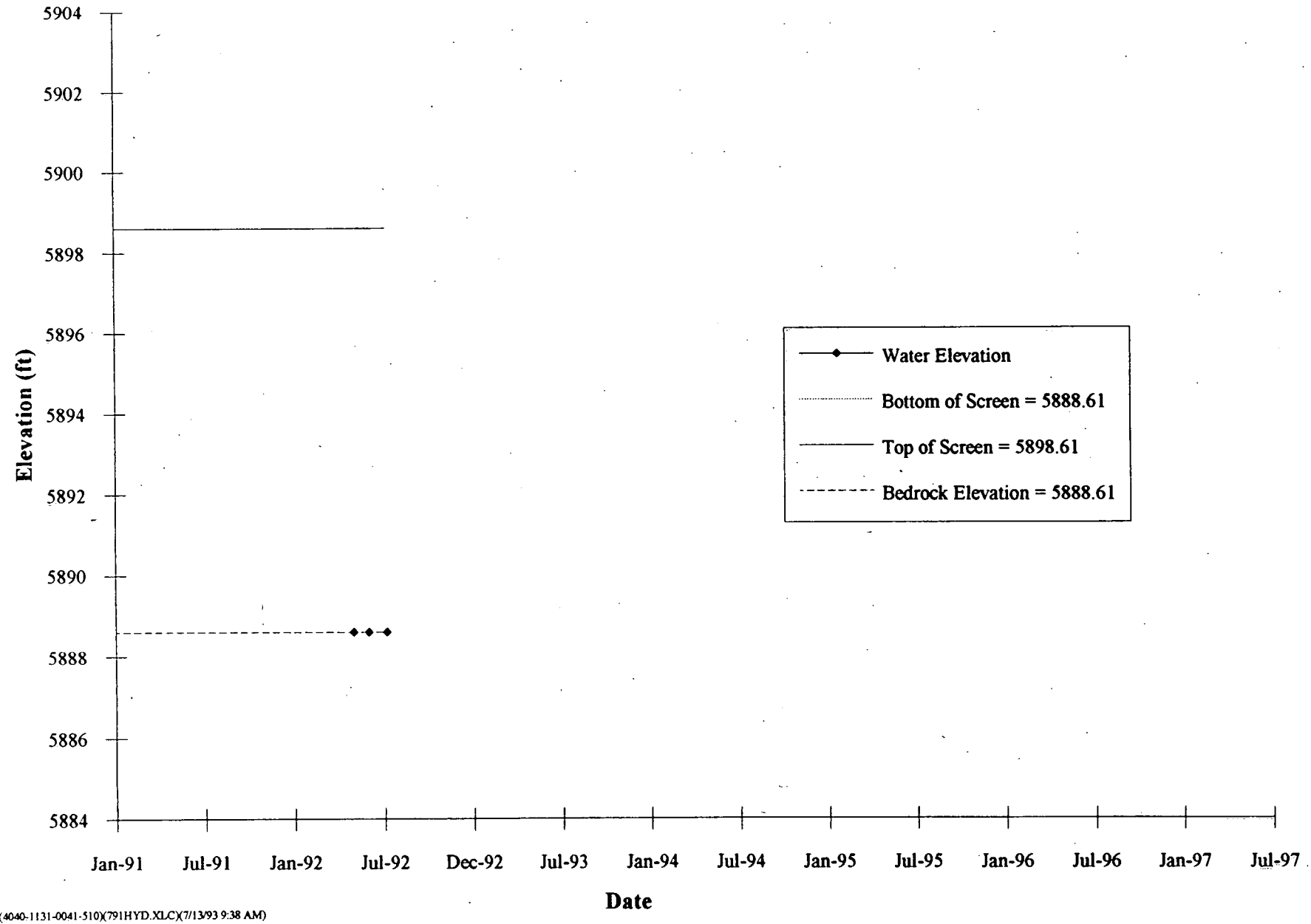
(4040-1131-0041-510)(491HYD.XLC)(7/13/93 9:25 AM)

Well 00691 Hydrograph
Colluvium

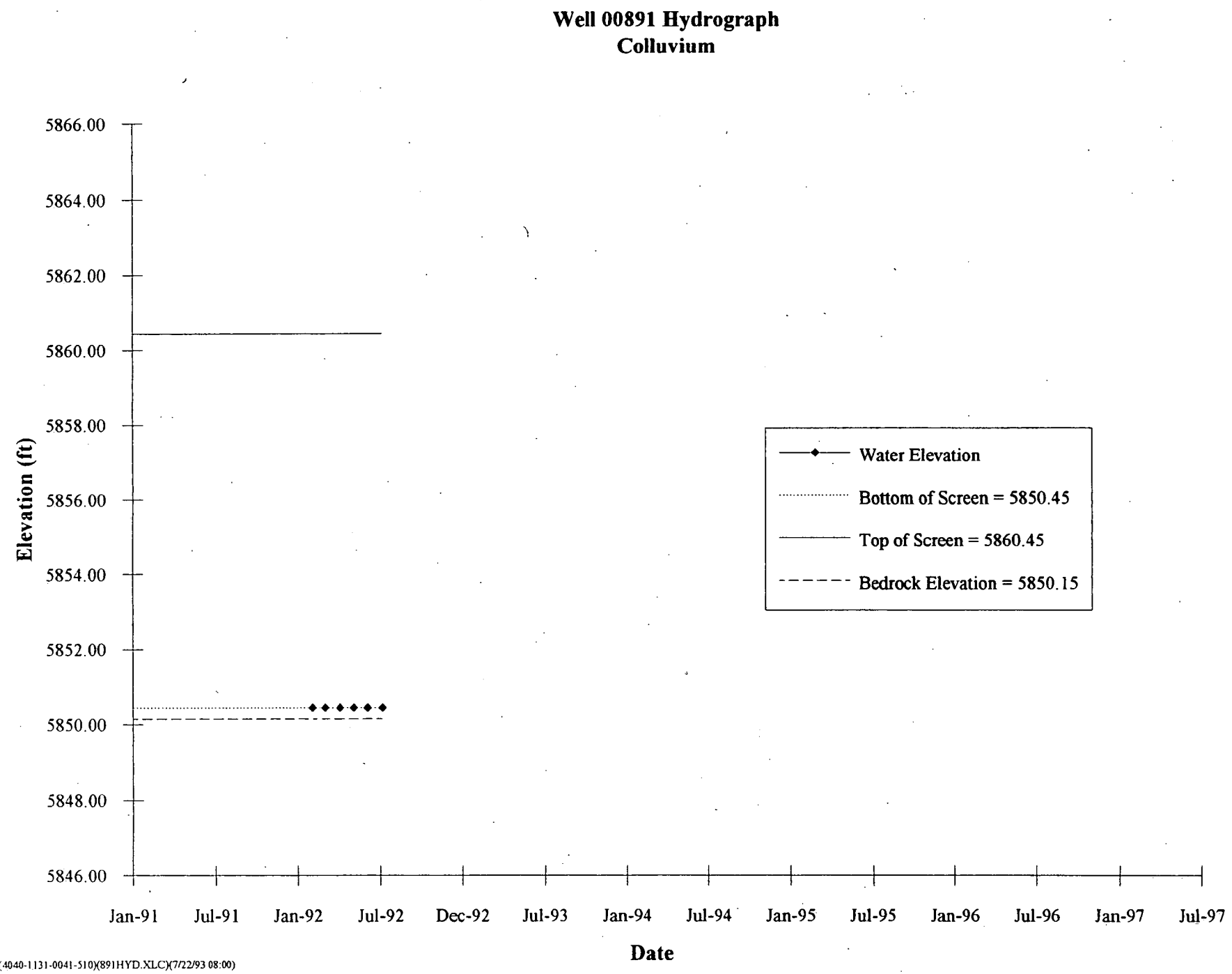


(4040-1131-0041-510)(691HYD.XLC)(7/22/93 08:27)

Well 00791 Hydrograph
Colluvium

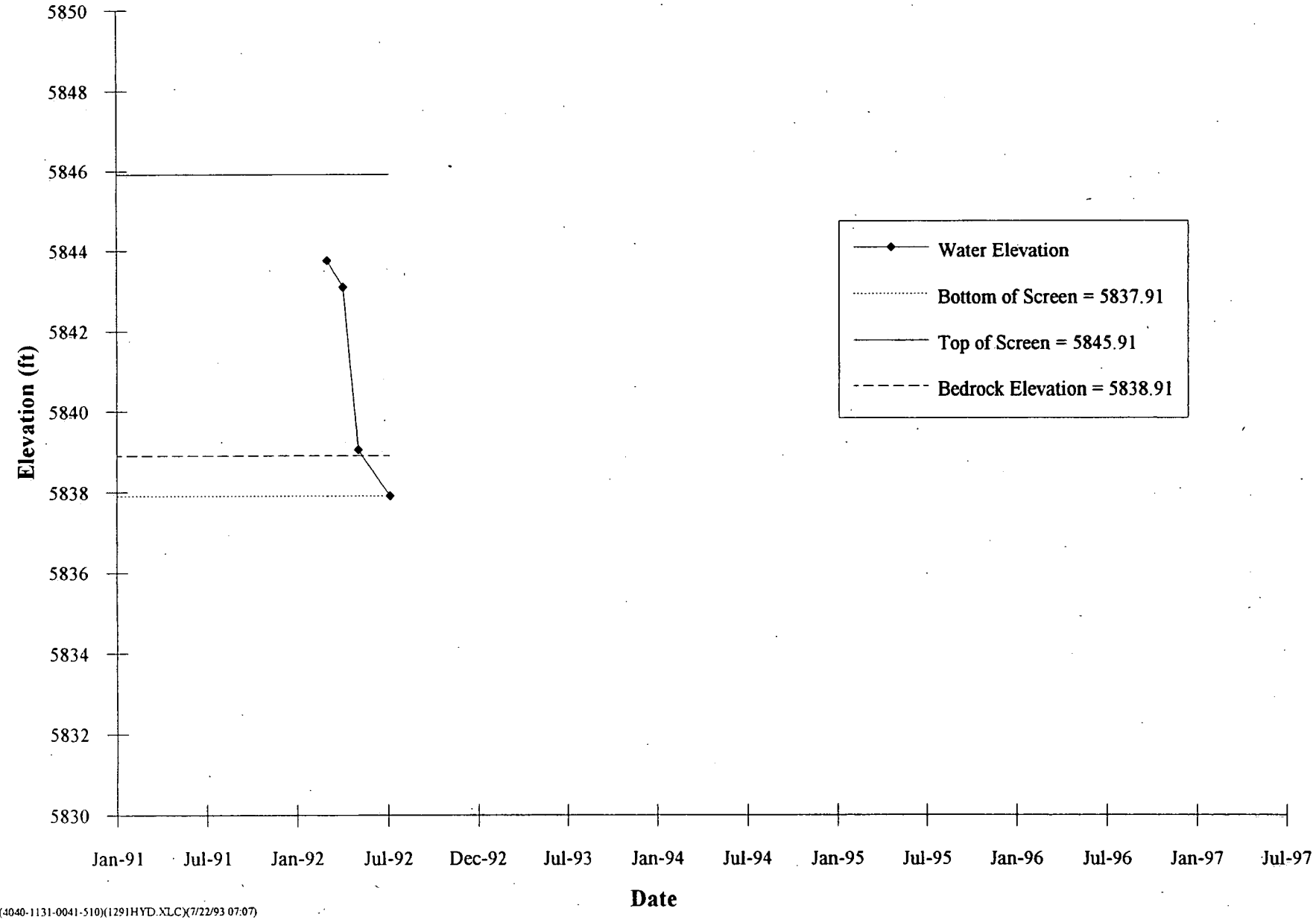


(4040-1131-0041-510)(791HYD.XLC)(7/13/93 9:38 AM)



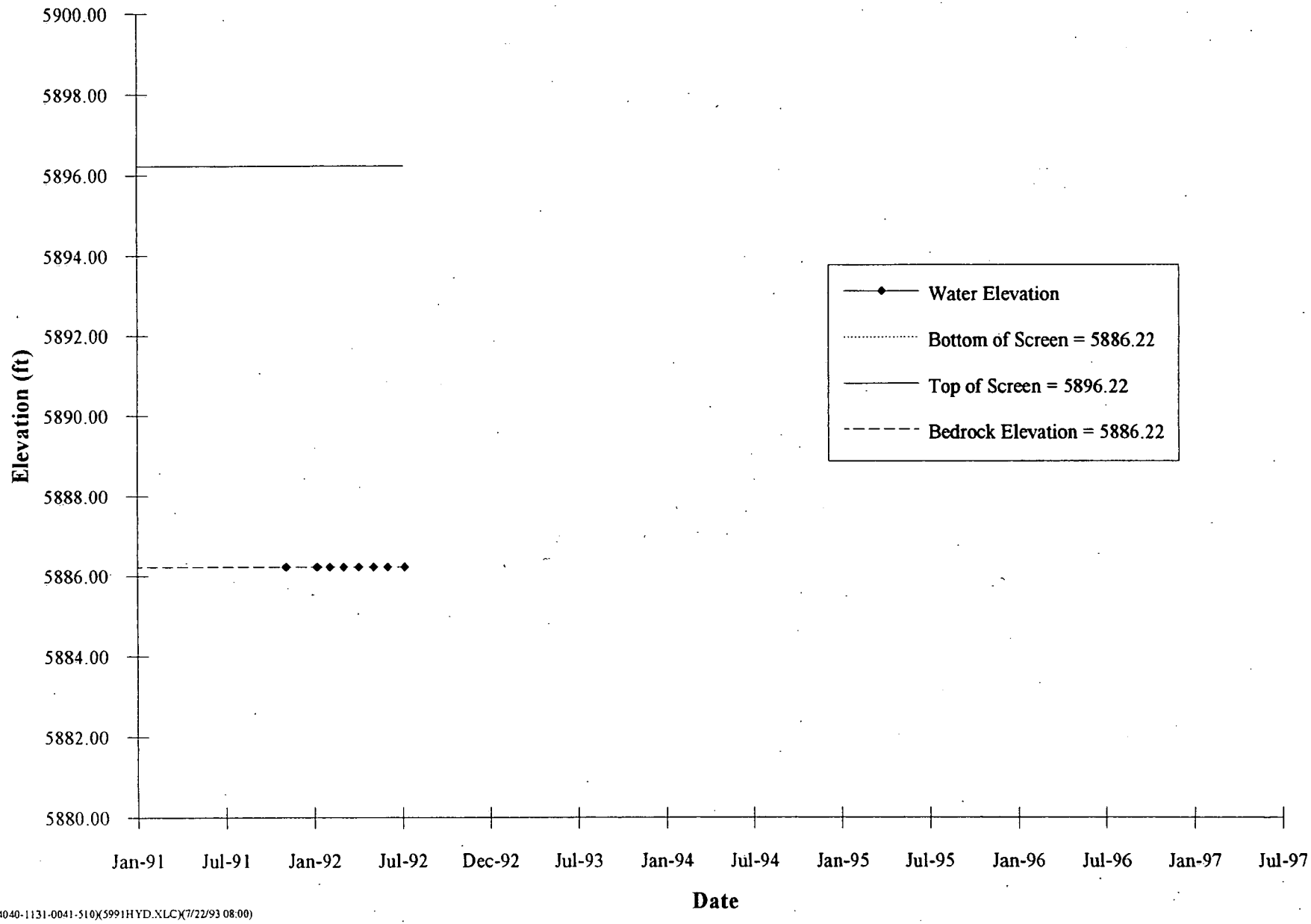
(4040-1131-0041-510)(891HYD.XLC)(7/22/93 08:00)

Well 01291 Hydrograph
Colluvium



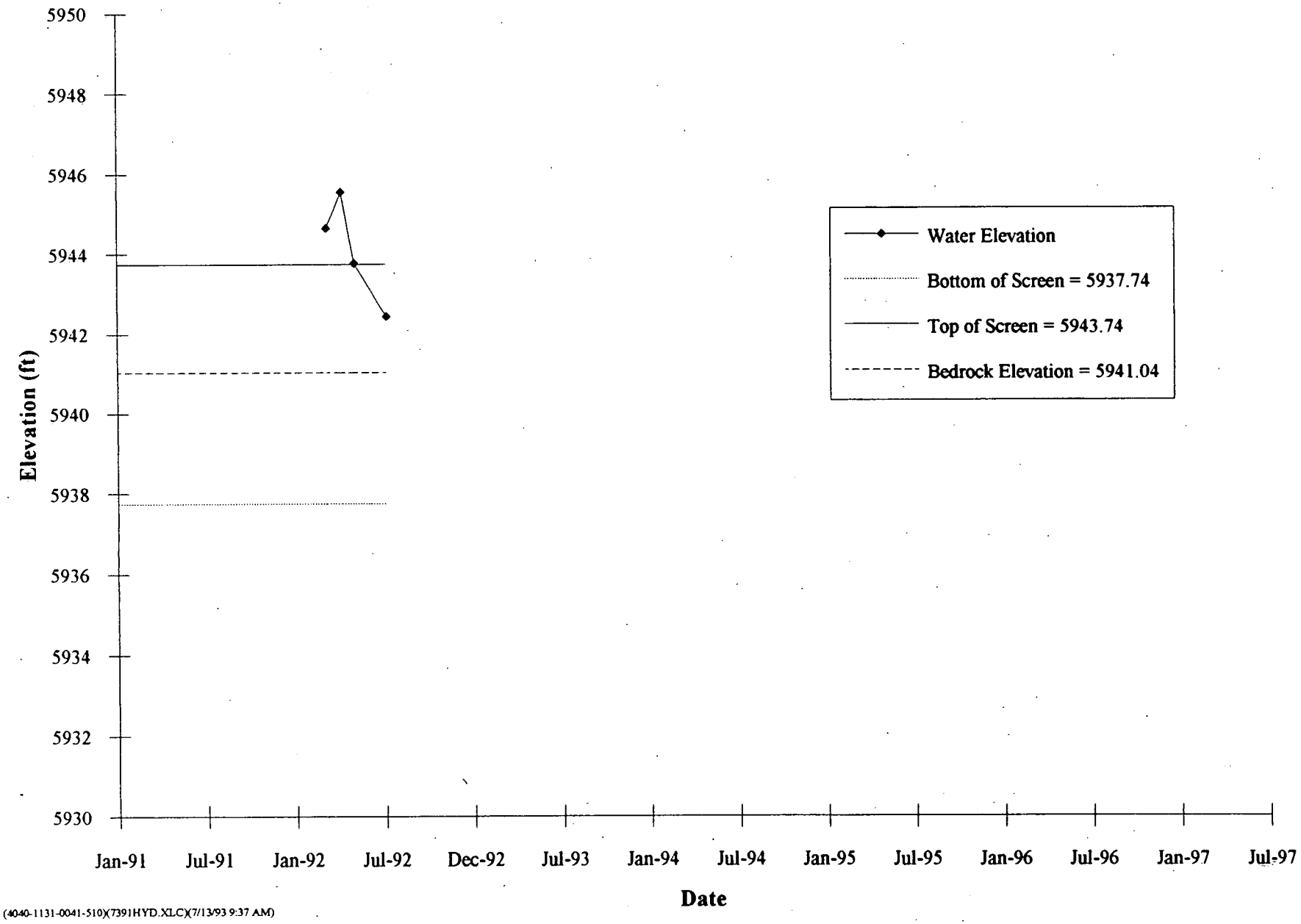
(4040-1131-0041-510)(1291HYD.XLC)(7/22/93 07:07)

Well 05991 Hydrograph
Colluvium



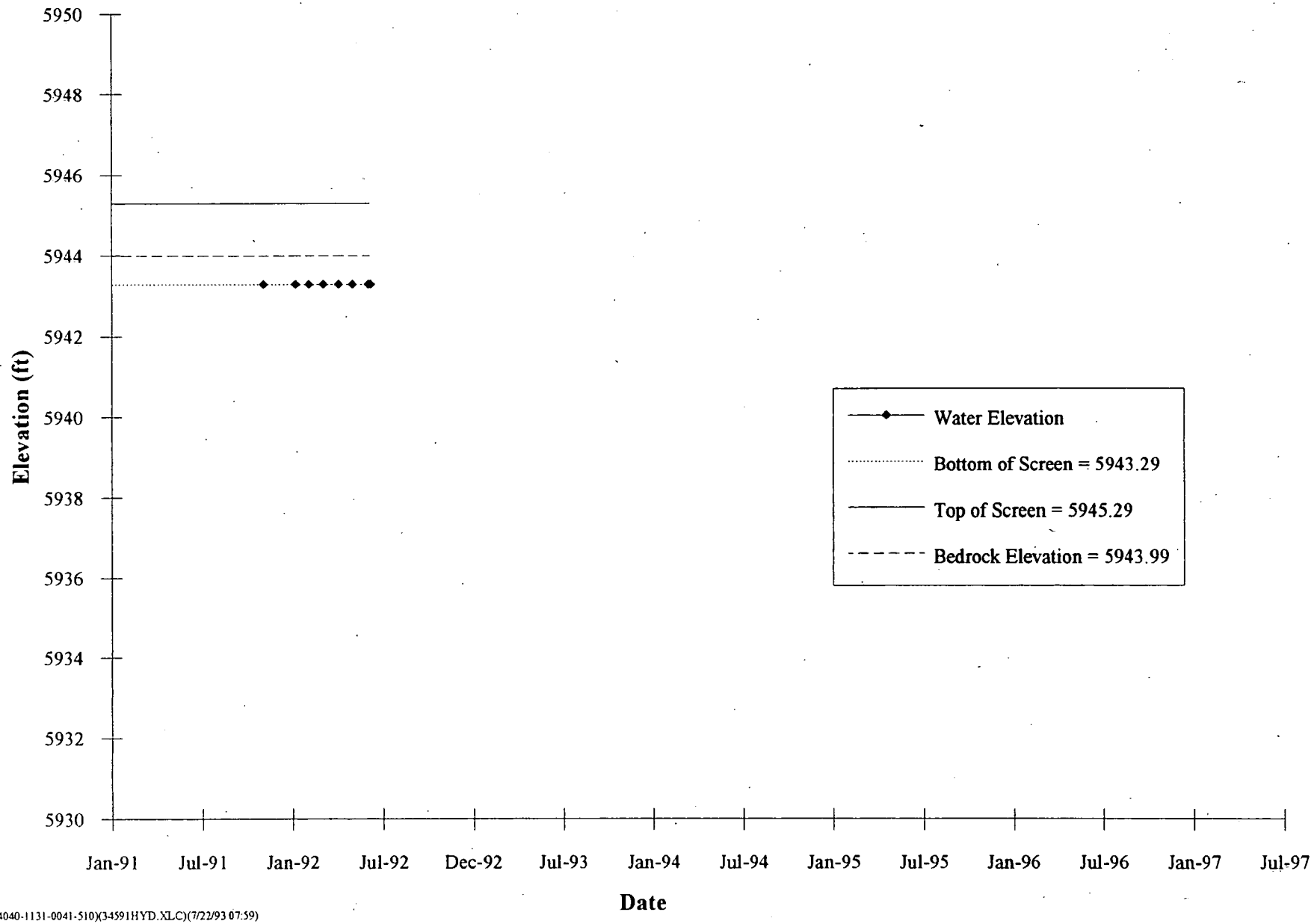
(4040-1131-0041-510)(5991HYD.XLC)(7/22/93 08:00)

Well 07391 Hydrograph
Colluvium



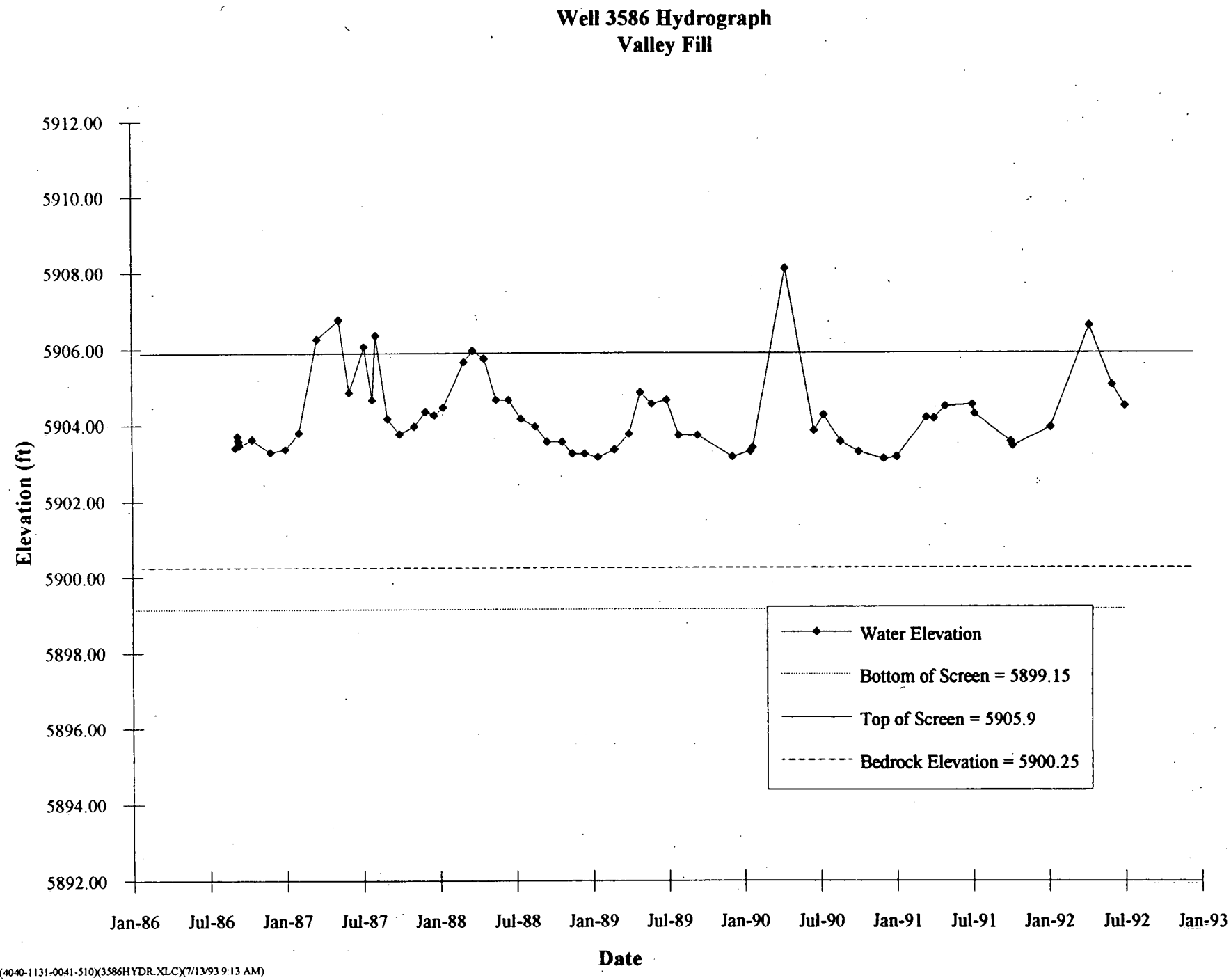
(4040-1131-0041-510)(7391HYD.XLC)(7/13/93 9:37 AM)

Well 34591 Hydrograph
Colluvium

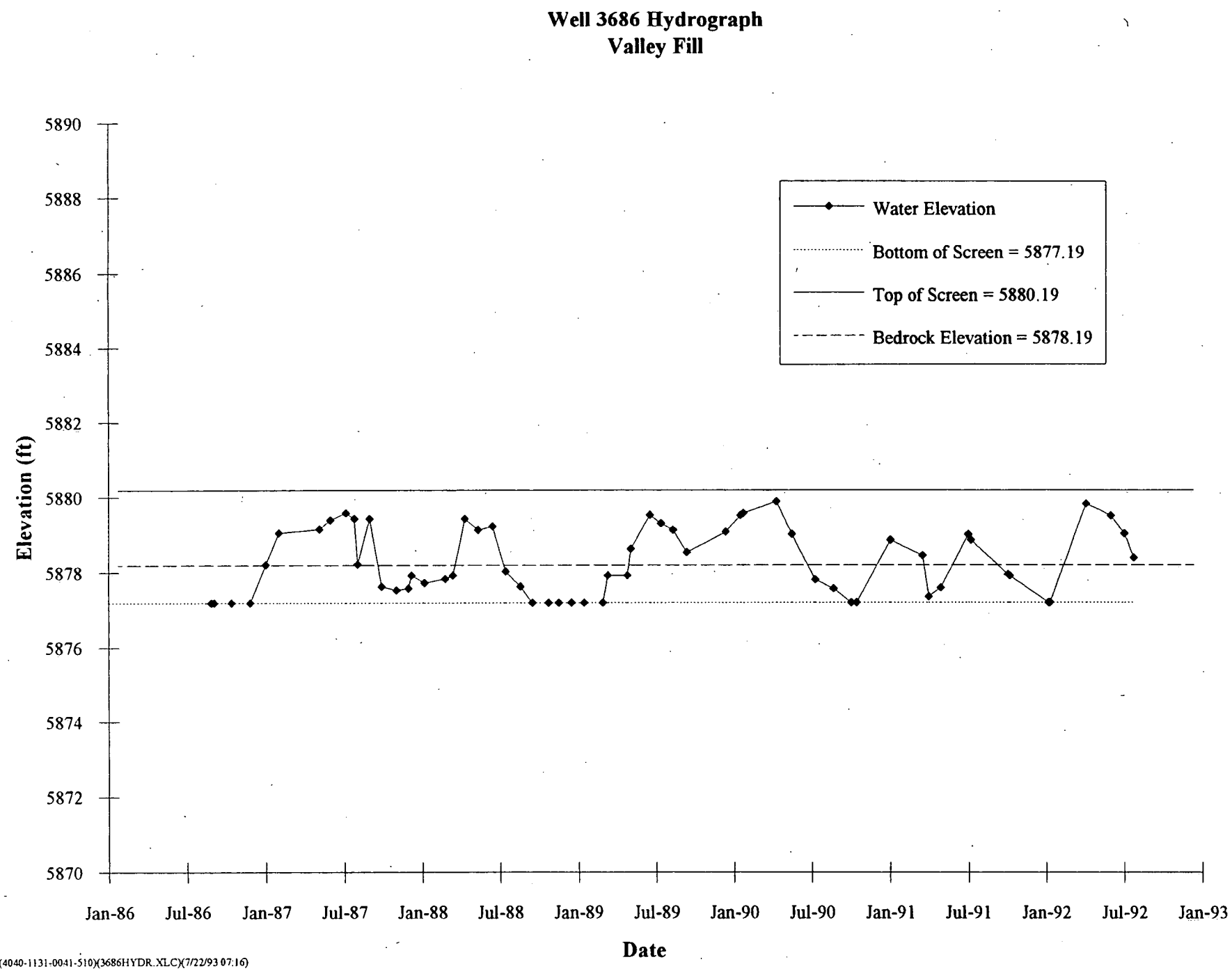


(4040-1131-0041-510)(34591HYD.XLC)(7/22/93 07:59)

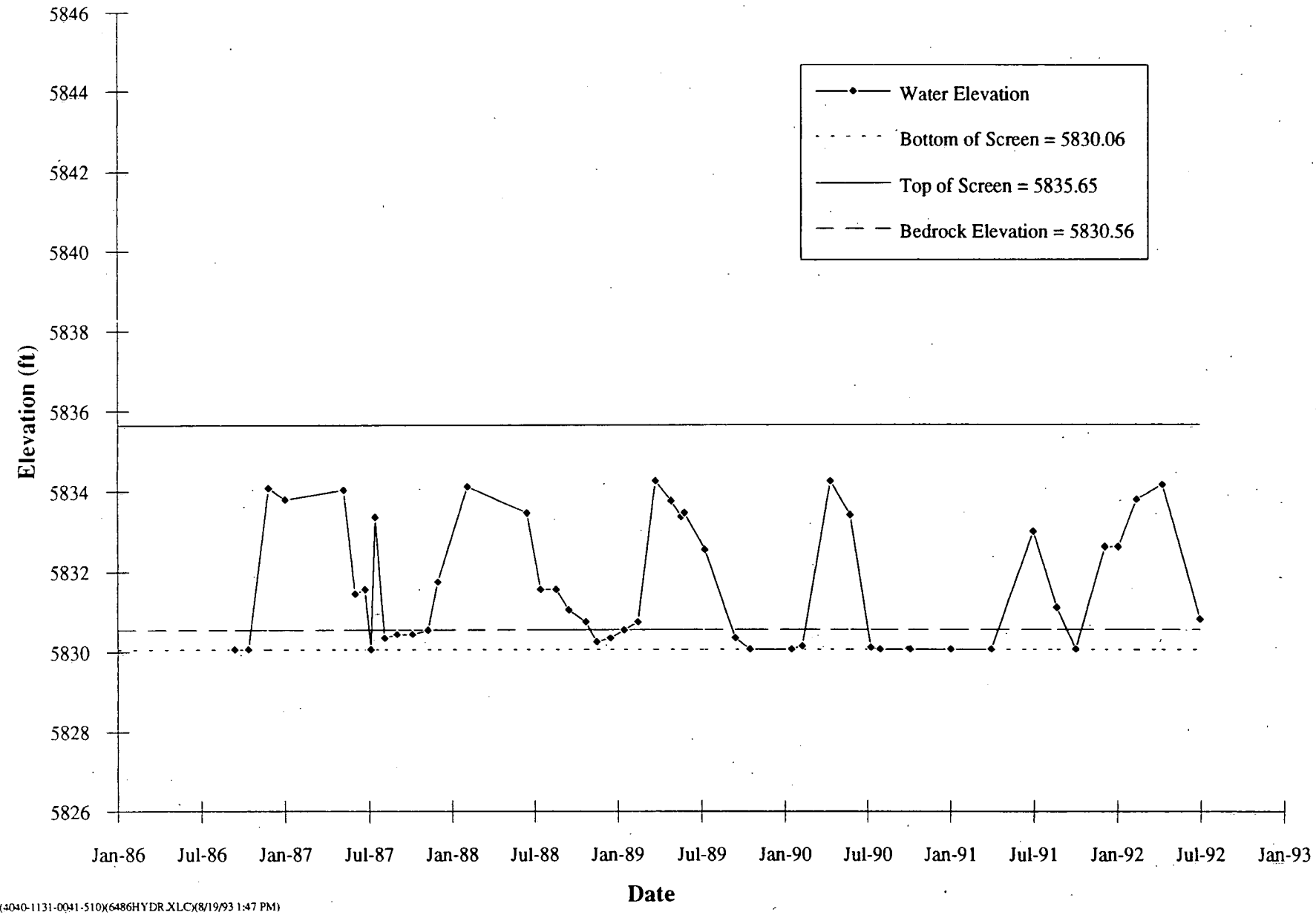
VALLEY FILL



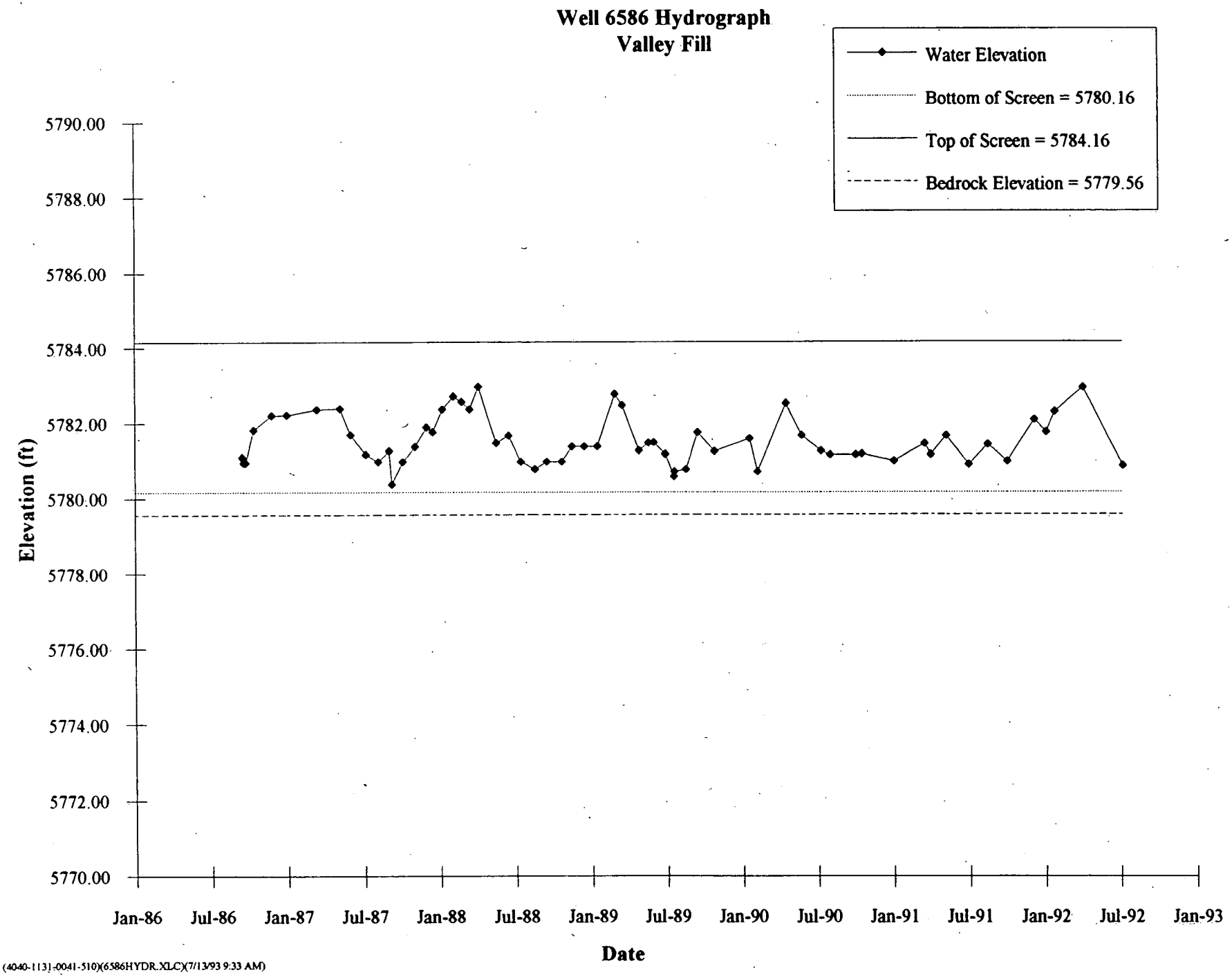
(4040-1131-0041-510)(3586HYDR.XLC)(7/13/93 9:13 AM)


