JENNIFER CHAVEROO SAN ANDRES UNIT

SUPPLEMENTAL DATA REQUIRED BY FORM C-108

INDEX OF EXHIBITS

FILE 5.

Exhibit X. - Appropriate logging and test date for the proposed injection wells.

Proposed Unit Well No.	Original Well Name	Page
25-02	STATE "J" NO. 1	1
25-04	STATE "DB" NO. 1	2
25-06	STATE "DB" NO. 5	3
25-08	STATE CONINE NO. 1	4
25-10	STATE "I" NO. 1	5
25-12	STATE "DB" NO. 4	6
25-14	STATE "DB" NO. 8	7
25-16	STATE "J" NO. 4	8
26-10	FEDERAL "26" NO. 5	9
26-12	FEDERAL "26" NO. 2	10
26-14	FEDERAL "26" NO. 4	11
26-16	FEDERAL "26" NO. 8	12
35-02	STATE "CV" NO. 2	13
35-04	SHACKELFORD NO. 1	14
35-06	STATE SEC. 35 NO. 3	15
35-08	STATE SEC. 35 NO. 5	16
35-10	HOBBS "T" NO. 14	17
35-12	STATE SEC. 35 NO. 1	18
35-14	STATE "DE" NO. 1	19
35-16	HOBBS "T" NO. 19	20
36-02	STATE SEC. 36 NO. 1	21
36-04	STATE "K" NO. 1	22
36-06	STATE "K" NO. 6	23
36-07	STATE SEC. 36 NO. 1	24
36-12	STATE "K" NO. 4	25
18-15	WOLF FEDERAL NO. 3	26
19-01	WOLF FEDERAL NO. 4	27
19-03	FEDERAL "19" NO. 2	28
19-07	WOLF FEDERAL NO. 1	29
19-09	STATE "G" NO. 5	30
19-11	STATE "G" NO. 1	31
19-15	STATE "G" NO. 4	32
20-03	HOMME FEDERAL NO. 2	33
20-05	HOMME FEDERAL NO. 1	34
20-11	STATE "20" NO. 3	35
20-13	STATE "20" NO. 2	36
29-03	HOBBS 'W' NO. 8	37
29-05	HOBBS "W" NO. 7	38
29-06	HOBBS "W" NO. 9	39
30-01	HOBBS "W" NO. 2	40
30-03	STATE "V" NO. 1	41
30-07	HOBBS "W" NO. 3	42
30-09	STATE "V" NO. 4	43
30-11	STATE "V" NO. 3	44

EXHIBIT X.
WELL LOGS FOR PROPOSED INJECTION WELLS

SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL STATE "J" # 1
COMPANY SOUTHERN PETROLEUM

COMPANY SOUTHERN PETROLEUM EXPLORATION, INC.

WELL STATE "J" # 1

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION 660' FROM N/L
1980' FROM E/L

Sec. 25 Twp. 7S Rge. 33E

Other Services:
LL, MLL

Permanent Datum: GL, Elev. 4320
Log Measured From KB 11 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4331
D.F. 4330
G.L. 4320

Date	4-12-66			
Run No.	ONE			
Depth—Driller	4390			
Depth—Logger	4395			
Btm. Log Interval	4386			
Top Log Interval	0			
Casing—Driller	8 5/8 @ 350	@	@	@
Casing—Logger	-			
Bit Size	7 7/8			
Type Fluid in Hole	SALT GEL			
Dens. / Visc.	10.1 / 42			
pH / Fluid Loss	6.5 / 12.2 ml	ml	ml	ml
Source of Sample	CIRC.			
R_m @ Meas. Temp.	.077 @ 70 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.054 @ 70 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / -			
R_m @ BHT	.055 @ 105 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	105 °F	°F	°F	°F
Equip. / Location	3727 / HOBBS			
Recorded By	LEFLER			
Witnessed By	MR. HICKS, MR. SINGLETARY & MR. KINCHELOW			

FOLD HERE

REMARKS

Changes in Mud Type or Additional Samples
Date / Sample No.
Depth / Type Fluid in Hole
Dens. / Visc.
pH / Fluid Loss
Source of Sample
R_m @ Meas. Temp.
R_{mf} @ Meas. Temp.
R_{mc} @ Meas. Temp.
Source: R_{mf} / R_{mc}
R_m @ BHT
R_{mf} @ BHT
R_{mc} @ BHT

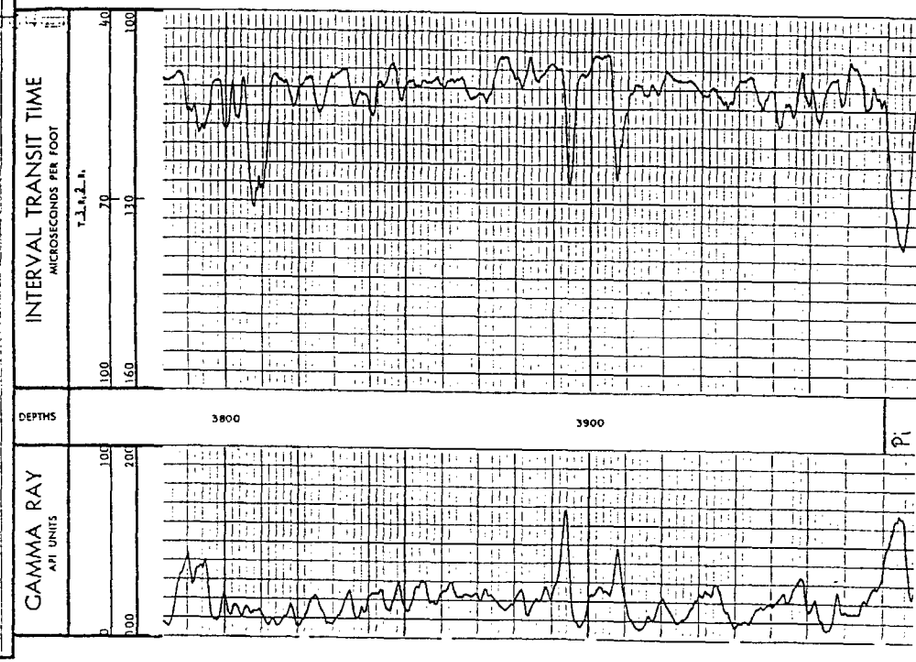
Scale Changes
Type Log / Depth / Scale Up Hole / Scale Down Hole

Equipment Data
Run No. / Tool Type / Pad Type / Tool Pos. / Other

C.O.: USED S.O.: CHE-H & CAL
Equip. Used: CART. No. 29
PANEL No. 110
SONDE No. 173

CALIBRATION: BACKGND. SOURCE GALV. INCR. SERS. TAP (FROM CAL.) SERS. TAP (RECORD) TIME CONST. RECORDING SPEED (MM/MIN)
GAMMA RAY 48 CPS 420 BS 82.5 600 300 1 40/80

Velocity (feet per second) = Interval Transit Time (microseconds per foot) / 1,000,000



THE WESTERN COMPANY

Gammatron

Port 3/4

COMPANY: PAN AMERICAN PETROLEUM CORPORATION

WELL: STATE DB #1

FIELD: CHAVEROO

COUNTY: ROOSEVELT STATE: NEW MEXICO

Location: 660' FNL & WL SEC 25 T-7S R-33E

Other Services:

3663-H

Permanent Datum: GROUND LEVEL, Elev. 4324

Log measured from K.B. 11 ft above perm. datum

Drilling measured from K.B.

Elev.: K.B. 4335 D.F. G.L. 4324

Date	3-1-66	3-1-66
Run No.	ONE	ONE
Type Log	GAMMA RAY	NEUTRON
Depth—Driller	4355	4355
Depth—Logger	4357	4357
Bottom logged interval	4348	4355½
Top logged interval	SURFACE	SURFACE
Type fluid in hole	WATER	WATER
Salinity, PPM Cl.		
Density		
Level	FULL	FULL
Max. rec. temp., deg F.		
Operating rig time		
Recorded by	VIRDEN	
Witnessed by	MR. WILLIAMS	

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
				4½		SURFACE	T.D.

