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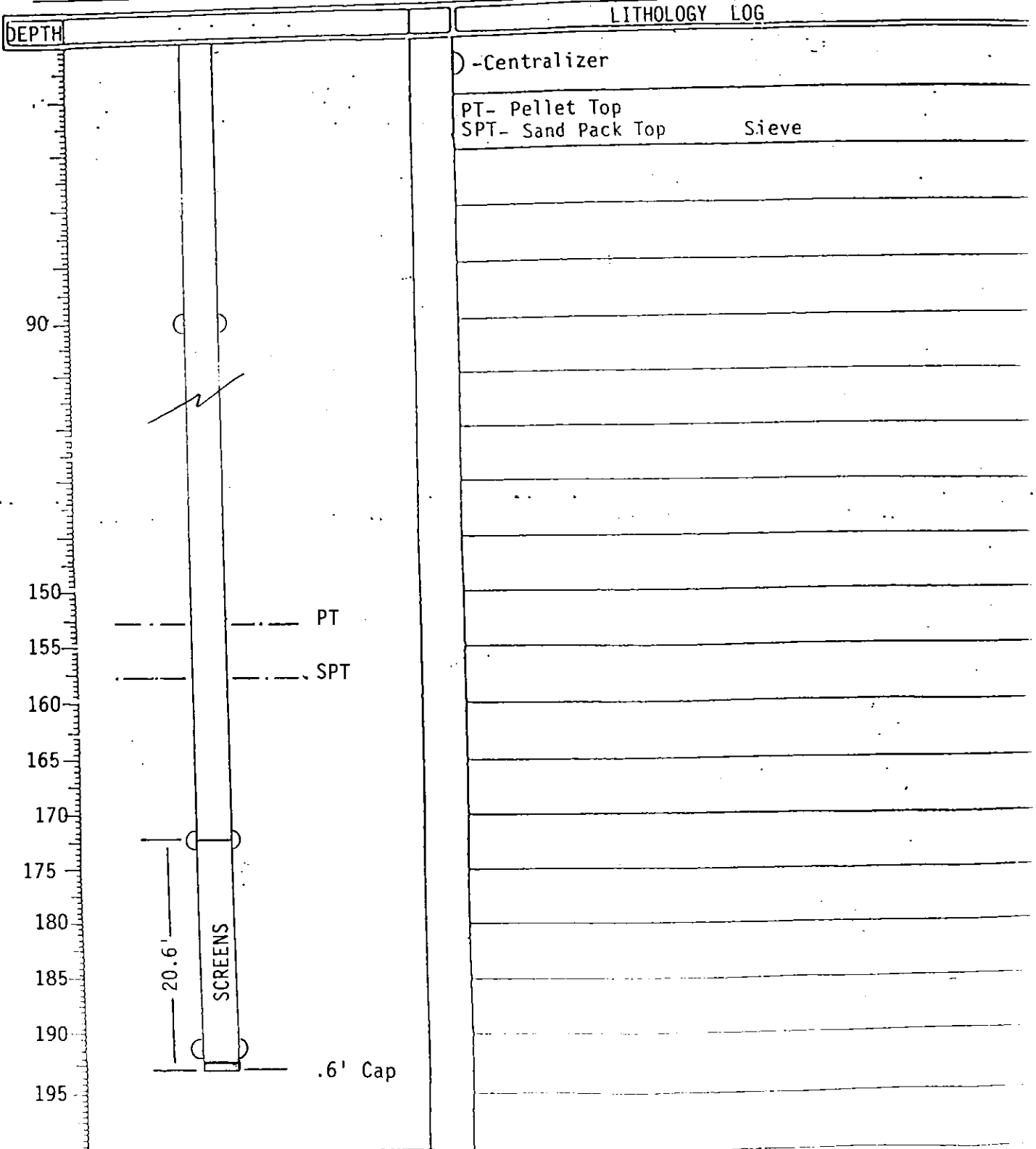
SOUTHWEST GEOPHYSICAL SERVICES, INC.