Well 3686 Hydrograph
Valley Fill
Water Elevation
Bottom of Screen = 5877.19
Top of Screen = 5880.19
Bedrock Elevation = 5878.19
Elevation (ft)
5890
5888
5886
5884
5882
5880
5878
5876
5874
5872
5870
Jan-86
Jul-86
Jan-87
Jul-87
Jan-88
Jul-88
Jan-89
Jul-89
Jan-90
Jul-90
Jan-91
Jul-91
Jan-92
Jul-92
Jan-93
Date
(4040-1131-0041-510)(3686HYDR.XLC)(7/22/93 07:16)

Well 6486 Hydrograph
Valley Fill

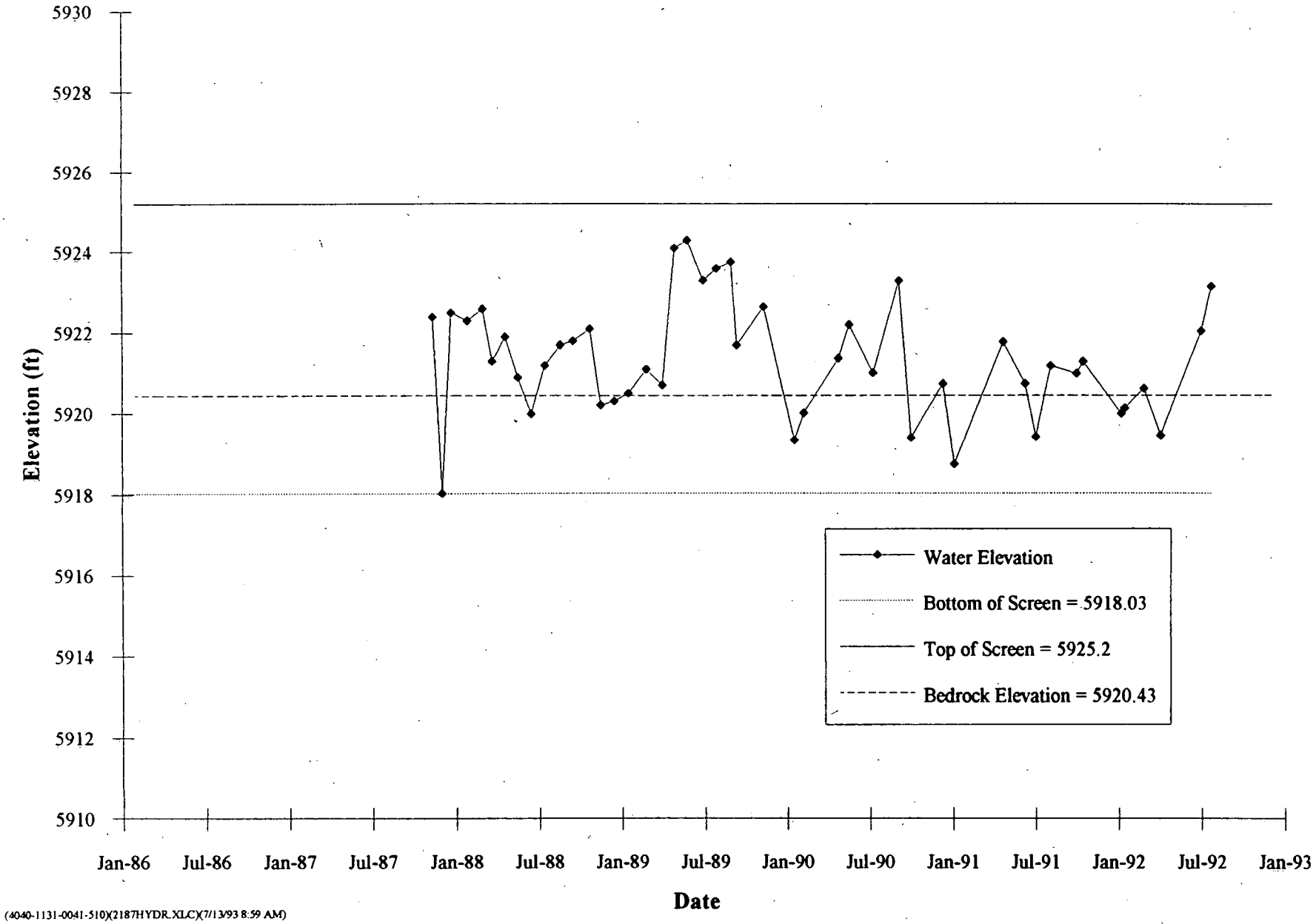


(4040-1131-0041-510)(6486HYDR.XLC)(8/19/93 1:47 PM)



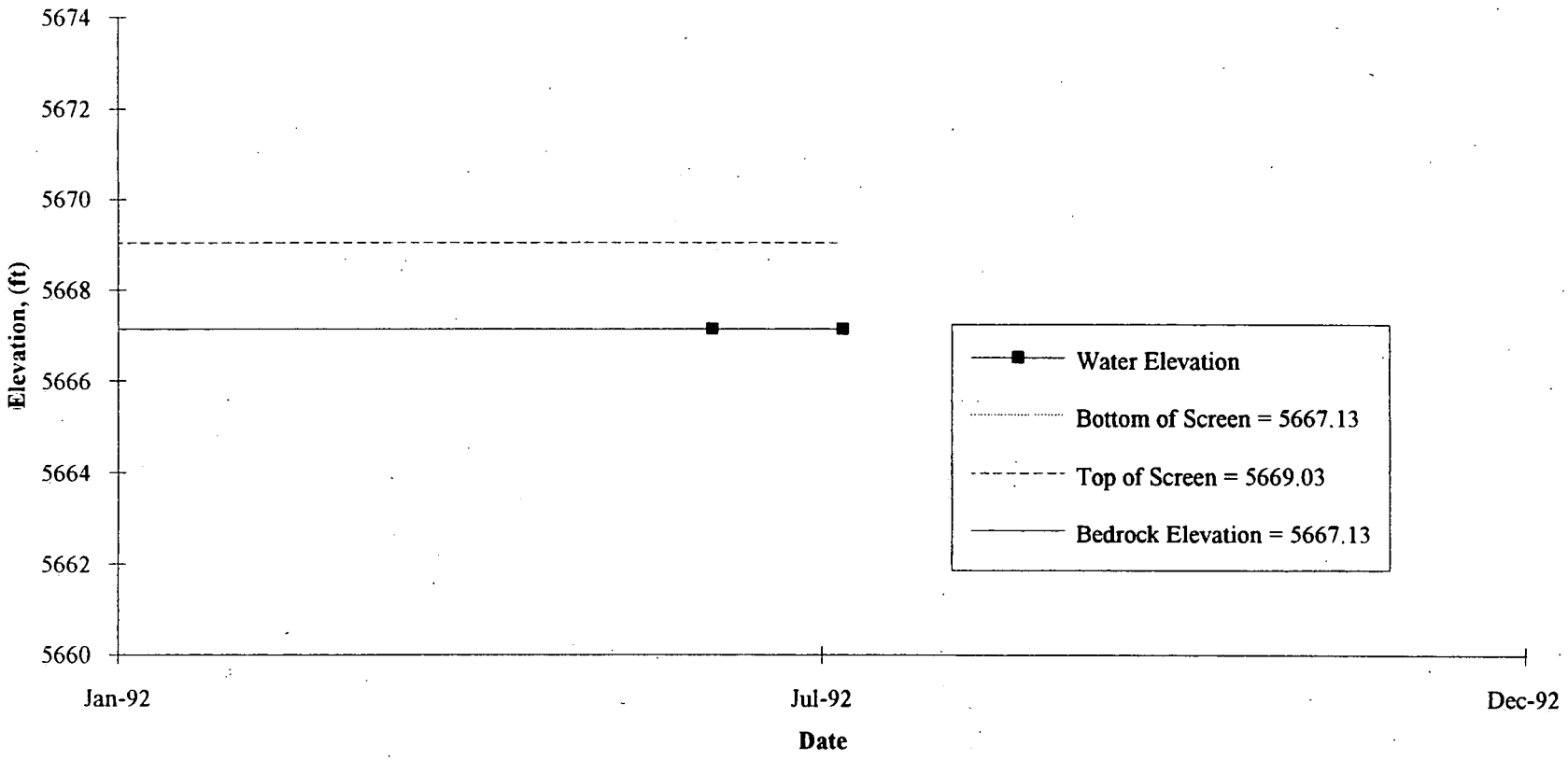
(4040-1131-0041-510)(6586HYDR.XLC)(7/13/93 9:33 AM)

Well 2187 Hydrograph
Valley Fill

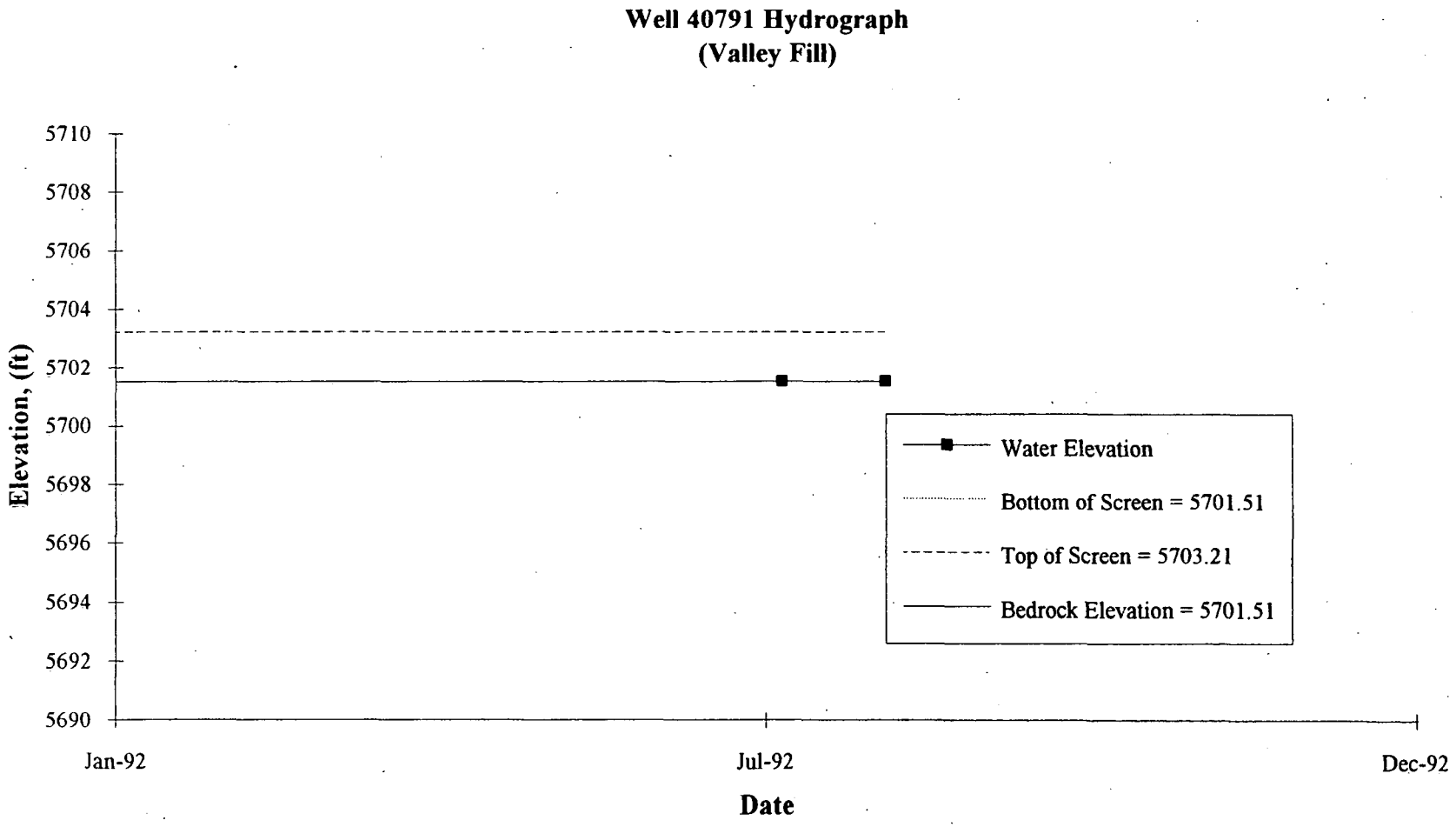


(4040-1131-0041-510)(2187HYDR.XLC)(7/13/93 8:59 AM)

Well 40491 Hydrograph
(Valley Fill)

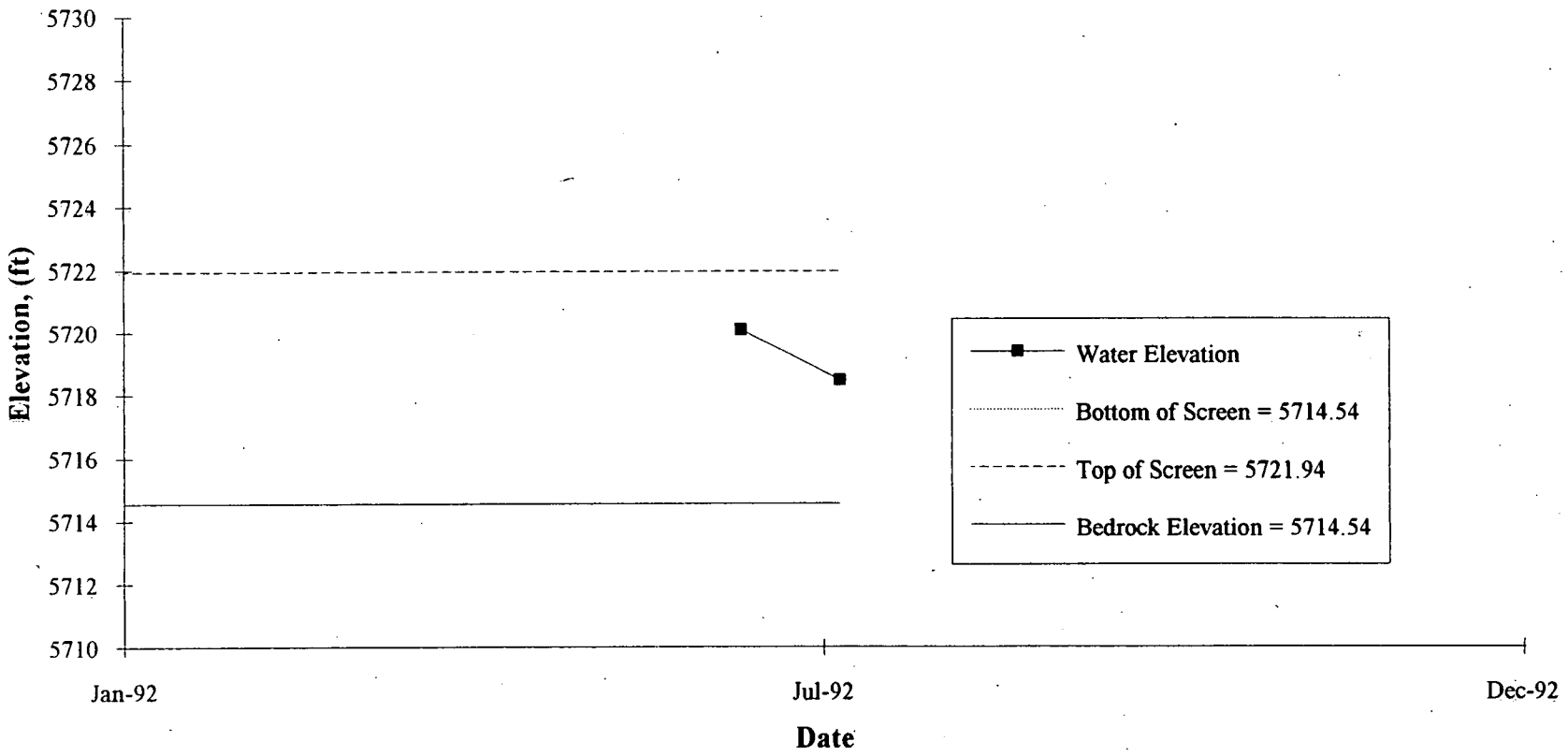


(4040-1131-0041-510)(40491HYD.XLC)(9/30/93 12:16)



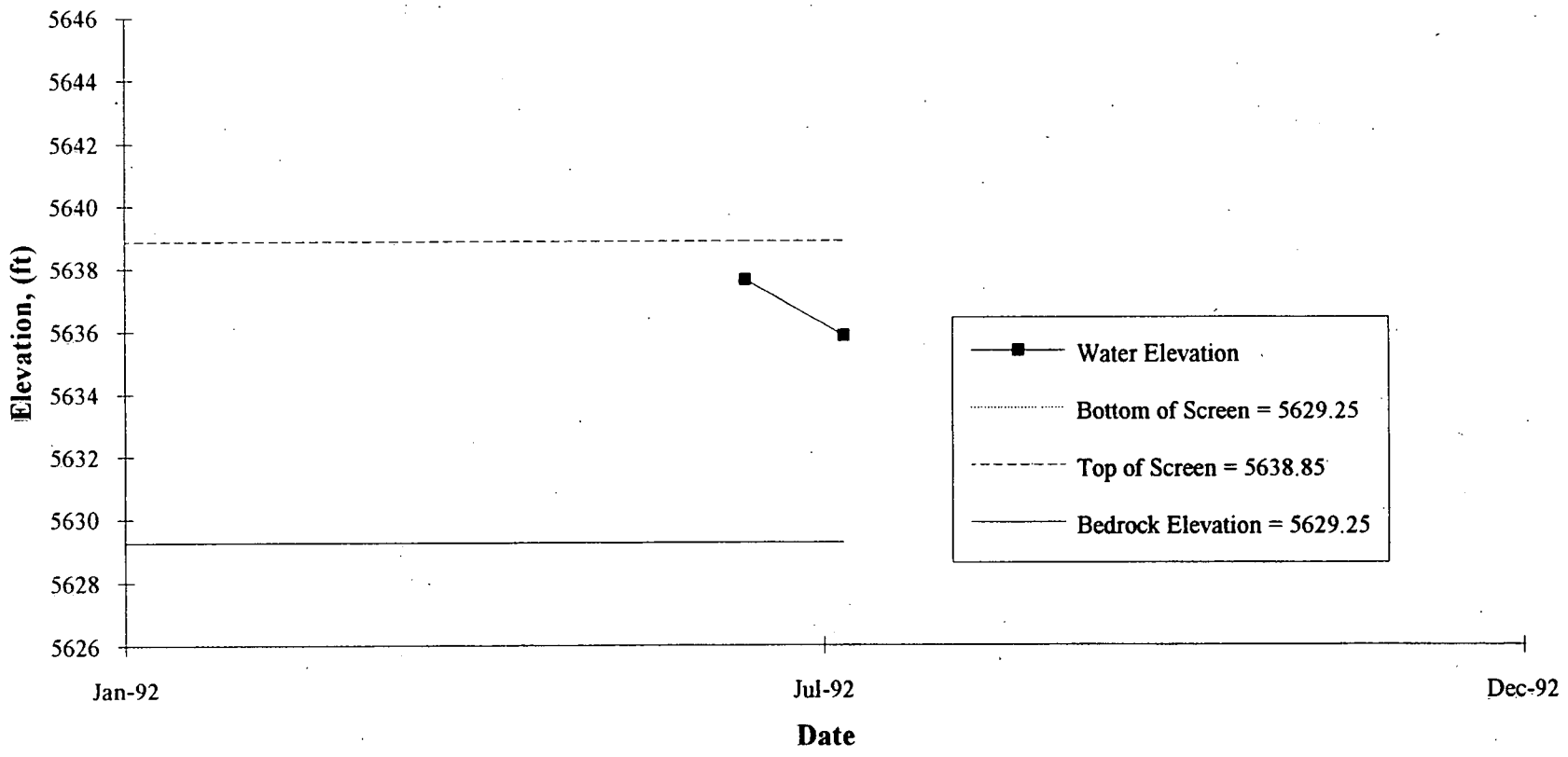
(4040-1131-0041-510)(40791HYD.XLC)(9/30/93 12:15)

Well 41591 Hydrograph
(Valley Fill)



(4040-1131-0041-510)(41591HYD.XLC)(9/30/93 12:15)

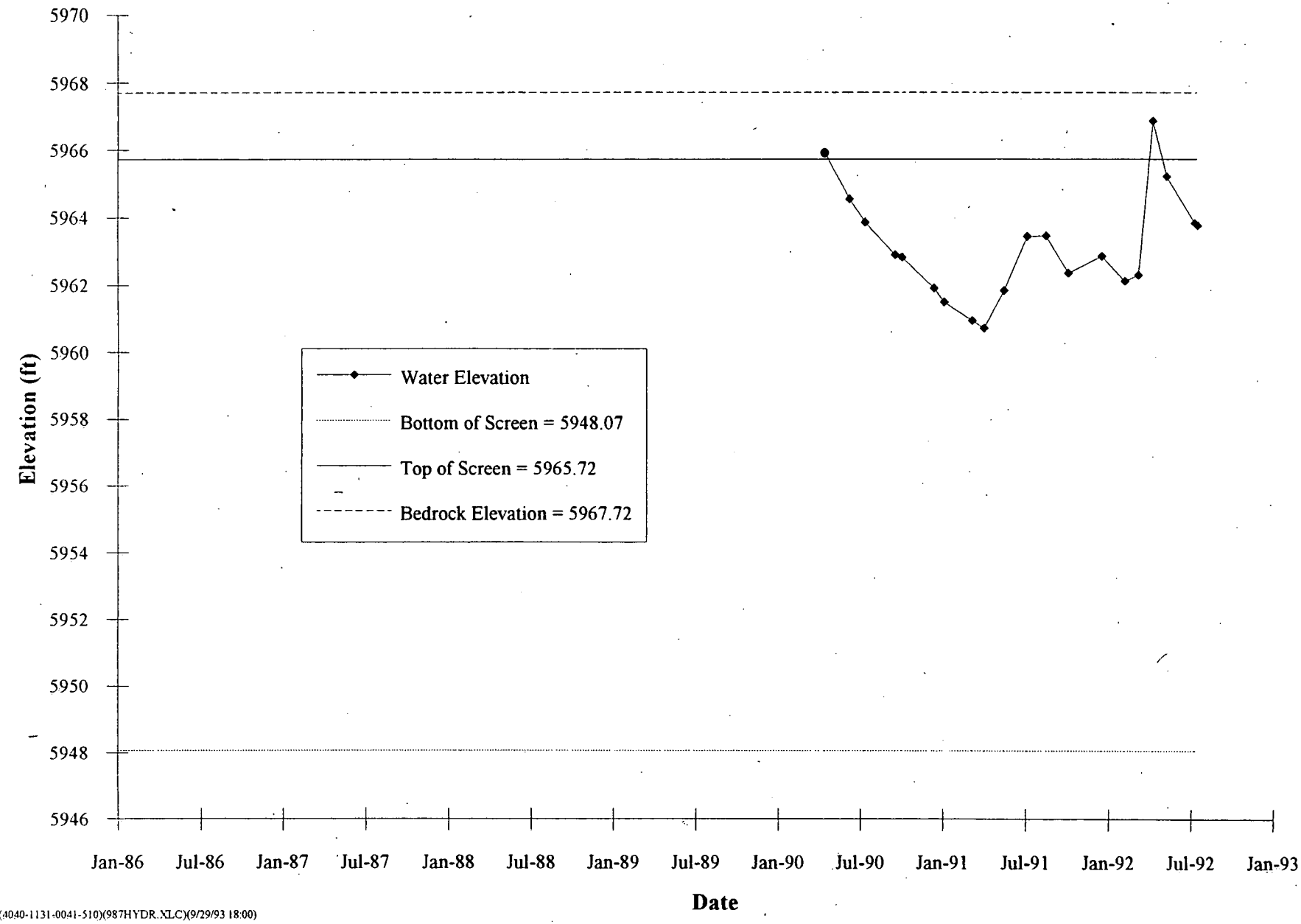
Well 41691 Hydrograph
(Valley Fill)



(4040-1131-0041-510)(41691HYD.XLC)(9/30/93 12:15)

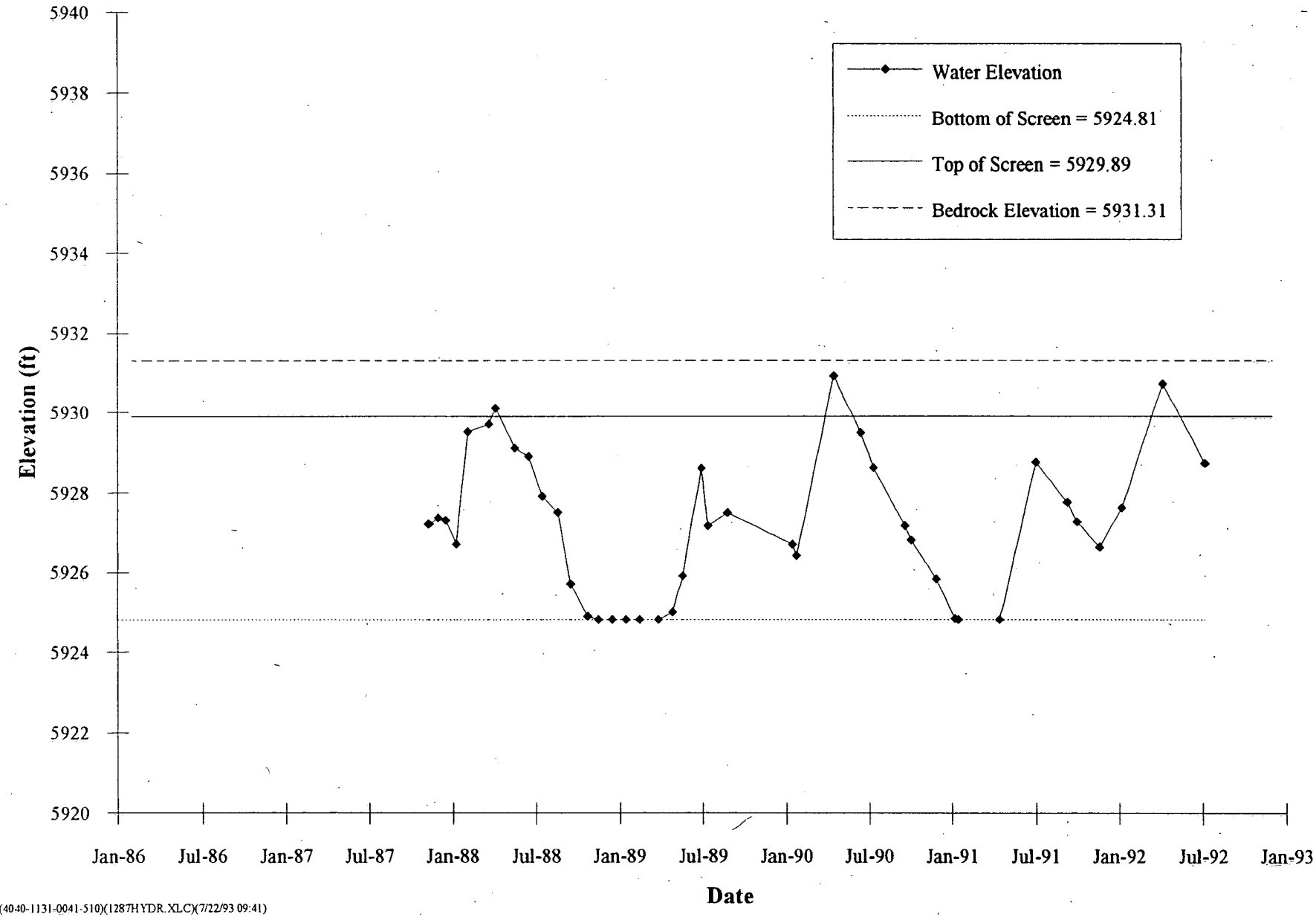
ARAPAHOE FORMATION

Well 987 Hydrograph
Arapahoe No.1 Sandstone

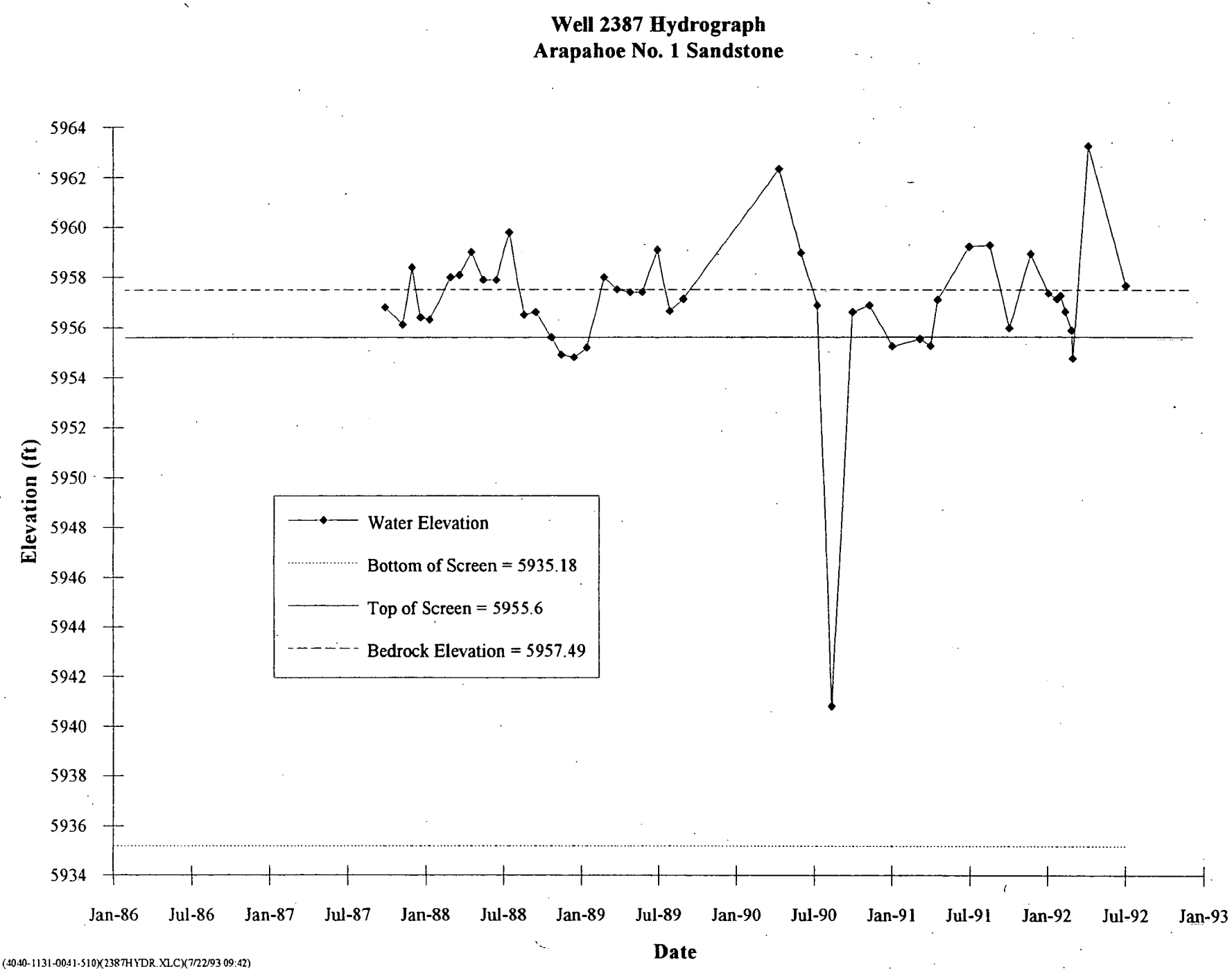


(4040-1131-0041-510)(987HYDR.XLC)(9/29/93 18:00)

Well 1287 Hydrograph
Arapahoe No. 1 Sandstone

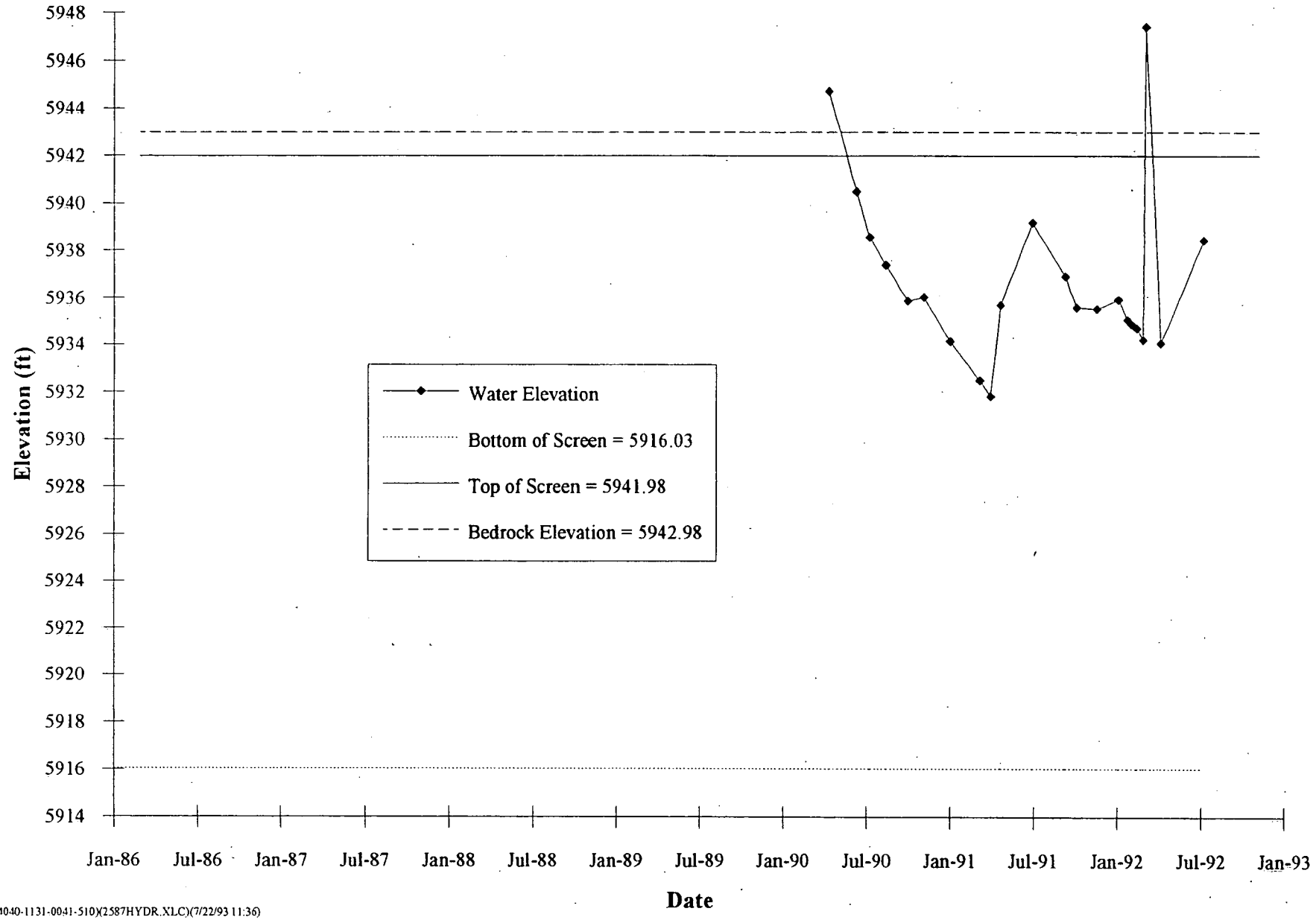


(4040-1131-0041-510)(1287HYDR.XLC)(7/22/93 09:41)