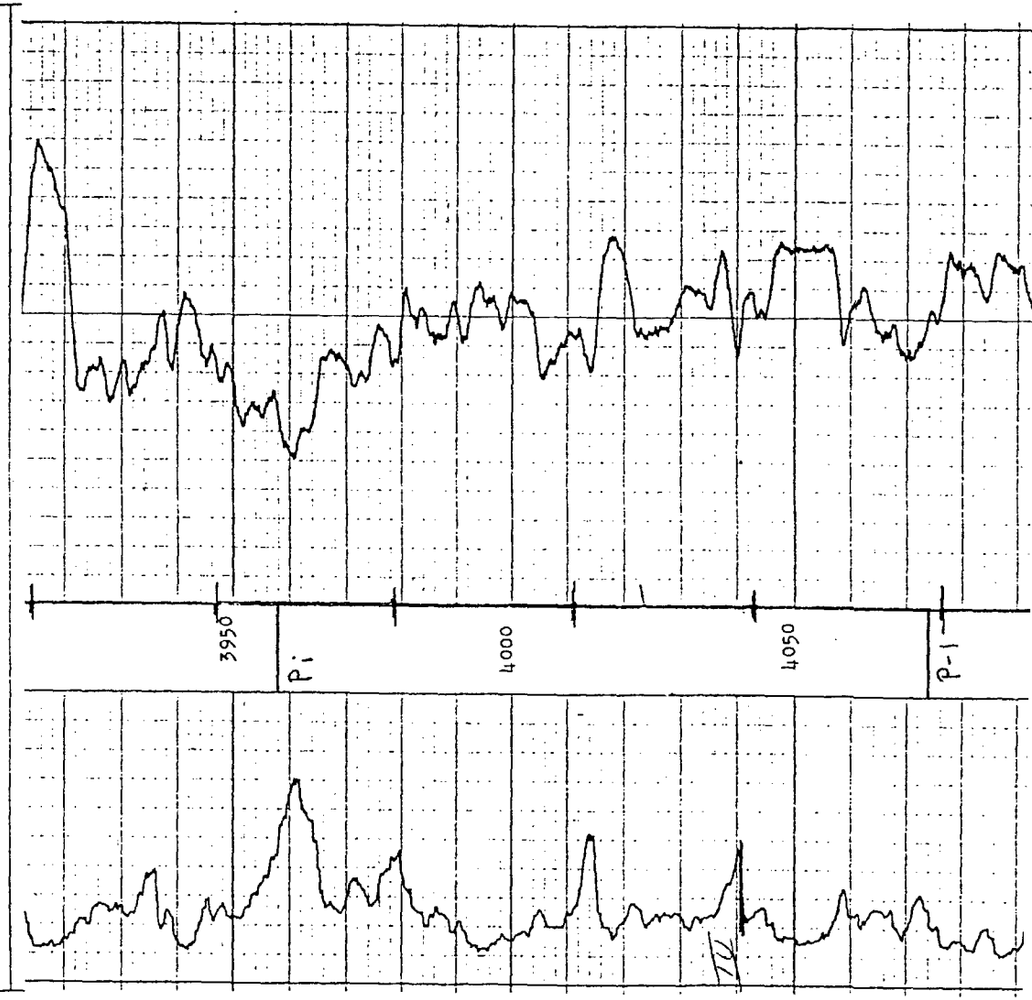
EQUIPMENT DATA

Gamma Ray		Neutron
Run No.	ONE	ONE
Tool Model No.	500	N/N (THERM)
Diameter	3½	500
Detector Model No.	SPA12	3½"
Type	SCINT	SAL4
Length	3"	SCINT
Distance to N. Source	104"	1"
		RB-300
General		
Hoist Truck No.	6205	
Instrument Truck No.	6205	
Tool Serial No.	14	
Serial No.		
Spacing		13½"
Type		RA-BE
Strength		4.5X10⁶

LOGGING DATA

General Run No.	Depths From	To	Speed Ft/Min	T.C. Sec	Gamma Ray Sens. Settings	Zero Div. L or R	G.R. Units per Log Div.	T.C. Sec.	Neutron Sens. Settings	Zero Div. L or R	N. Units per Log Div.
ONE	3400	4355½	30	4	425	0	8	3	150	4L	50
TWO	0	4355½	50	3	425	0	8	2	150	4L	50

Reference Literature:



PAN GEO ATLAS CORP.

PGAC

Gamma Ray Neutron Log

(EPITHERMAL NEUTRON)

FILE NO.

COMPANY PAN AMERICAN PETROLEUM CORPORATION

WELL STATE DB # 5

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 1980 FN & WL

SEC 25 TWP. 7-S RGE 33-E

Other Services

Permanent Datum	G.L.	Elev. 4319	Elevations: KB 4330
Log Measured from	K.B.	11 Ft. Above Permanent Datum	DF 4329
Drilling Measured from	K.B.		GL 4319

Date	5-1-56			
Run No.	ONE			
Type Log	G/N			
Depth-Driller	4400			
Depth-Logger	4385			
Bottom Logged Interval	4384			
Top Logged Interval	SURFACE			
Type Fluid in Hole	WATER			
Salinity Pom Cl.	*			
Density Lb./Gal.	*			
Level	FULL			
Max. Rec. Temp. Deg. F	*			
Opr. Rig Time	3 HOURS			
Recorded By	ADAMS			
Witnessed By	MR. WILLIAMS			

Run No.	Bore Hole Record Bit	From	To	Size	Wgt.	Casing Record From	To
				4 1/2	9.5	SURFACE	T.D.

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EQUIPMENT DATA

	Gamma Ray	Neutron
Run No.	ONE	ONE
Log Type	GR	NVT-EP I
Truck Model No.	1-7/8	PCH-10
Diam.	RADA	3 3/8
Detect. Model No.	SC INT.	ENCE-UNDIL
Type		PROP
Length		4"
Dist. to N. Source	66"	USIIB
Source Model No.		153172
Serial No.		10-5
Strength		5 & 10 Ci
Type		Ra-Be
Source		5 & 10 Ci/S

General

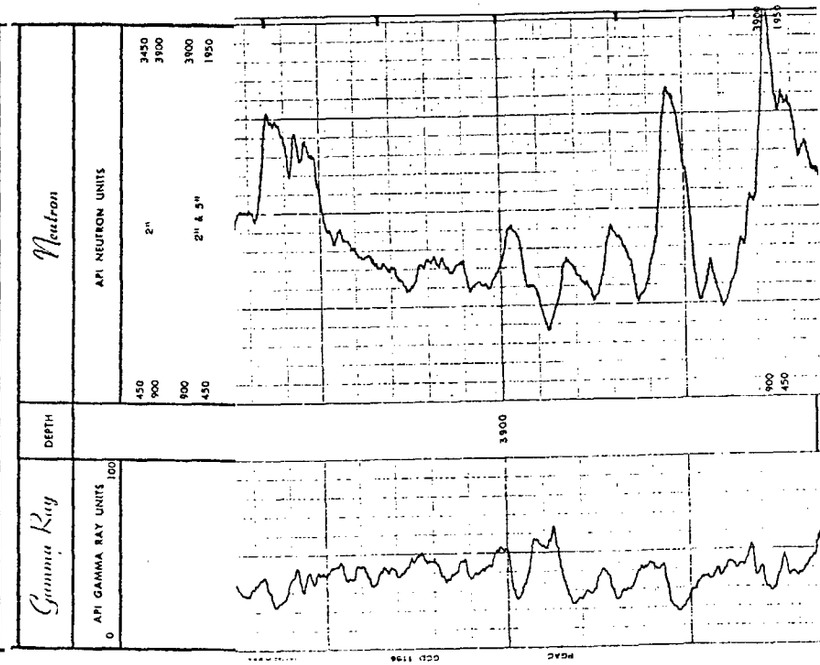
Truck No.	SPU-21
Inst. Truck No.	SPU-21
Inst. Serial No.	REC-8

LOGGING DATA

Run No.	General Depths From	To	Speed Ft./Min.	T.C. Sec.	Gamma Ray Sens. Settings	Zero Div. L or R	API G.R. Units Per Log Div.	T.C. Sec.	Neutron Sens. Settings	Zero Div. L or R	API N. Units Per Log Div.
2"	SURFACE	3500	60	2	50 HI 200	0	10	3	20 HI 100	3-L	150
2"	3500	3950	20	3	50 HI 200	0	10	4	20 HI 100	6-L	150
2"	3950	4384	20	3	50 HI 200	0	10	4	20 HI 50	6-L	75
5"	3500	3974	20	3	50 HI 200	0	10	4	20 HI 50	6-L	75
5"	3974	4384	20	3	50 HI 200	0	10	4	20 HI 100	6-L	150
									20 HI 50	6-L	75

Remarks: Refracto Ultrabrite

LOGGING OFFICER # 11717



COMPANY KERMIT OIL COMPANY

WELL STATE #1

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location: 1980' FROM N/L 660' FROM E/L

Sec. 25 Twp. 7S Rge. 33E

Other Services: L, MLL

Permanent Datum: GROUND LEVEL Elev. 4372

Log Measured From: KB 10 Ft. Above Perm. Datum

Drilling Measured From: KB

Elev.: K.B. 4382.5 D.F. 4331 G.L. 4372

Date	7-26-66
Run No.	ONE
Type Log	FDC
Depth—Driller	4405
Depth—Logger	4403
Bottom logged interval	4401
Top logged interval	0
Type fluid in hole	SALT GEL & STARCH
Salinity, PPM Cl	130,000 (?)
Density	10.1
Level	FULL
Max rec. temp., deg. F.	103
Operating rig time	3 HOURS
Recorded by	TARBALL
Witnessed by	MR. SCHNEIDER MR. MC CAMLEY

BORE-HOLE RECORD

Run	Bit	From	To
1	6¾	SURF	TD

CASING RECORD

Size	Wgt.	From	To
7"		SURF	1376

EQUIPMENT DATA

General: Run No. ONE; Truck No. 4556; Truck No. 4556; Truck No. 12; Logging Unit HOBBS

Gamma Gamma: Run No. ONE; Model No. PGU-D; Detector PGD-D; Model No. SCINT

Gamma Ray: Zero Div. 1 or 2 0; API Units per Log Div. 10; Log T.C. 2; CALIBRATE — API 456; 816

General: Speed ft/Min 30; T.C. Sec. 2; Sens. Settings 400

General: Depths From SURF To TD

Run No.

Tool No.

Gamma Gamma: Run No. ONE; Model No. PGU-D; Detector 4 1/2; Model No. PGD-D; Serial No. SCINT

Log No.

Log No.

Log No.

LANE WELLS — Gamma Ray Neutron

A DIVISION OF THE DOWELL CHEMICAL COMPANY

FILE NO.

COMPANY KERR-MC GEE CORPORATION

WELL STATE "I" NO. 1

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 1980' FSL & 1980' FEL

Other Services

SEC. 25 TWP. 7-S RGE. 33-E

Permanent Datum GROUND LEVEL Elev. 4324.5

Log Measured from K. B. 13 Ft. Above Permanent Datum

Drilling Measured from K. B.

