

GEOPHYSICAL WELL LOG:

GAMMA RAY
RESISTANCE
S.P.

PERM. DATUM: GROUND LEVEL

LOG MEASURED FROM: G. L.

ELEVATION:

OTHER SERVICES:

DRIFT
3ARM CALIPER

COMPANY: UNITED NUCLEAR CORPORATION

PROJECT/FIELD: CHURCHROCK PROJECT

WELL: 714

LOCATION SEC. 36

T 17 N

R 16 W

COUNTY: MCKINLEY

STATE: NEW MEXICO

ELEVATION KB:

DF:

GL:

COMPANY UNITED NUCLEAR CORPORATION
WELL: UNC-714

	RUN NO. 1		RUN NO. 1
DATE	05-30-91	FLUID LEVEL	28'
DEPTH DRILLER	120' FT.	FLUID NATURE	WATER-GEL
DEPTH LOGGER	120.5' FT.	FLUID VISCOSITY	
BOTTOM LOGGED	121' FT.	FL. RESISTIVITY	
TOP LOGGED INT.	SURFACE	FL. RES. @ B.H.T.	
CASING LEVEL	N/A FT.	CIRCULATION TEMP.	
CASING SIZE		BOT HOLE TEMP	
CASING SIZE			
BIT SIZE	5 5/8"	ORE-78	ORE-78
BIT SIZE		LOGGED BY:	JIM GENTRY
		WITNESSED BY:	LARRY BUSH

REMARKS: 1ST LOG RUN.

3-ARM CALIPER TO BE RUN
AFTER REAMING HOLE TO 11".

THANK YOU FOR USING
SOUTHWEST SURVEYS

(\ACQ4\UNC714.0R0)