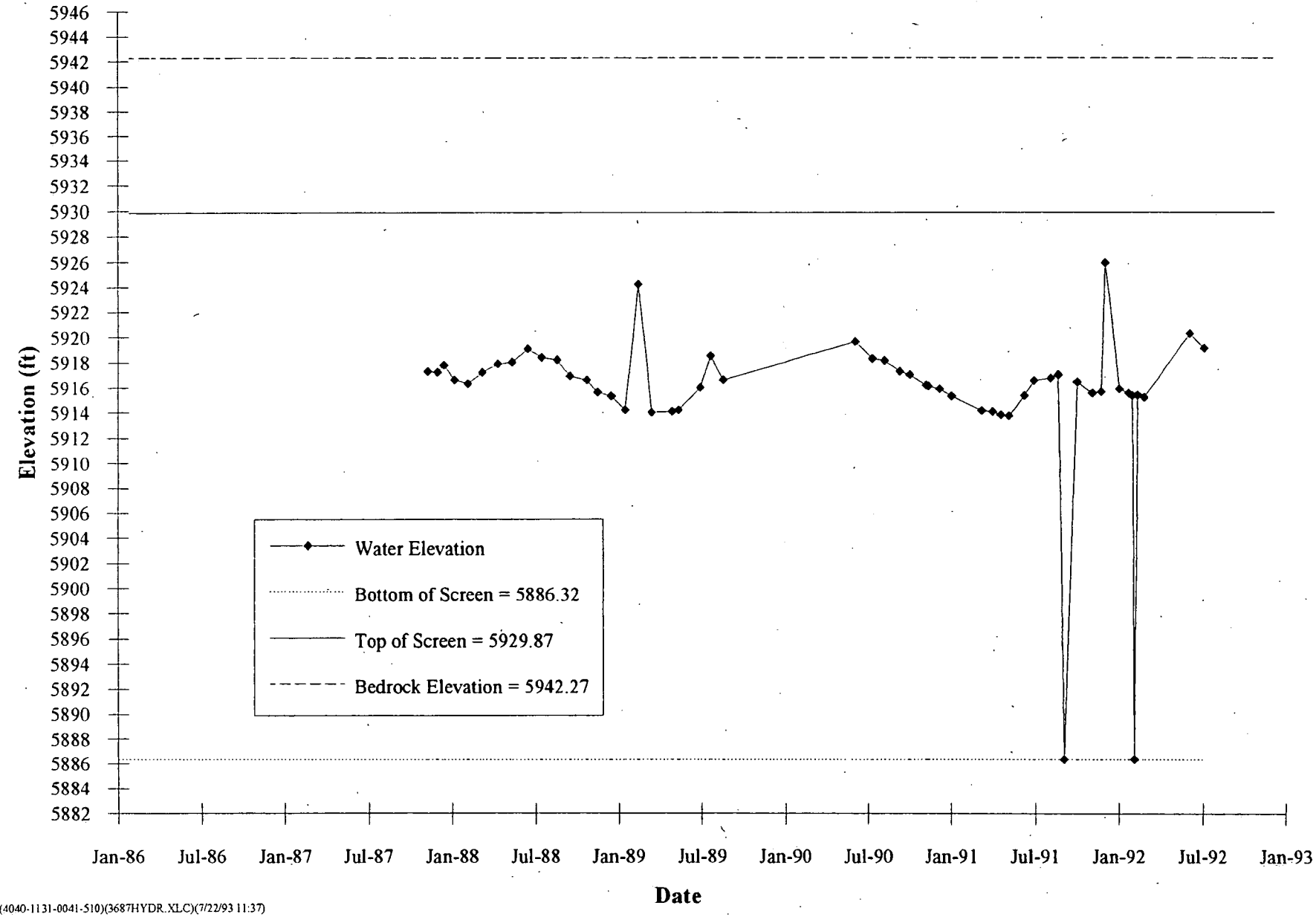
(4040-1131-0041-510)(2387HYDR.XLC)(7/22/93 09:42)

Well 2587 Hydrograph
Arapahoe No. 1 Sandstone



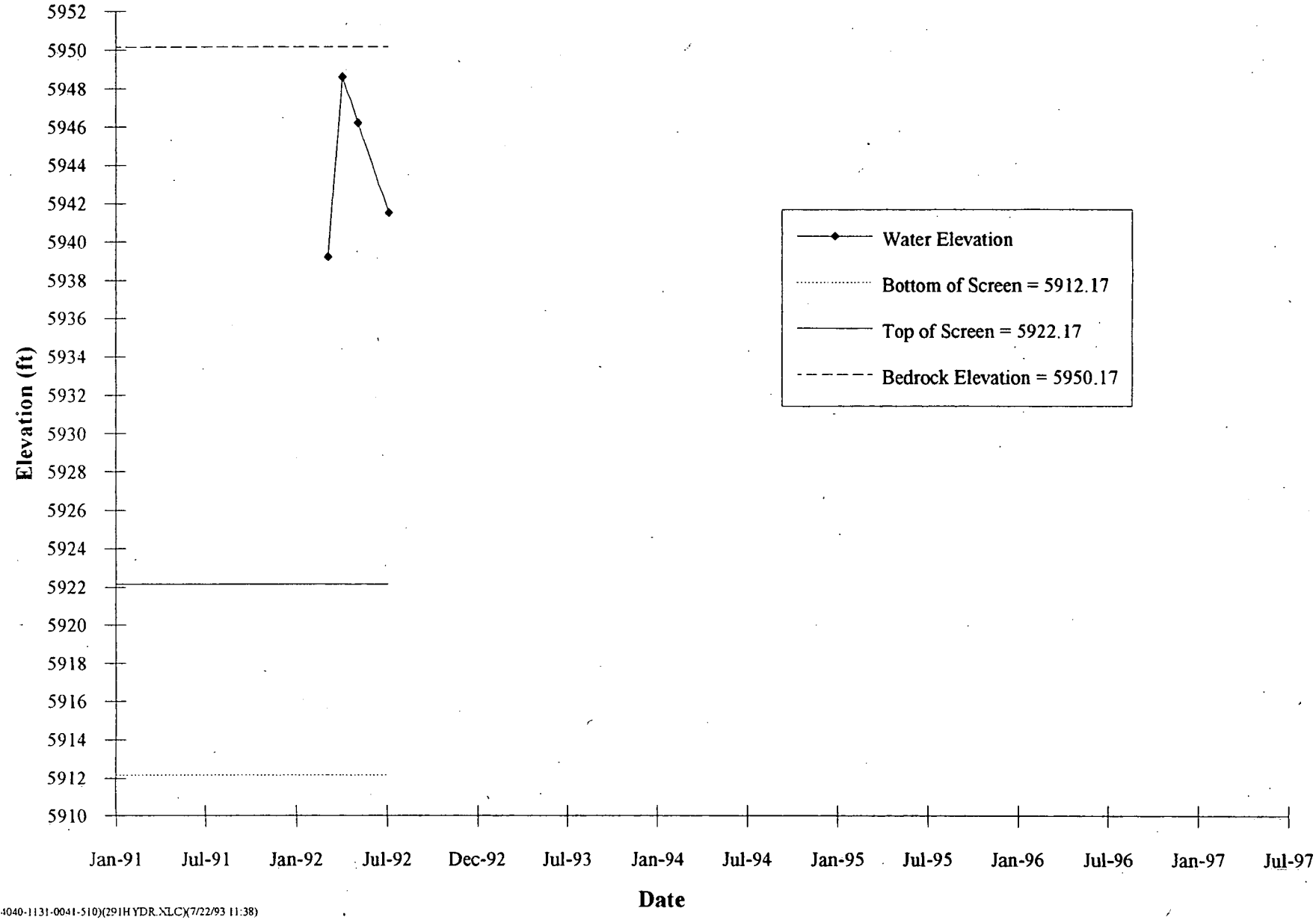
(4040-1131-0041-510)(2587HYDR.XLC)(7/22/93 11:36)

Well 3687 Hydrograph
Arapahoe No. 1 Sandstone



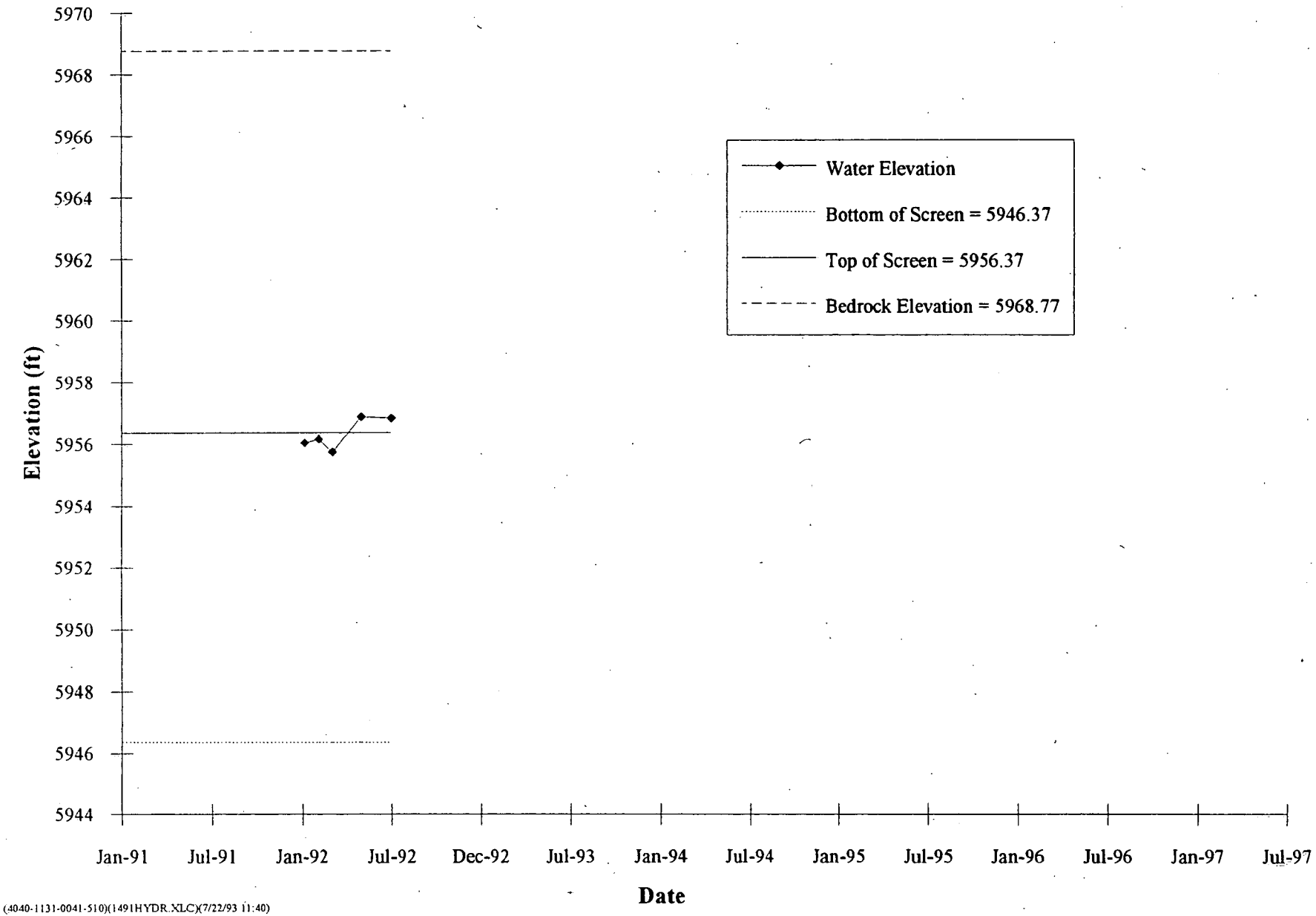
(4040-1131-0041-510)(3687HYDR.XLC)(7/22/93 11:37)

Well 00291 Hydrograph
Arapahoe No. 1 Sandstone



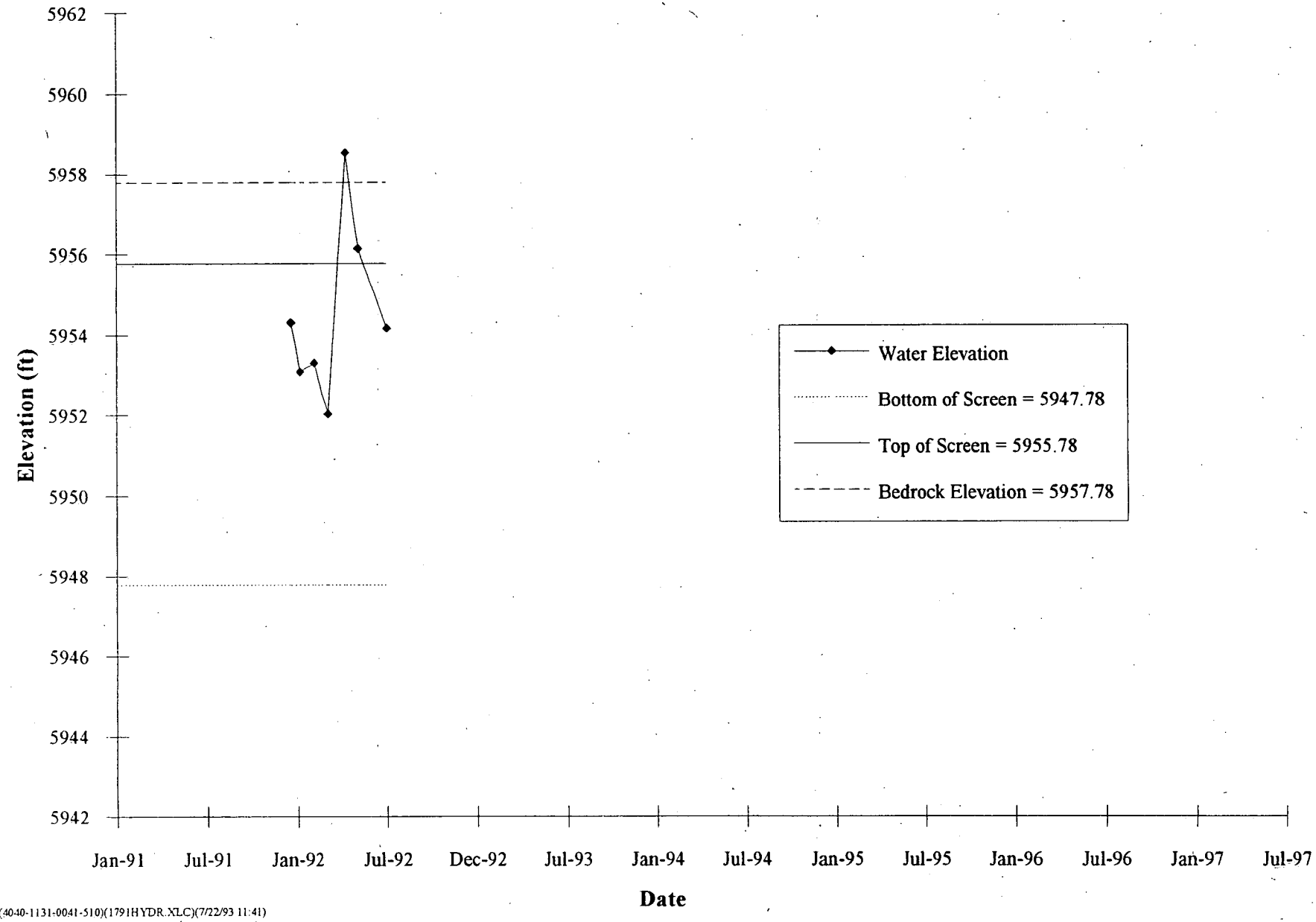
(4040-1131-0041-510)(291HYDR.XLC)(7/22/93 11:38)

Well 01491 Hydrograph
Arapahoe No. 1 Sandstone



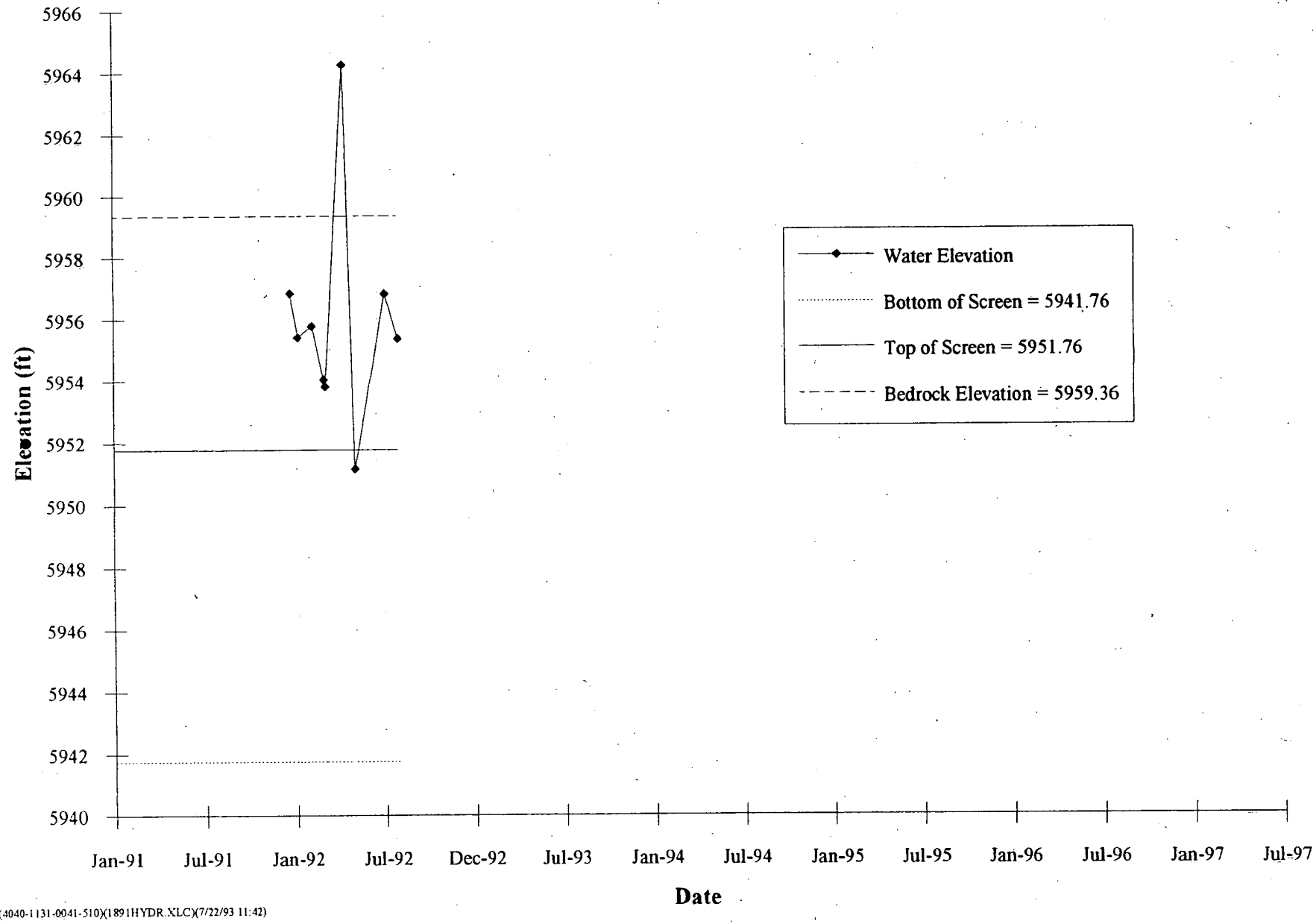
(4040-1131-0041-510)(1491HYDR.XLC)(7/22/93 11:40)

Well 01791 Hydrograph
Arapahoe No. 1 Sandstone



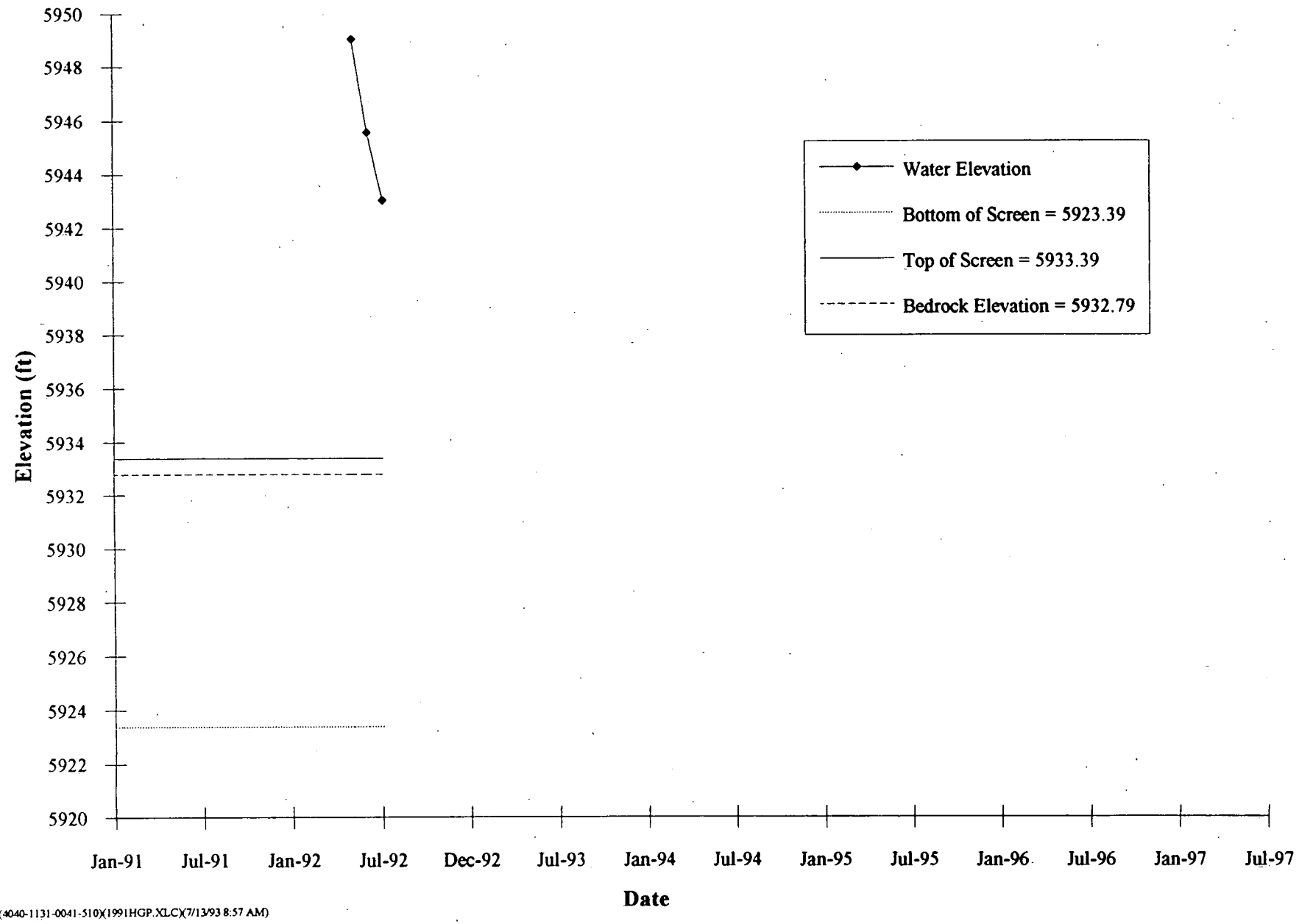
(40-40-1131-0041-510)(1791HYDR.XLC)(7/22/93 11:41)

Well 01891 Hydrograph
Arapahoe No. 1 Sandstone



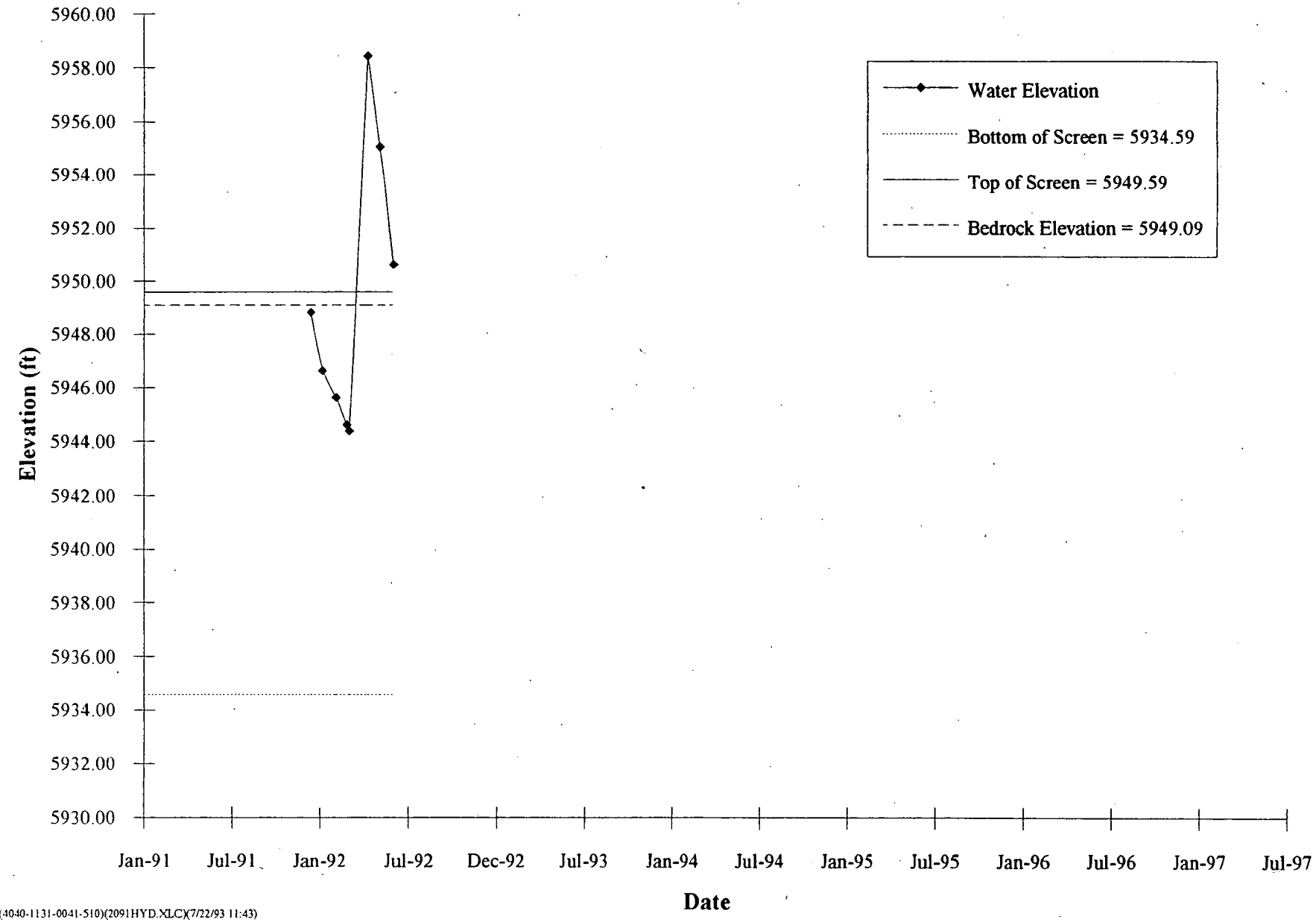
(4040-1131-0041-510)(1891HYDR.XLC)(7/22/93 11:42)

Well 01991 Hydrograph
Arapahoe Claystone



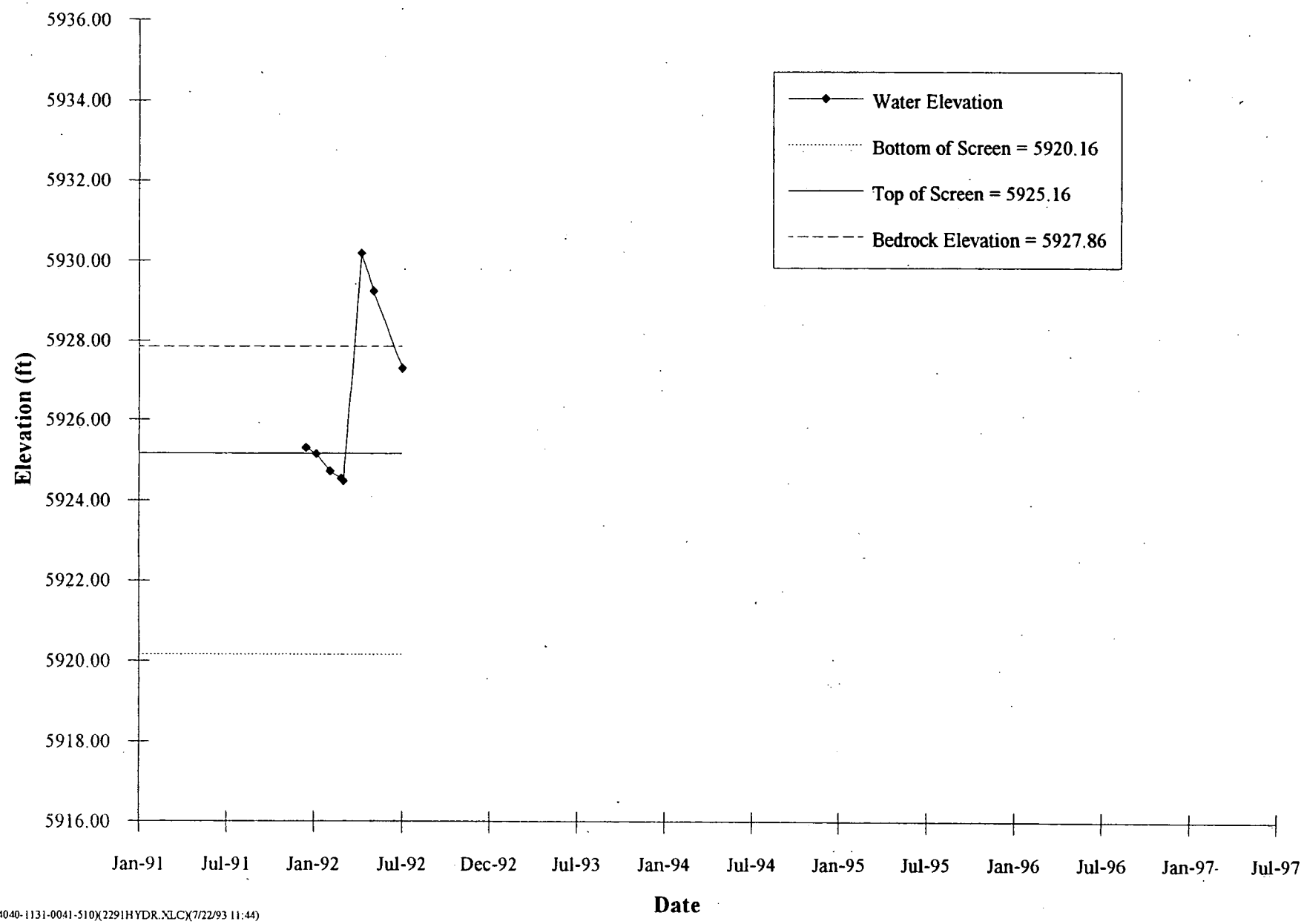
(4040-1131-0041-510)(1991HGP.XLC)(7/13/93 8:57 AM)

Well 02091 Hydrograph
Arapahoe No. 1 Sandstone



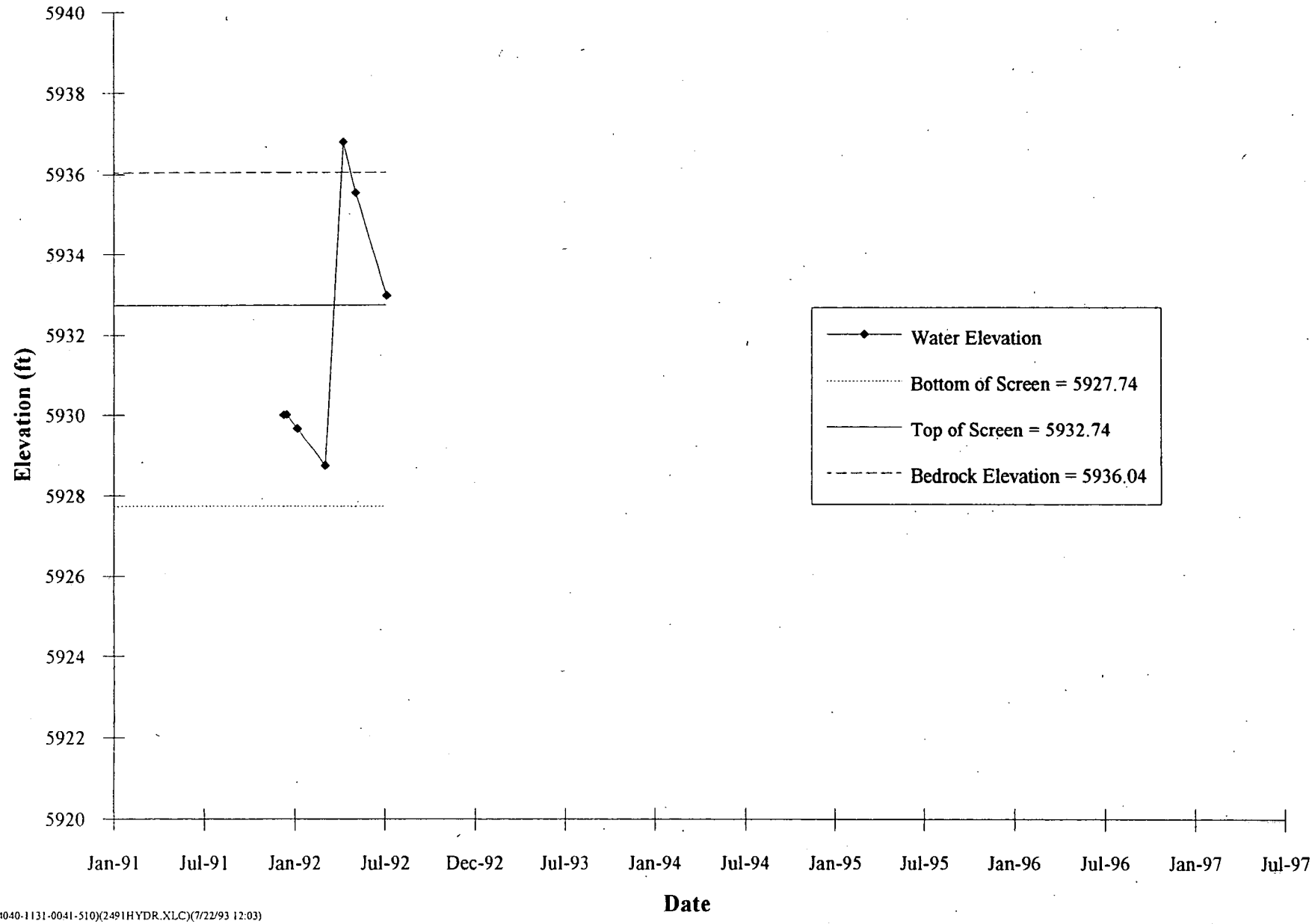
(4040-1131-0041-510)(2091HYD.XLC)(7/22/93 11:43)