Elevations: KB 4337.5 DF GL 4324.5

Date	6/20/66	6/20/66
Run No.	ONE	ONE
Type Log	GAMMA RAY	N/NEUTRON
Depth-Driller	4420	4420
Depth-Logger	4393	4393
Bottom Logged Interval	4390	4392
Top Logged Interval	SURFACE	SURFACE
Type Fluid in Hole	WATER	WATER
Salinity Ppm Cl.		
Density Lb./Gal.		
Level	FULL	FULL
Max. Rec. Temp. Deg. F		
Opr. Rig Time		2 1/2 HOURS
Recorded By	ELMORE	ELMORE
Witnessed By	MR. CRUPPER	MR. CRUPPER

Bore Hole Record					Casing Record		
Run No.	Bit	From	To	Size	Wgt.	From	To
1				5 1/2"		SURFACE	4420

Equipment Data

	Gamma Ray	Neutron
Run No.	ONE	ONE
Log Type		N/NEUTRON
Tool Model No.	402	402
Diam.	3 1/2"	3 1/2"
Detect. Model No.	DGM	DGM
Type	SC INT.	SC INT.
Length	4.1'	5.6'
Dist. to N. Source	13'	
Type		
Length		
Source Model No.		SL605
Serial No.		3507
Spacing		13.5"
Type		PU BE
Strength		5 CURIES

Remarks: Reference (Elevation)

Logging Data

| Gamma Ray | | | | |

Ram Guns, inc.
ODESSA TEXAS

Nuclear Log

FILING NO

COMPANY PAN AMERICAN PET. CORP.

WELL STATE OF NEW MEXICO DB NO. 4

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 1980' FSL & 660' FWL

OTHER LOGS:

BLK.

SEC. 25 TWP. 7-S RGE. 33-E

PERMANENT DATUM	GROUND LEVEL	ELEV. 4327	ELEVATIONS: K.B. 4338
LOG MEASURED FROM	11' ABOVE GROUND LEVEL		D.F. 4337
DRILLING MEASURED FROM	KELLY BUSHING		G.L. 4327

DATE	4-22-66	4-22-66
RUN NO.	ONE-NW	ONE-NW
TYPE LOG	GAMMA RAY	NEUTRON
DEPTH-DRILLER		
DEPTH-LOGGER	4375	
BOTTOM LOGGED INTERVAL	4362	4374
TOP LOGGED INTERVAL	10	
TYPE FLUID IN HOLE	RAW & ACID	
SALINITY PPM. Cl.	- - -	
DENSITY LB./GAL	- - -	
LEVEL		158
MAX. REC. TEMP. DEG. F	- - -	
OPR. RIG TIME	4 HRS.	
RECORDED BY	MR. KILLINGHAM	
WITNESSED BY		

RUN NO.	BIT	BORE HOLE RECORD FROM	TO	CASING RECORD SIZE	WGT	FROM	TO
	7 7/8"			4 1/2"	10.5	SURFACE	4400

THIS HEADING CONFORMS TO API STANDARD PRACTICE RP-33

EQUIPMENT DATA

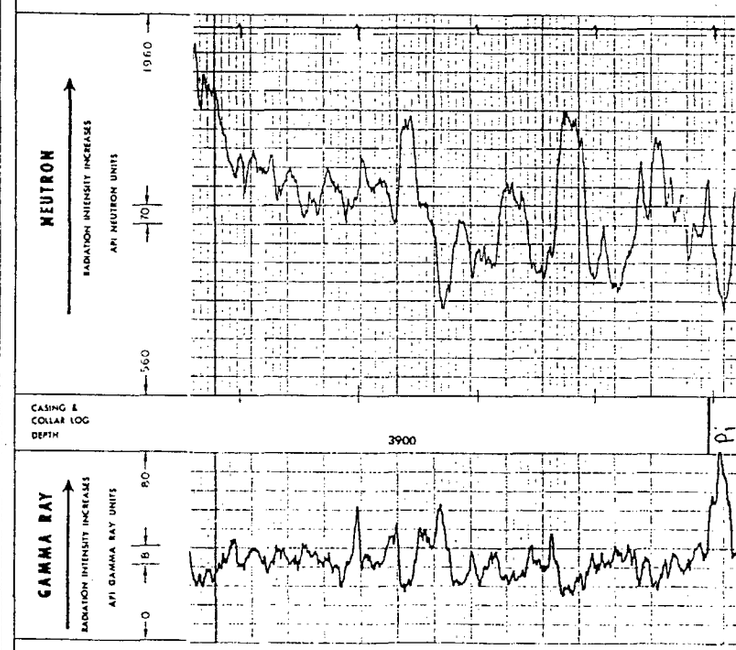
	GAMMA RAY	NEUTRON
RUN NO.	ONE-NW	ONE-NW
LOG TYPE		DIA-NEUTRON
TOOL MODEL NO.	402	402
DIAM.	3 1/2"	3 1/2"
DETECT. MODEL NO.	D401	D-6NL
TYPE	SCINT.	SCINT.
LENGTH	4"	4"
SOURCE MODEL NO.	145	S10A3
SERIAL NO.	G-993	3365
SPACING		15.5"
TYPE	GENERAL	Ra-Be
STRENGTH		5X10⁶
SENSITIVITY REF.		D-368

LOGGING DATA

RUN NO.	GENERAL DEPTHS FROM	TO	SPEED FT/MIN	T.C. SEC	SENS. SETTINGS	ZERO LOG DIV.	API G. & UNITS PER LOG DIV.	T.C. SEC	SENS. SETTINGS	ZERO LOG DIV.	API N. UNITS PER LOG DIV.
1-5	3500	4374	28	1.5	576	0	0	1.6	148	8 CPL	70
1-2	10	4374	60	.8	576	0	0	.8	148	8 CPL	70

REFERENCE SITE FEATURE

REMARKS



THE WESTERN COMPANY

Gammatron

COMPANY PAN AMERICAN PETROLEUM CORPORATION

WELL STATE "DB" # 8

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

56682-H

Location: 660' FSL & 1980' FWL SEC.25, TWP.7S, RGE.33E

Other Services:

Permanent Datum: GROUND LEVEL Elev. 4323

Log measured from 10 ft above perm. datum

Drilling measured from

Elev.: K.B. 4333 D.F. G.L. 4323

Date	5-28-66	5-28-66
Run No.	ONE-NW	ONE-NW
Type Log	GAMMA RAY	NEUTRON
Depth—Driller	4430	4430
Depth—Logger	4424	4424
Bottom logged interval	4415	4422.5
Top logged interval	SURF.	SURF.
Type fluid in hole	WATER	WATER
Salinity, PPM Cl.		
Density		
Level	186	186
Max. rec. temp., deg F.		
Operating rig time		
Recorded by	WHEATLEY	
Witnessed by		

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
				4.5"		SURF.	T.D.

EQUIPMENT DATA

Gamma Ray: Run No. ONE; Tool Model No. 500; Diameter 3 1/2"; Detector Model No. SPA12; Type SC INT; Length 3'; Distance to N. Source 10'

Neutron: Run No. ONE; Tool Type NeNN (THERM); Tool Model No. 500; Diameter 3 1/2"; Detector Model No. SALA; Type SC INT; Length 3'; Distance to N. Source AB-300

General: Serial No. 6212; Serial No. 6212; Serial No. 15; Serial No. 13.5"; Type RA-DE; Strength 4.5 X 10^6

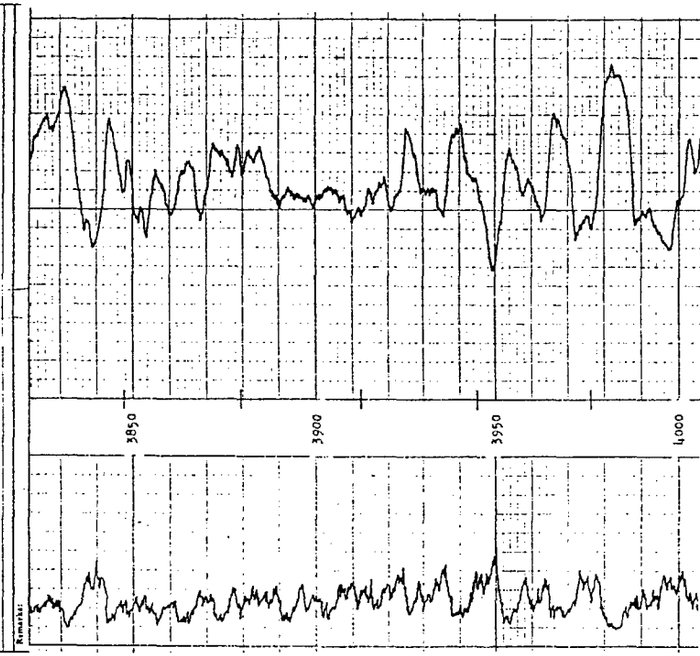
Heat Track No.; Instrument Track No.; Tool Serial No.

LOGGING DATA

Run No.	Depths From	To	Speed Ft/Min	T.C. Sec.	Sens. Settings	Zero Div. L or R	C.R. Units per Log Div.	T.C. Sec.	Sens. Settings	Zero Div. L or R	N. Units per Log Div.
			General		Gamma Ray			Neutron			
	4422.5	3500	30	3	1000	0	8 API	3	160	11	30 API
	4422.5	SURF.	30-50	2	1000	0	8 API	2	160	11	30 API

Reference Literature:

Remarks:



SCHLUMBERGER — BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL STATE "J" #4
COMPANY SOUTHERN PET. EXP

COMPANY SOUTHERN PETROLEUM EXPLORATION INC.