UNITED NUCLEAR CORPORATION

GAMMA RAY
CPS

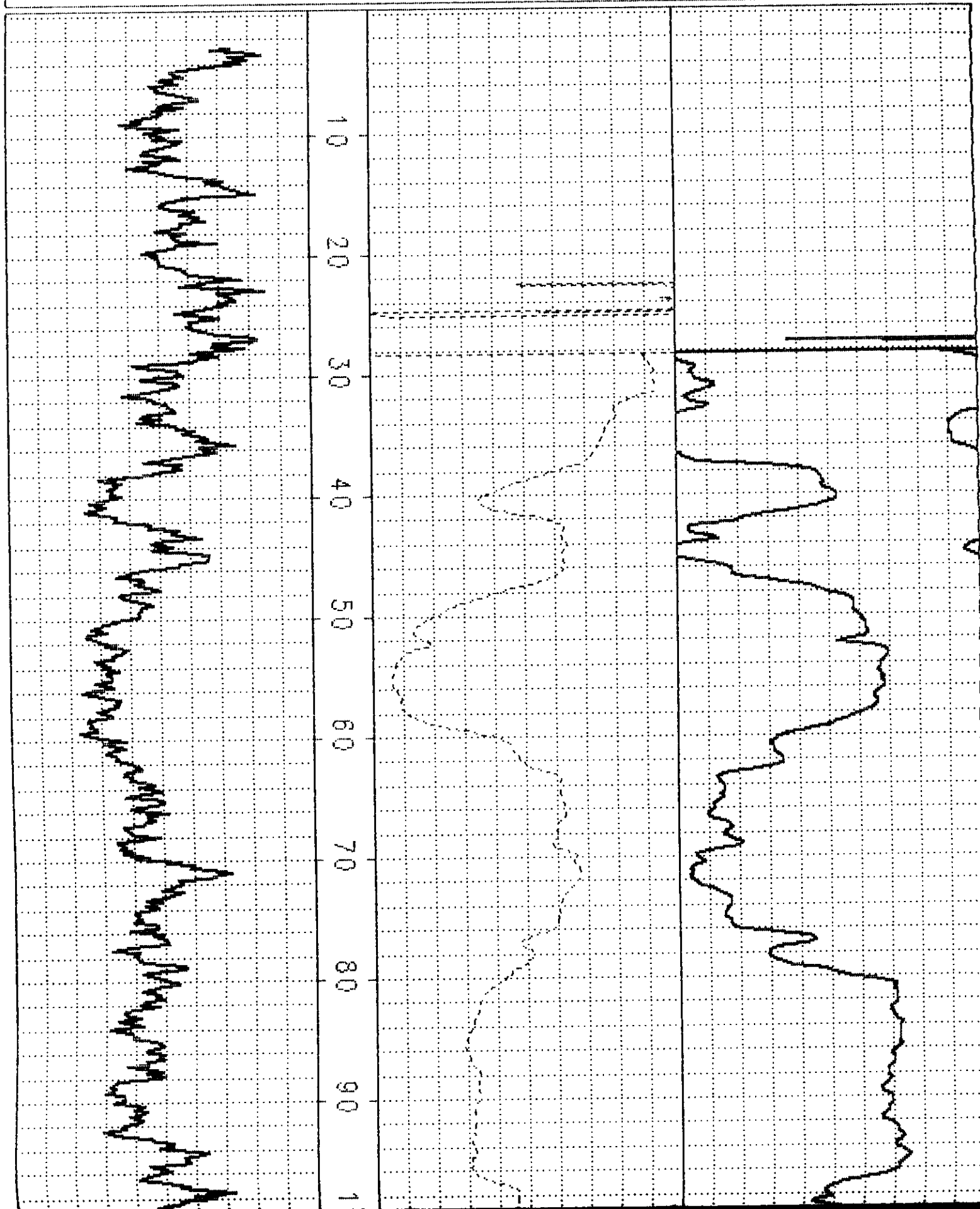
K 120

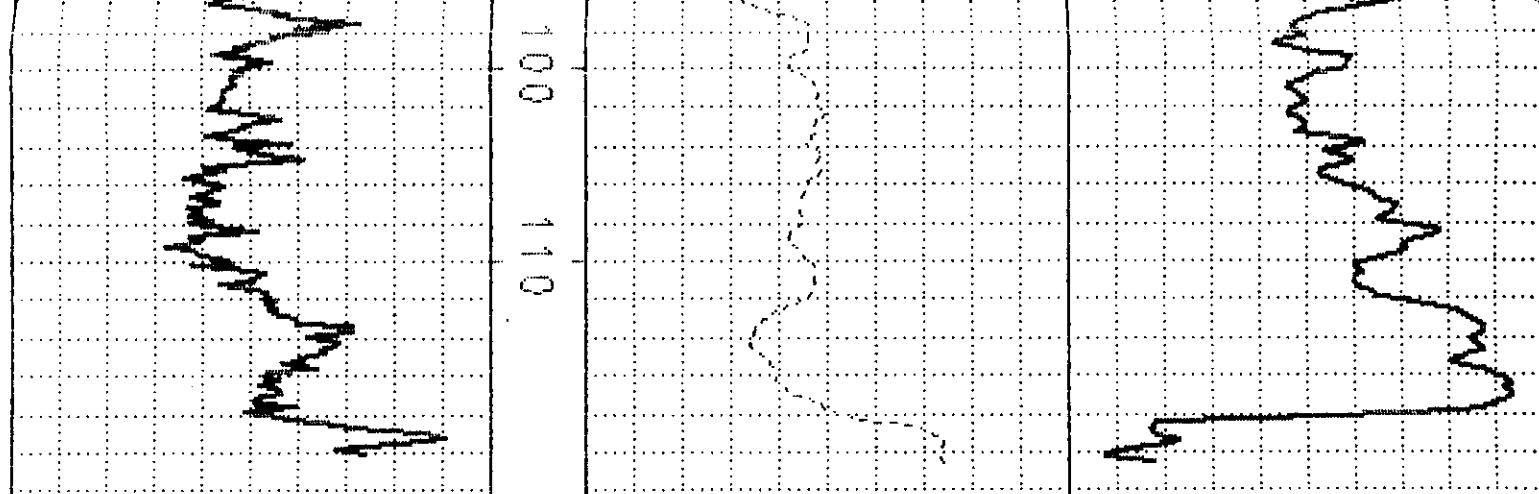
MV
S.P.