UNION CHURCHROCK WATER WELL INSTALLATION

WELL NO. PB-3

LOCATION - SECTION 36 T 17N, R 16W
 COORDINATES - N7727.4217, E62104.2345
 ELEVATIONS - GROUND 6987.5' TOP OF PIPE 6990.1581
 DEPTH DRILLED 199'
 DEPTH CASED 193'
 DEPTH TO WATER _____

DRILLER BOart Longyear
 DRILLING METHOD Rotary w/ water
 DRILLING MUD Water
 GEOPHYSICAL LOGS E-log Gamma,
Resistance, Self Potential
 DEVELOPMENT Air Lift pump



WELL CONSTRUCTION & COMPLETION REPORT

Property Name Church Rock Site

Well Name PB-3

Status or Function of Well as of 06/22/2002 : Completed
(Date)

Well Location: N 77727.4217 Driller B0art Longyear

E 62104.2345

Collar Elev. 6987.50

Cored Hole: Interval _____ Disposition _____

Geophysical Logs:	Natural Gamma	<u>Yes</u>
	Resistance	<u>Yes</u>
	Self Potential	<u>Yes</u>
	Caliper	<u>No</u>
	Spinner	<u>No</u>
	Drift	<u>No</u>
	Other	_____

Basic Well Construction:

Telescoping Screen	_____
Gravel Pack	<u>Yes</u>
Perforation	_____
Underreamed	_____
Cement Basket & Screen on Casing	_____
Open Hole	_____
Other	_____

Basic Lithology: Sandstones, Mudstones, Shales, Carbonaceous Shale, and Coal

Basic Mineralization: Minor Oil

Static Water Level: _____

Well Total Depth (or elevation) 6788.5'

Casing Depth (elevation) 6794.5'

Screen Interval (elevation) 6773.9' - 6793.9'

Perforated Interval 172.4' - 192.4'

Underreamed Interval _____

Open Hole Interval _____

Gravel Packed Interval 158' - 193'

Cemented Interval _____

Location of Centralizers 90' - 173' - 193'

Depth (or elevation) of packer _____

Depth (or elevation) of wash plug _____

Depth (or elevation) of bottom of screen string _____

Depth (or elevation) of cement basket _____

Hole: Method Rotary w/ Clear Water

Diameter 9 7/8" From 0' To 193'

_____ From _____ To _____

Fluid if Any Water Only

Casing: Material _____

Dimensions ID 4.45"

OD 4.96"

Joints FLared w/Locking Splines

Centralizers 5" opened to 10"

Cement: Method _____

Done By _____

Description of Mixture _____

Screen: Construction & Material Sch. 40 PVC Certilock Casing
 Nominal 5" ID 4.45" OD 4.97"
 Length 20'
 Slot Size .032"
 Open Area/Ft 15.4 sq.in./ft.
 Other Material Associated with Screen Slip fit with splines
 hammered into locking grooves. Joints flared Down Hole.

Perforations:

Underream:

Slotted Casing:

Gravel: Size 10 X 20 Amount 50 lb./ Bag - 20 Bags Used

Method of Completion & Description: Rotary hole 9 7/8" drilled and logged. Screen
 centralizer, and casing hung in Hole. Screen washed, screen graveled packed, and
 betonite pellets placed. Annulus mud of 60 vis. or higher filled to gravel level.
 3 Bag Pellets used to fill over drill prior to casing.
 3 Bag pellets to seal Gravel Pack, Gravel Pack trim lined in.

"DAILY DRILL REPORT"



BOART LONGYEAR

Environmental Drilling

EQUIPMENT ON SITE (CCD #1)

Drill TYPE R DRILL NO. 3828 TRUCK NO. 4058
 Pick-Up Trucks 3917
 Water/Service Trucks 3917
 Other Equipment _____

Contract: W.N.C. 1499 Date: 6-12 20 02

Location: Coalinga St. Mex Supervisor Signature: [Signature]

Shift	Hole No.	Angle	Bit Size	Footage Summary		Total Footage	Casing Summary	
				From	To		From	To
A	<u>PD-3</u>	<u>90°</u>		<u>199</u>				
B								
C								