WELL STATE "J" #4

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION 990' FROM S/L
990' FROM E/L

Sec. 25 Twp. 7S Rge. 33E

Other Services:
L.MLL

Permanent Datum: GROUND LEVEL Elev. 4324
Log Measured From K.B. 11 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 4335
D.F. 4334
G.L. 4324

Date	1-27-67			
Run No.	ONE			
Depth—Driller	4470			
Depth—Logger	4475			
Btm. Log Interval	4465			
Top Log Interval				
Casing—Driller	8 5/8 @ 345	@	@	@
Casing—Logger				
Bit Size	7 7/8			
Type Fluid in Hole	SALT GEL			
Dens. / Visc.	10.4 / 42			
pH / Fluid Loss	6 / 10 ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.080 @ 68 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.052 @ 69 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M			
R_m @ BHT	.055 @ 105°F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	105 °F	°F	°F	°F
Equip. / Location	3701 / HOBBS			
Recorded By	WILSON			
Witnessed By	MR. WICKS	MR. KINCHELOW		

The well name, location and borehole reference data were furnished by the customer.

REMARKS

Scale Changes: Scale Up Hole / Scale Down Hole

Changes in Mud Type or Additional Samples: Type Log / Depth

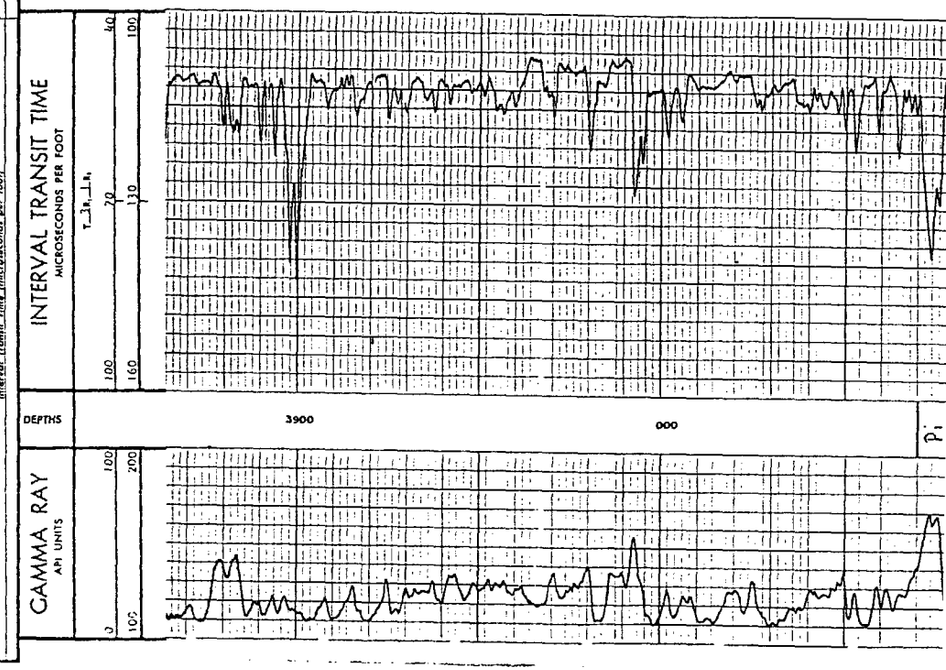
Date / Sample No. / Depth—Driller / Type Fluid in Hole / Dens. / Visc. / pH / Fluid Loss / Source of Sample / R_m @ Meas. Temp. / R_{mf} @ Meas. Temp. / R_{mc} @ Meas. Temp. / Source: R_{mf} / R_{mc} / R_m @ BHT / R_{mf} @ BHT / R_{mc} @ BHT

Equipment Data: Run No. / Tool Type / Other — Pad Type / Tool Tes.

C.O. - TES — S.O.
Equip. Loc. CART. No. — SLC-3-15
PANEL No. — SLP-2-49
SONDE No. — SLS-B-21

CALIBRATION: BACKGND. — SOURCE — GAIN INCR. — BPHS TAP (FOR CAL.) — BPHS TAP (RECORD) — TIME CONST. — RECORDING SPEED (INCHES/HR.)
GAMMA RAY: 50 — 400 — 82.5 — 800 — 400 — 45/60

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)



SCHLUMBERGER

COMPENSATED FORMATION DENSITY LOG

Gamma-Gamma

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL FEDERAL 26 #5
COMPANY KERN COUNTY LAND COMPANY

COMPANY KERN COUNTY LAND COMPANY

WELL FEDERAL 26 #5

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location: 1980' FROM S/L
1980' FROM E/L

Sec. 26 Twp. 7S Rge. 33E

Other Services:
L, MLL, MOP

Top Sub. Hdw. File

Permanent Datum: GL ; Elev.: 4343.4
Log Measured From KB , 12 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4355.4
D.F. 4354.4
G.L. 4343.4

Date	6-4-66		
Run No.	ONE		
Type Log	FDC + GR		
Depth—Driller	4400		
Depth—Logger	4392		
Bottom logged interval	4391		
Top logged interval	0		
Type fluid in hole	SALT GEL STARCH		
Salinity, PPM Cl.	172000		
Density	10.1		
Level	FULL		
Max rec. temp., deg F.	111		
Operating rig time	3 HOURS		
Recorded by	TARRALL		
Witnessed by	MR. YANCY		

PERMANENT FILE COPY
DO NOT REMOVE

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
1	6¼	SSG.	TD	7"		SURFACE	1818

EQUIPMENT DATA

	Gamma-Gamma	General
Run No.	ONE	ONE
Tool Model No.	FGT-D	
Diameter	4-1/8	
Detector Model No.	GSH-D	
Type	Scint	

LOGGING DATA

| Gamma Ray | | |

SCHLUMBERGER — BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL FED. 26 WELL #2
COMPANY KERN CO. LAND CO.

COMPANY KERN COUNTY LAND COMPANY

WELL FEDERAL 26 WELL #2

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION 1980' FROM S/L
660' FROM W/L

Sec. 26 Twp. 7S Rge. 33E

Other Services: FDC, SNP, L, MLL

Permanent Datum: GL, Elev. 4373
Log Measured From KB 12 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4385
D.F. 4384
G.L. 4373

Date	5-17-66			
Run No.	ONE			
Depth—Driller	4405			
Depth—Logger	4402			
Btm. Log Interval	4393			
Top Log Interval	0			
Casing—Driller	7" @ 1808	@		@
Casing—Logger	-			
Bit Size	6 1/4"			
Type Fluid in Hole	SALT MUD			
Dens. / Visc.	10.2 / 37			
pH / Fluid Loss	- / 14.2 ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.047 @ 81 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.042 @ 80 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
Source: R_{mf} R_{mc}	M -	-	-	-
R_m @ BHT	.038 @ 106 °F	@ °F	@ °F	@ °F
Time Since Circ.	24 HOURS			
Max. Rec. Temp.	106 °F	°F	°F	°F
Equip. / Location	4556 / HOBBS			
Recorded By	BROWN			
Witnessed By	MR. EATON & MR. LANKFORD			

PERMANENT FILE COPY
DO NOT DESTROY

Scale Changes: Depth / Scale Up Hole / Scale Down Hole

Type Log

Equipment Data: Run No. / Tool Type / Pad Type / Tool Pos. / Other

CENTRALIZERS

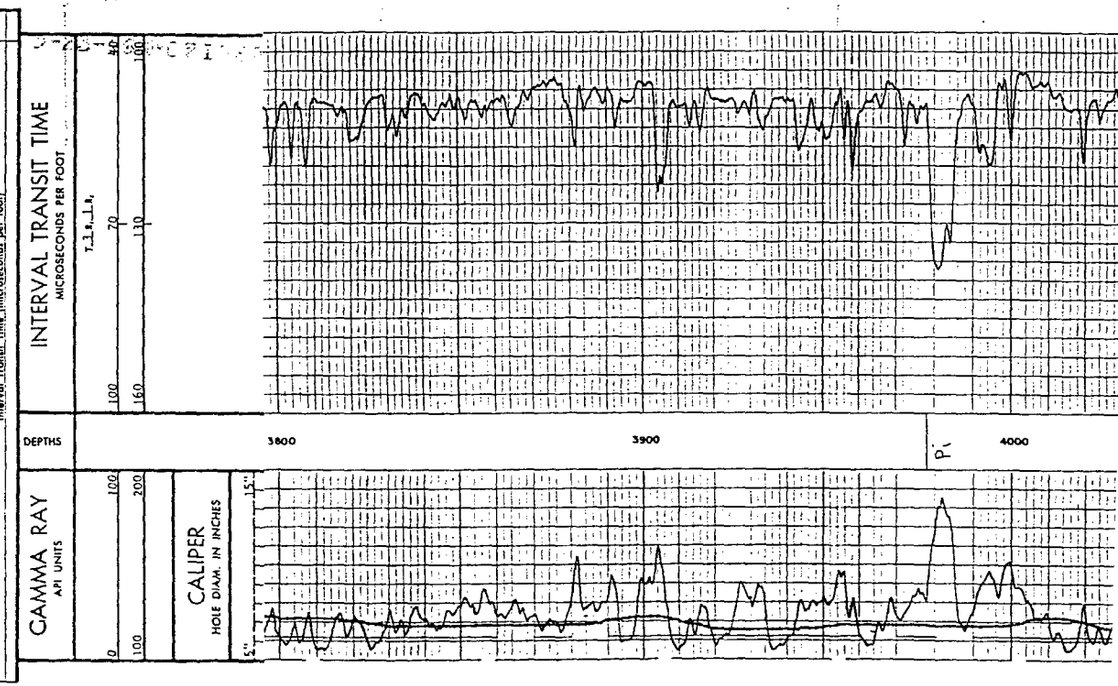
Changes in Mud Type or Additional Samples: Date / Sample No. / Depth / Type Fluid in Hole / Dens. / Visc. / pH / Fluid Loss / Source of Sample / R_m @ Meas. Temp. / R_{mf} @ Meas. Temp. / R_{mc} @ Meas. Temp. / Source R_{mf} R_{mc} / R_m @ BHT / R_{mf} @ BHT / R_{mc} @ BHT