-40 * 50

RESISTANCE
OHMS

80





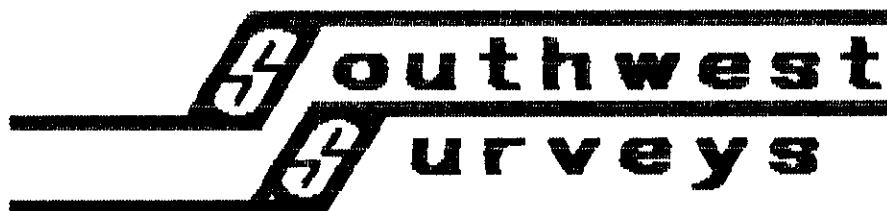
GAMMA RAY
CPS
0 50

MV
S.P.
K 120 -40 * 50

RESISTANCE
OHMS
0 80

(\ACQ4\UNC714.0R0)

UNITED NUCLEAR CORPORATION



GEOPHYSICAL WELL LOG:

CALIPER
CALIPER

PERM. DATUM: GROUND LEVEL

LOG MEASURED FROM: G. L.

ELEVATION:

OTHER SERVICES:

DRIFT
GAMMA/S.P./RES.

COMPANY: UNITED NUCLEAR CORPORATION

PROJECT/FIELD: CHURCHROCK PROJECT

WELL: 714

LOCATION SEC. 38 T 17 N R 16 W

COUNTY: MCKINLEY STATE: NEW MEXICO

ELEVATION KB:

DF:

GL:

COMPANY: UNITED NUCLEAR CORPORATION
WELL: UNC-714

	RUN NO. 2		RUN NO. 2
DATE	05-28-91	FLUID LEVEL	
DEPTH DRILLER	120' FT.	FLUID NATURE	WATER
DEPTH LOGGER	159.5' FT.	FLUID VISCOSITY	
BOTTOM LOGGED	120' FT.	FL. RESISTIVITY	
TOP LOGGED INT.	SURFACE	FL. RES. @ B.H.T.	
CASING LEVEL	N/A FT.	CIRCULATION TEMP.	
CASING SIZE		BOT HOLE TEMP	
CASING SIZE			
BIT SIZE	11'	3-ARM CALIPER	CALIPER
BIT SIZE		LOGGED BY:	JIM GENTRY
		WITNESSED BY:	LARRY BUSH

REMARKS: 2ND LOG RUN.

3-ARM CALIPER

HOLE REAMED TO 11"