Well 02291 Hydrograph
Arapahoe No. 1 Sandstone



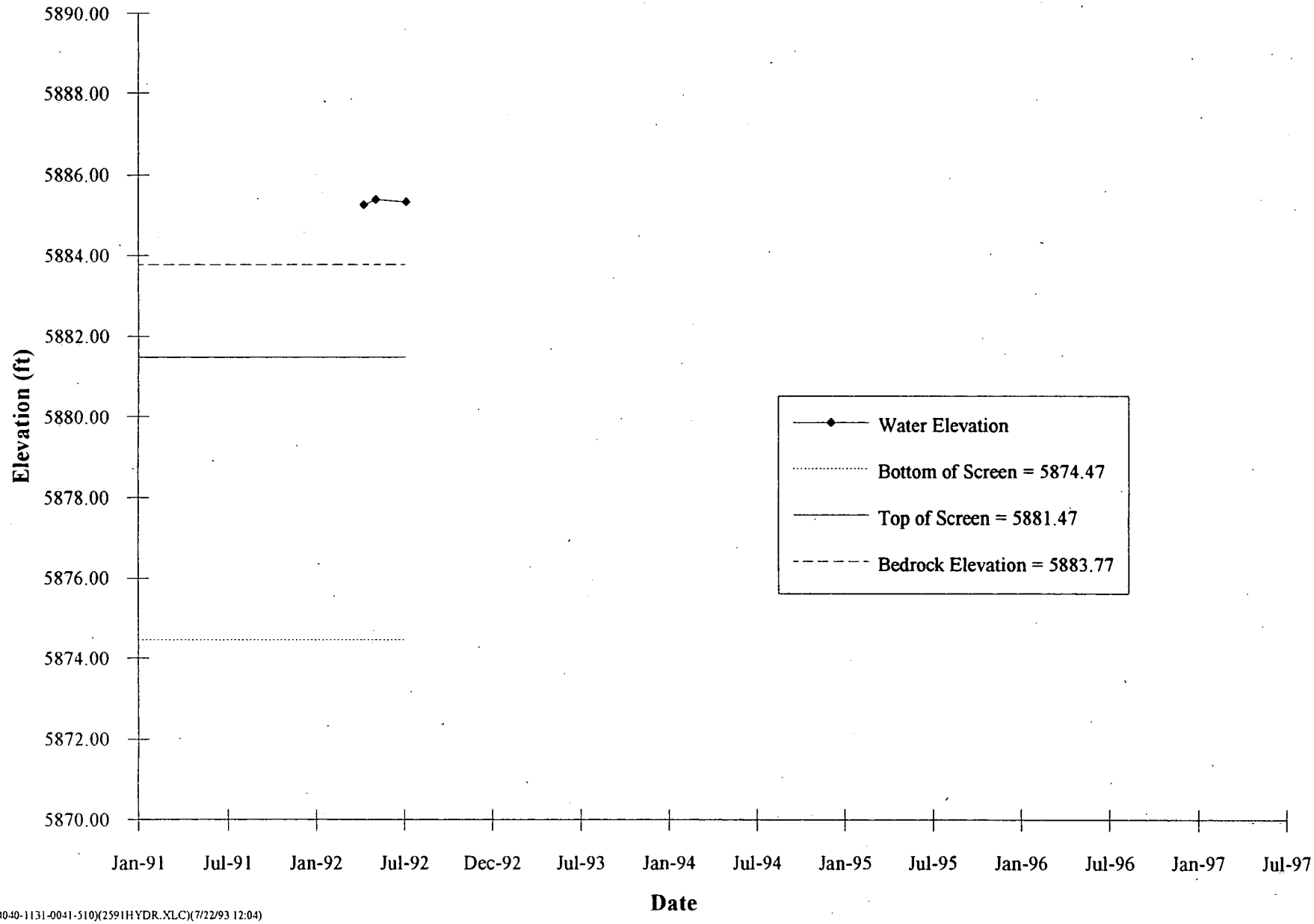
(4040-1131-0041-510)(2291HYDR.XLC)(7/22/93 11:44)

Well 02491 Hydrograph
Arapahoe No. 1 Sandstone



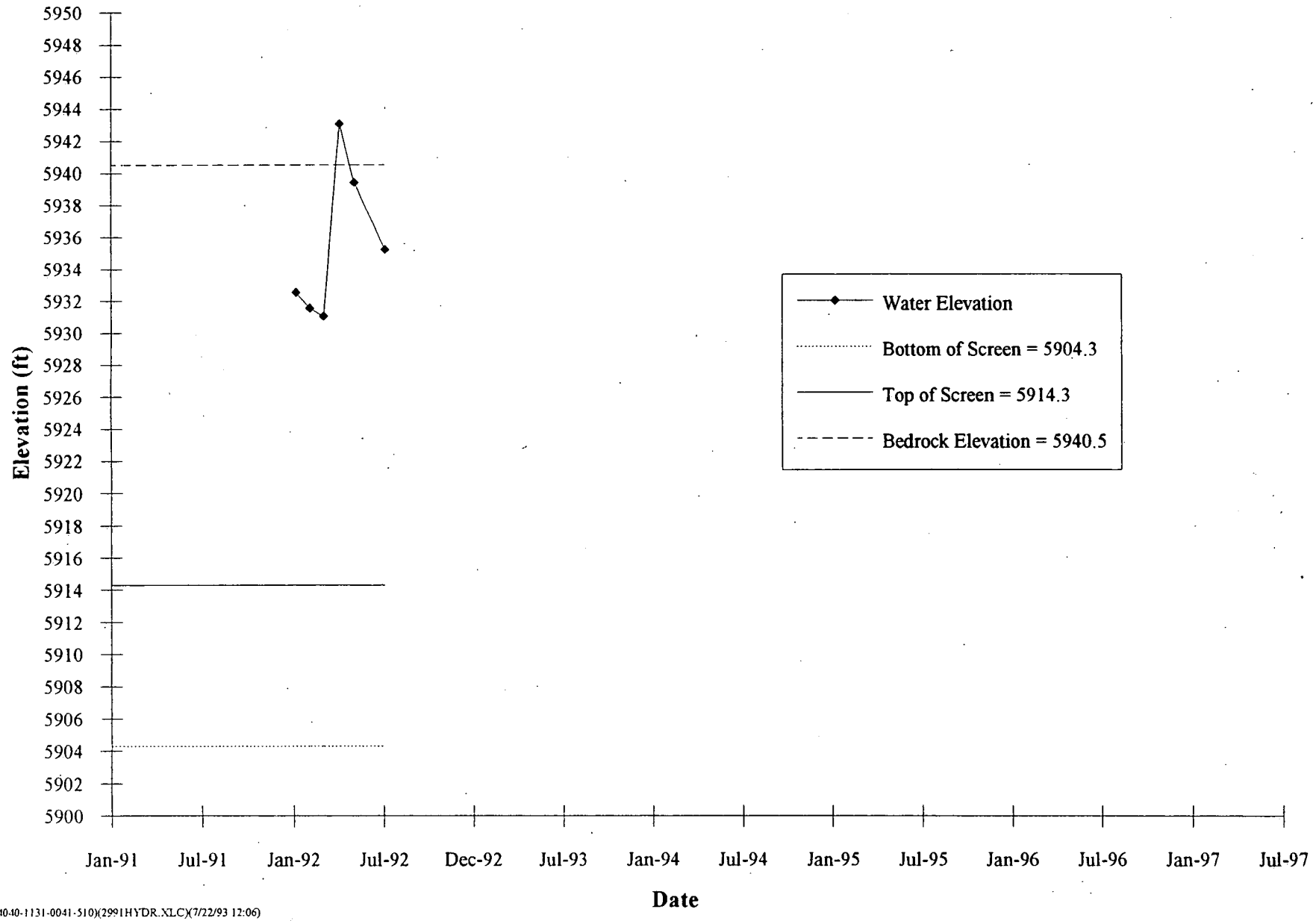
(4040-1131-0041-510)(2491HYDR.XLC)(7/22/93 12:03)

Well 02591 Hydrograph
Arapahoe No. 1 Sandstone



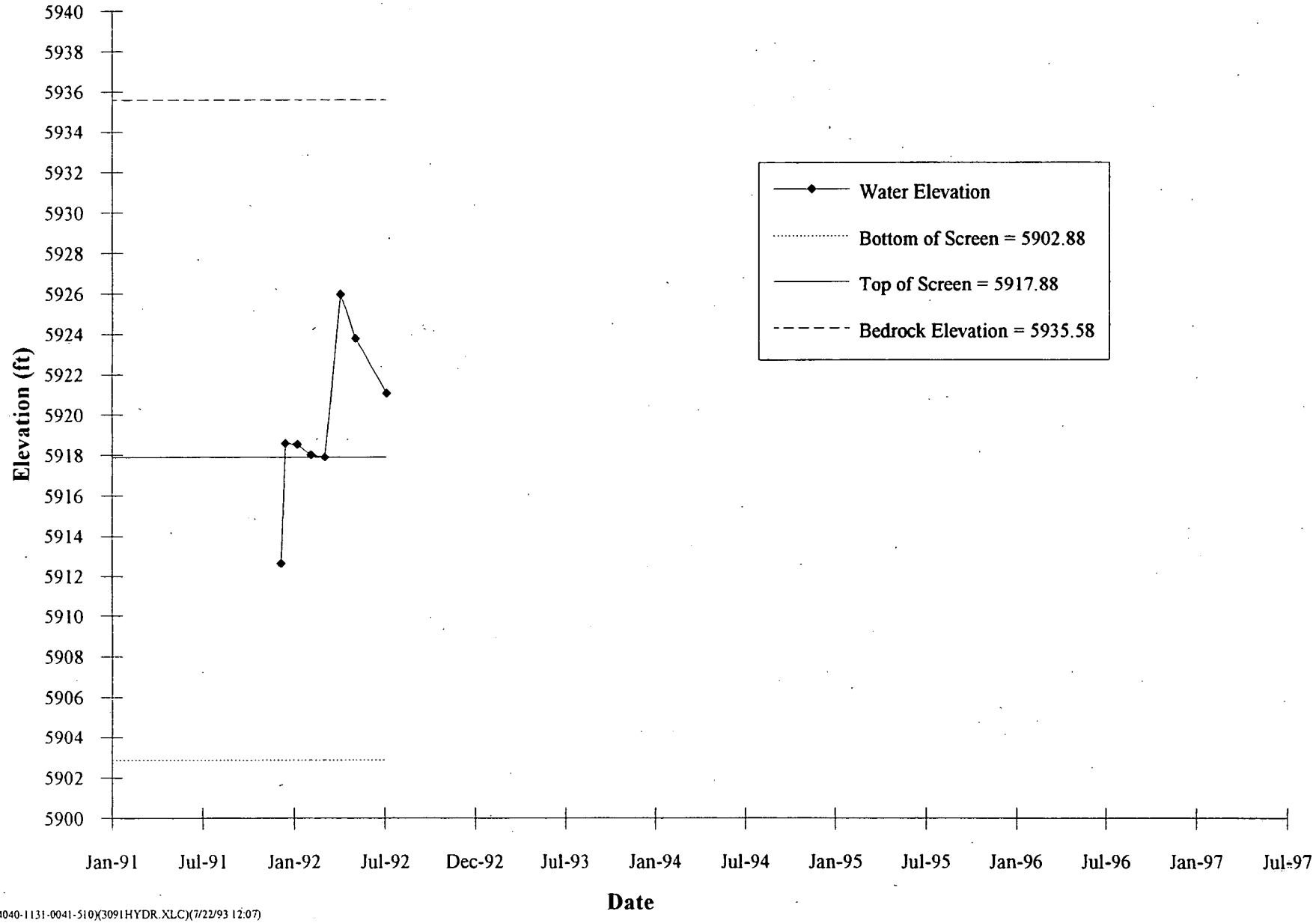
(4040-1131-0041-510)(2591HYDR.XLC)(7/22/93 12:04)

Well 02991 Hydrograph
Arapahoe No. 1 Sandstone



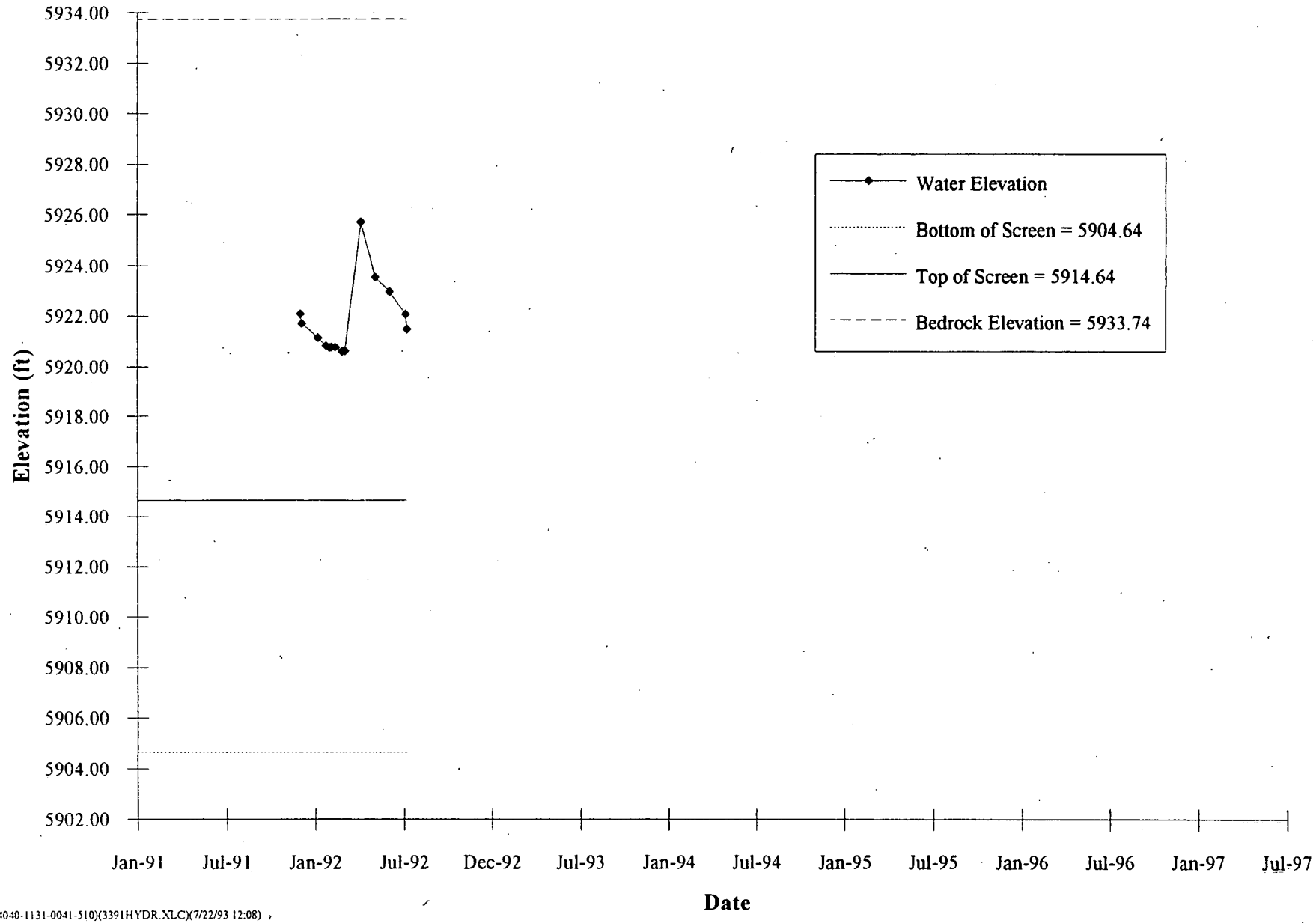
(4040-1131-0041-510)(2991HYDR.XLC)(7/22/93 12:06)

Well 03091 Hydrograph
Arapahoe No. 1 Sandstone



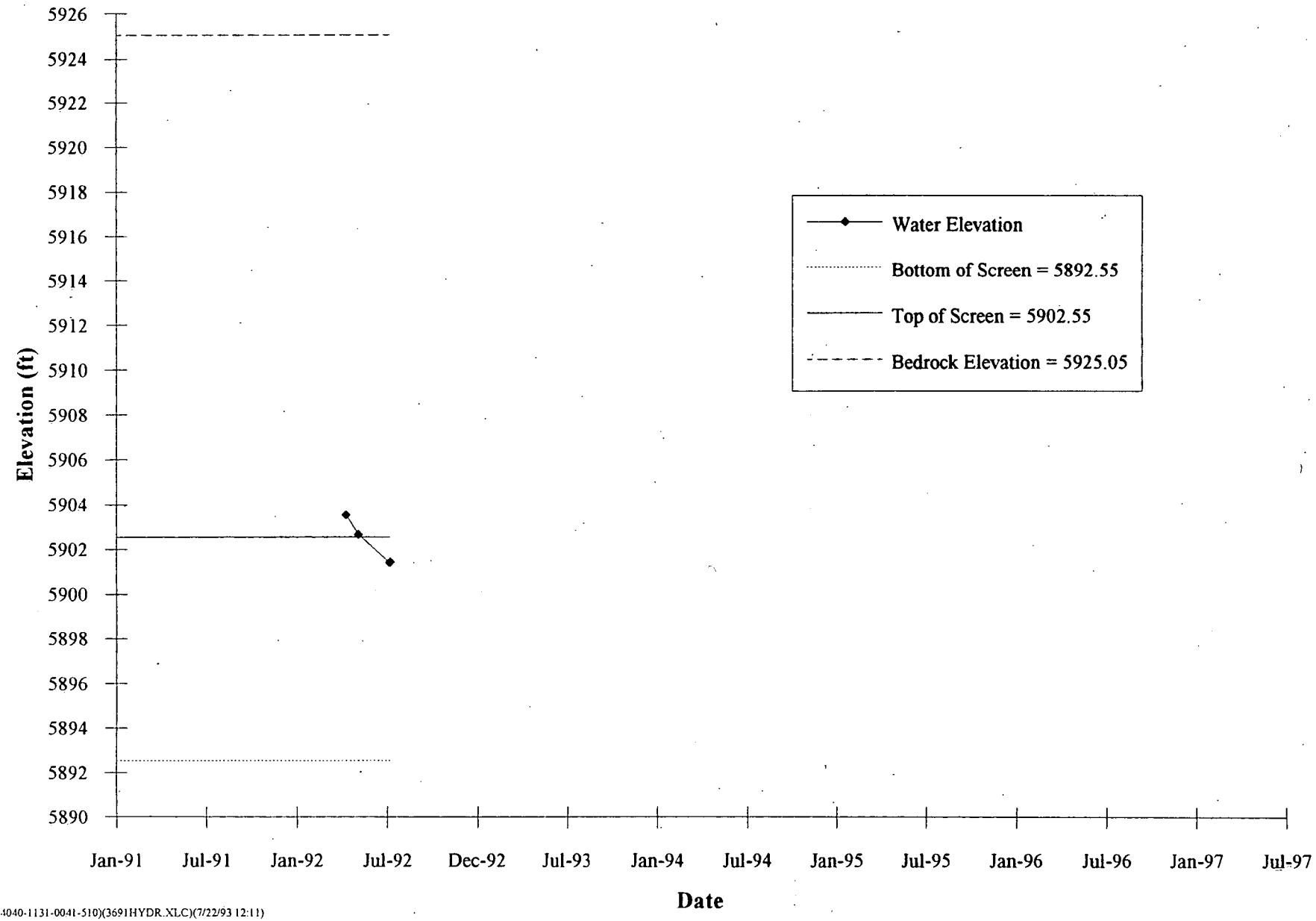
(4040-1131-0041-510)(3091HYDR.XLC)(7/22/93 12:07)

Well 03391 Hydrograph
Arapahoe No. 1 Sandstone



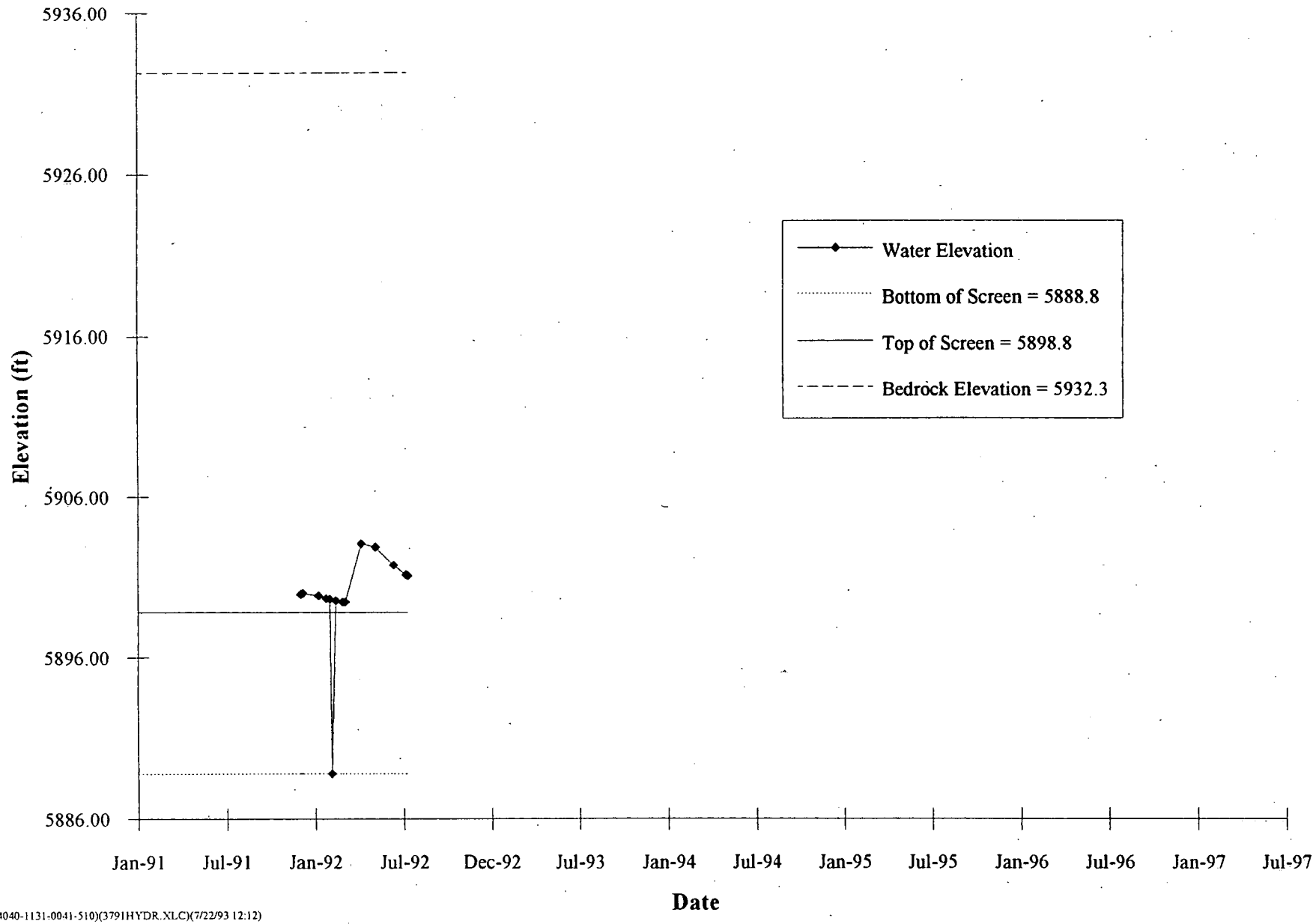
(4040-1131-0041-510)(3391HYDR.XLC)(7/22/93 12:08)

Well 03691 Hydrograph
Arapahoe No. 1 Sandstone



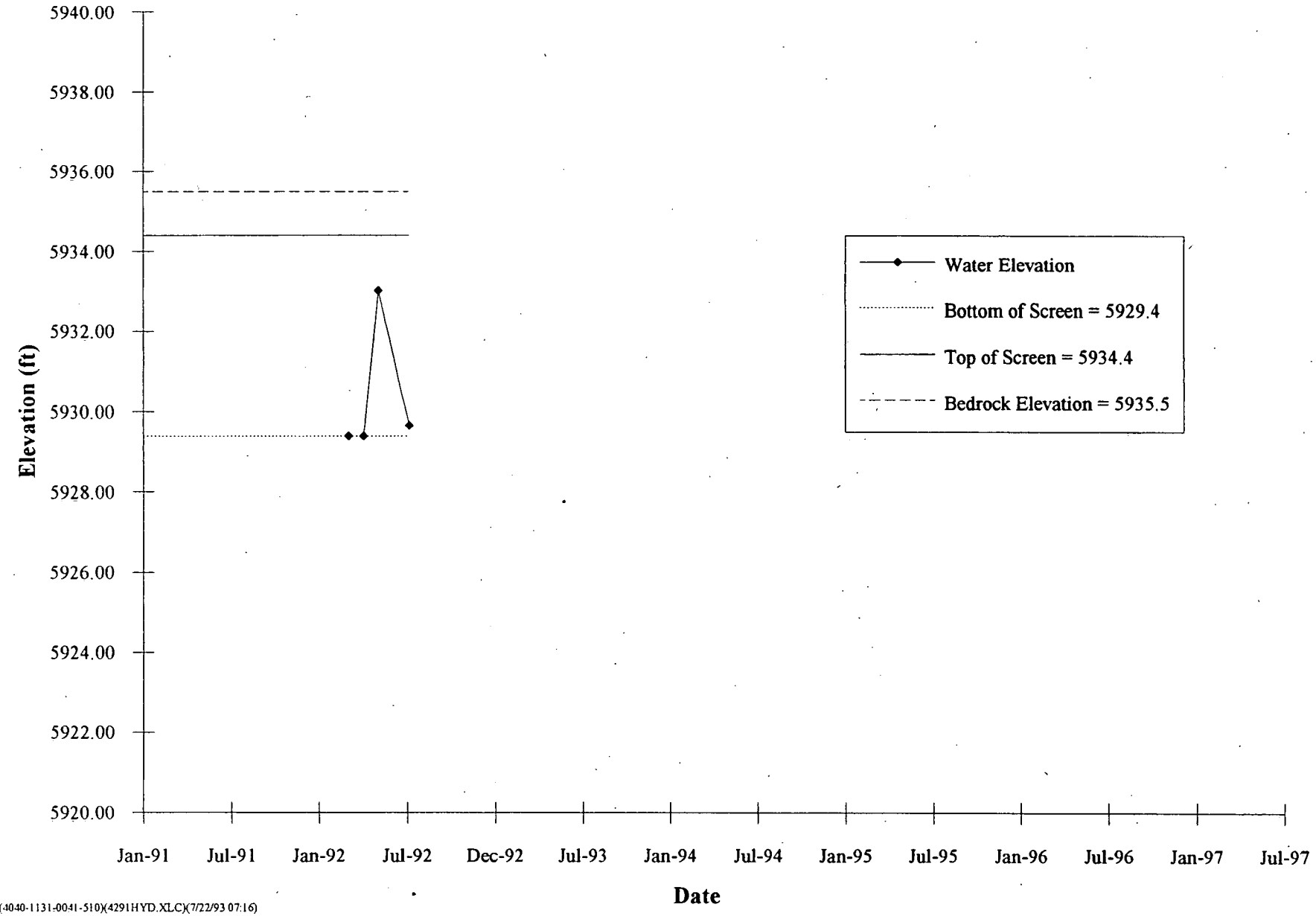
(4040-1131-0041-510)(3691HYDR.XLC)(7/22/93 12:11)

Well 03791 Hydrograph
Arapahoe No. 1 Sandstone



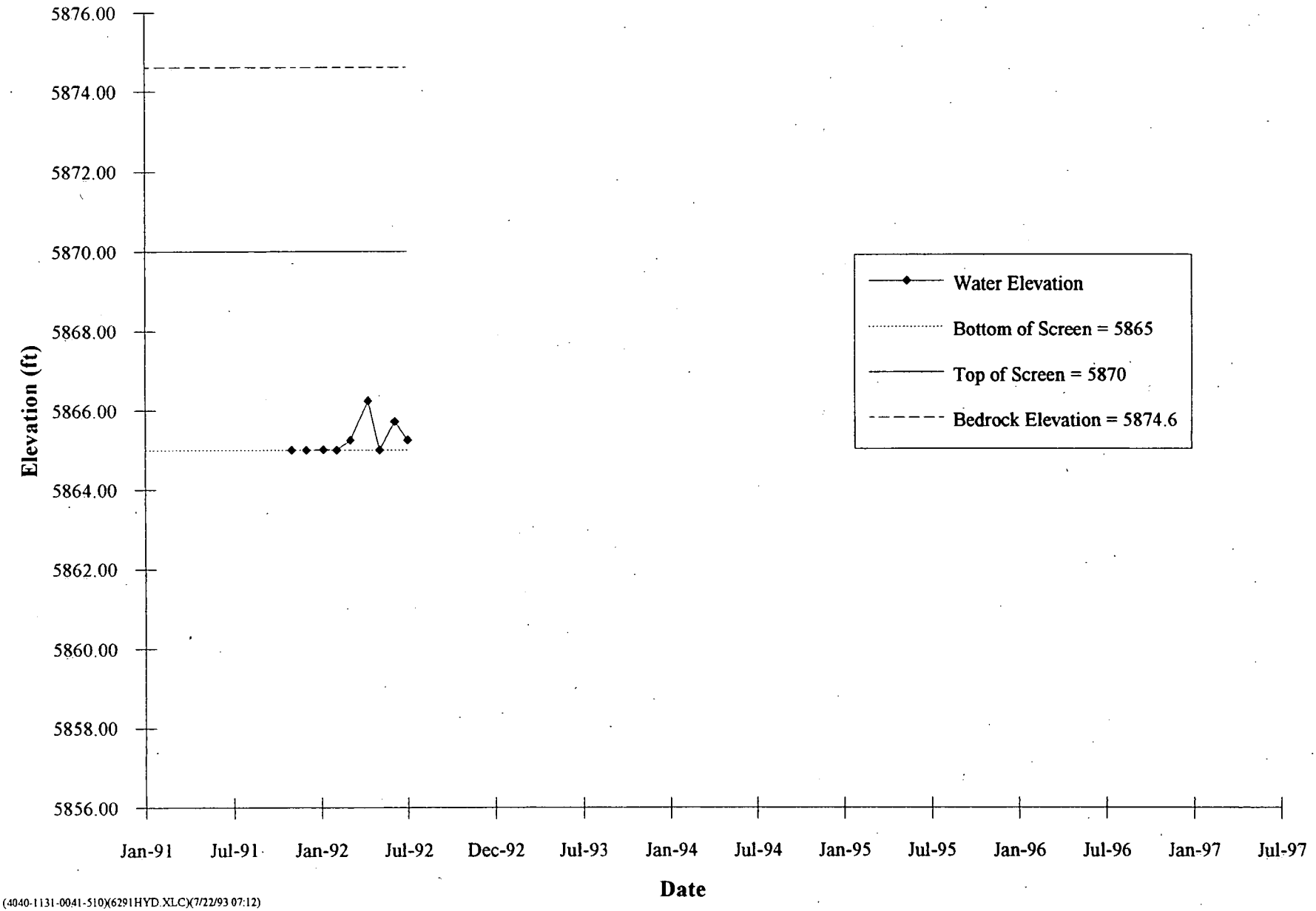
(4040-1131-0041-510)(3791HYDR.XLC)(7/22/93 12:12)

Well 04291 Hydrograph
Arapahoe Claystone



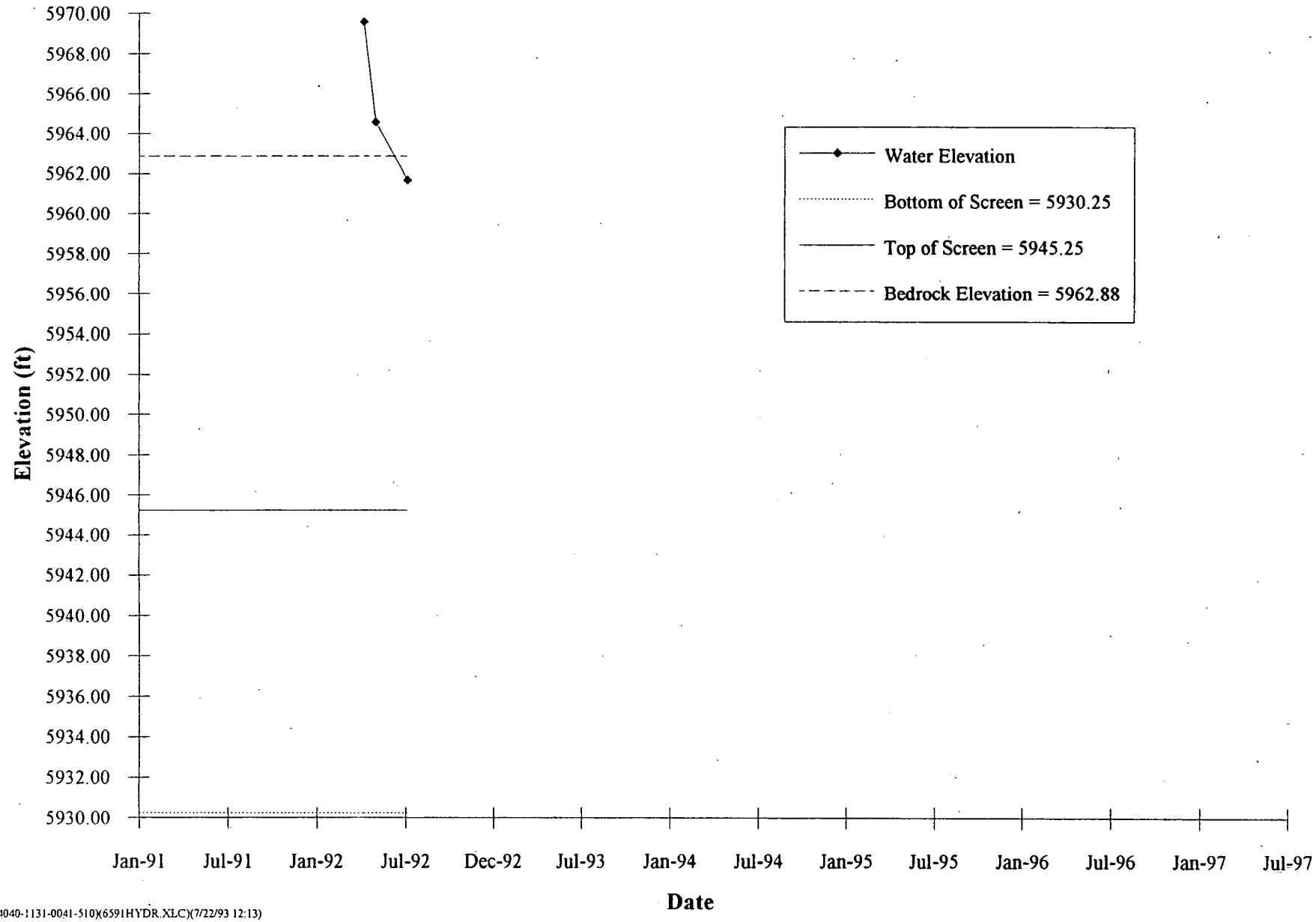
(4040-1131-0041-510)(4291HYD.XLC)(7/22/93 07:16)