C.D. USED S.O. CALIPER
Equip. Used, CART. No. 48
PANEL No. 49
SONDE No. 92

CALIBRATION BACKGND. SOURCE GALV. INCL. SPNG. TAP SPNG. TAP TIME RECORDING
GAMMA RAY 4.8 DEVICE 4.70 DEVICE 8.2.2 TOP CAL. 800 TOP CAL. 400 SPEED (FT/MIN) 40/80

REMARKS

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)



SCHLUMBERGER

COMPENSATED FORMATION DENSITY LOG

Gamma-Gamma

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL FEDERAL 26 #4
COMPANY KERN COUNTY LAND COMPANY

COMPANY KERN COUNTY LAND COMPANY

WELL FEDERAL 26 #4

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location: 660' FROM S/L
1980' FROM N/L

Sec. 26 Twp. 7S Rge. 33E

Other Services: LL, MLL, MOP

Permanent Datum: GL ; Elev.: 4365
Log Measured From KB 9 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4374
D.F. 4373
G.L. 4365

Date	6-8-66
Run No.	ONE
Type Log	GG-GR
Depth—Driller	4330
Depth—Logger	4377
Bottom logged interval	4376
Top logged interval	0
Type fluid in hole	SALT GEL
Salinity, PPM Cl.	125000
Density	10.0
Level	-
Max rec. temp., deg F.	104
Operating rig time	4 HOURS
Recorded by	CARNAHAN
Witnessed by	MR. LANKFORD

PERMANENT FILE COPY
DO NOT REMOVE

RUN No.	Bit	BORE-HOLE RECORD From	To	CASING RECORD Size	Wgt.	From	To
1	6s	CASING	TD	7"		SURF.	1825

EQUIPMENT DATA

	Gamma-Gamma	General
Run No.	ONE	ONE
Tool Model No.	PGT-D	Hoist Truck No. 3518
Diameter	4.378	Inst. Truck No. 3518
Det. Model No.	PGD-D	Tool Serial No. PGS 0-92
Type	SCINT	Location HOBBS

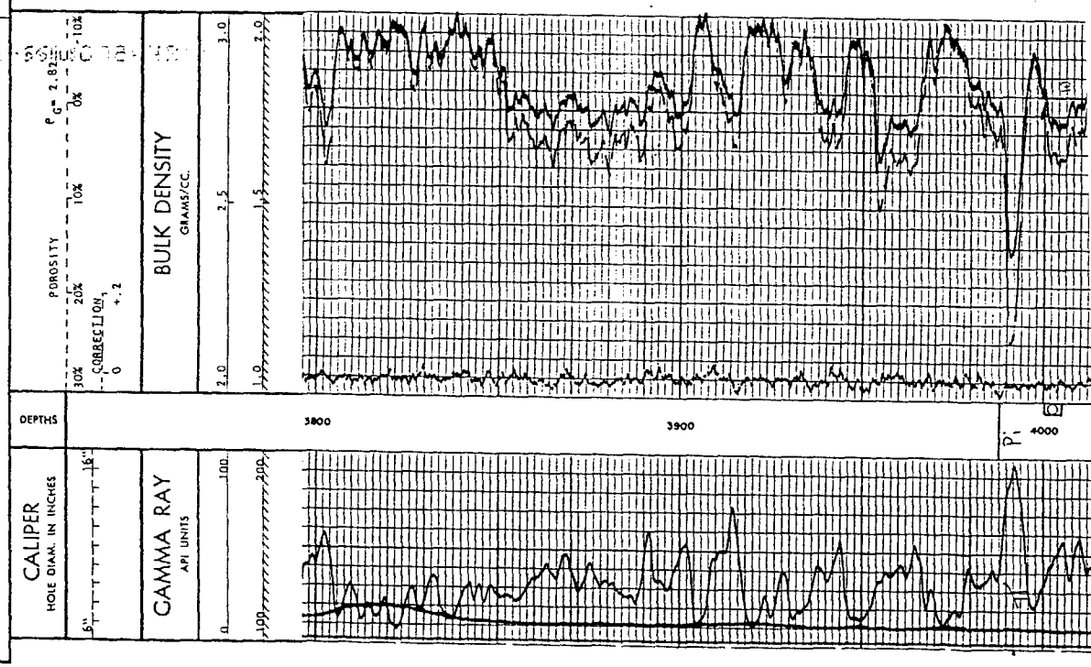
LOGGING DATA

Gamma Ray	Sens. Settings	T.C. Set.	Speed ft/Min	Zero Dis. L or R	API Units per log Div.	Log T.C.	Gamma-Gamma CALIBRATE — ACES. P_1	P_2
	400	2	30	0	10	2	416	528

General Depths

Run No.	From	To
ONE	SURF.	TD

Remarks:



COMPENSATED NEUTRON-FORMATION DENSITY LOG
Gamma-Gamma

RN COUNTY LAND COMPANY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL FEDERAL
COMPANY KERN CO.

WELL FEDERAL 26 #8
FIELD CHAVEROO
COUNTY ROOSEVELT STATE NEW MEXICO

Location: 660' FROM S/L
660' FROM E/L
Sec. 26 Twp. 7S Rge. 33E

Other Services: L, MLL

Permanent Datum: GL ; Elev.: 4333
Log Measured From KB 7 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4346
D.F. 4345
G.L. 4339

Date	5-20-66
Run No.	ONE
Type Log	GG-GR
Depth—Driller	4376
Depth—Logger	4376
Bottom logged interval	4375
Top logged interval	0
Type fluid in hole	BRINE GUM
Salinity, PPM Cl.	171000
Density	10
Level	SURFACE
Max rec. temp., deg F.	105
Operating rig time	4 HOURS
Recorded by	SCHAEFFER
Witnessed by	M. LANKFORD

PERMANENT FILE COPY
DO NOT REMOVE

BORE-HOLE RECORD				CASING RECORD			
No.	Bit	From	To	Size	Wgt.	From	To
1	6¼	1820	4376	7"		SURFACE	1820

EQUIPMENT DATA

	Gamma-Gamma	General
Run No.	ONE	ONE
Tool Model No.	PGT-B	3701
Diameter	4 1/8	3701
Det. Model No.	PGD-B	3701
Type	SCINT	HORBS

LOGGING DATA

| General | | | |

203-D2

SCHLUMBERGER — SIDEWALL — **GAMMA RAY-NEUTRON**

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY ROOSEVELT
FIELD CHAVEROO
LOCATION STATE "CV" # 2
WELL SHELL OIL COMPANY

COMPANY SHELL OIL COMPANY

WELL STATE "CV" # 2

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location: 660' FROM N/L
1980' FROM E/L

Sec. 35 Twp. 7S Rge. 33E

Other Services:
FDC, LL, MLL

Permanent Datum: GL ; Elev.: 4361
Log Measured From DF 9 Ft. Above Perm. Datum
Drilling Measured From DF

Elev.: K.B.
D.F. 4370
G.L. 4361

Date	3-10-66
Run No.	ONE
Type Log	SNP-GR
Depth—Driller	4400
Depth—Logger	4397
Bottom logged interval	4396
Top logged interval	0
Type fluid in hole	SALT GEL STARCH
Salinity, PPM Cl.	67,000
Density	10.9
Level	FULL
Max rec. temp., deg F.	109
Operating rig time	3 HOURS
Recorded by	TARRALL
Witnessed by	MR. FREEMAN

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
1	7 7/8	CSG.	TD	8 5/8		SURF.	191

THIS RECORDING AND LOG CONFORMS TO API RP 33

EQUIPMENT DATA

Gamma Ray		Neutron	
Run No.	ONE	Run No.	ONE
Tool Model No.	SGT-C	Log Type	SNP
Diameter	3 5/8	Tool Model No.	PNT-A
Det'r Model No.	SGD-C	Diameter	4 1/8
Type	SCINT	Det'r Model No.	PRD-A
Length	8'	Type	EPITHERM.
Dist. to N. Source	N.A.	Length	9'6.5"
		Source Model No.	D
		Serial No.	153
		Spacing	
		Type	PU BE
		Strength	107 N/SEC.

General

Hoist Truck No.	4556	
Inst. Truck No.	4556	
Tool Serial No.		
Location	HOBBS	

LOGGING DATA

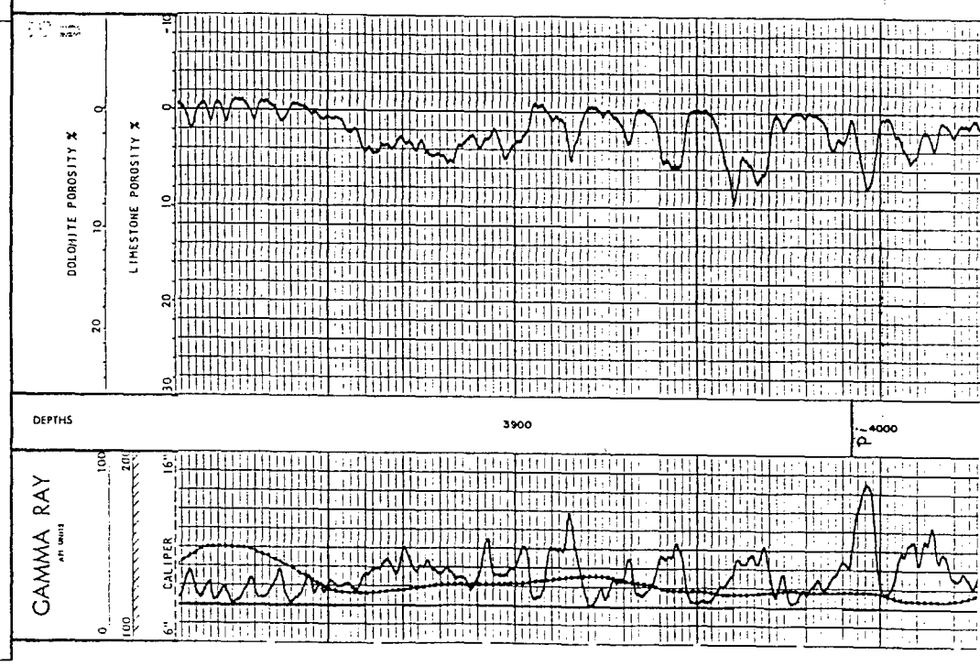
Gamma Ray								Neutron				
Run No.	Depths From	To	Speed Ft/Min.	T.C. Sec.	Sens. Settings	Zero Div. L or R	API G.R. Units per Log Div.	T.C. Sec.	Sens. Settings	Zero Div. L or R	API N. Units per Log Div.
1	SURF.	TD	30	2	400	0	10	2			