THANK YOU FOR USING
SOUTHWEST SURVEYS

3 ARM CALIPER
INCHES

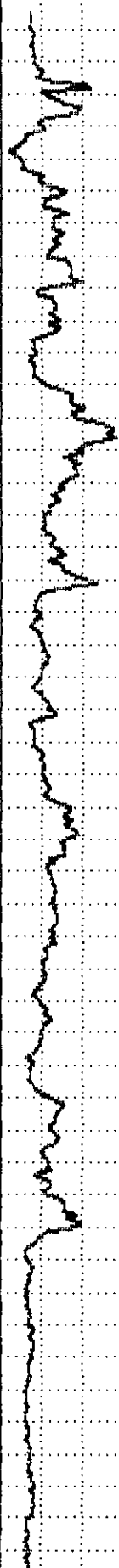
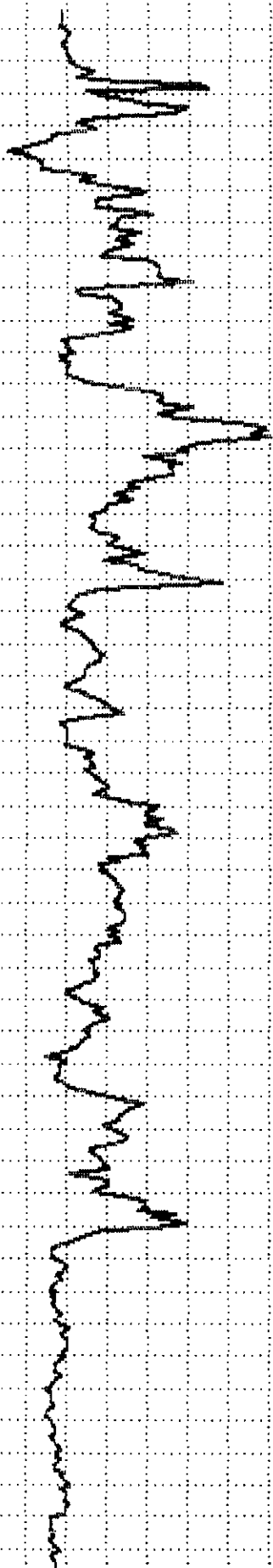
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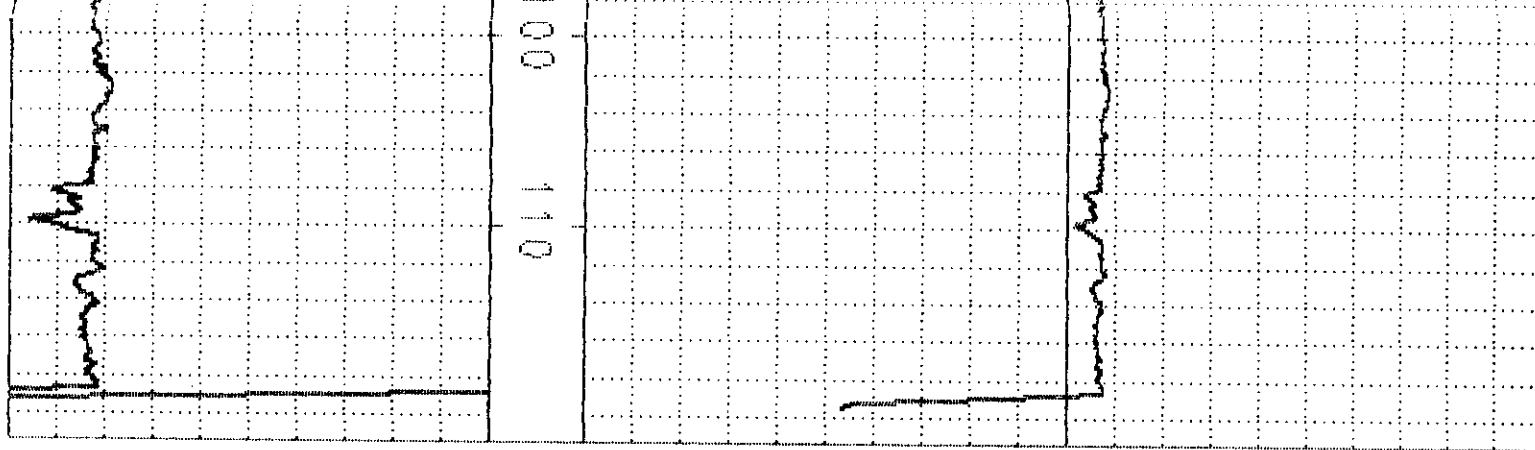
14

3 ARM CALIPER
INCHES

0

20





3 ARM CALIPER 10 INCHES 14
(\ACQ4\UNC714.CL1)

3 ARM CALIPER 0 INCHES 20

SOUTHWEST SURVEYS

DRIFT SURVEY
U.N.C. # 714

DIRECTION = 346.31°

DISTANCE = 0.44'

TRUE DEPTH = 118.00

DEPTH	ANGLE	AZIMUTH
0118	00.4	336
0110	00.5	330
0100	00.5	331
0090	00.5	324
0080	00.4	320
0070	00.2	351
0060	00.2	018
0050	00.2	033
0040	00.2	051
0030	00.3	070
0020	00.3	275
0010	00.3	109
0000	00.2	321