Well 06291 Hydrograph
Arapahoe Claystone



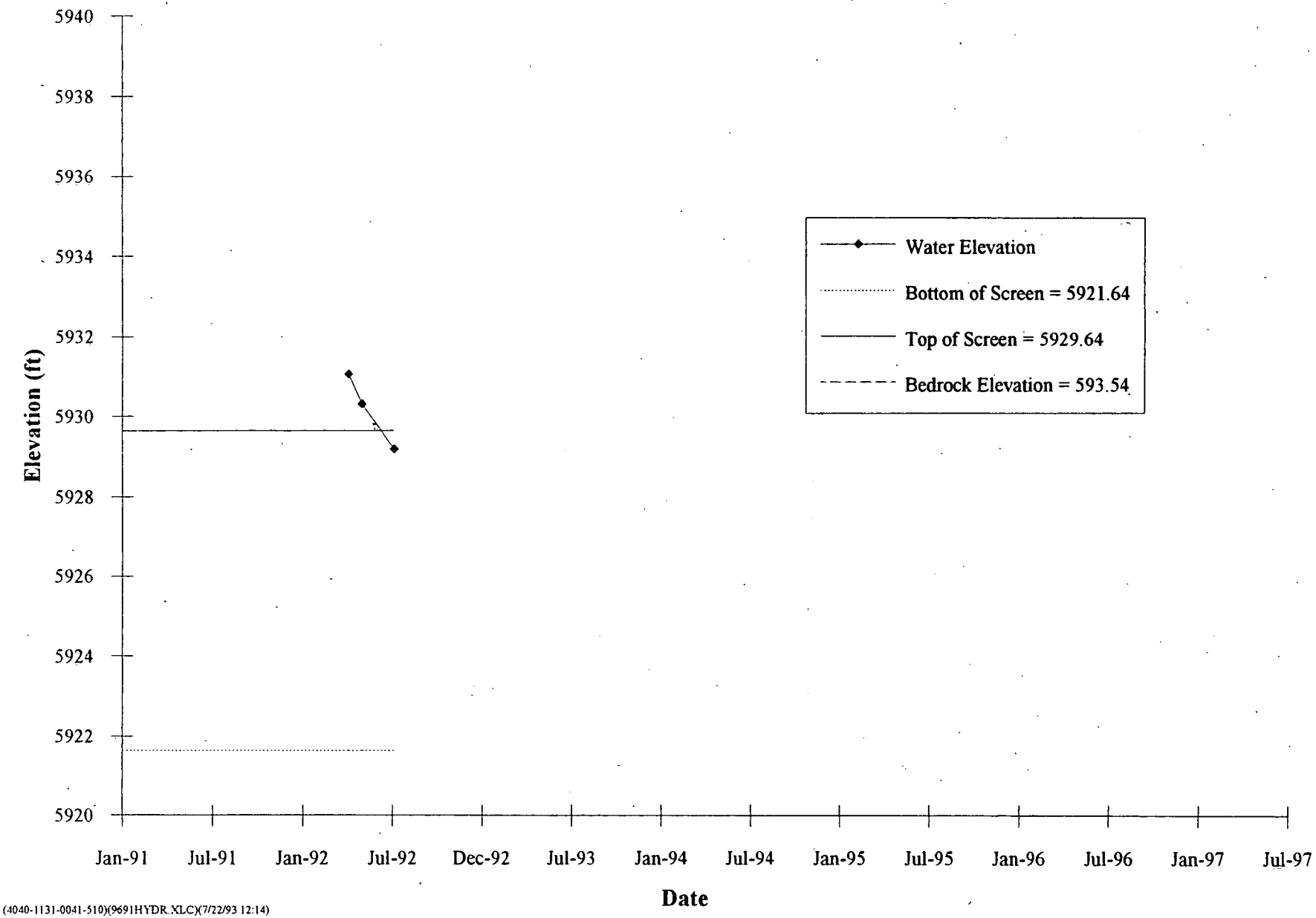
(4040-1131-0041-510)(6291HYD.XLC)(7/22/93 07:12)

Well 06591 Hydrograph
Arapahoe No. 1 Sandstone



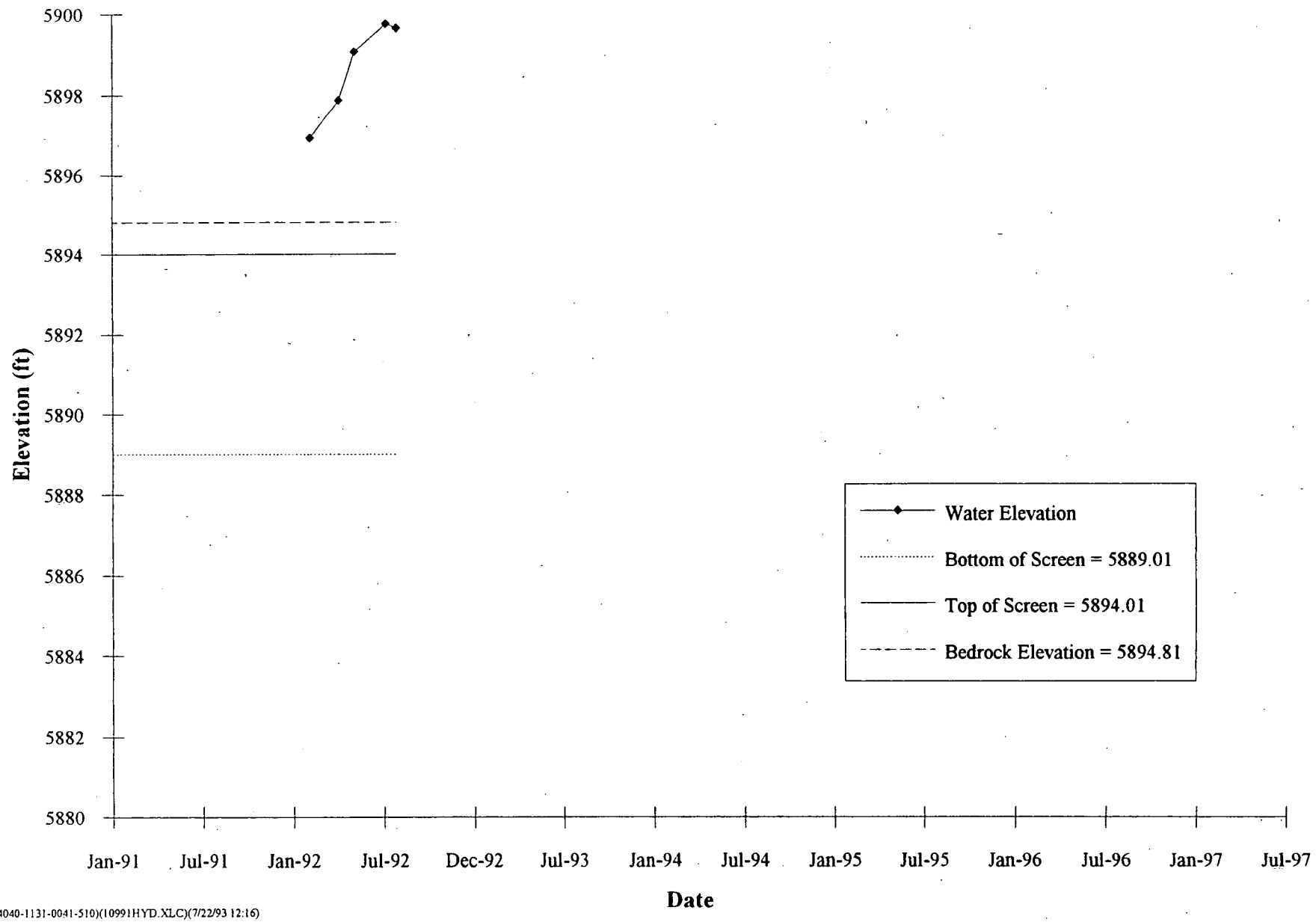
(4040-1131-0041-510)(6591HYDR.XLC)(7/22/93 12:13)

Well 09691 Hydrograph
Arapahoe No. 1 Sandstone



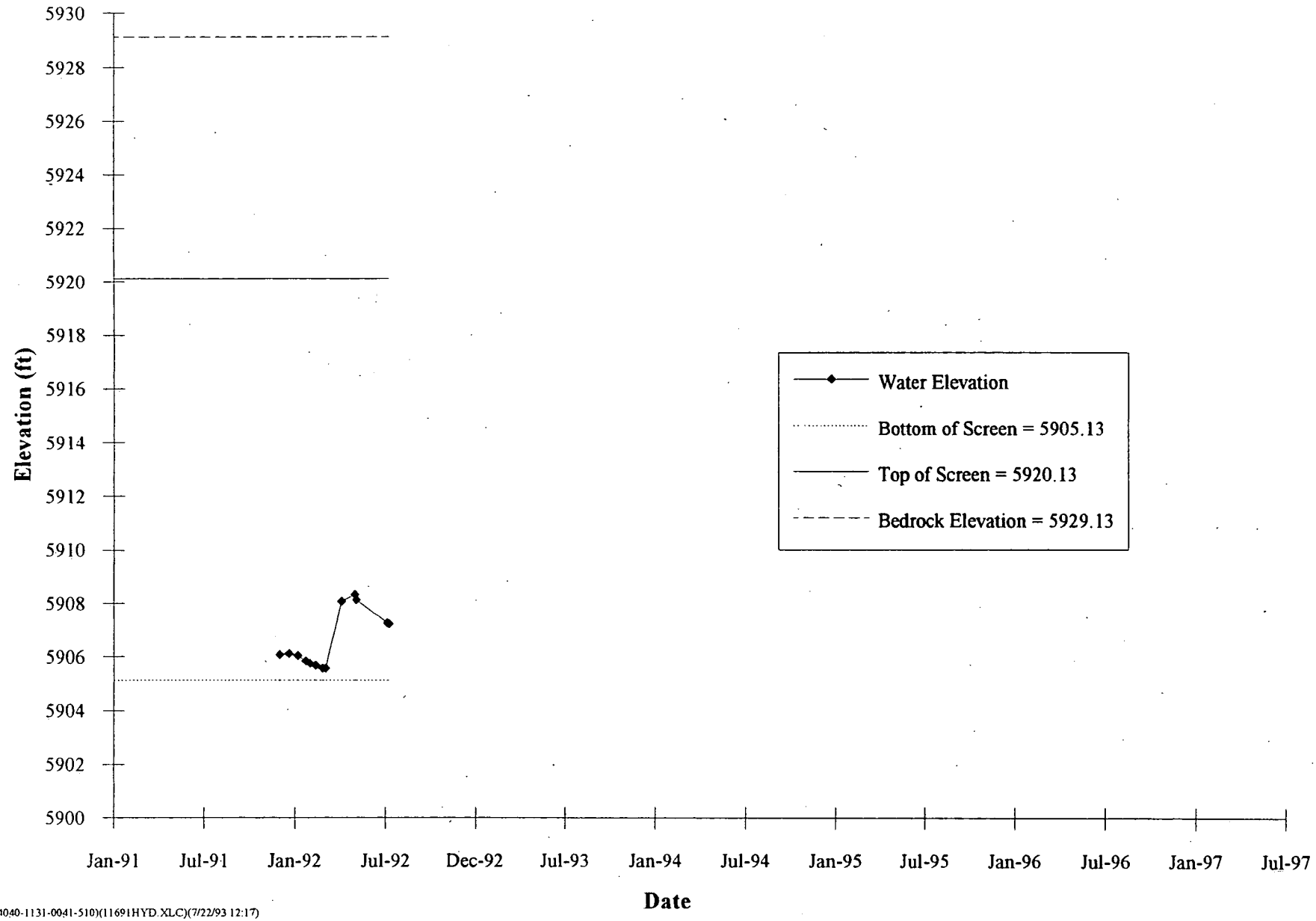
(4040-1131-0041-510)(9691HYDR.XLC)(7/22/93 12:14)

Well 10991 Hydrograph
Arapahoe No. 1 Sandstone



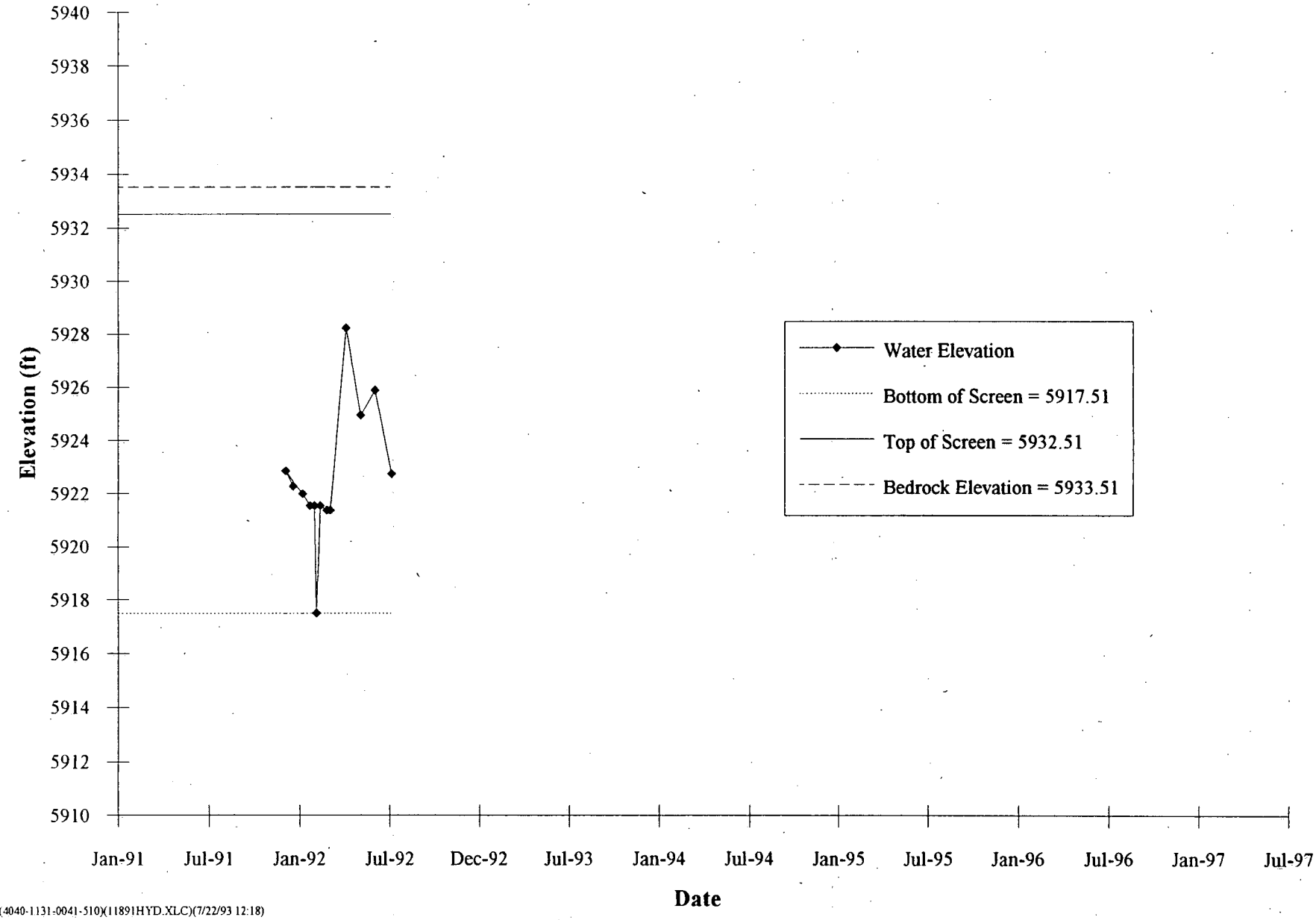
(4040-1131-0041-510)(10991HYD.XLC)(7/22/93 12:16)

Well 11691 Hydrograph
Arapahoe No. 1 Sandstone



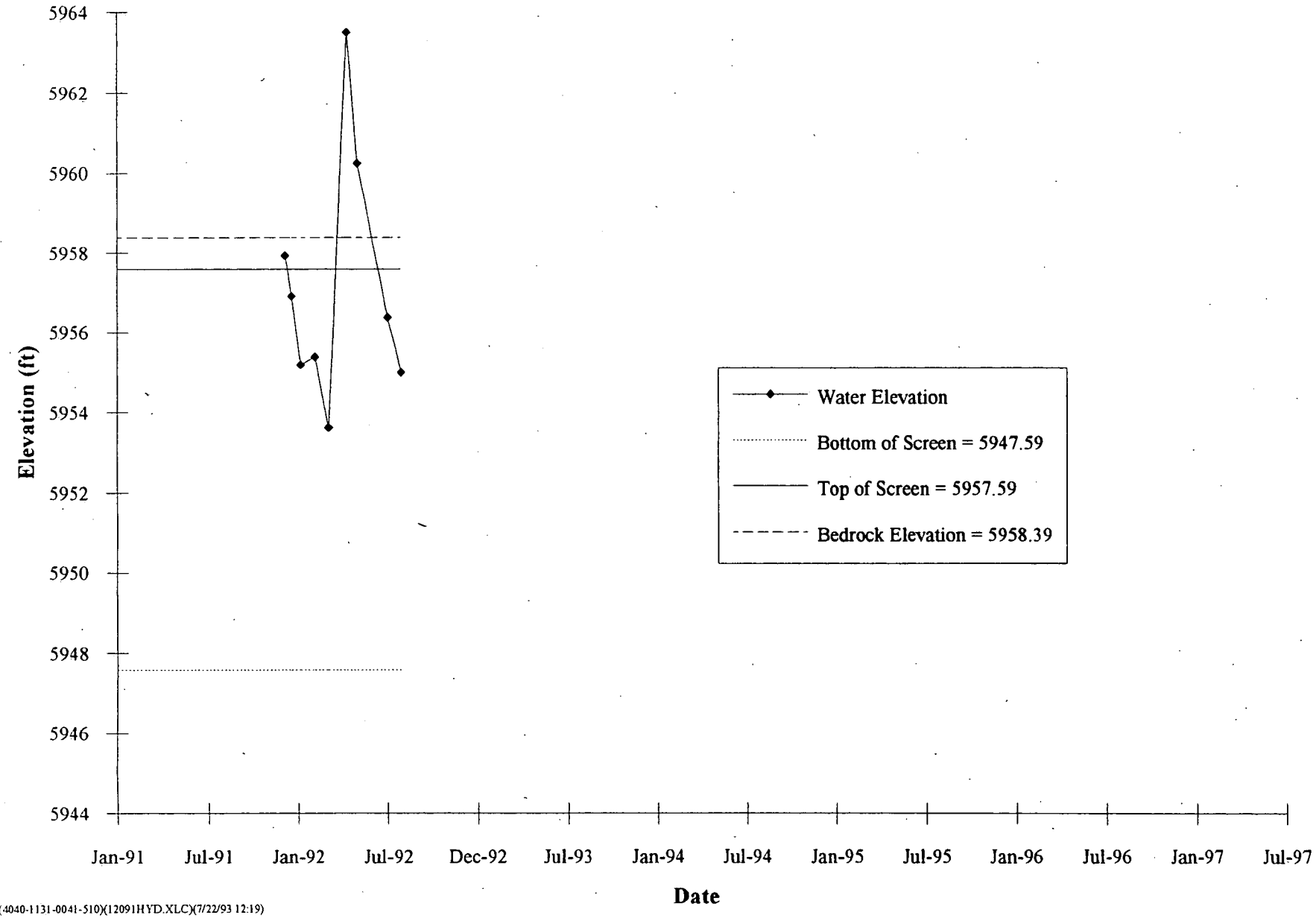
(4040-1131-0041-510)(11691HYD.XLC)(7/22/93 12:17)

Well 11891 Hydrograph
Arapahoe No. 1 Sandstone



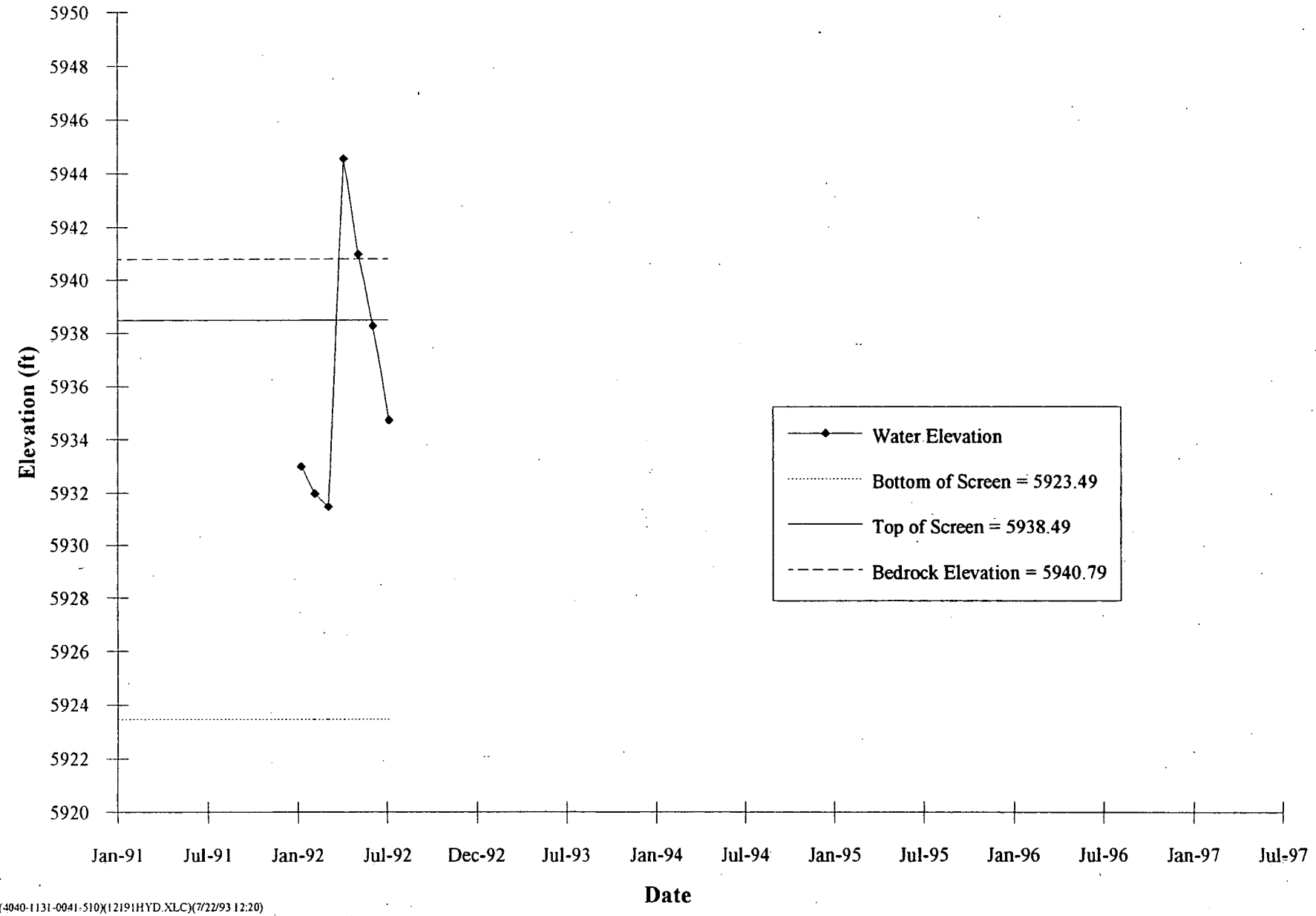
(4040-1131-0041-510)(11891HYD.XLC)(7/22/93 12:18)

Well 12091 Hydrograph
Arapahoe No. 1 Sandstone



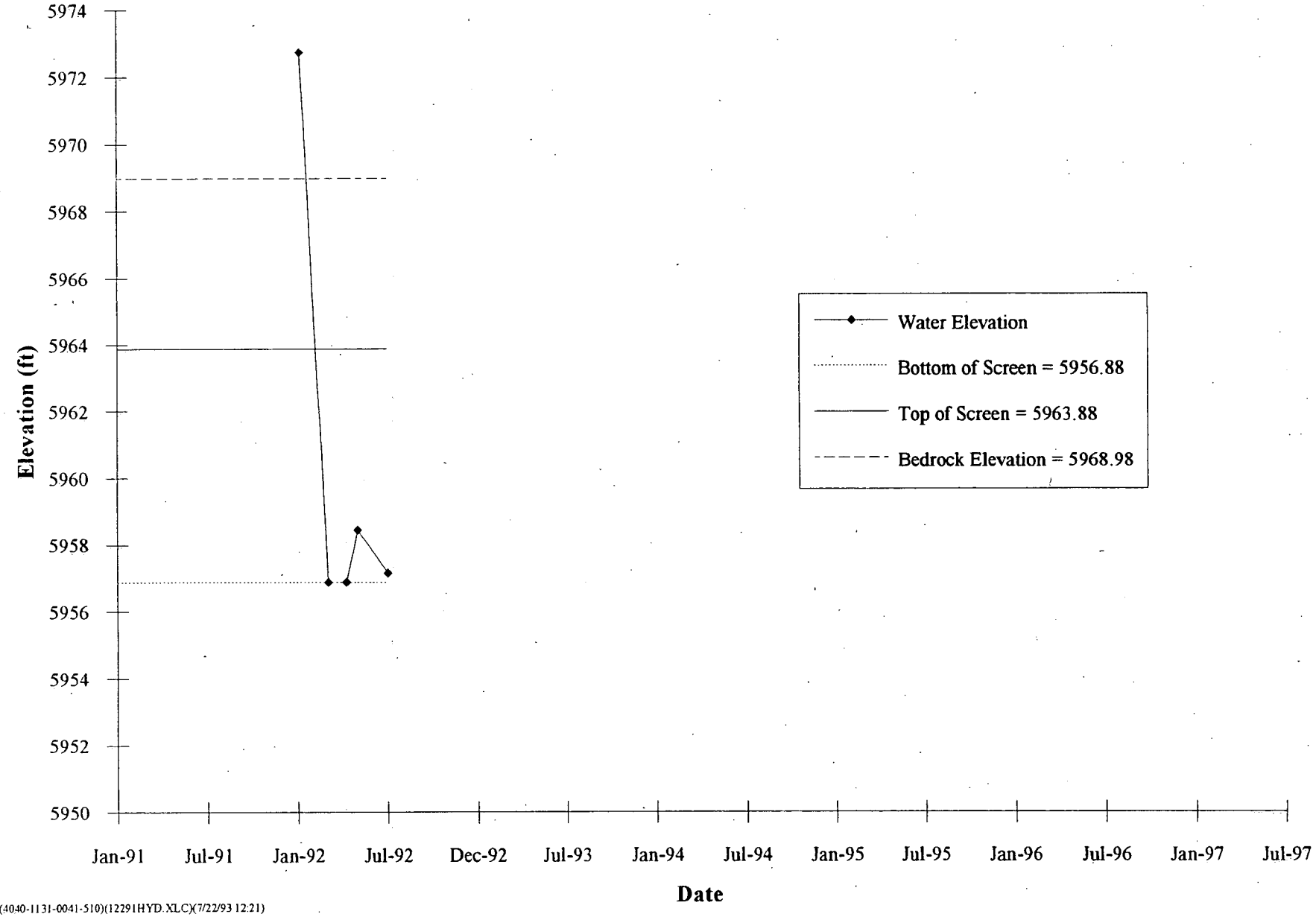
(4040-1131-0041-510)(12091HYD.XLC)(7/22/93 12:19)

Well 12191 Hydrograph
Arapahoe No. 1 Sandstone



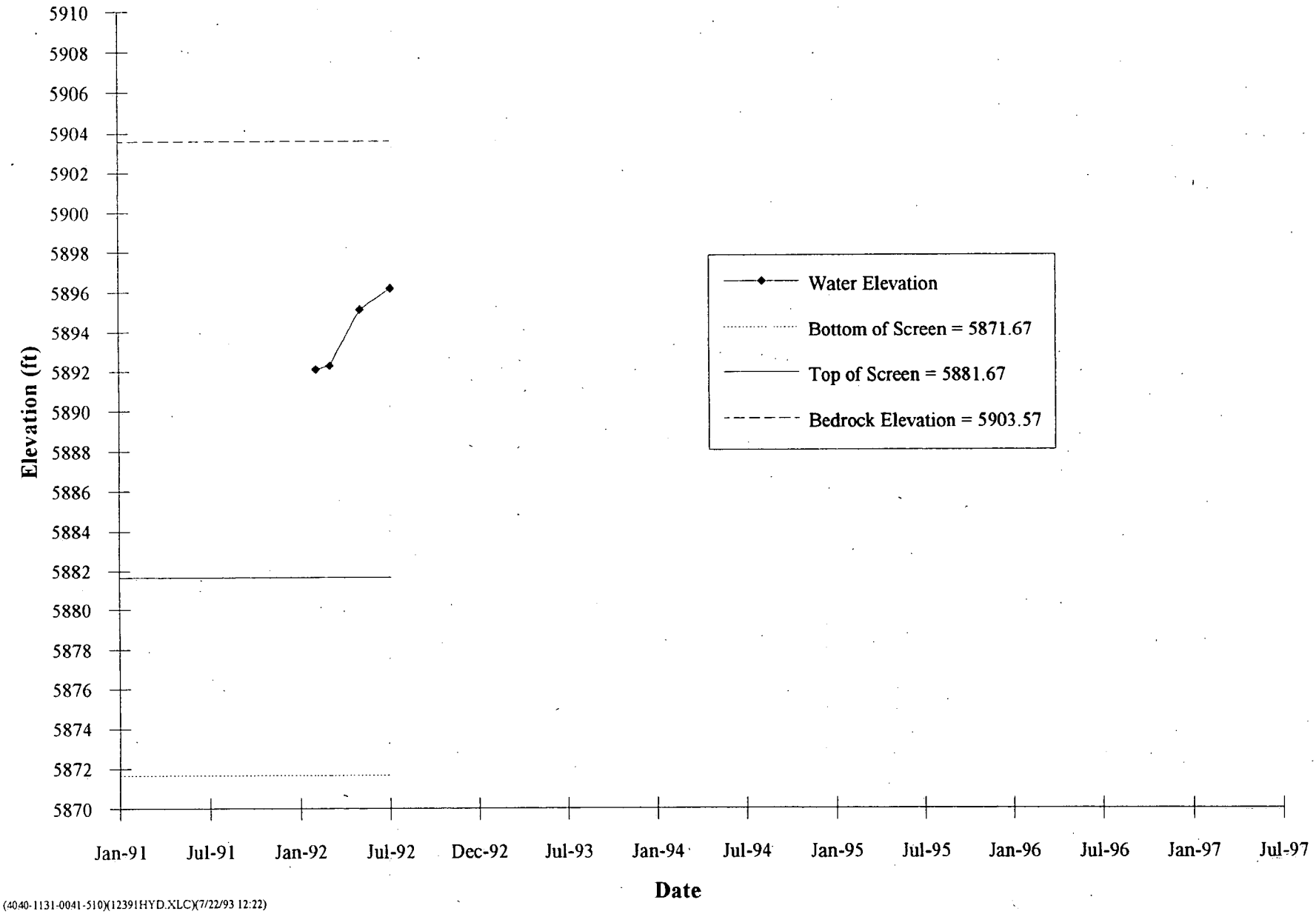
(4040-1131-0041-510)(12191HYD.XLC)(7/22/93 12:20)

Well 12291 Hydrograph
Arapahoe No. 1 Sandstone



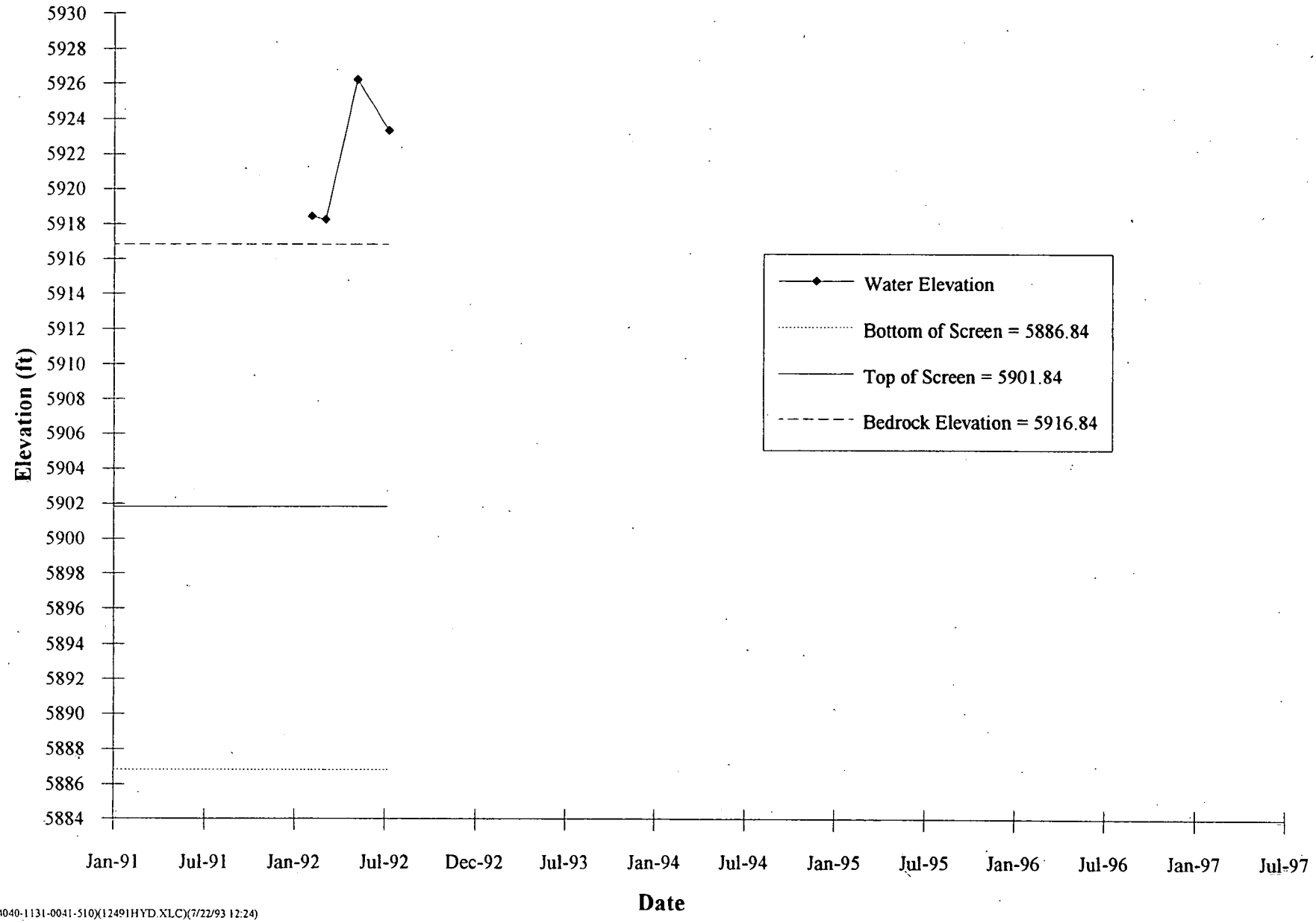
(4040-1131-0041-510)(12291HYD.XLC)(7/22/93 12:21)