Reference Literature:

GR: B 80.480, 82.S.800

Remarks: BEFORE DRAWER IN 388 DRAWER OUT 240
AFTER 394 240

TEMP. 100°
PPM NACL 110,000



SCHLUMBERGER

SIDEWALL NEUTRON-POROSITY LOG

COMPANY Morris R. Antweil
G L Scott
WELL Shackelford #1
FIELD Chaveroo
COUNTY Roosevelt STATE New Mexico

COUNTY
FIELD or LOCATION
WELL
COMPANY

Location: 660' FN & WL
Sec. 35 Twp. 7S Rge. 33E

Other Services: BSCK, FDC-L, ML

Permanent Datum: GL ; Elev. 4390
Log Measured From KB , 11 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4391
D.F. 4390
G.L. 4380

Date	5-18-66
Run No.	ONE
Type Log	SNP-GR
Depth—Driller	4500
Depth—Logger	4495
Bottom logged interval	4494
Top logged interval	3400
Type fluid in hole	Salted Starch
Salinity, PPM Cl.	Saturated
Density	10.5
Level	Full
Max rec. temp., deg F.	107
Operating rig time	2 Hrs
Recorded by	Brown
Witnessed by	Vetter

RUN No.	BORE-HOLE RECORD Bit	From	To	Size	CASING RECORD Wgt.	From	To
1	7 7/8"	410	4500	8 5/8"		Surf	410

Courtesy of the Property of ... THE PERMIAN ASSOCIATION, INC.

EQUIPMENT DATA

General

Run No.	ONE	
Tool Model No.	SNP-A	
Diameter	4 1/2"	
Day/Model No.	FND-A	
Type	FDL-MERCURY	

Run No.	ONE	
Hole Size	7 7/8"	
Tool Unit No.	16	
Tool Serial No.	16A43	
Location		

LOGGING DATA

General

Run No.	Depths From	To	Speed Ft/Min	T.C. Sec.	Sens. Settings	Zero Dis. L or R	API Units per Log Div.	Log T.C.	Neutron Calibration Data Environmental Calibration SP-114 Drawer In-ACPS	Drawer Out-ACPS
1	3500	4494	30	2	40	C	10	2	Before: 7.6	2.8
									After: 7.6	2.8

Gamma Ray

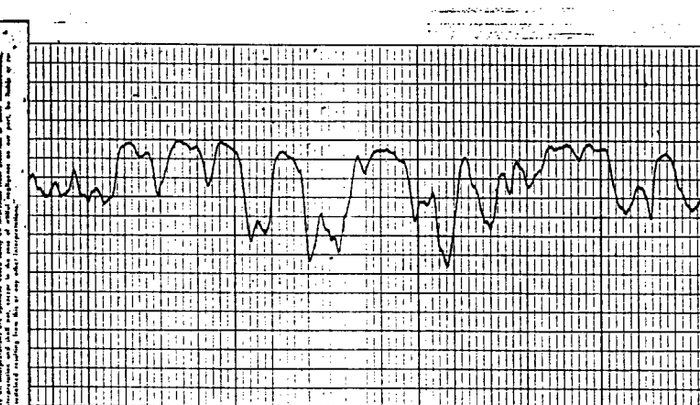
Auxiliary Calibration SP-113 ACPS
Before:
After:

Panel Settings: Function Tarmac-LOT Mud Wt./Salinity 9.2 Temp. Comp. Setting 180

Item	to	ft.	Item	to	ft.
Item	to	ft.	Item	to	ft.
Item	to	ft.	Item	to	ft.
Item	to	ft.	Item	to	ft.

Remarks:

"This interpretation represents our best judgment. Nevertheless, since all interpretations are opinions based solely on inferences from electrical or other measurements, we cannot and do not guarantee the accuracy or correctness of any interpretation and we, except in the case of willful negligence on our part, shall not be liable or responsible for any loss, damages, or expenses incurred or sustained resulting from any such interpretation."



SCHLUMBERGER

COMPENSATED FORMATION DENSITY LOG

Gamma-Gamma

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL SEC. 35 S. STATE #1
COMPANY MARATHON OIL CO.

COMPANY [redacted]

WELL [redacted]

FIELD CHAVEROO

COUNTY [redacted] STATE [redacted]

Location: 1980' FROM N/L
1980' FROM W/L

Other Services: SNP, LL, MLL

Sec [redacted]

Permanent Datum: GL ; Elev.: 4368.6
Log Measured From KB 10.4 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4379
D.F. 4378
G.L. 4368.6

Date	3-7-66	1-TOW
Run No.	ONE	2-JRM
Type Log	FDC-GR	1-JRB
Depth—Driller	14440	1-MM
Depth—Logger	14439	1-GEE
Bottom logged interval	14438	
Top logged interval	0	
Type fluid in hole	NATIVE-EMULSION	
Salinity, PPM Cl.	152,000	
Density	10.6	
Level	FULL	
Max rec. temp., deg F.	110C	
Operating rig time	14 HOURS	
Recorded by	TARRALL & FRY	
Witnessed by	MR. KENNEDY	

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
1	12 7/8	0	10	13 3/8	36	SURF	362

EQUIPMENT DATA

General

Run No.	ONE	
Hoist Truck No.	4548	
Instl. Truck No.	4548	
Tool Serial No.		
Location	HOBBS	

Gamma-Gamma

Run No.	ONE	
Tool Model No.	PGD-D	
Diameter	5 1/2	
Data Model No.	PGD-D	
Type	SC.INT.	

LOGGING DATA

General

Run No.	Depths From	To	Speed Ft/Min.	T.C. Sec.	Sens. Settings
1	SURF	10	30	2	100

Gamma Ray

Run No.	Zero Dev.	Sens.	API Units per Log Div.	Log T.C.	Calibrate — Acts.	
1	0	100	10	2	100	BEFORE
					100	AFTER

Remarks: GR-B. 56.512 82.5 800

POROSITY % 20 10 ρ_G = 2.32

CORRECTION 0 ← 25 → +

BULK DENSITY GRAMS/CC.

2.0 2.5 3.0

1.0 1.5 2.0

DEPTHS 4000

CALIPER HOLE DIAM. IN INCHES

6" 16"

GAMMA RAY API UNITS

100 200

SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COMPANY MARATHON OIL COMPANY

WELL [redacted]

FIELD CHAVEROO

COUNTY [redacted] STATE [redacted]

LOCATION 1980' FROM N/L 660' FROM E/L

Other Services: FDC; SNP, LL, MLL

Elev.: K.B. 4348 D.F. 4347 G.L. 4337

Permanent Datum GL Elev. 4337

Log Measured from KB 11 Ft. Above Perm. Datum

Drilling Measured from KB

PROPERTY OF MARATHON OIL COMPANY ROSWELL, NEW MEXICO

Date	3-3-66		
Run No.	ONE		
Depth—Driller	40		
Depth—Logger	42		
Bottom Interval	33		
Top Interval			
Casing—Driller	5/8@389	@	@
Casing—Logger			
Bit Size	7/8		
Type Fluid in Hole	SALT GEL, SEARCH		
Viscosity	34		
Fluid Loss	10 ml	ml	ml
Source of Sample	RC		
Rm @ Meas. Temp.	.68 @ 70 °F	@ °F	@ °F
Rmf @ Meas. Temp.	.49 @ 70 °F	@ °F	@ °F
Rmc @ Meas. Temp.	.11 @ 70 °F	@ °F	@ °F
Source Rmf / Rmc	M		
Rm @ BHT	.65 @ 107 °F	@ °F	@ °F
Time Circ.	10:30		
Max. Rec. Temp.		°F	°F
Equipment-Location	[illegible]		
Recorded By	[illegible]		

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down Hole

Equipment Data

Run No.	Tool Type	Pad Type	Tool Pos.	Other

REMARKS

Circulation in Mud Type or Additional Samples

Date | Sample No.

Depth—Driller

Type Fluid in Hole

Viscosity

pH | Fluid Loss

Source of Sample

Rm @ Meas. Temp.

Rmf @ Meas. Temp.

Rmc @ Meas. Temp.