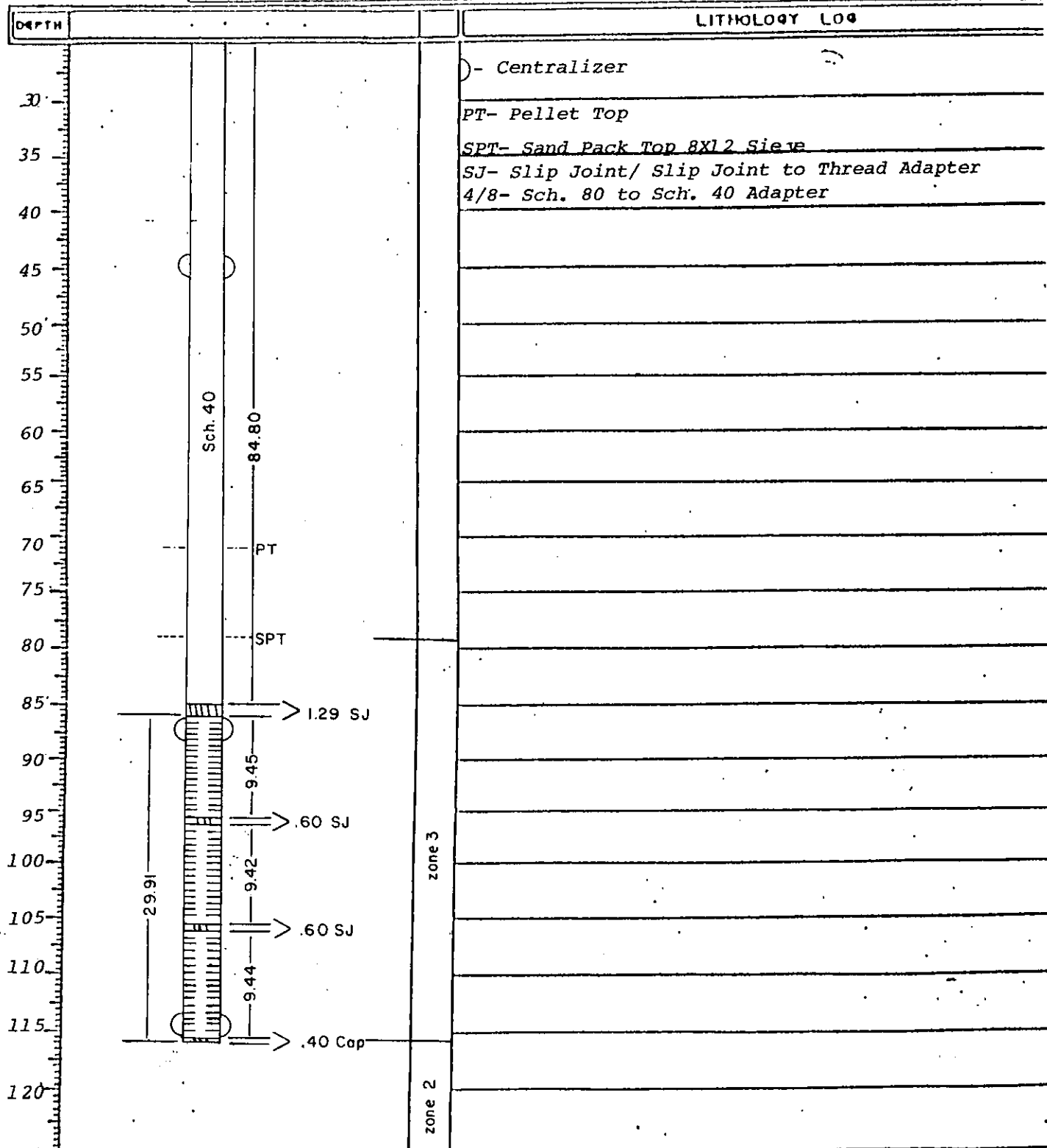
UNC CHURCH ROCK

WATER WELL INSTALLATION

WELL NO. 714

DATE DRILLED 5- 30- 91

LOCATION - SECTION 36 T17N, R16E	DRILLER Wayne Smith Drilling
COORDINATES - N 76097.29 E 60701.12	DRILLING METHOD Rotary
ELEVATIONS - GROUND 6960.43 TOP OF PIPE 6962.92	DRILLING MUD Water
DEPTH DRILLED 120'	GEOPHYSICAL LOGS E-Log, Caliper
DEPTH CASED 116'	Drift
DEPTH TO WATER	DEVELOPMENT Water wash Screens
	Airlift



WELL CONSTRUCTION & COMPLETION REPORTProperty Name Church Rock SiteWell Name 714Status or Function of Well as of 5-31-91: Completed
(Date)Well Location: N 76097.29 Driller Wayne Smith Drilling
Wayne SmithE 60701.12Collar Elev. 6960.43

Cored Hole: Interval _____ Disposition _____

Geophysical Logs:	Natural Gamma	<u>Yes</u>
	Resistance	<u>Yes</u>
	Self Potential	<u>Yes</u>
	Caliper	<u>Yes</u>
	Spinner	_____
	Drift	<u>Yes</u>
	Other	_____

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

Basic Lithology: Sandstone, Mudstones, Shales, Carbonaceous Shales, and Coal.