Well 12391 Hydrograph
Arapahoe No. 1 & Laramie Sandstones



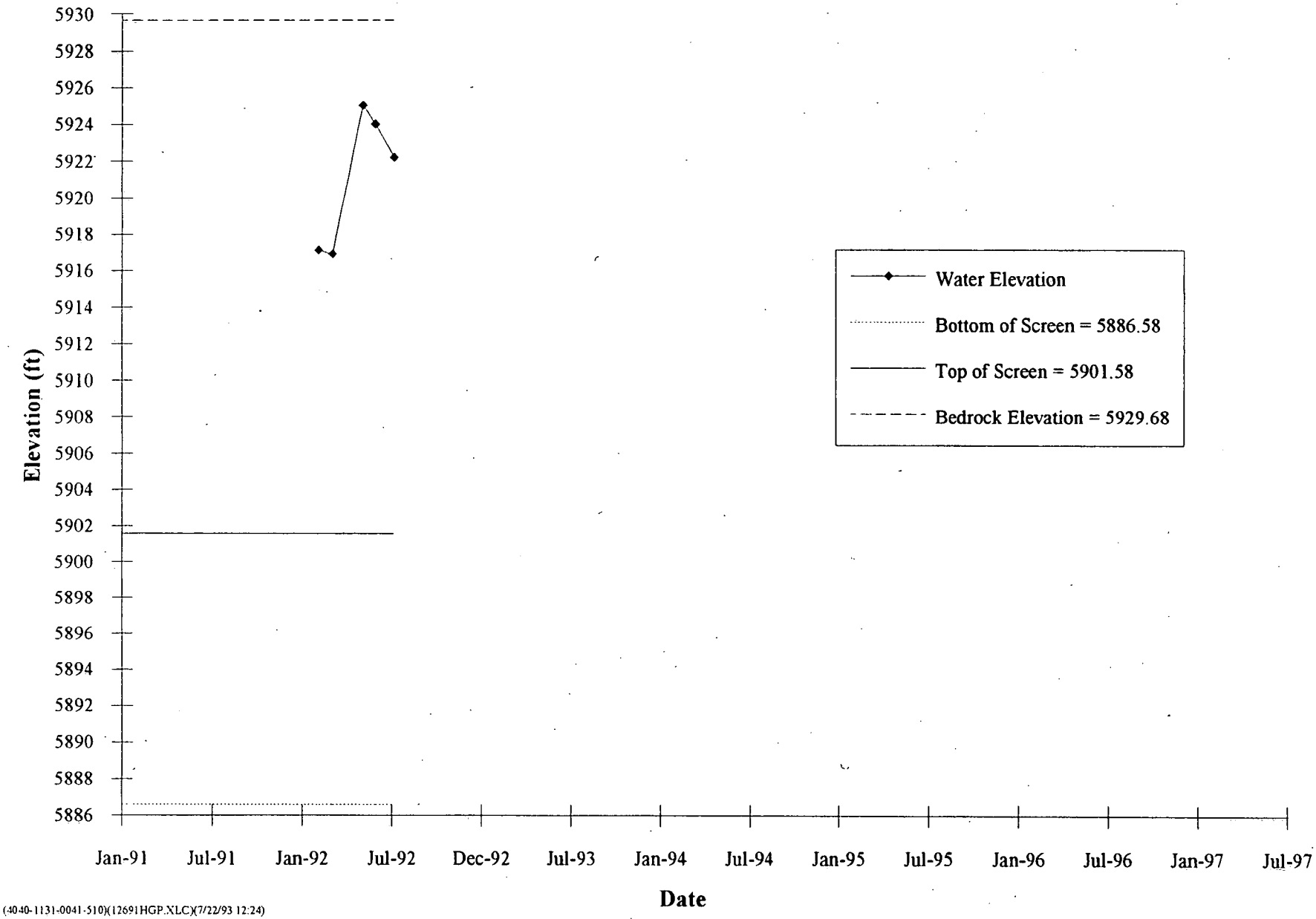
(4040-1131-0041-510)(12391HYD.XLC)(7/22/93 12:22)

Well 12491 Hydrograph
Arapahoe No. 1 Sandstone



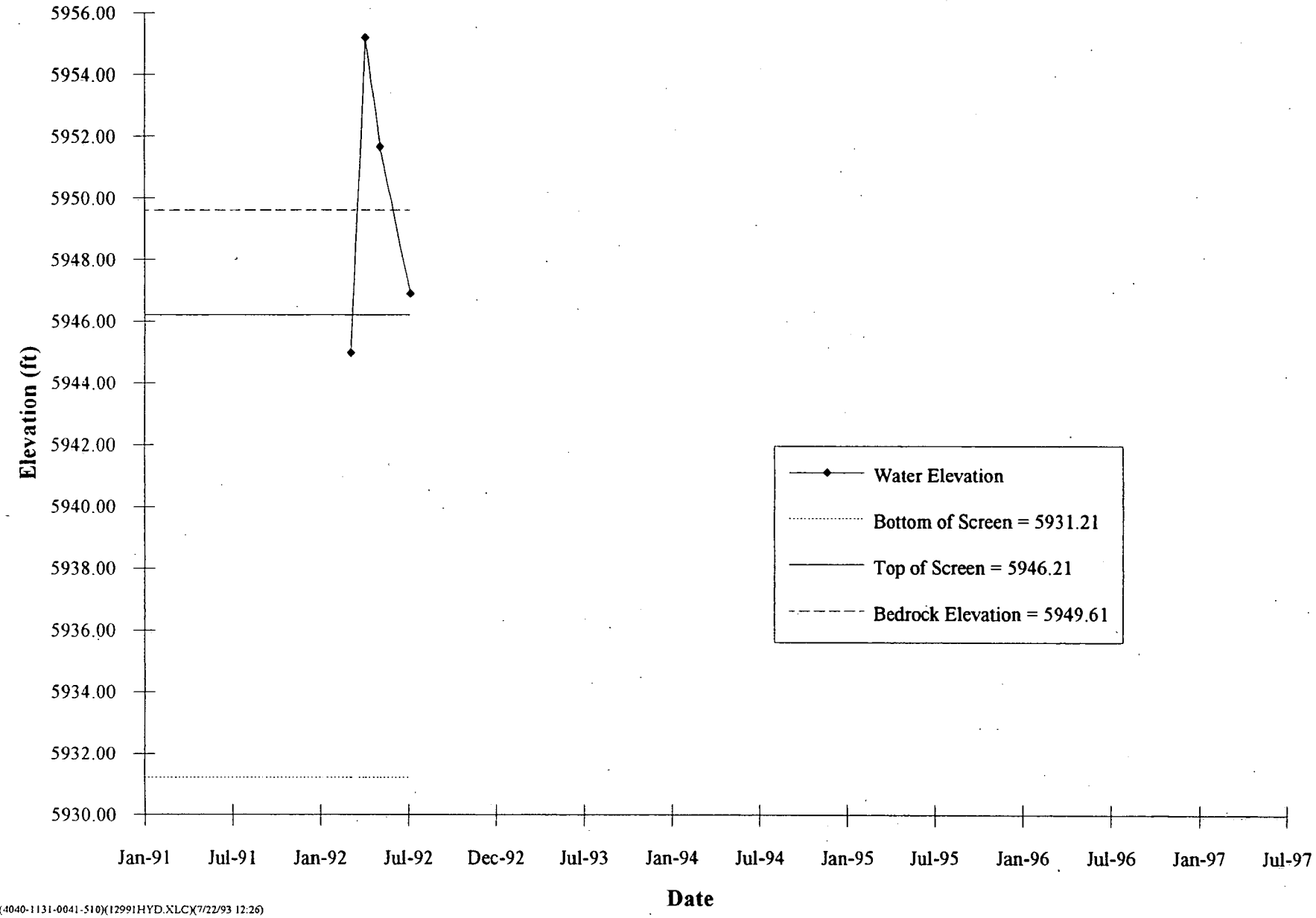
(4040-1131-0041-510)(12491HYD.XLC)(7/22/93 12:24)

Well 12691 Hydrograph
Arapahoe No. 1 Sandstone



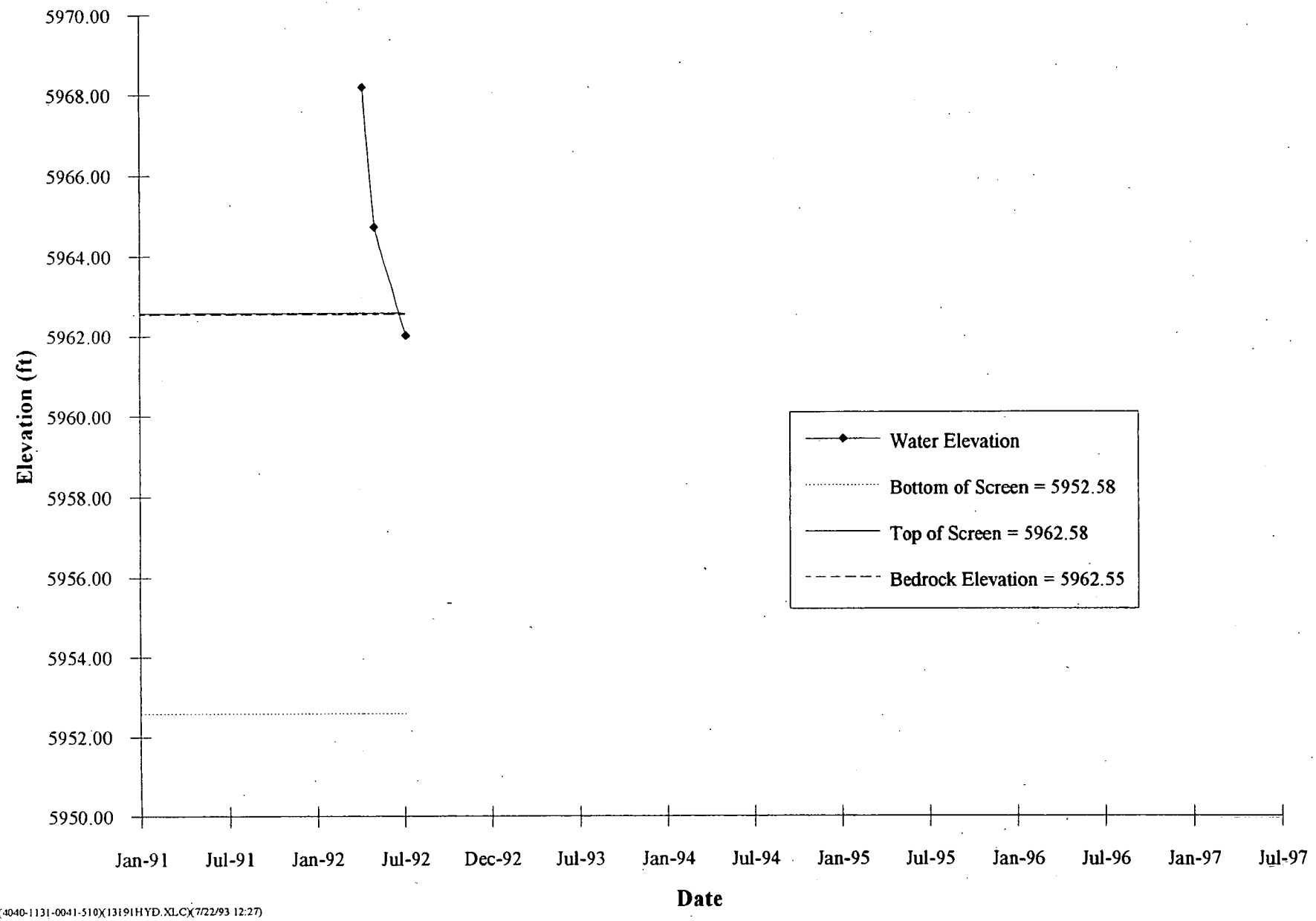
(4040-1131-0041-510)(12691HGP.XLC)(7/22/93 12:24)

Well 12991 Hydrograph
Arapahoe No. 1 Sandstone



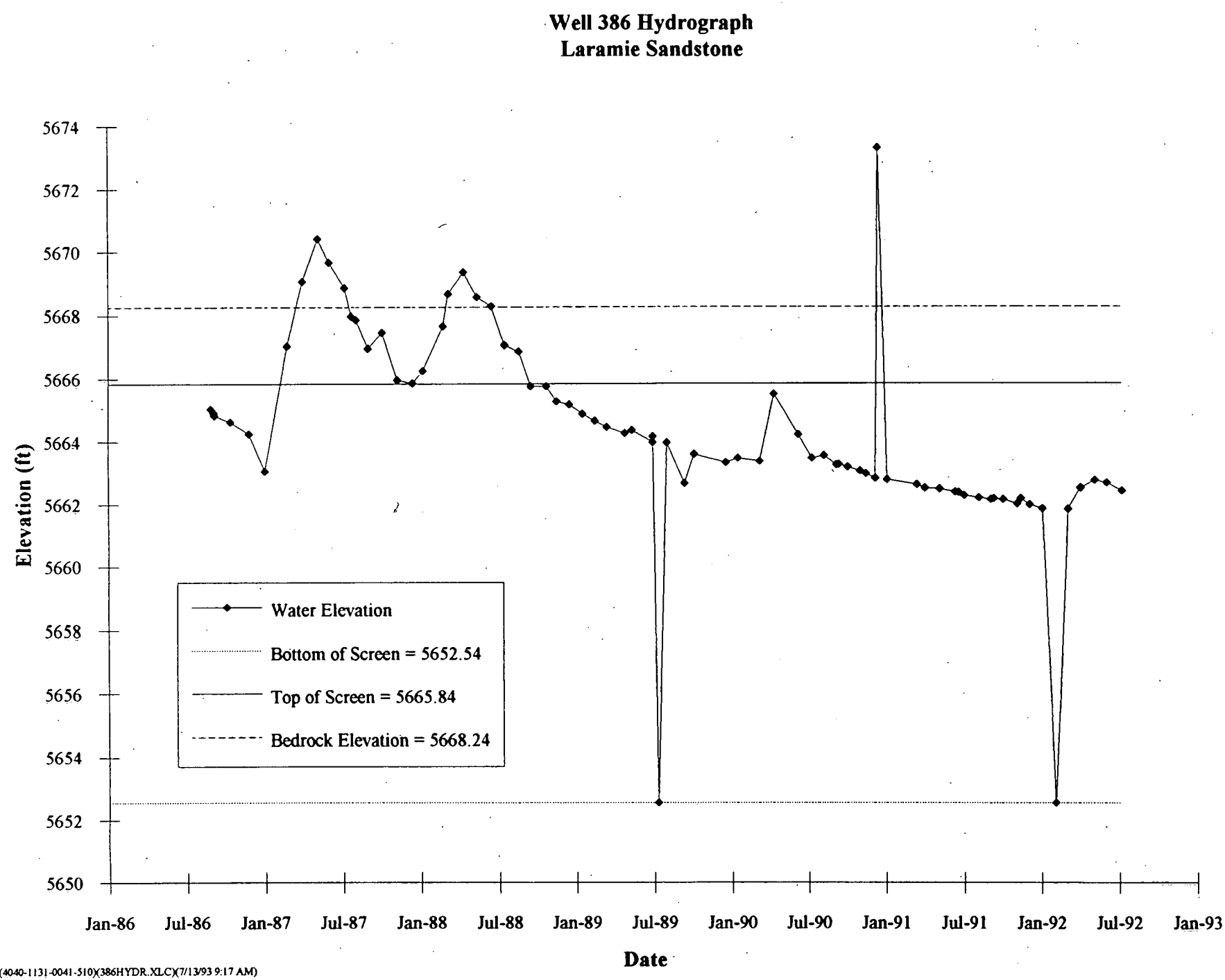
(4040-1131-0041-510)(12991HYD.XLC)(7/22/93 12:26)

Well 13191 Hydrograph
Arapahoe No. 1 Sandstone

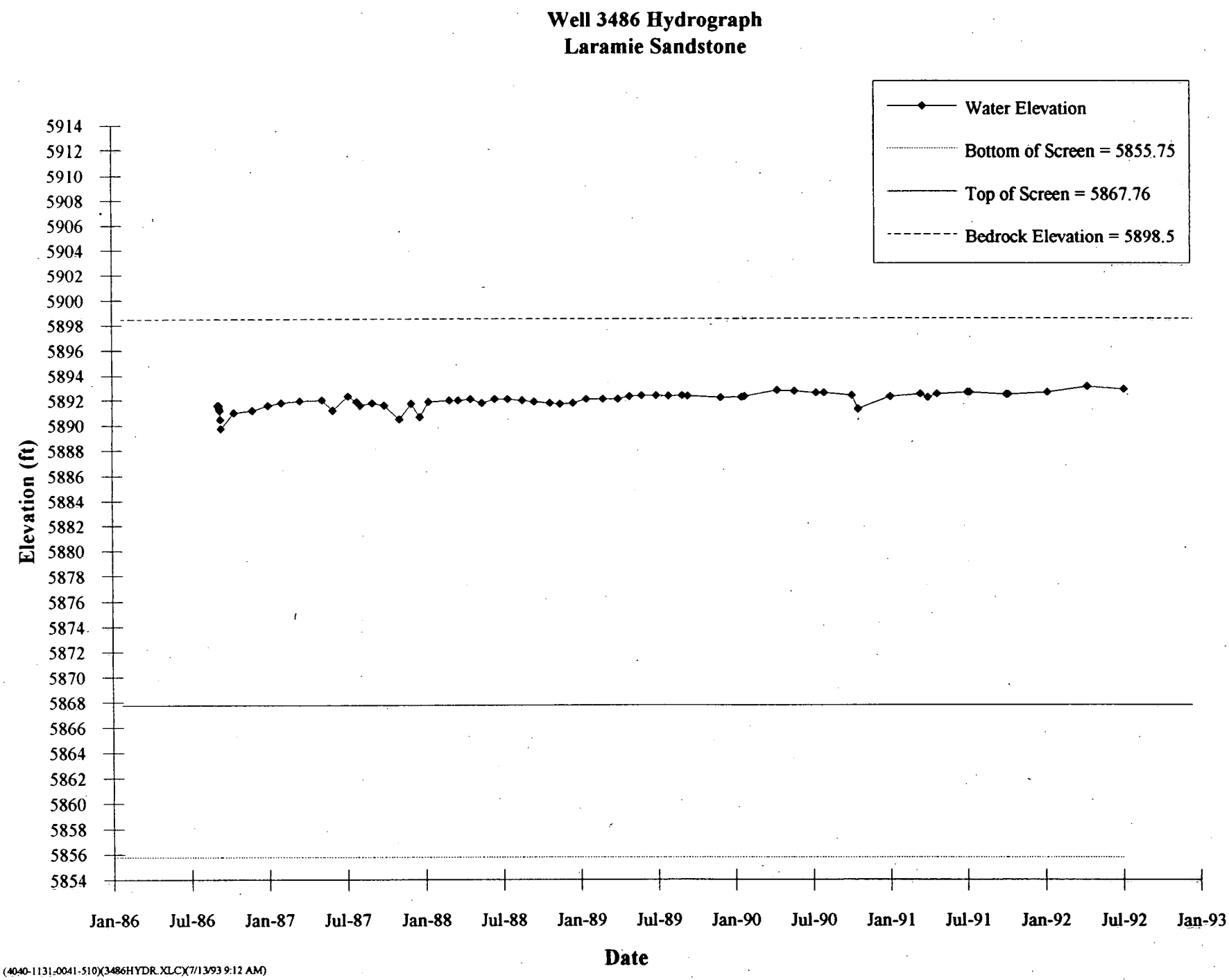


(4040-1131-0041-510)(13191HYD.XLC)(7/22/93 12:27)

LARAMIE FORMATION

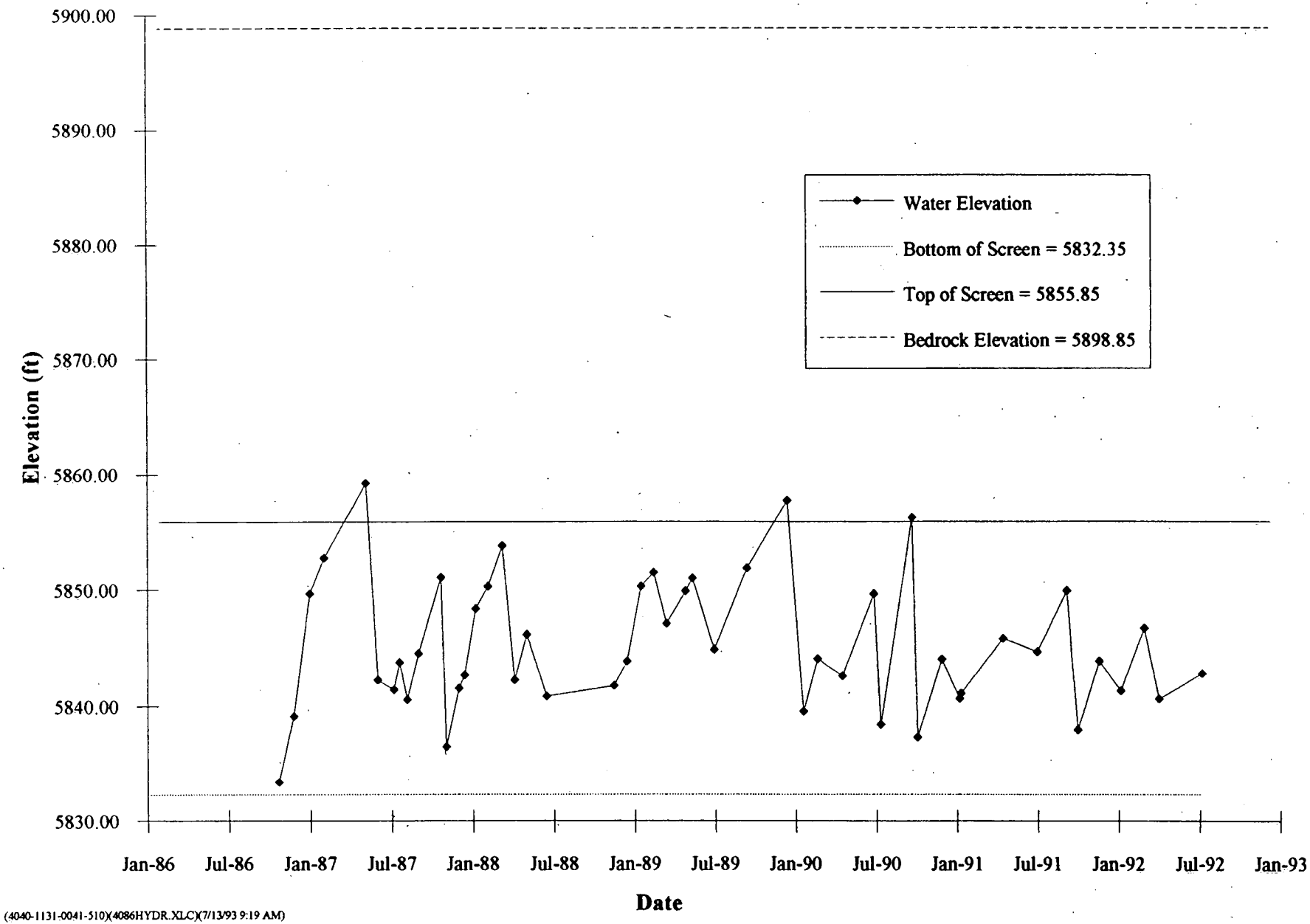


(4040-1131-0041-510)(386HYDR.XLC)(7/13/93 9:17 AM)

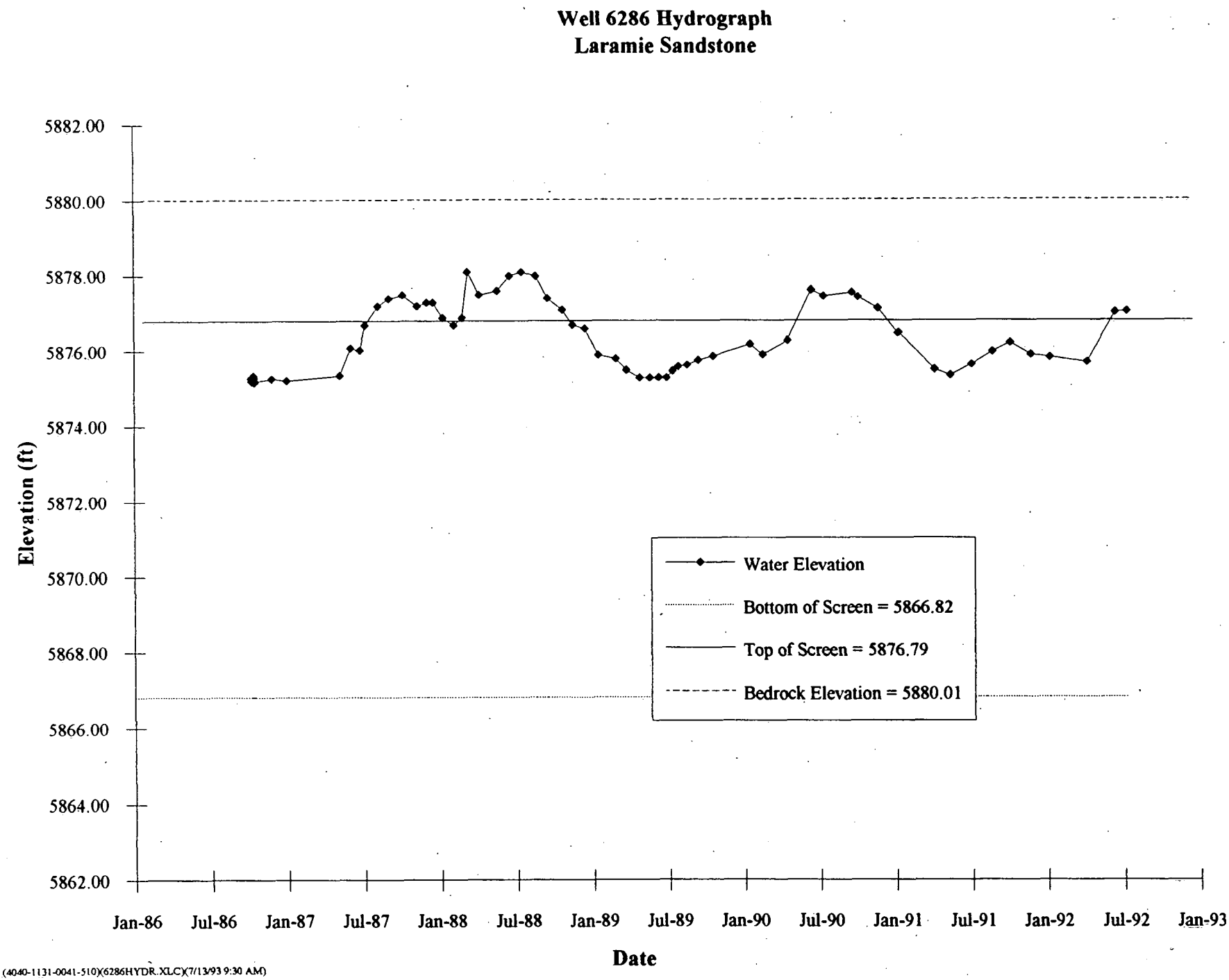


(4040-1131-0041-510)(3486HYDR.XLC)(7/13/93 9:12 AM)

Well 4086 Hydrograph
Laramie Claystone

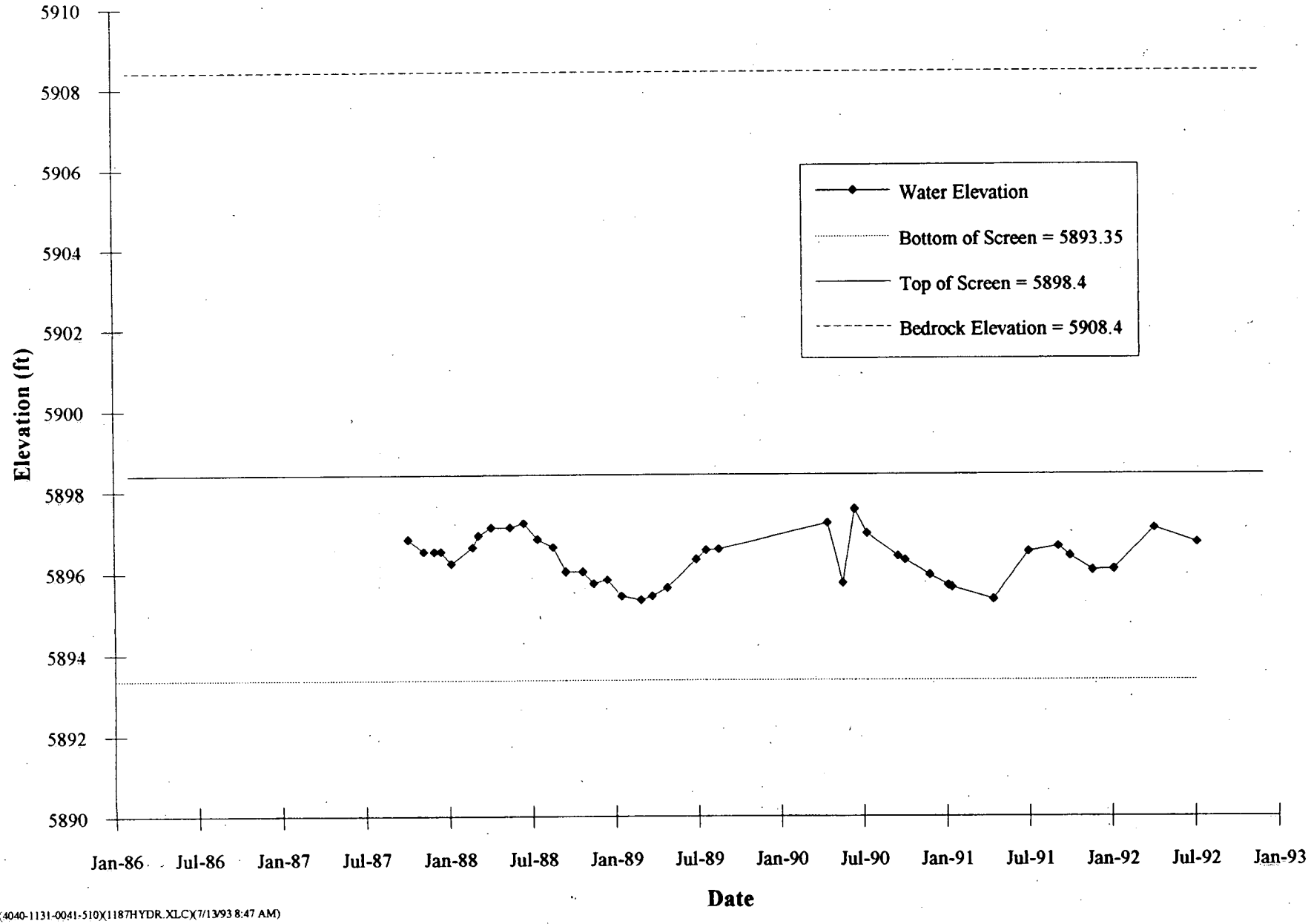


(4040-1131-0041-510)(4086HYDR.XLC)(7/13/93 9:19 AM)



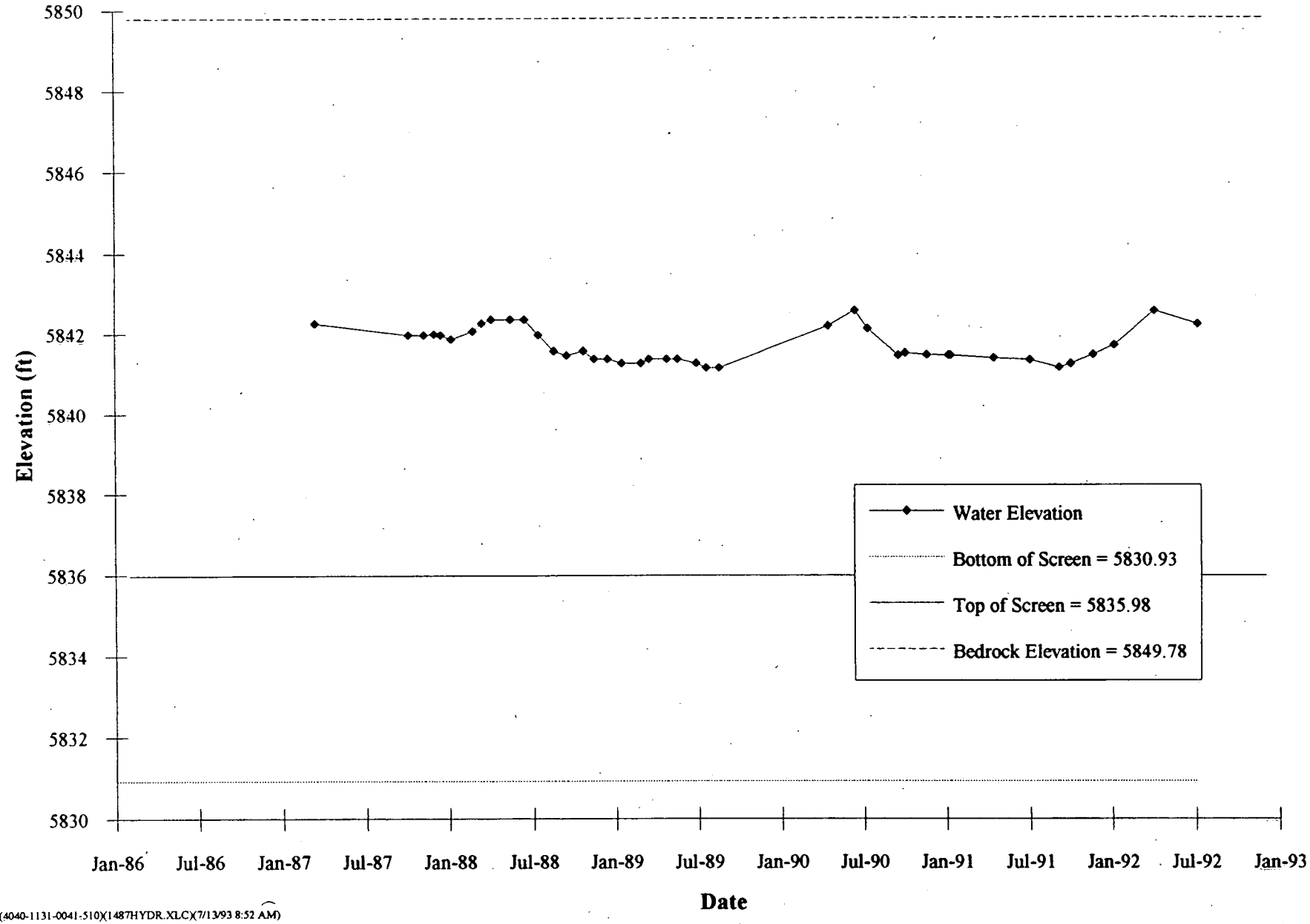
(4040-1131-0041-510)(6286HYDR.XLC)(7/13/93 9:30 AM)

Well 1187 Hydrograph
Laramie Sandstone

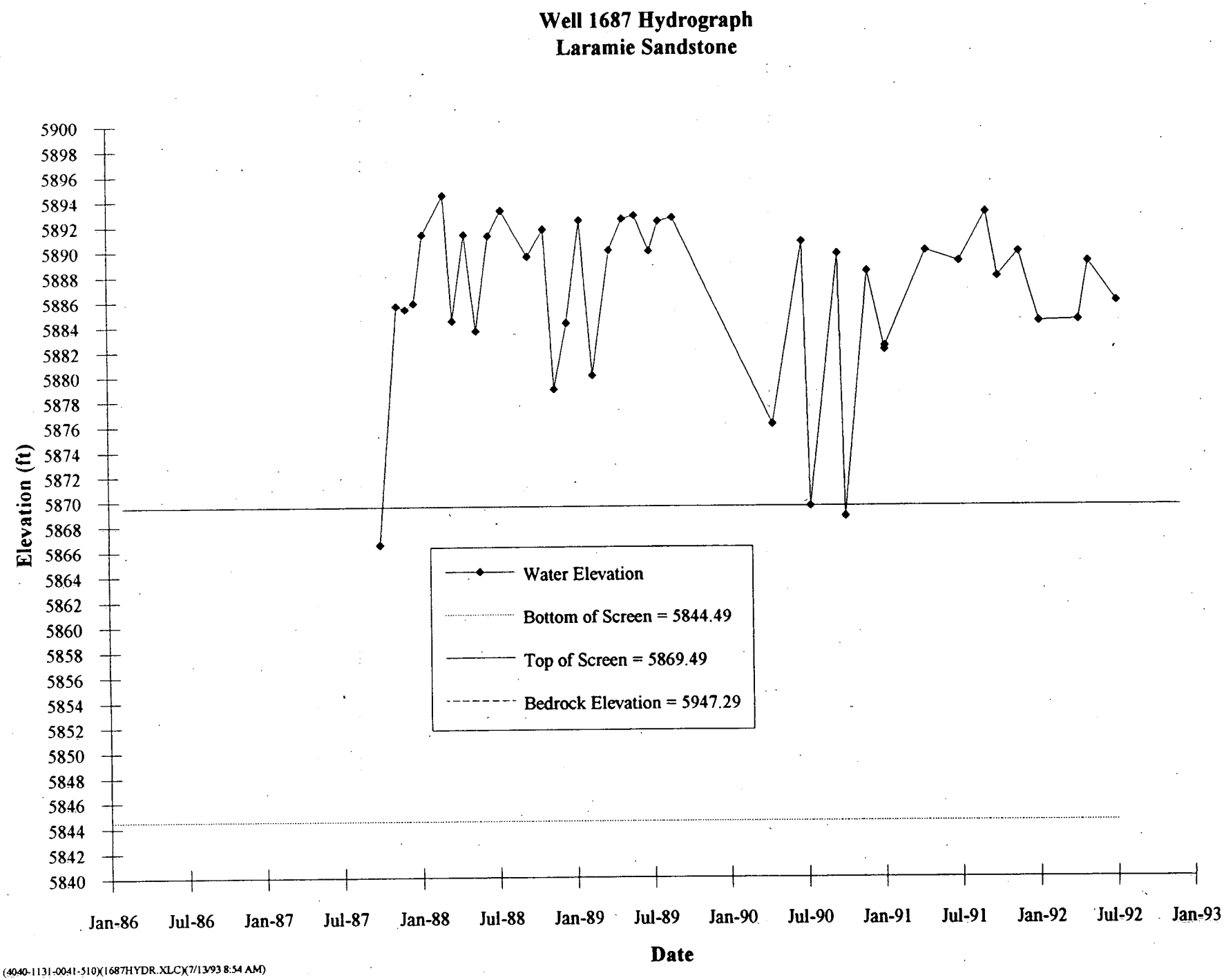


(4040-1131-0041-510)(1187HYDR.XLC)(7/13/93 8:47 AM)