Source Rmf / Rmc

Rm @ BHT

Rmf @ BHT

Rmc @ BHT

S.O. SPRING 2 CAL TPLE

CART. No. SLC-A-11

PANEL No. SLP-A-18

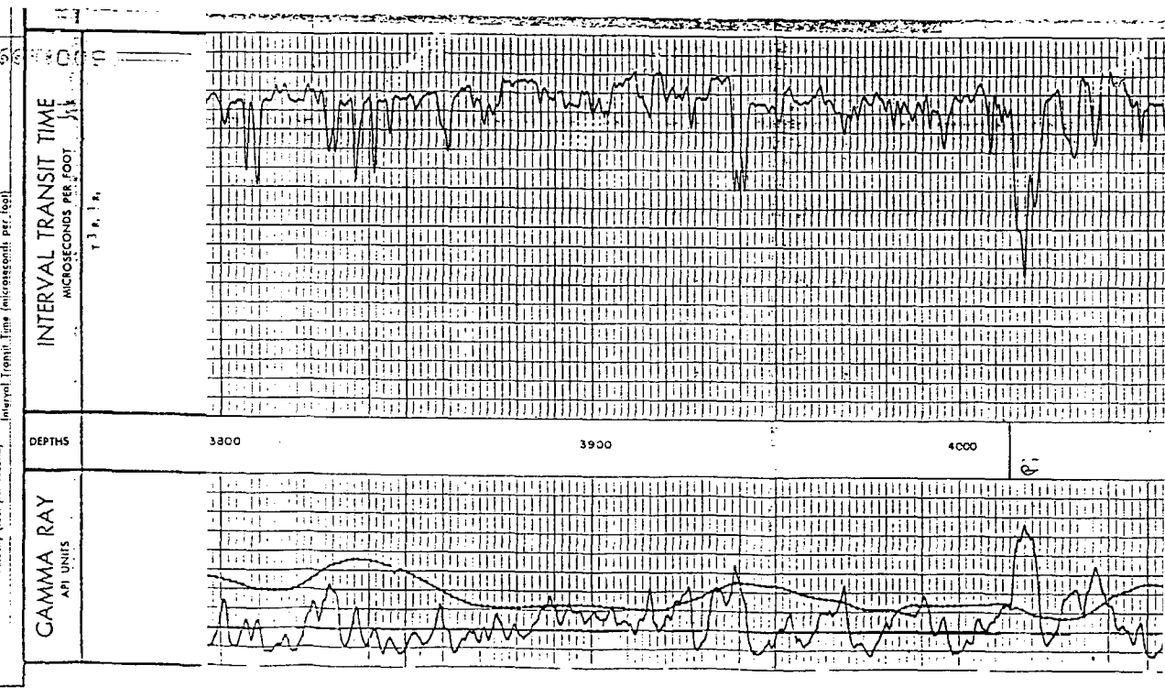
SONDE No. SLS-B-11

Equip. Used

CALIBRATION

	BACKGND. CPS	SOURCE CPS	GAIN INCR. DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (ft./min.)
GAMMA RAY	80	510	82.5	800	400	1	10/60

Velocity (feet per second) = Interval Transit Time (microseconds per foot) / 1,000,000



SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL HOBBS T # 14
COMPANY SKELLY OIL COMPANY

COMPANY SKELLY OIL COMPANY

WELL HOBBS T # 14

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION 1980' FROM S/L
1980' FROM E/L

Sec. 35 Twp. 7S Rge. 33E

Other Services:
FDC, SNP, LL, MLL

Permanent Datum: GL, Elev. 4347
Log Measured From KB, 11 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4358
D.F. 4357
G.L. 4347

Date	3-12-66			
Run No.	ONE			
Depth—Driller	4500			
Depth—Logger	4495			
Btm. Log Interval	4486			
Top Log Interval	0			
Casing—Driller	8 5/8 @ 380	@	@	@
Casing—Logger	-			
Bit Size	7 7/8"			
Type Fluid in Hole	SALT GEL, STARCH			
Dens. / Visc.	10.6 / 38			
pH / Fluid Loss	- / 8.2 ml	ml	ml	ml
Source of Sample	FLOW LINE			
R_m @ Meas. Temp.	.07 @ 75 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.045 @ 77 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / -			
R_m @ BHT	.05 @ 110 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	110 °F	°F	°F	°F
Equip. / Location	4548 HOBBS			
Recorded By	LEFLER & FRY			
Witnessed By	MR MORTON			

Scale Changes: Scale Down Hole / Scale Up Hole

Depth / Type Log

Equipment Data: Run No. / Tool Type / Pad Type / Tool Pos. / Other

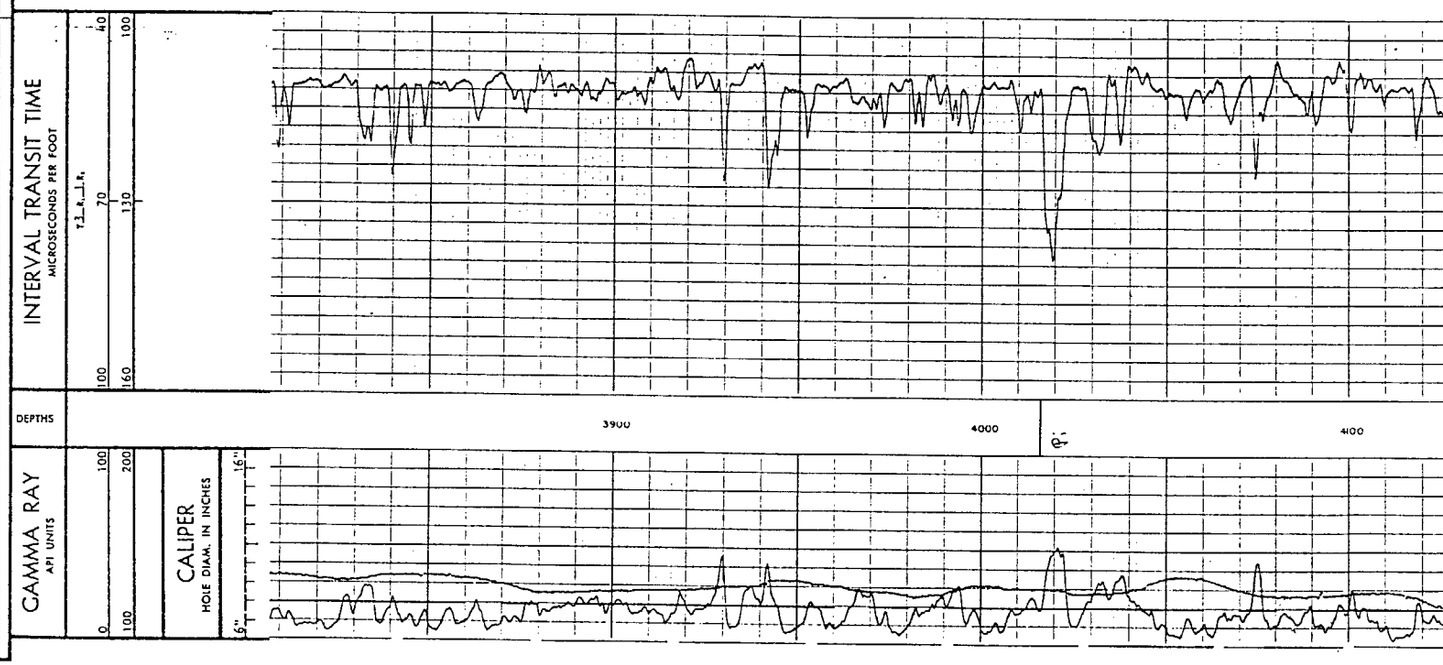
Changes in Mud Type or Additional Samples: Date / Sample No. / Depth—Driller / Type Fluid in Hole / Dens. / Visc. / pH / Fluid Loss / Source of Sample / R_m @ Meas. Temp. / R_{mf} @ Meas. Temp. / R_{mc} @ Meas. Temp. / Source: R_{mf} / R_{mc} / R_m @ BHT

REMARKS

C.O.: USED S.O.: SPRING GUIDE & CALIPER
Equip. Used: CART. No. 54
PANEL No. 13
SONDE No. 12

CALIBRATION: BACKGND. ___ SOURCE GALV. INCH SENS. TAP ___ SENS. TAP ___ TIME RECORDING
GAMMA RAY: SPL 36 ___ 480 ___ 0 (MV) ___ 800 ___ 400 ___ CONST. 32.5 ___ SPEED (FPM) 40/80

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)



SCHLUMBERGER

SIDEWALL

GAMMA RAY - NEUTRON

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COMPANY [redacted]

WELL [redacted]

FIELD Charco

COUNTY [redacted] STATE [redacted]

COUNTY
FIELD or LOCATION
WELL
COMPANY

Location: 1980' FSL & 660' FWL

Other Services:
FDC-GR, I, MLL

Sec [redacted]

Permanent Datum: Ground Level ; Elev.:
Log Measured From KB Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4378
D.F. 4377
G.L.

Date	12-7-65		
Run No.	One		
Type Log	SNP		
Depth—Driller	3925		
Depth—Logger	3928		
Bottom logged interval	3926		
Top logged interval	2700		
Type fluid in hole	Salt Water Starch		
Salinity, PPM Cl.	12000		
Density	10.1		
Level	Full		
Max. rec. temp., deg F.	117		
Operating rig time	2½ hrs		
Recorded by	Lester		
Witnessed by	Mr. Reddy		

BORE HOLE RECORD

Run No.	Bit	From	To	Size	Wgt.	From	To
1	7 7/8	Surf.	3928				

CASING RECORD

Size	Wgt.	From	To
5½		Surf.	2700

EQUIPMENT DATA

This section and the remainder to be filled in by the Engineer

| Gamma Ray | | | |

PAN GEO ATLAS CORP.

PGAC *Gamma Ray Neutron Log*

(EPITHERMAL NEUTRON)

FILE NO.

COMPANY PAN AMERICAN PETROLEUM CORPORATION

WELL STATE DE # 1

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 660 FSL 1980 FWL

Other Services

SEC 35 TWP. 7-S RGE 33-E

Permanent Datum G.L. Elev. 4360 — Elevations: KB 4370.5, DF 4359.5, GL 4360

Log Measured from K.B. 10.5 Ft. Above Permanent Datum

Drilling Measured from K.B.