Basic Mineralization: Oil

Static Water Level: _____

Well Total Depth (or elevation) 6840.43

Casing Depth (elevation) 6844.43

Screen Interval (elevation) 6874.34 ---- 6844.83

Perforated Interval 86.09 ---- 115.6

Underreamed Interval _____

Open Hole Interval _____

Gravel Packed Interval 79 ---- 116 Bottom Filled

Cemented Interval _____

Location of Centralizers 44.5, 87, 115

Depth (or elevation) of packer _____

Depth (or elevation) of wash plug _____

Depth (or elevation) of bottom of screen string 115.6'

Depth (or elevation) of cement basket _____

Hole: Method Rotary w/ Clear Water

Diameter 5 5/8" From 0' To 120'

11" From 0' To 121'

Fluid if Any _____

Casing: Material PVC Sch. 40 Aardvark

Dimensions	ID	<u>Sch. 40- 6.065"</u>
	OD	<u>Sch. 40- 6.625"</u>
	Joints	<u>Flush</u>
	Centralizers	<u>6" open to 11"</u>

Cement: Method _____

Done By _____

Description of Mixture _____

Screen: Construction & Material Sch. 40 PVC
 Nominal 6" ID 5.688" OD 6 5/8"
 Length 10'
 Slot Size .050"
 Open Area/Ft 54.3 sq. in./ 1n. ft.
 Other Material Associated with Screen Slip Joint- glue type
between Screens .5' - .6' in length. .4' - End Cap on bottom of Screen
Slip Joint & conversion to Aardvark Sch. 80/40 threads @ Top of Screen.

Peforations: Method

Size

Amount

Underream: Method

Diameter

Slotted Casing: Interval

Slot Size

Slots Per Foot

Open Area/FT

Gravel: Size 8X12 Mesh Amount 50 lb./bag 32- Bags used

Method of Completion & Description: 5 5/8" Pilot hole drilled & logged. 11" hole
ream and calipered. Screen, centralizers, and casing hung in hole. Screens gravel
packed, screens washed, hole airlifted, and bentonite pellets placed. Annulus mud
of 80 Vis. or higher filled to ground level and refilled at end of drilling 6-14-91.

Wayne Smith Drilling Co., Inc.

DAILY DRILL REPORT

COMPANY NAME UNE
PROJECT 717 5 714

DATE 5-30-91
REPORT NO. 8
DAY SHIFT L NIGHT SHIFT _____
DRILLER Wayne Smith
HELPER Ambrose Lewis
HELPER Ronald Morgan
RIG 1

15 hrs

HOLE NUMBER	INTERVAL			TIME			REMARKS
	FROM	TO	TOTAL	FROM	TO	TOTAL	
	55x Quick gel			8:00	9:00	1	Haute mud to rig, start up Sec Rig
	1.5x Sure gel						Mixed T.O. mud W. 85.
	1 gal - PACKR						Fill back side of casing w/ mud
				9:00	10:00	1	Rig down moved to next loc Rig up
	0	120	120	10:00	1:00	3	Drilling 5 5/8" hole - (35x9-15 ft) - 2 C.O. samples
				1:00	1:15	1/4	Mix 25x gel - Oil - pool
				1:15	2:45	1 1/2	Logging & Drilling
	0	79	79	2:45	4:00	1 1/2	Reaming - TO 11" hole casing etc.
				4:00	4:30	1/2	Wait on water
	79	121	42	4:30	5:45	1 1/4	Reaming TO 11" with water
				5:45	6:30	3/4	C.O. Flush w/ 100 gal water - pool
				6:30	7:00	1/2	Run Ch 6 log
				7:00	8:00	1	Run 6" casing - Run 115' Pipe in & C.O.
				8:00	10:00	2	Conn. pack w/ water & Seals
				10:00	11:00	1	Test 115' w/ 115' - making 109 ft

DRILLING MUD USED	LOADS OF WATER HAULED	BIT NUMBER	BIT SIZE	SERIAL NUMBER
#1114 55x Quick gel	4 Loads water	2	5 5/8	Re-run
		2	11"	Re-run

Wayne Smith Drilling Co., Inc.