Well 1487 Hydrograph
Laramie Sandstone/Claystone

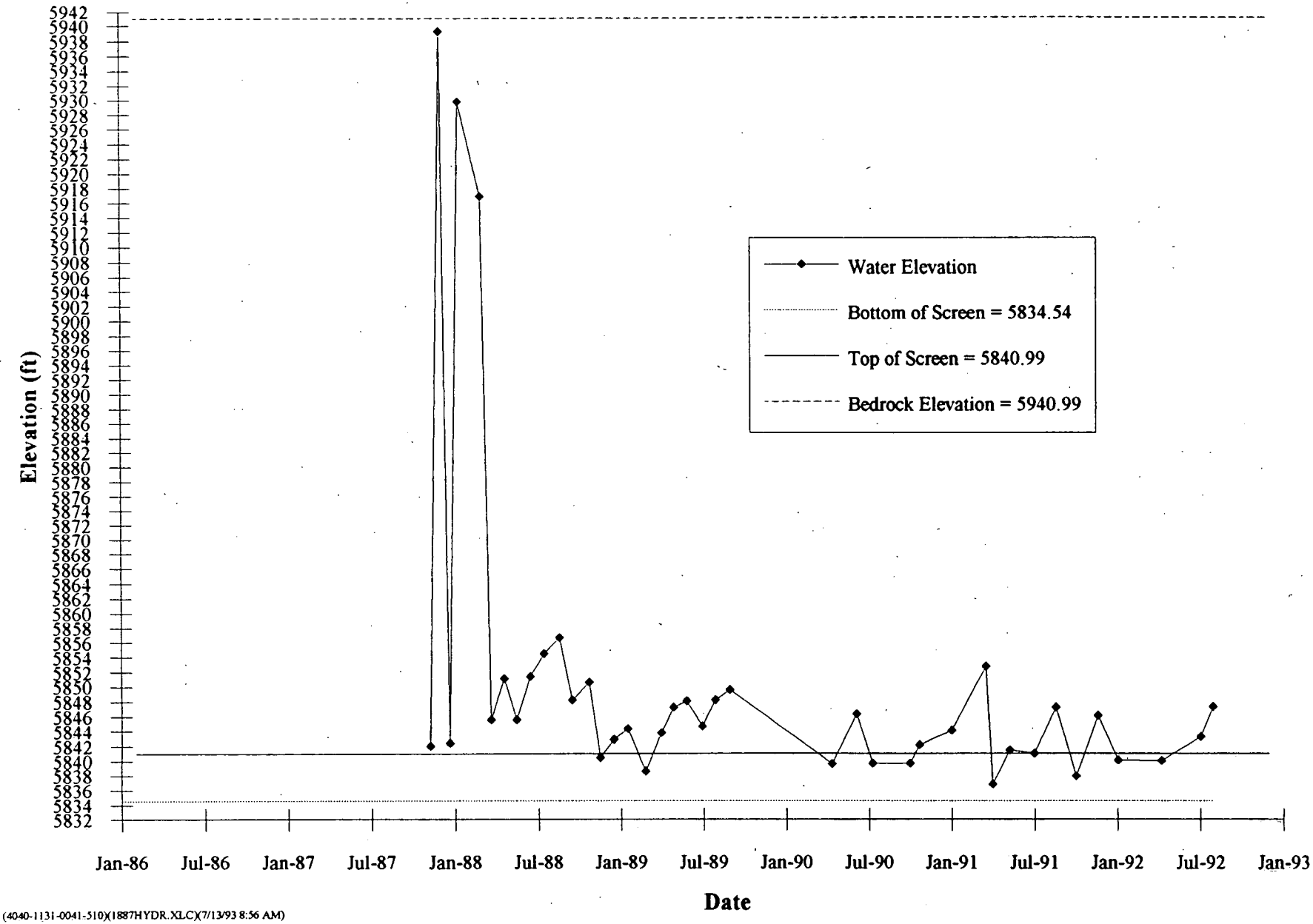


(4040-1131-0041-510)(1487HYDR.XLC)(7/13/93 8:52 AM)



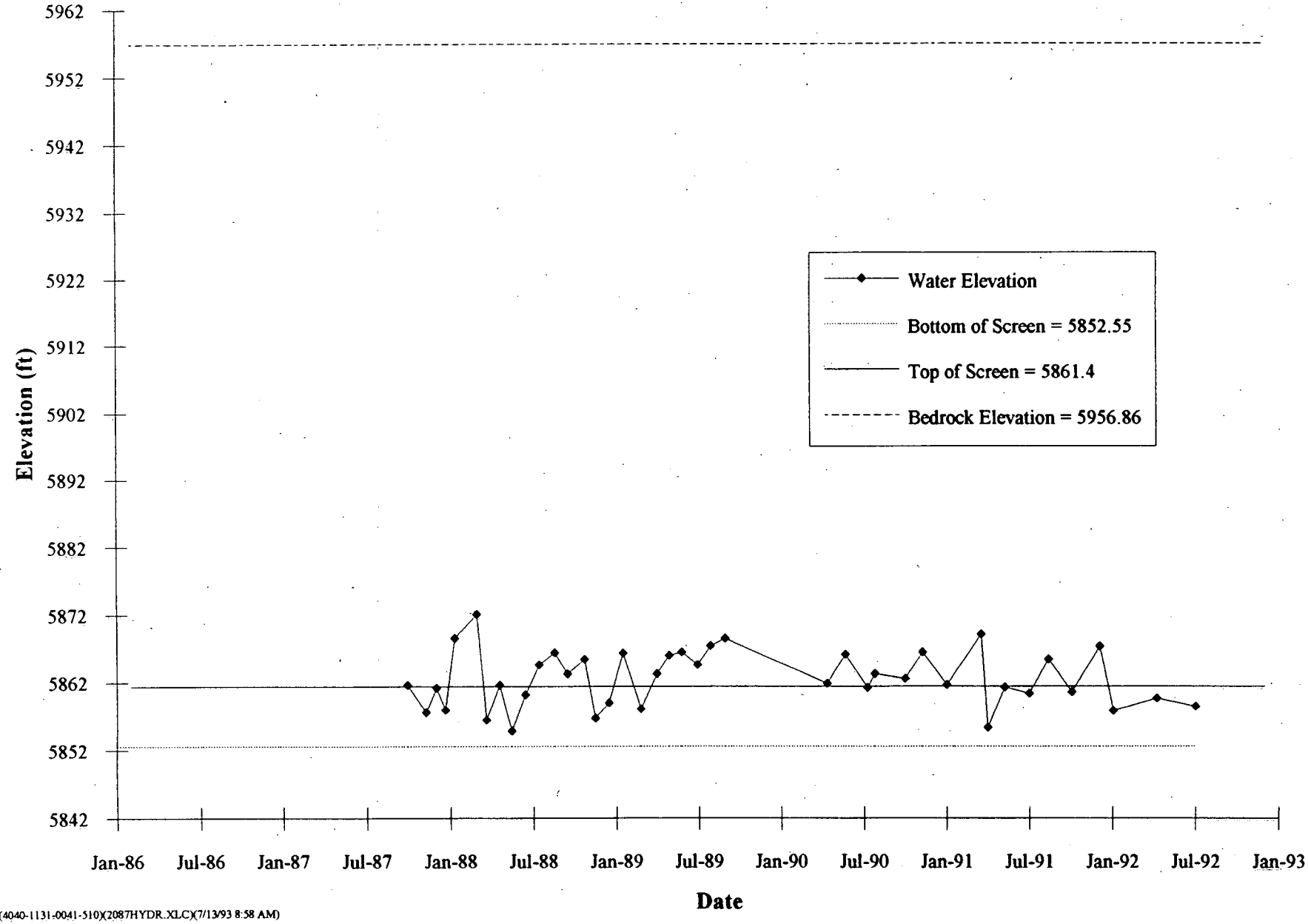
(4040-1131-0041-510)(1687HYDR.XLC)(7/13/93 8:54 AM)

Well 1887 Hydrograph
Laramie Sandstone



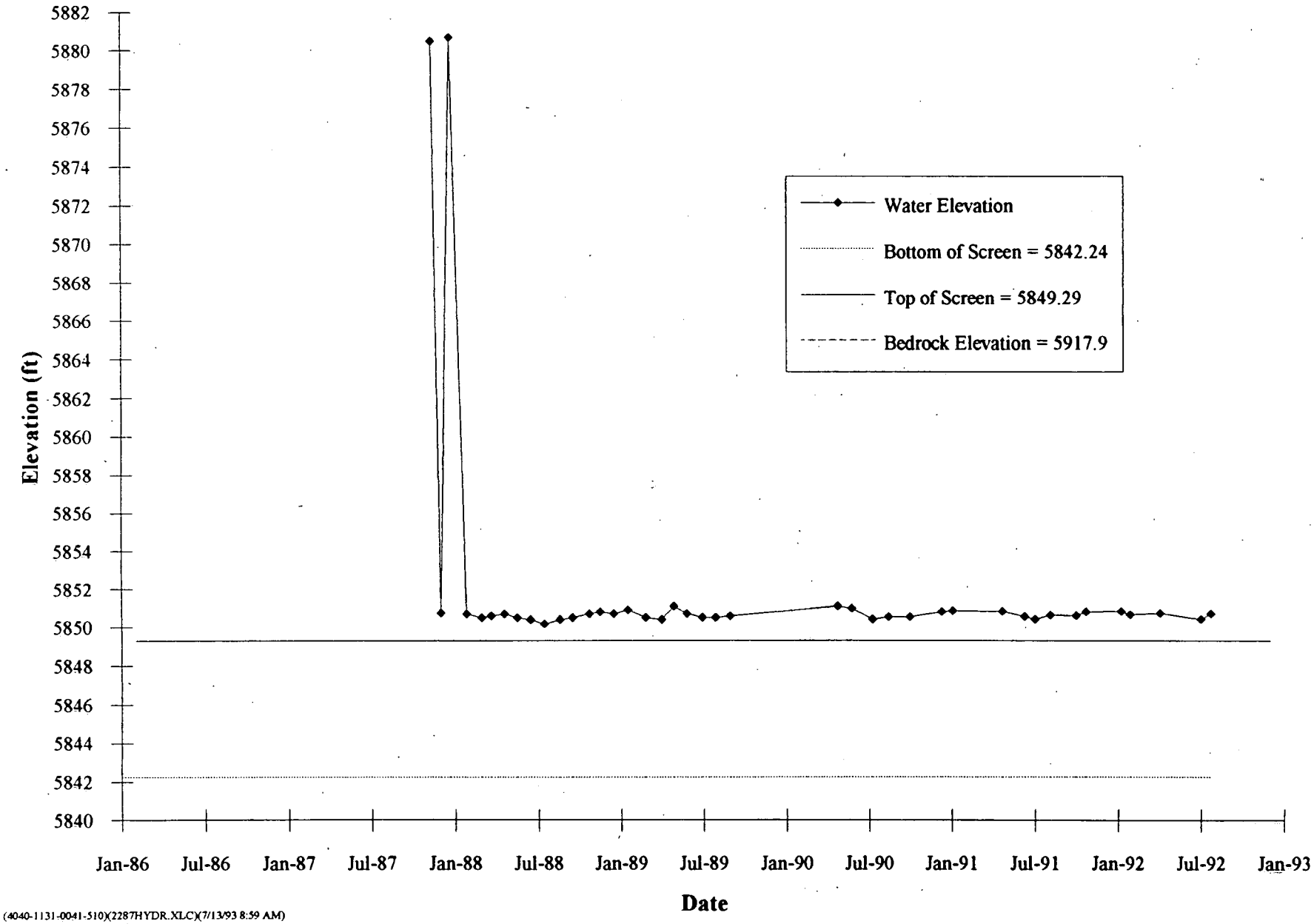
(4040-1131-0041-510)(1887HYDR.XLC)(7/13/93 8:56 AM)

Well 2087 Hydrograph
Laramie Claystone



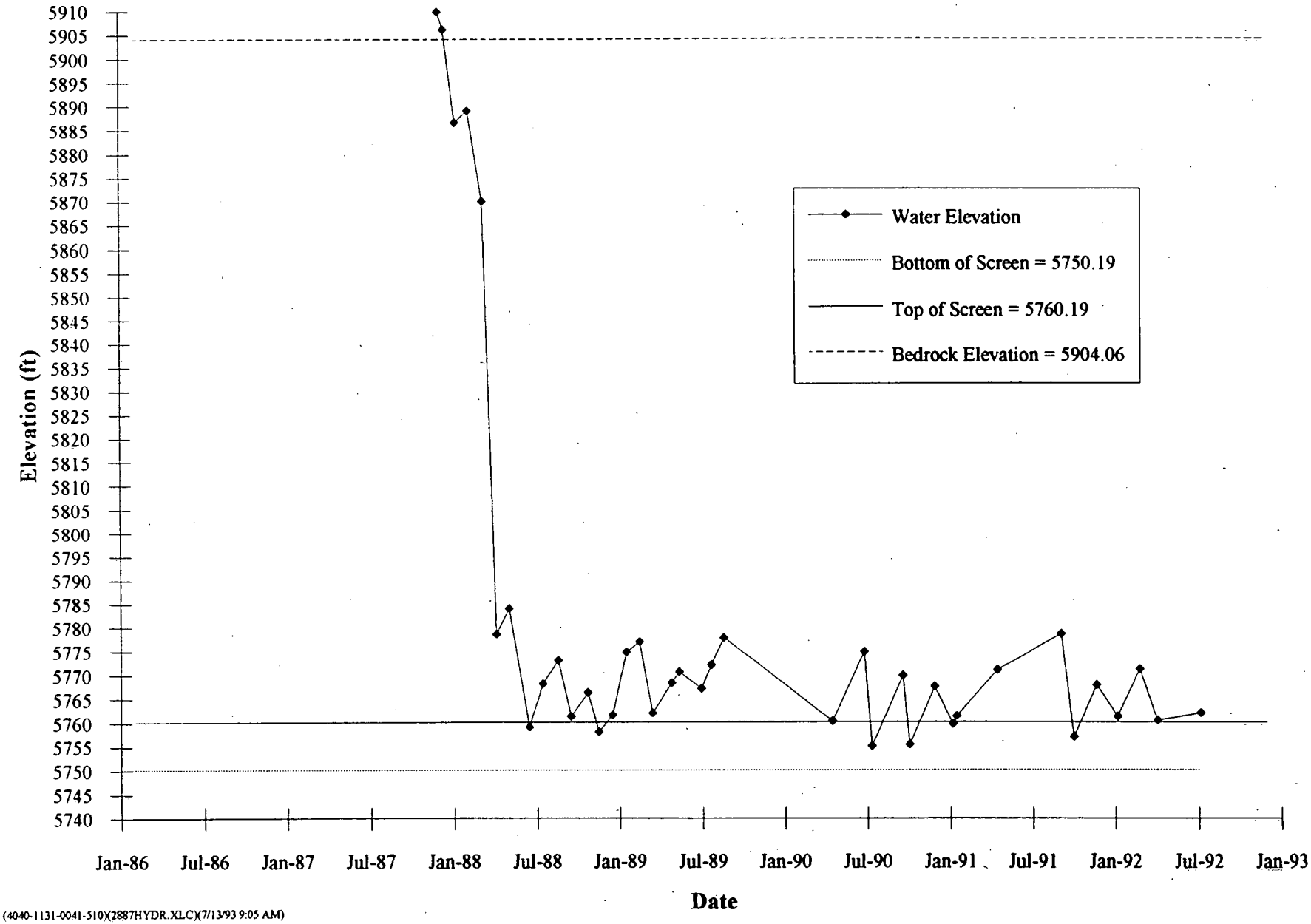
(4040-1131-0041-510)(2087HYDR.XLC)(7/13/93 8:58 AM)

Well 2287 Hydrograph
Laramie Sandstone



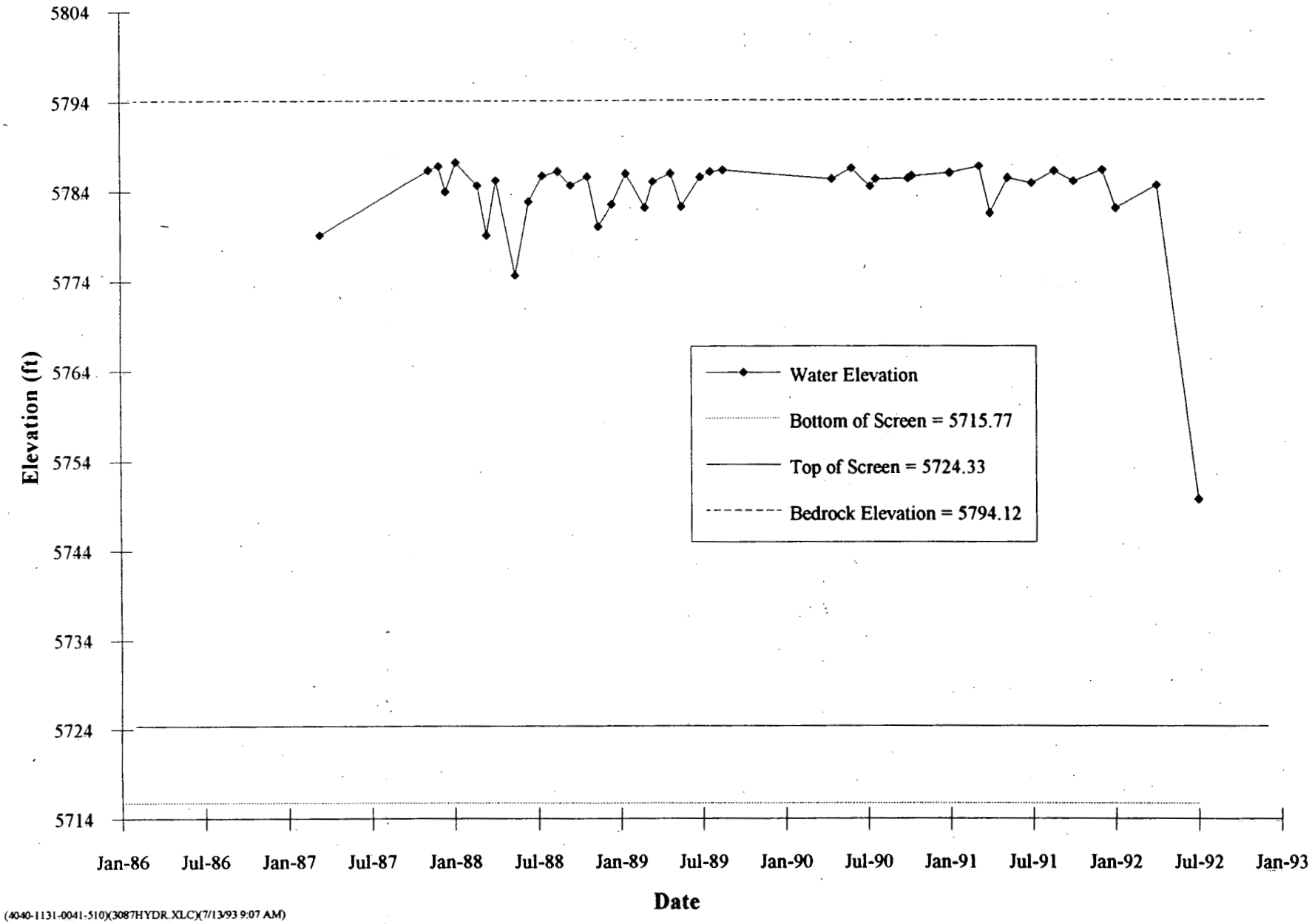
(4040-1131-0041-510)(2287HYDR.XLC)(7/13/93 8:59 AM)

Well 2887 Hydrograph
Laramie Sandstone



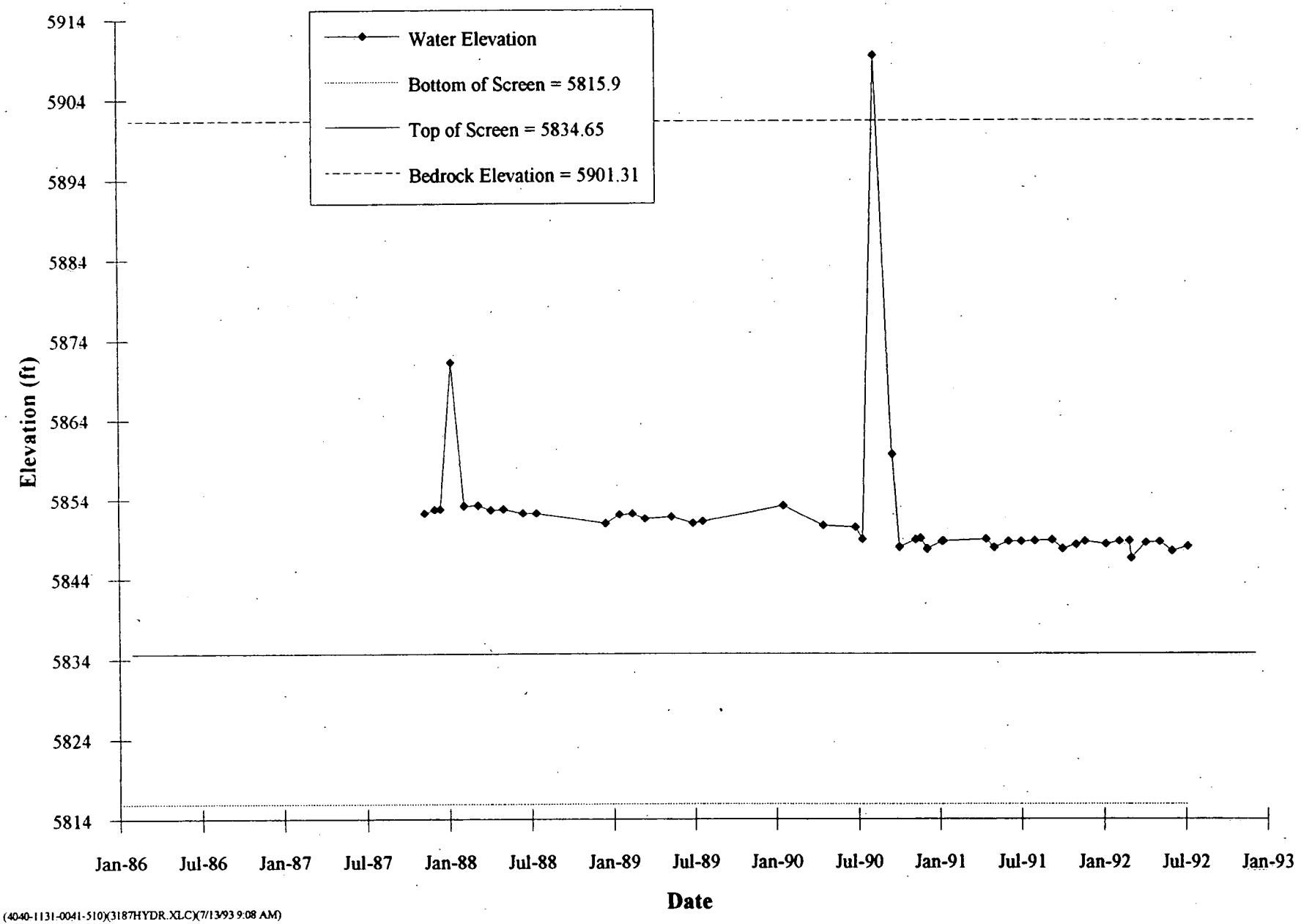
(4040-1131-0041-510)(2887HYDR.XLC)(7/13/93 9:05 AM)

Well 3087 Hydrograph
Laramie Siltstone



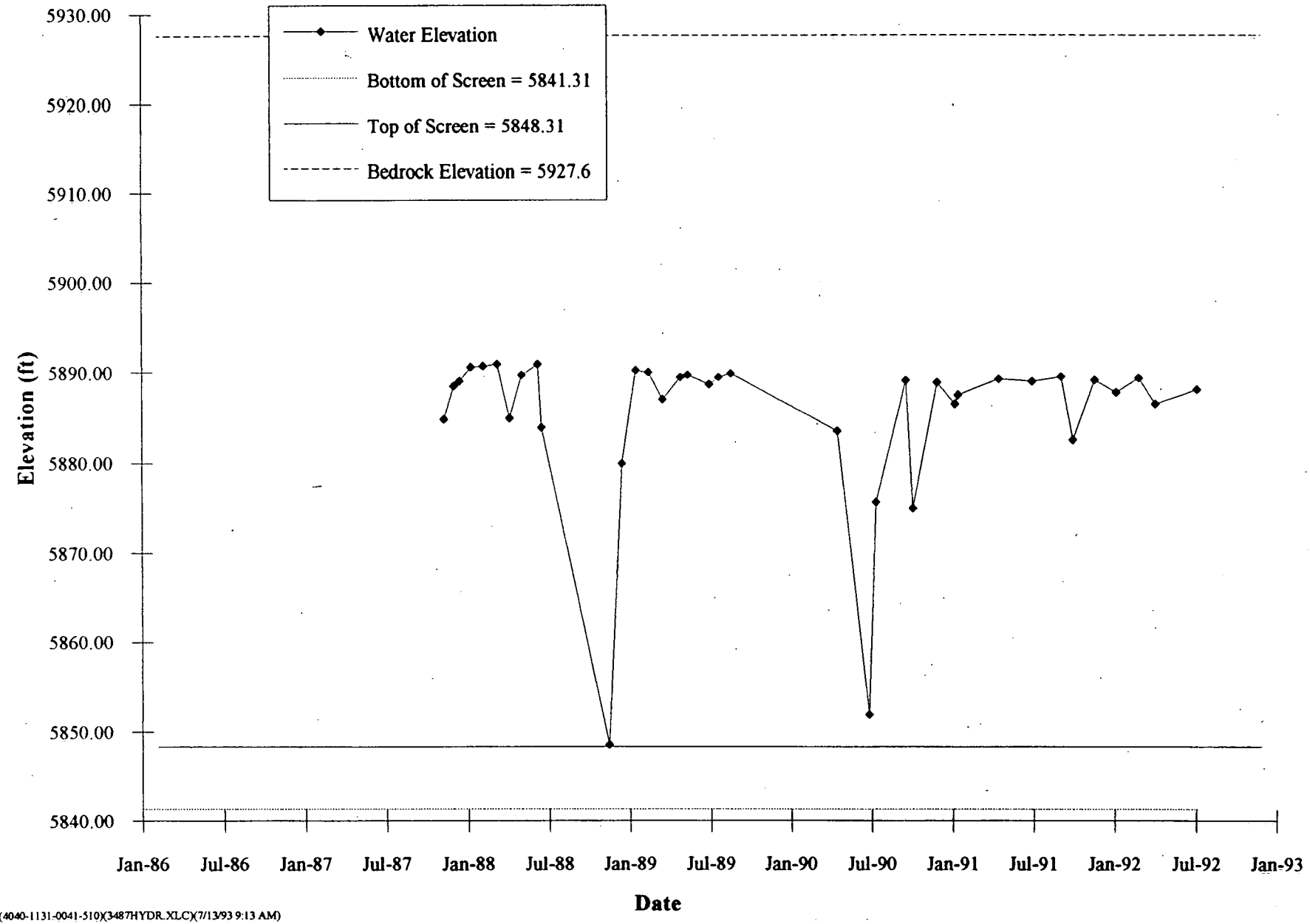
(4040-1131-0041-510)(3087HYDR.XLC)(7/13/93 9:07 AM)

Well 3187 Hydrograph
Laramie Sandstone



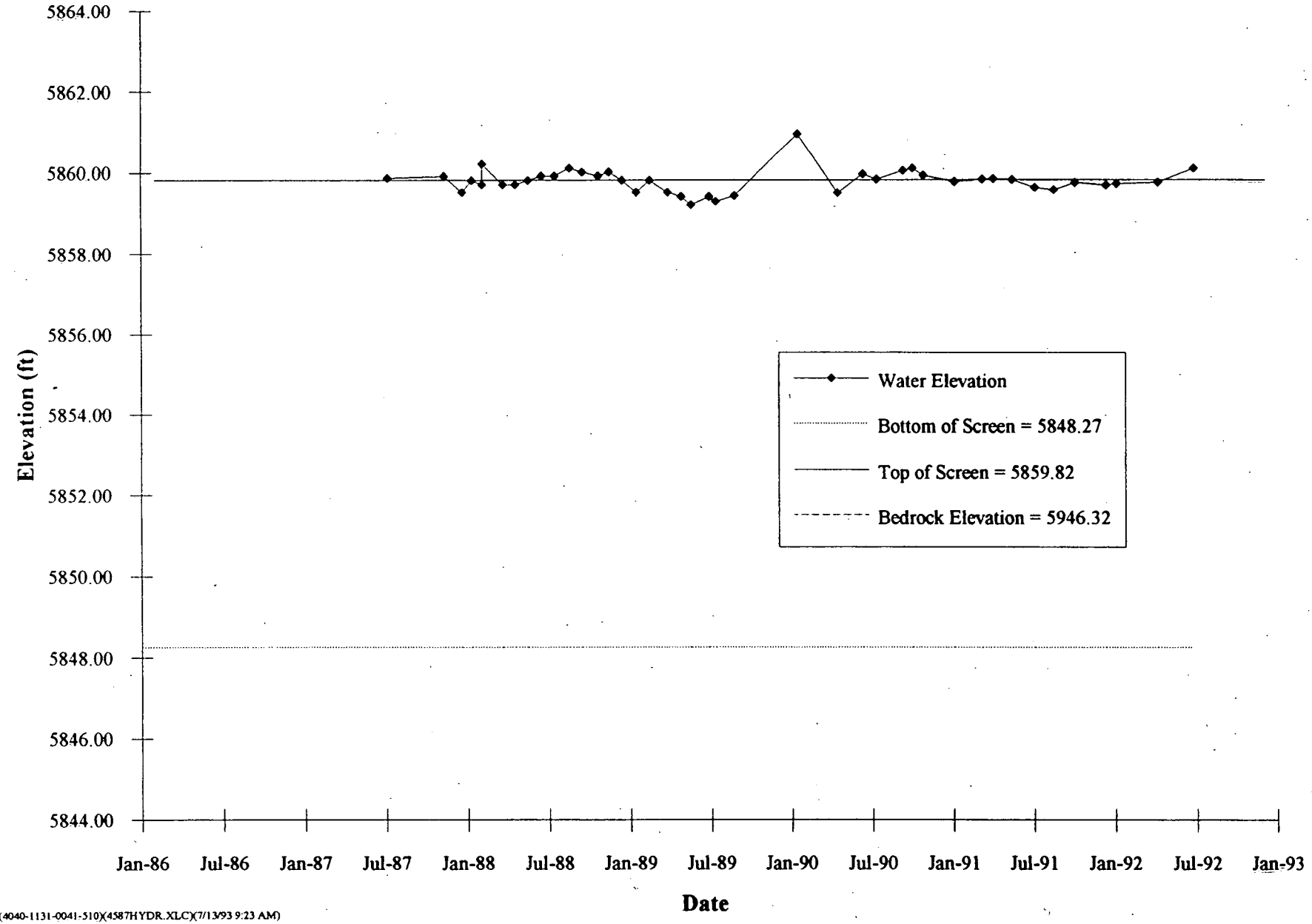
(4040-1131-0041-510)(3187HYDR.XLC)(7/13/93 9:08 AM)

Well 3487 Hydrograph
Laramie Siltstone



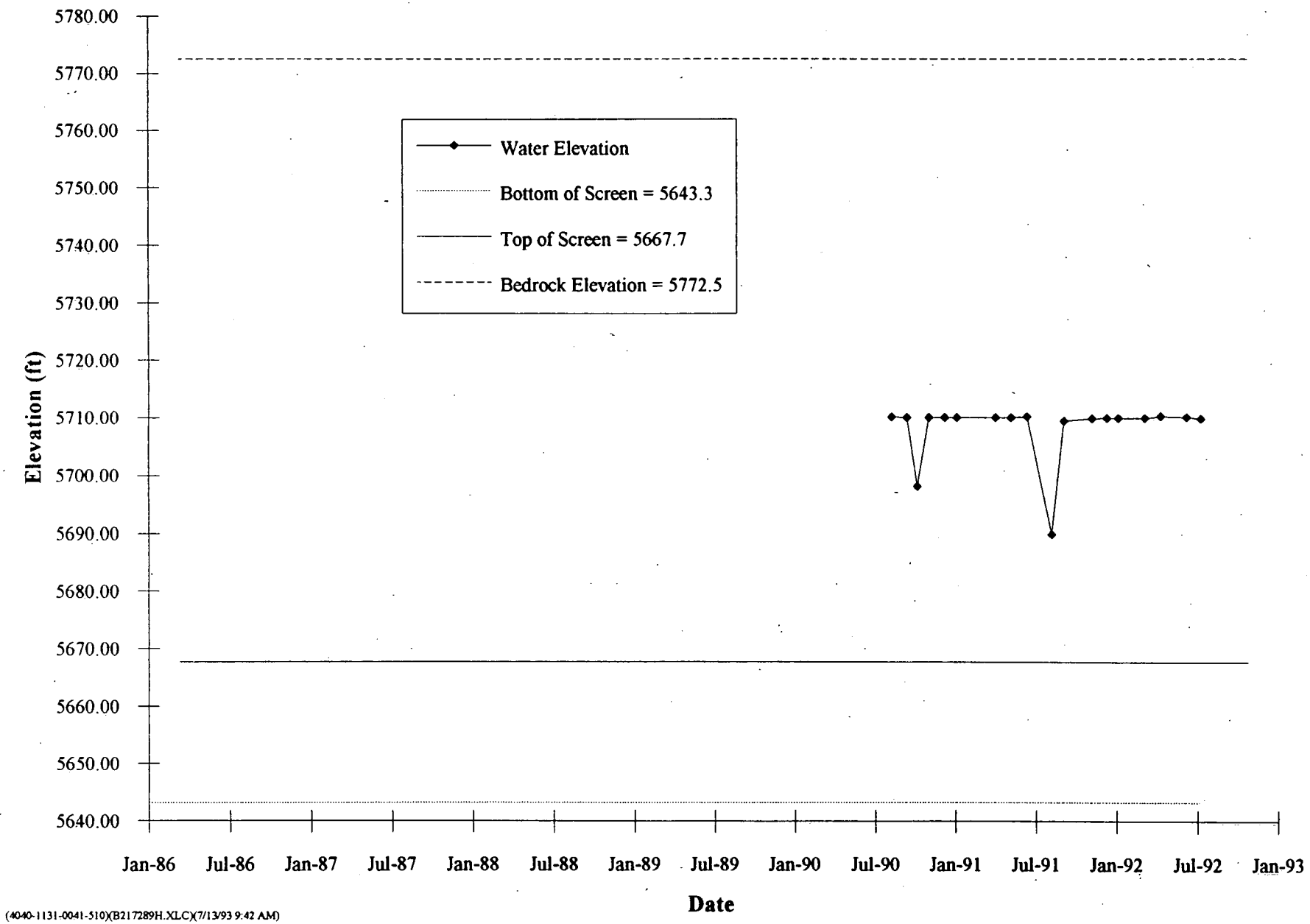
(4040-1131-0041-510)(3487HYDR.XLC)(7/13/93 9:13 AM)