HOURLY DISTRIBUTION	A		B		C		SUPPLIES CONSUMED					
	HOURS	EVENT	HOURS	EVENT	HOURS	EVENT	DESCRIPTION	SIZE	WEIGHT	QUANTITY		
										A	B	C
Drilling												
Well Construction	<u>4</u>						PVC Riser					
Vaults							PVC Screen					
Hydro Patches							Bottom Cap					
Split Spool							Compression Cap					
Development							Sand					
Cementing							Hole Plug					
Moving - Hole to Hole							Cement					
Rigging up - Rigging down							Vaults					
Re-entry							Sacrete					
Hole Abandonment							Barrels					
Decontamination							Volclay Grout					
Mobilization/Demobilization							Granular Bentonite					
Delays - Client Acct.							Core Boxes					
Stand By							Other					
Pre-shift Safety Mtg.												
Crane Inspection												
Pre-Shift Inspection												
Travel												
Other (Explain)												
TOTAL HOURS/EVENTS	<u>4</u>											
Initials												

Shift	Driller	Hours	Drilling Assistant	Hours	Drilling Assistant	Hours
A	<u>W Wilson Jr</u>	<u>4</u>	<u>D FRIZZELL</u>	<u>4</u>		
B						
C						

Remarks: (Note any problems from pre-shift inspections here.) FLUSH WELL PD-3 & move
FEET TO mine OFFIC.

Client Signature: _____ Date: _____

DAILY DRILL REPORT



EQUIPMENT ON SITE (CCD #1)

Contract: UNC, 1999 Date: 6-21 20 02

Drill TYPE R1 DRILL NO. 3828
 Pick-Up Trucks 4058
 Water/Service Trucks 3917
 Other Equipment _____

Location: Collins N. West Supervisor Signature: [Signature]

Shift	Hole No.	Angle	Bit Size	Footage Summary		Total Footage	Casing Summary	
				From	To		From	To
A	<u>D-3</u>	<u>90°</u>	<u>9 1/8</u>	<u>0</u>	<u>199</u>			
B								
C								

HOURLY DISTRIBUTION	A		B		C		SUPPLIES CONSUMED					
	HOURS	EVENT	HOURS	EVENT	HOURS	EVENT	DESCRIPTION	SIZE	WEIGHT	QUANTITY		
										A	B	C
Drilling	<u>11</u>						PVC Riser					
Well Construction							PVC Screen					
Vaults							Bottom Cap					
Hydro Punches							Compression Cap					
Split Spoon							Sand					
Development							Hole Plug					
Cementing							Cement					
Moving - Hole to Hole							Vaults					
Rigging up - Rigging down							Concrete					
Re-entry							Barrels					
Hole Abandonment							Voiclay Grout					
Decontamination							Granular Bentonite					
Mobilization/Demobilization							Core Boxes					
Delays - Client Acct.							Other					
Stand By												
Pre-shift Safety Mtg.												
Crane Inspection												
Pre-Shift Inspection												
Travel												
Other (Explain)												
TOTAL HOURS/EVENTS	<u>11</u>											

Shift	Driller	Hours	Drilling Assistant	Hours	Drilling Assistant	Hours
A	<u>D. Wilson</u>	<u>11</u>	<u>M. PEARSON</u>	<u>11</u>	<u>D. FRISWELL</u>	<u>11</u>
B						
C						

Remarks: (Note any problems from pre-shift inspections here.) T.D. WELL @ 199' SET SCREEN & CASING @ 176' TREMIE SAND & PLACE BENTONITE SEAL.

Client Signature: _____ Date: _____

"DAILY DRILL REPORT"



BOART LONGYEAR

Environmental Drilling

EQUIPMENT ON SITE (CCD #1)
 Drill TYPE R DRILL NO. 3328 TRUCK NO. 4058
 Pick-Up Trucks 4058
 Water/Service Trucks 3717
 Other Equipment _____

Contract: W.N.C. 1499 Date: 6-20 2002
 Location: COALFIELD, MEX Supervisor Signature: [Signature]

Shift	Hole No.	Angle	Bit Size	Footage Summary		Total Footage	Casing Summary	
				From	To		From	To
A								
B								
C								