DAILY DRILL REPORT

COMPANY NAME UNC

DATE 5-31-91

PROJECT 7/1/4

REPORT NO. 9

DAY SHIFT ✓ NIGHT SHIFT

DRILLER Wayne Smith

HELPER Ambrose Lewis

HELPER Ronald Morgan

RIG 4th Rig

4th Rig

HOLE NUMBER	INTERVAL			TIME			REMARKS
	FROM	TO	TOTAL	FROM	TO	TOTAL	
				10:00			Pick up mud & start up
							Log down 4 IT's DP hook up pump
							Mix T.D. mud &
							Filled back side of casing
							Rig down & moved to next hole
							Shut down for break

DRILLING MUD USED	LOADS OF WATER HAULED	BIT NUMBER	BIT SIZE	SERIAL NUMBER
55x Quick Gel				
15x Sure gel	- TD mud			
1 gal. Pack R	U1589-			

TOTAL FOOTAGE DRILLED _____

PROJECT Zone 3 Wells HOLE SIZE 5 5/8" ☐ AIR ☒ WATER ☒ MUD HOLE NO. 714
 ELEVATION _____ NORTH _____ EAST _____ LOGGED BY Southwest Survey DATE 5-30-91
 SECTION _____ TOWNSHIP _____ RANGE _____ T.D. 120 P.D. 120.5

ELECTRIC LOG	DEPTH	STRIP LOG	LITHOLOGY LOG Page 1 of 1
	5		Lt. Tan Silty Soil
	10		Lt. Tan Silty Soil w/ minor limonitic ss & coal fragments
	15		Lt. Tan Silty Soil w/ angular limonitic ss & white silty ss
	20		Lt. Tan Silty Soil w/ angular limonitic ss & Lt. Tan mudstone minor coal fragments
	25		Lt. Tan Silty Soil & Med Brown Mudstone w/ minor limonitic silty ss
	30		Lt. Tan Silty Soil & Lt. Brown Mudstone
	35		Lt. Tan Silty Soil & Lt. Brown mudstone w/ minor Lt. Silty ss
	40		Lt. Tan Silty Soil & Lt. Brown mudstone w/ white to limonitic stained silty ss minor limonitic clay fragments
	45	Terrus	Lt. Tan to Med Brown Mudstone w/ Lt. Reddish Tan to limonitic silty ss
	50		Med. Brown Mudstone & Lt. Brown shale w/ white to limonitic silty ss
	55		Coal - Some fragments, some rounded to sub-rounded Lt. Brown Mudstone & Lt. Tan Silty ss w/ sub rounded limonitic silty ss & limonitic clay pebbles
	60		Lt. Brown Mudstone & Lt. Reddish Tan ss w/ major coal fragments, limonitic Rounded silty ss
	65		Lt. Brown Mudstone w/ white to Reddish limonitic silty ss, Red mudstone & small coal fragments
	70		Lt. Brown Mudstone w/ white to limonitic silty ss, Red mudstone & small coal fragments
	75		Lt. Tan Silty Mudstone w/ sub rounded to sub angular limonitic & Hematite silty ss & mudstone, Lt. Tan to white silty ss
	80	Gallup ss	Lt. Tan Silty Mudstone w/ white silty ss, limonitic & Hematite sub rounded to angular silty ss & mudstone fragments
	85		Lt. Gray to white Med to coarse Qtz. ss w/ Lt. Tan to Brown mudstone Lg. white Feldspar, limonitic silty ss, some pebble size limonitic mudstone & Very coarse Lt. Gray Qtz. ss & Lt. white silty ss w/ limonitic ss
	90		1-3% Feldspar, Lt. Brown Clay-Mudstone white Very fine Gr. silty ss & Med. Gr. Lt. Gray Qtz. ss w/ 3-5%? Feldspar
	95		minor limonitic staining on silty ss white Very fine Gr. silty ss & coal w/ minor Med. Gr. Gray Qtz. ss
	100		Lt. Gray to white fine to med silty ss w/ small coal fragments & limonitic silty ss
	105		Lt. Gray to white fine Gr. silty ss w/ small coal fragments & Lt. Brown mudstone
	110		white to Lt. Gray fine Gr. silty ss w/ coal
	115		
	120	TO	Med. Gray shale & coal