Well 4587 Hydrograph
Laramie Sandstone



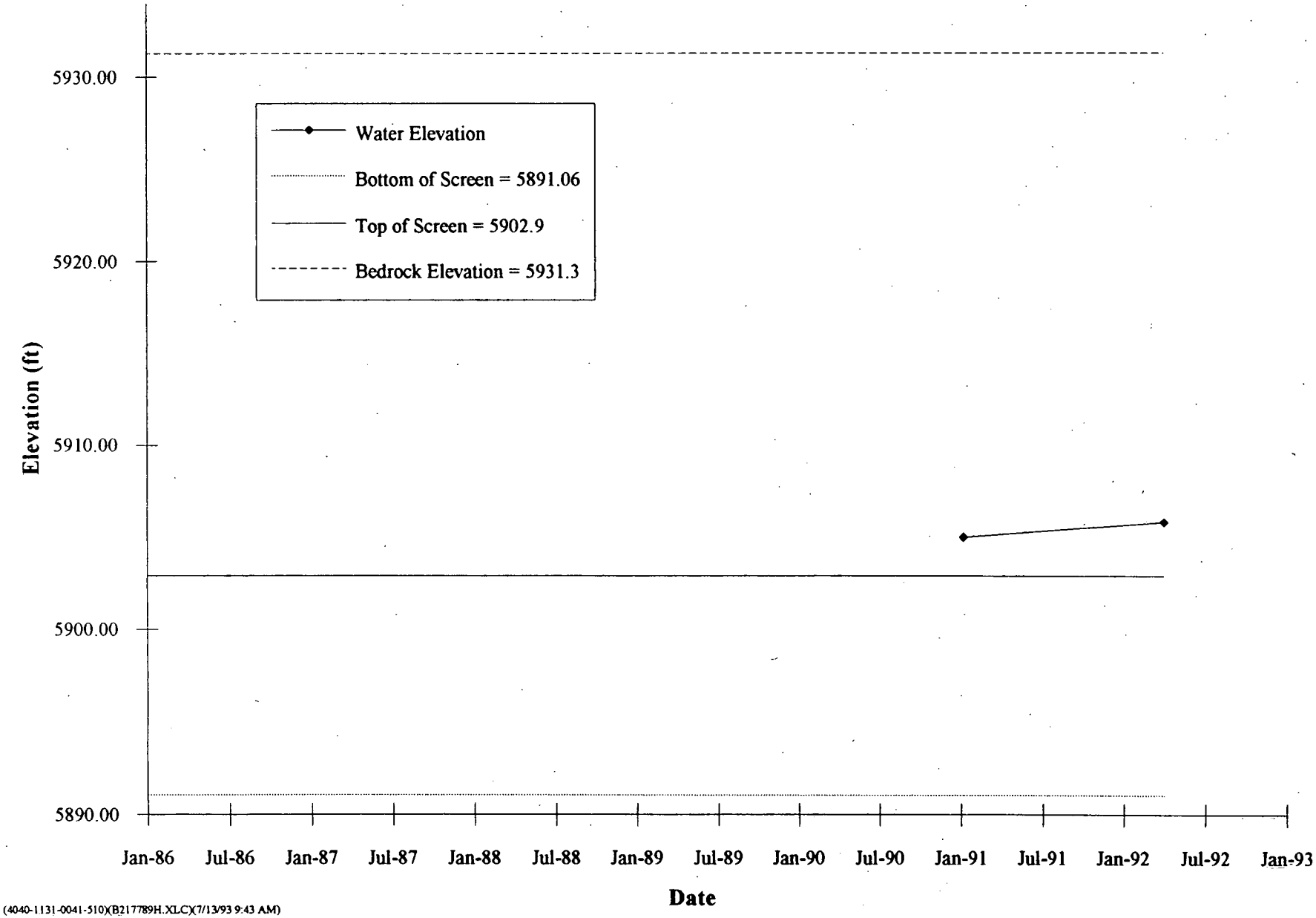
(4040-1131-0041-510)(4587HYDR.XLC)(7/13/93 9:23 AM)

Well B217289 Hydrograph
Laramie Sandstone & Siltstone



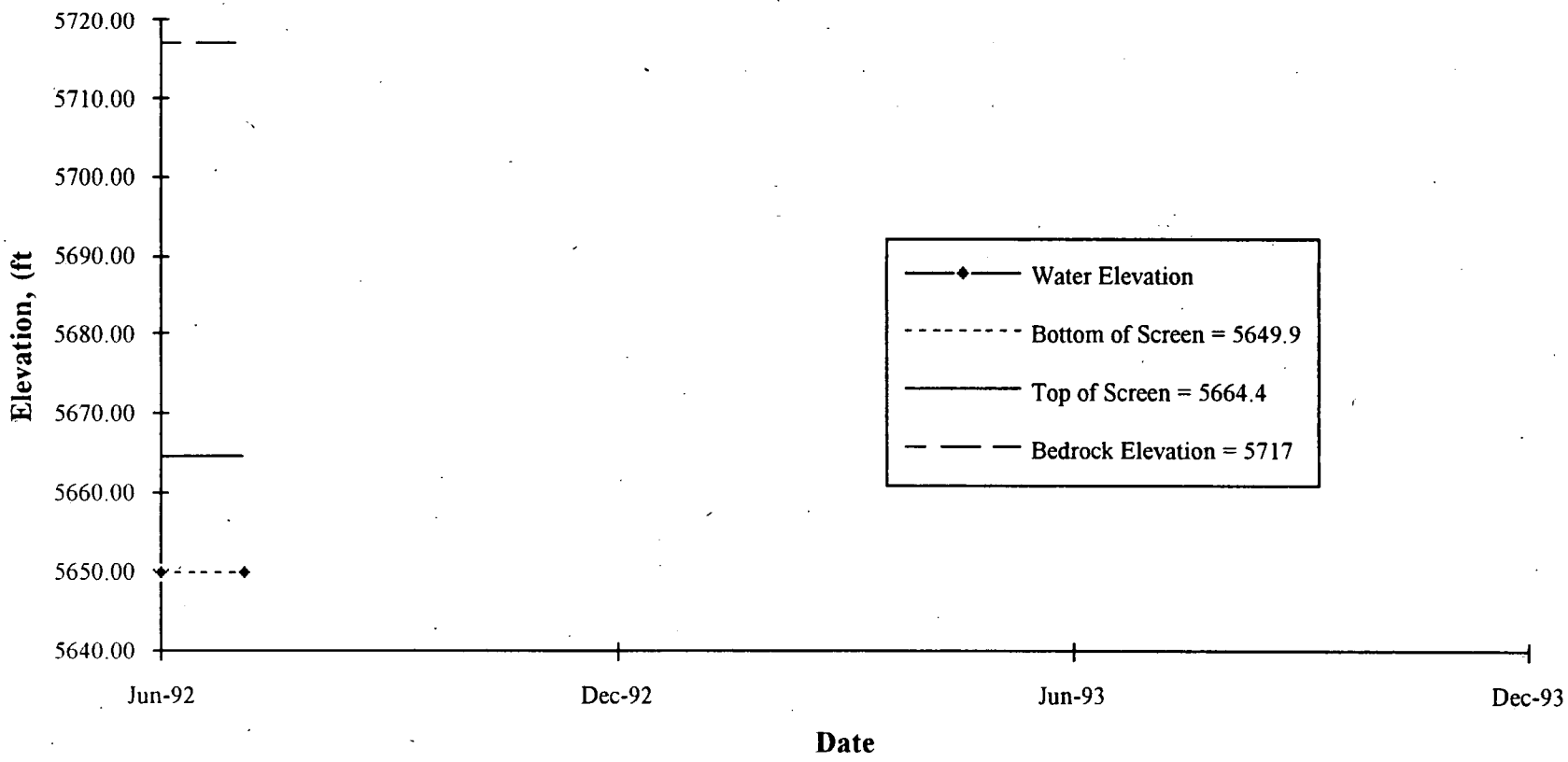
(4040-1131-0041-510)(B217289H.XLC)(7/13/93 9:42 AM)

Well B217789 Hydrograph
Laramie Claystone



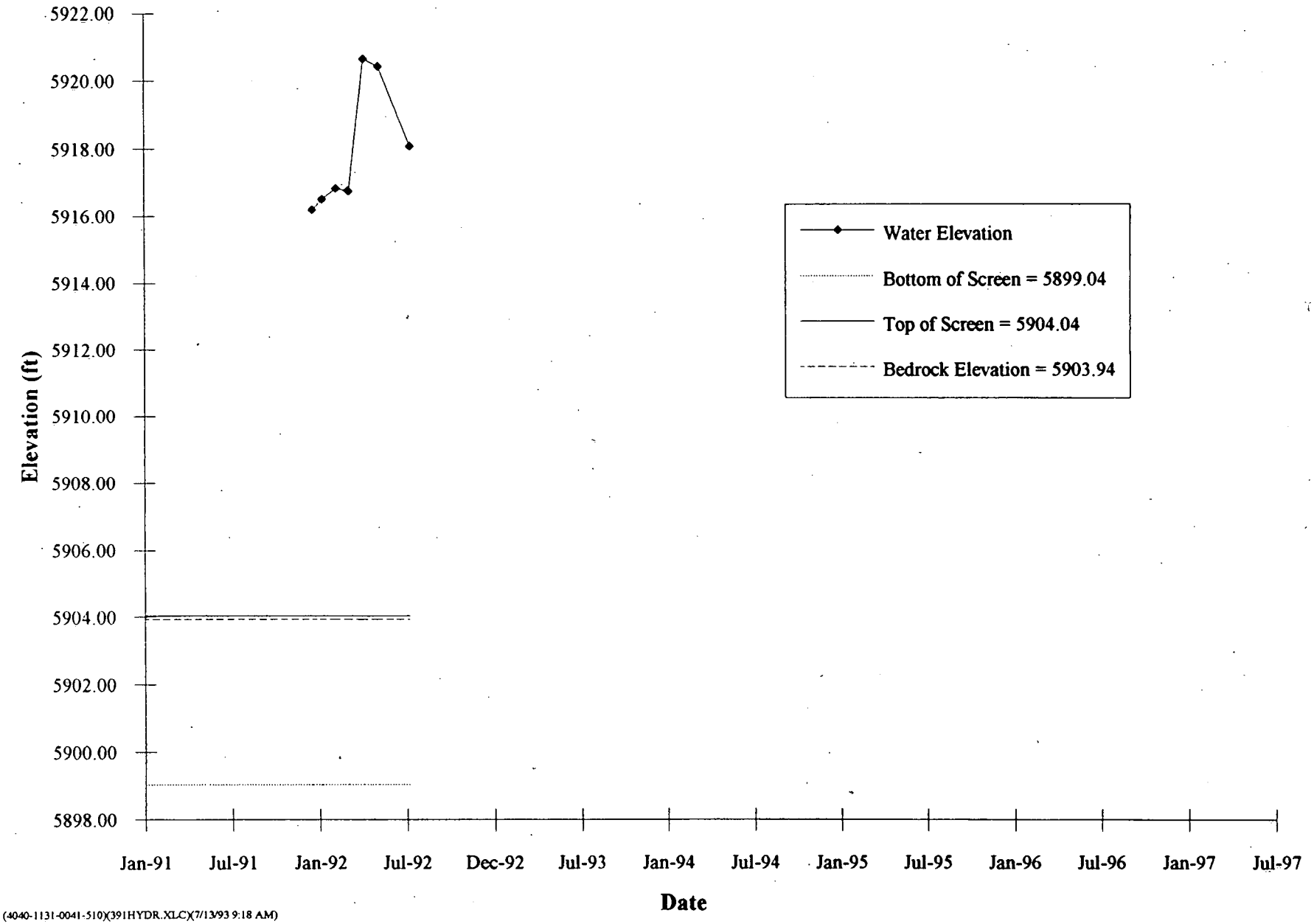
(4040-1131-0041-510)(B217789H.XLC)(7/13/93 9:43 AM)

Well B317189 Hydrograph
Laramie Sandstone



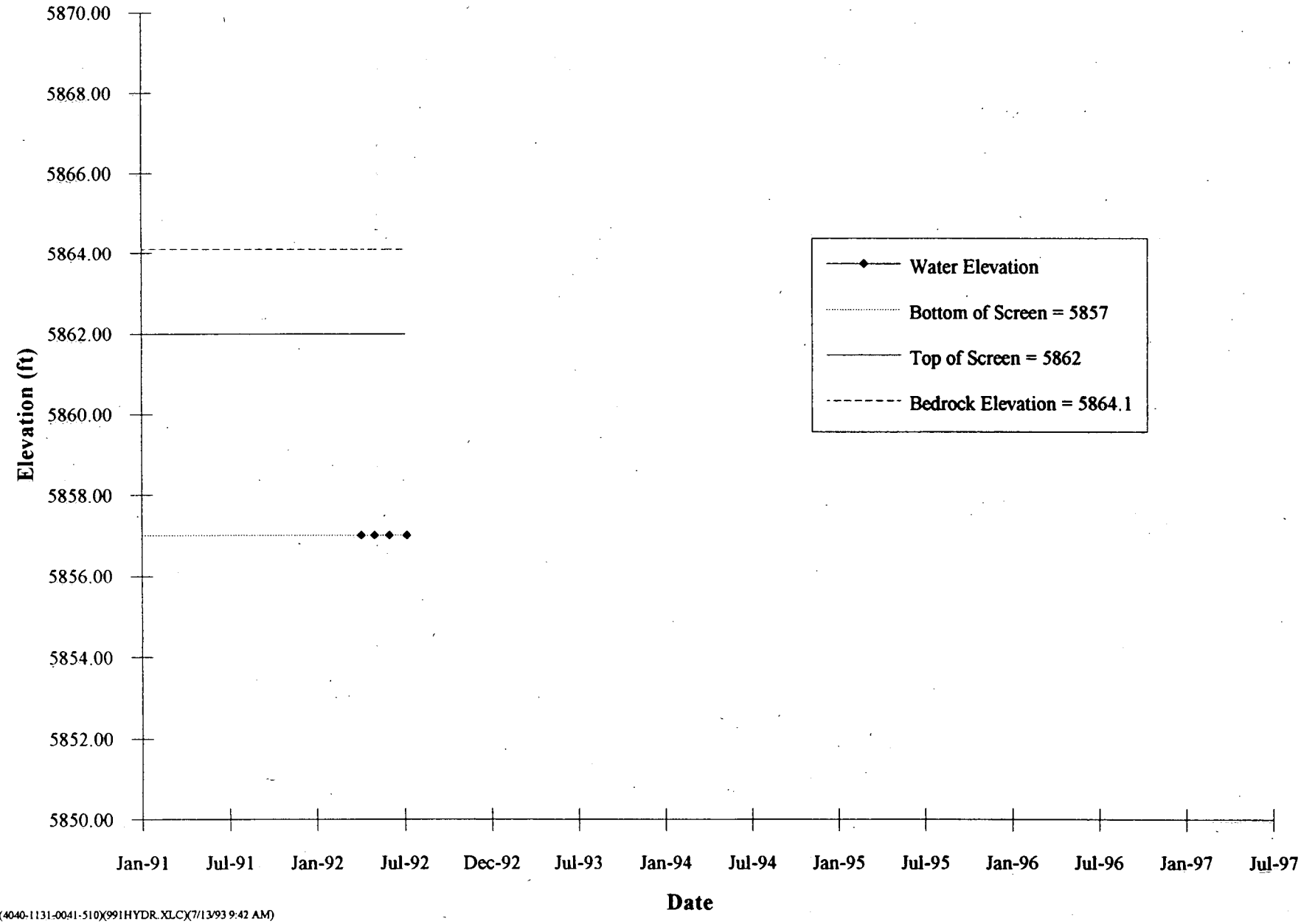
(4040-1131-0041-510)(B317189H.XLC)(9/29/93 18:06)

Well 00391 Hydrograph
Laramie Sandstone



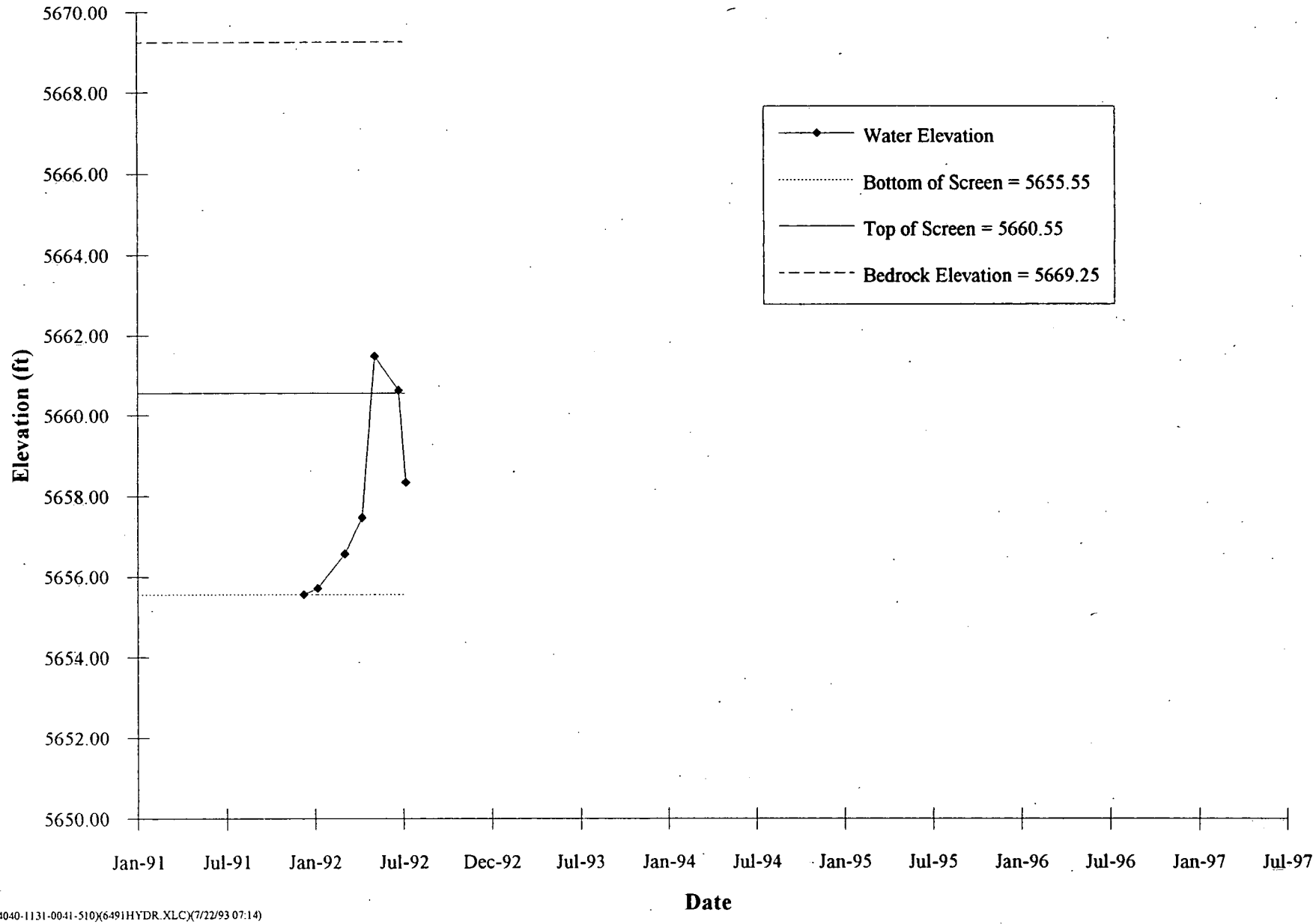
(4040-1131-0041-510)(391HYDR.XLC)(7/13/93 9:18 AM)

Well 00991 Hydrograph
Laramie Claystone



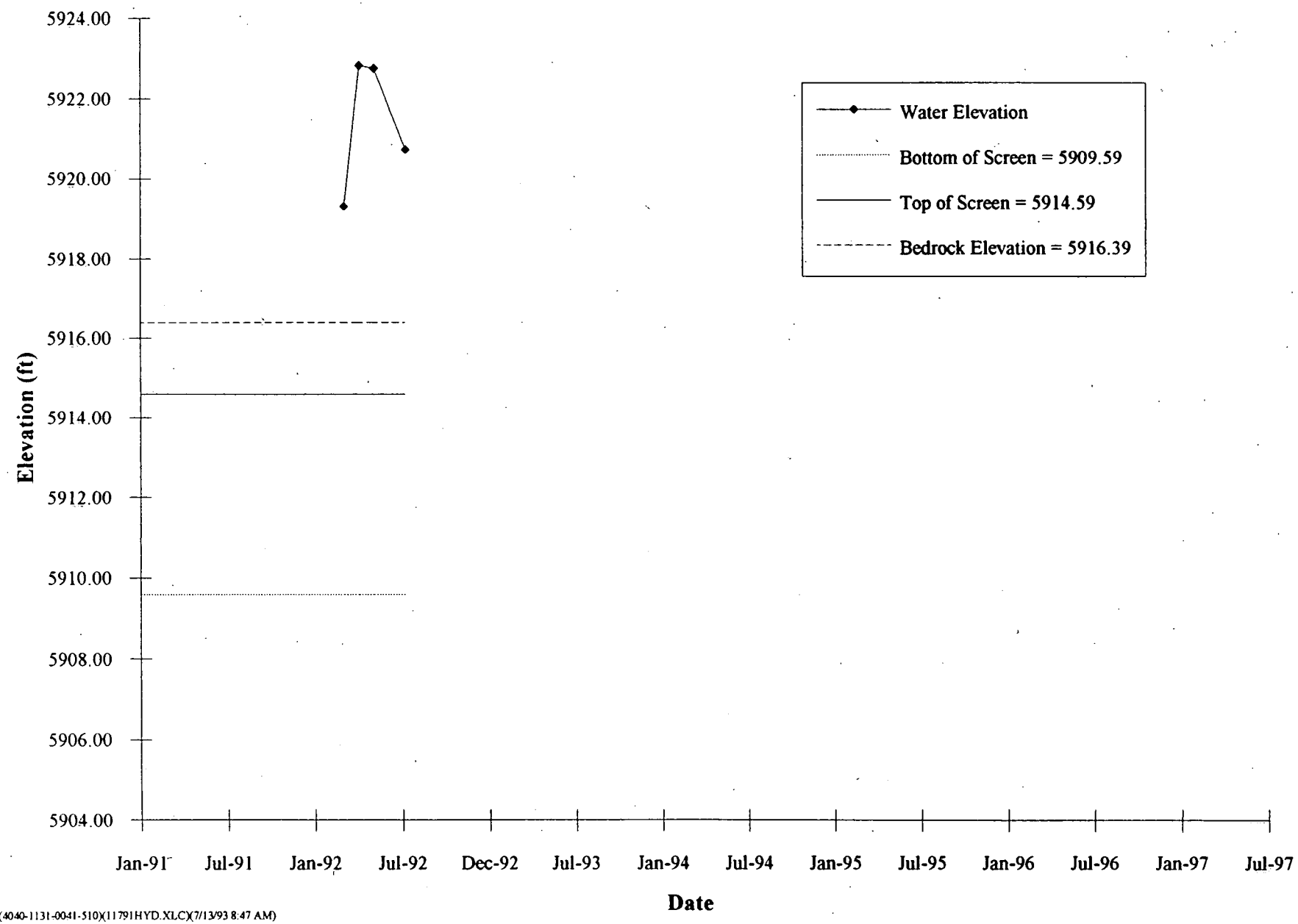
(4040-1131-0041-510)(991HYDR.XLC)(7/13/93 9:42 AM)

Well 06491 Hydrograph
Laramie Sandstone



(4040-1131-0041-510)(6491HYDR.XLC)(7/22/93 07:14)

Well 11791 Hydrograph
Laramie Claystone



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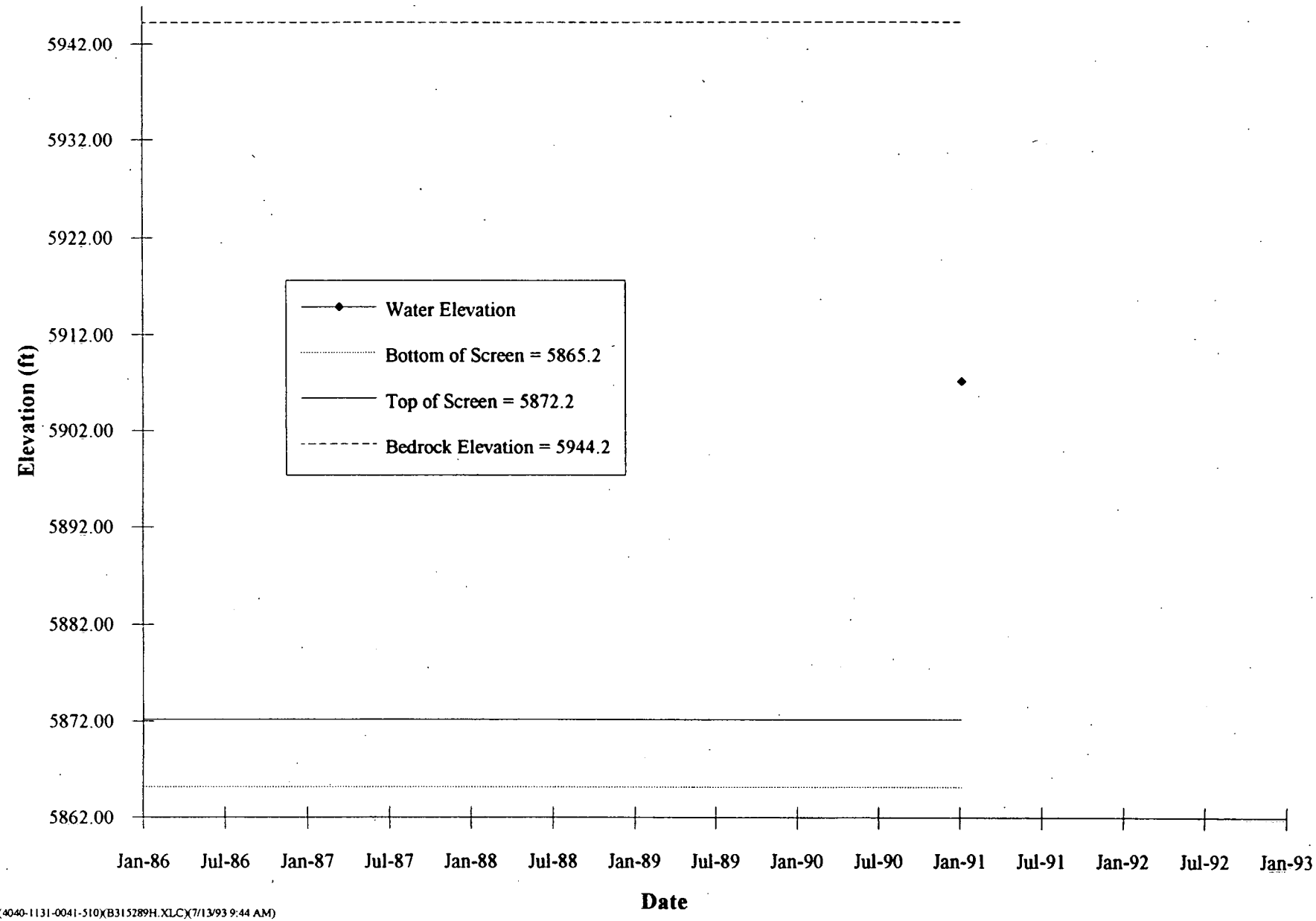
Well B315289 Hydrograph
(Bedrock)



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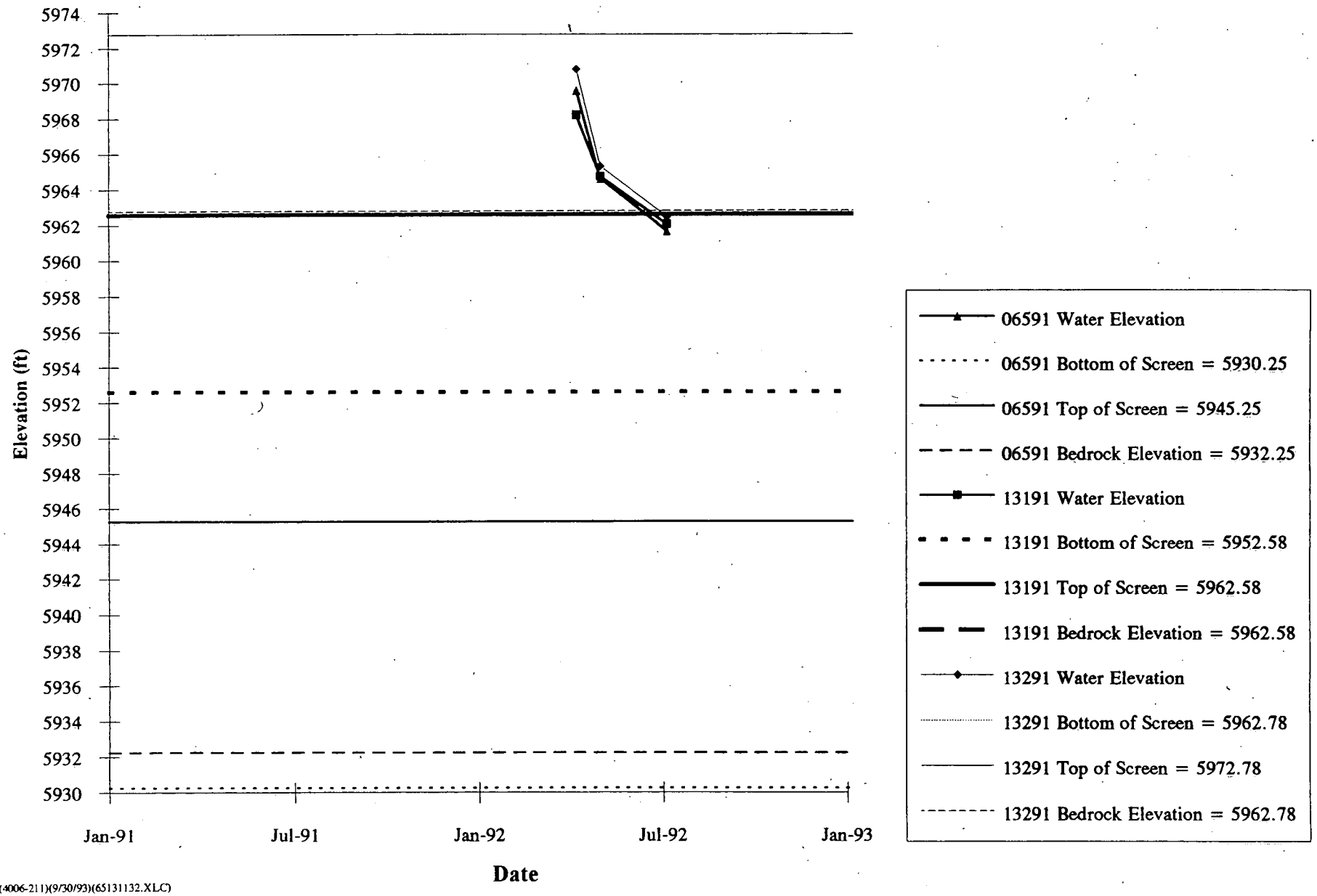
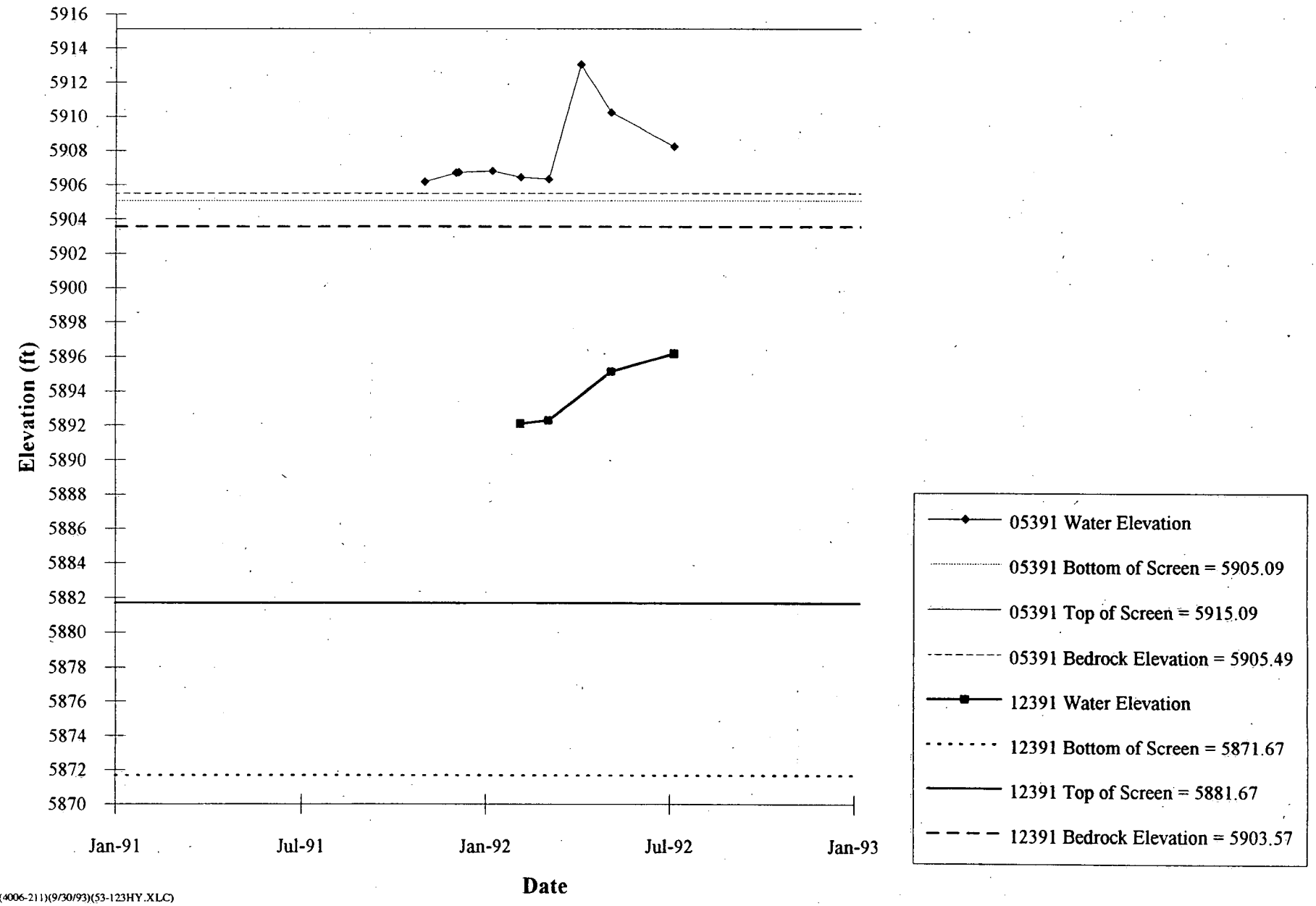
ALLUVIAL/BEDROCK WELL PAIRS

Well 06591/13191/13291 Hydrograph
(Bedrock/Bedrock/Rocky Flats Alluvium)



(4006-211)(9/30/93)(65131132.XLC)

Well 05391/12391 Hydrograph
(Rocky Flats Alluvium/Bedrock)



(4006-211)(9/30/93)(53-123HY.XLC)

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