HOURLY DISTRIBUTION	A		B		C		DESCRIPTION	SIZE	WEIGHT	SUPPLIES CONSUMED		
	HOURS	EVENT	HOURS	EVENT	HOURS	EVENT				A	B	C
Drilling							PVC Riser					
Well Construction							PVC Screen					
Vaults							Bottom Cap					
Hydro Punches							Compression Cap					
Split Spoon							Sand					
Development							Hole Plug					
Cementing							Cement					
Moving - Hole to Hole							Vaults					
Rigging up - Rigging down							Sacrete					
Re-entry							Barrels					
Hole Abandonment							Volclay Grout					
Decontamination							Granular Bentonite					
Mobilization/Demobilization							Core Boxes					
Delays - Client Acct.							Other					
Stand By		<u>(B)</u>										
Pre-shift Safety Mfg.												
Crane Inspection												
Pre-Shift Inspection												
Travel												
Other (Explain)												
TOTAL HOURS/EVENTS		<u>B</u>										

Shift	Driller	Hours	Drilling Assistant	Hours	Drilling Assistant	Hours
A	<u>DC Wilson JR</u>	<u>8</u>	<u>M. PEARSON</u>	<u>8</u>	<u>A. FRISSELL</u>	<u>8</u>
B						
C						

Remarks: (Note any problems from pre-shift inspections here.) STANDBY DURING PUMP TESTS @ CLIENTS REQUEST.

Client Signature: [Signature] Date: _____

PROJECT Church Rock Site HOLE SIZE 9 7/8" AIR X WATER HOLE NO. PB-3
 ELEVATION 6987.5 NORTH 77727.4217 EAST 62104.2345 LOGGED BY Geophysical DATE 06/22/2002
 SECTION 36 TOWNSHIP 17N RANGE 16W T.D. 199' P.D. 198'
 PAGE 1 OF 2

ELECTRIC LOG	DEPTH	STRIP	LITHOLOGY LOG
			Lt. Brown Silty Soil w/ minor ss cobbles
	5		Lt. Brown Silty Soil w/ minor cobbles
	10		Lt. Brown Silty Soil w/ minor cobbles
	15		Lt. Brown to Gray Silty Sandy Soil w/ Lt. Gray fine gr. Silty SS fragments
	20		Lt. Gray Silty Sandy Soil w/ Lt. Gray to white fine gr. Silty SS fragments minor coal frags
	25		Lt. Gray fine gr. Silty SS w/ Lt. Gray to white fine gr. Silty SS fragment minor shale & coal fragments - limonitic staining on SS
	30		Lt. Gray fine gr. Silty SS w/ Lt. Gray to white fine gr. Silty SS w/ limonitic staining - shale & minor coal
	35		Lt. Gray fine gr. Silty SS w/ Lt. Gray to white fine gr. Silty SS w/ limonitic staining - minor shale & coal
	40		Lt. Gray to white fine gr. Silty SS w/ limonitic staining, shale & coal fragments
	45		Lt. Gray to white fine gr. Silty SS w/ minor limonitic staining
	50		Lt. Gray to white fine gr. Silty SS w/ limonitic staining
	55		Lt. Gray fine gr. Silty SS w/ limonitic staining on fine gr. white SS, coal fragments & shale fragments
	60		Lt. Gray fine gr. Silty SS w/ limonitic stained fragments & sm. coal/shale fragments
	65		Lt. Gray fine gr. Silty SS w/ limonitic staining minor shale & coal
	70		Lt. Gray shale w/ Lt. Gray fine gr. Silty SS & minor coal
	75		Lt. Gray fine gr. Silty SS & Lt. Gray shale
	80		Lt. Gray fine-med. gr. Silty SS w/ limonitic staining
	85		Lt. Gray fine-med. gr. Silty SS w/ oil staining
	90	oil	Lt. Gray fine-med. gr. Silty SS w/ minor oil staining & coal fragments
	95		Lt. Gray fine-med. gr. Silty SS w/ oil staining
	100		Lt. Gray shale w/ Lt. Gray fine gr. Silty SS, minor limonitic & oil staining
	105		Lt. Gray shale w/ coal & minor oil staining
	110		