Date	4-16-66			
Run No.	ONE			
Type Log	G/N			
Depth-Driller	4435			
Depth-Logger	4442			
Bottom Logged Interval	4441			
Top Logged Interval	SURF			
Type Fluid in Hole	WATER			
Salinity Ppm Cl.	~			
Density Lb. Gal.	~			
Level	100			
Max. Rec. Temp. Deg. F	~			
Opr. Rig Time	3 HRS.			
Recorded By	CUPIT			
Witnessed By	MR. WILLIAMS			

Run No.	Bit	Bore Hole Record From	To	Size	Wgt.	Casing Record From	To
				4 1/2	9.5	SURF	TD

EQUIPMENT DATA

Neutron: Run No. ONE; Log. Type P/N EPI; Detector Model No. 2 1/8; Diam. 2 1/8; Detect. Model No. PH-125; Type PROP; Length 8 7/8; Source Model No. 300-DC; Serial No. 162-127162 68; Shielding 12"; Type PA-DC; Strength 1.0010 MILS

Gamma Ray: Run No. ONE; Tool Model No. JTL-8; Detect. Model No. 2 1/8; Diam. 1 1/8; Type SC-INT; Length 5'; Dist. to N Source 76.7"; General: SPU-21; Tool Serial No. SPU-21 1/2; 201

Tool Truck No.; Tool Truck No.; Tool Serial No.

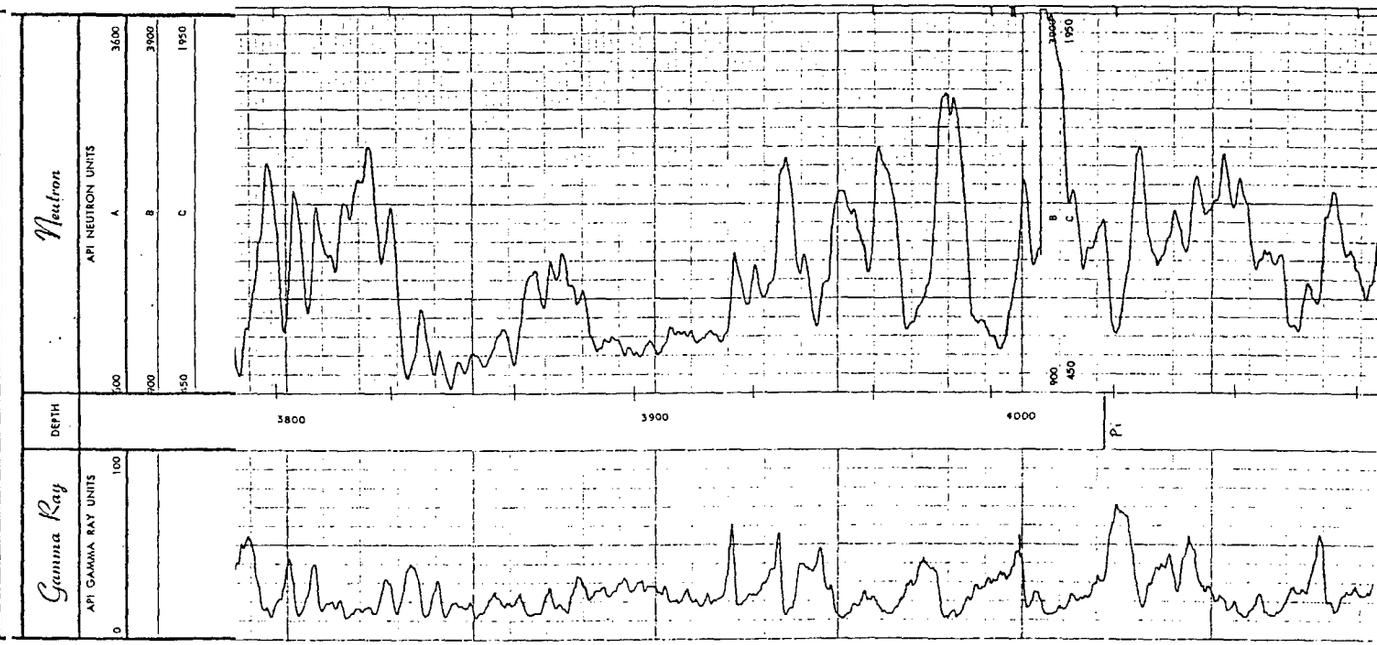
LOGGING DATA

Run No.	General Depths From	To	Speed Ft./Min.	T.C. Sec.	Gamma Ray Sens. Settings	Zero Div. L or R	API G.R. Units Per Log Div.	Neutron T.C. Sec.	Sens. Settings	Zero Div. L or R	API N. Units Per Log Div.
2nd	3350	SURF	60	2	60	0	10	2	169	4-L	150
2nd	4010	3350	20	3	60	0	10	3	337	6-L	150
2nd	4010	3500	20	3	60	0	10	3	337	6-L	150
2-2	4441	4010	20	3	60	0	10	3	337	6-L	175

Remarks:

Reference Literature:

LOGGING ORDER 11714



SCHLUMBERGER

SIDEWALL NEUTRON POROSITY LOG

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL HOBBS T-19
COMPANY SKELLY OIL CO.

COMPANY SKELLY OIL COMPANY

WELL HOBBS T-19

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location: 660' FROM S/L
660' FROM E/L

Sec. 35 Twp. 7S Rge. 33E

Other Services: BSGR, FDC, LL, MLL

Permanent Datum: GL ; Elev.: 4343
Log Measured From KB , 12 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4355
D.F. 4353
G.L. 4343

Date	5-11-66		
Run No.	ONE		
Type Log	SNP		
Depth—Driller	4500		
Depth—Logger	4498		
Bottom logged interval	4497		
Top logged interval	3450		
Type fluid in hole	SALT GEL STARCH		
Salinity, PPM Cl.	180,000		
Density	10.5		
Level	FULL		
Max rec. temp., deg F.	106		
Operating rig time	13 HOURS		
Recorded by	WILSON		
Witnessed by	MR. MORTON		

RUN	BORE-HOLE RECORD			CASING RECORD			
No.	Bit	From	To	Size	Wgt.	From	To
1	7 7/8	CSG.	TD	8 5/8		SURF	378

EQUIPMENT DATA

General

Run No.	ONE	
Tool Model No.	DNT-A	
Diameter	4-1/2"	
Det. Model No.	PND-A	
Type	EPI-THERMAL	

Run No.	ONE	
Hoist Truck No.	4556	
Inst. Truck No.	4556	
Tool Serial No.		
Location	HOBBS	

LOGGING DATA

General

Run No.	Depths From	Depths To	Speed ft/Min.	T.C. Sec.	Sens. Settings	Zero Det. L.M.R.	API Units per Log Div.	Log T.C.	Neutron Calibration Data Environmental Calibrator SFT-114 Diameter in ACFS	Diameter Out in ACFS
1										

Gamma Ray

Before: Auxiliary Calibrator SFT-113 ACFS
After:

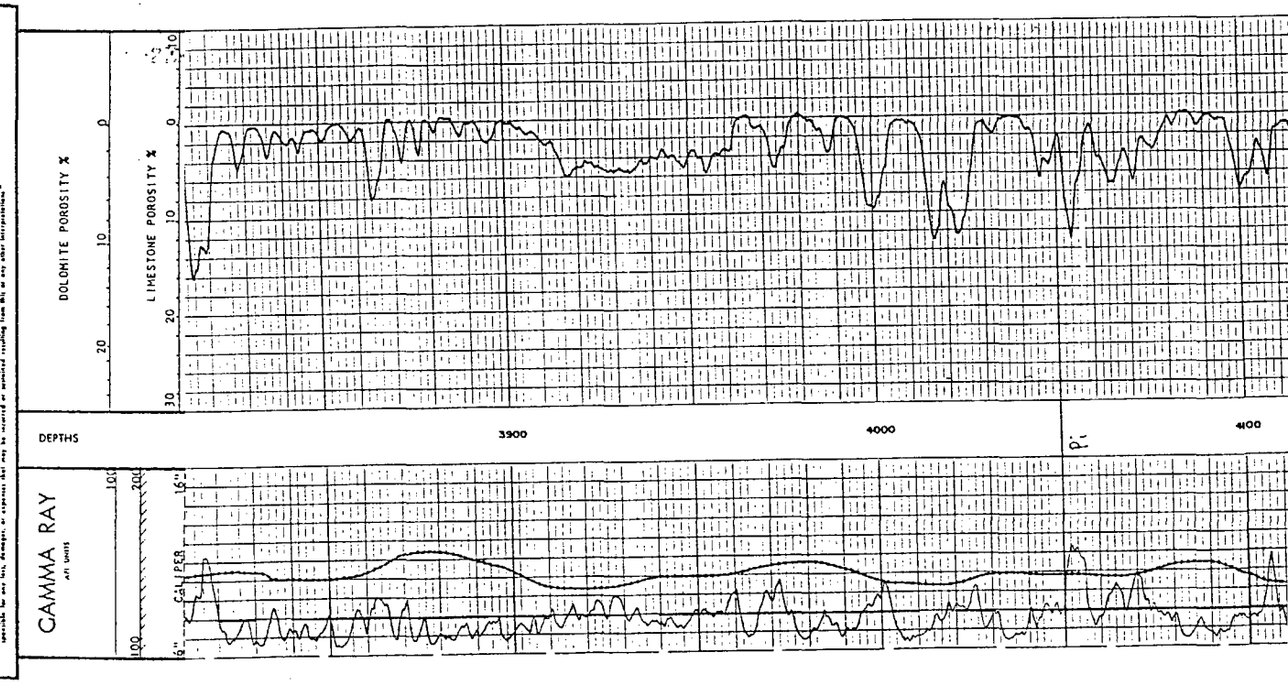
Before:
After:

Fluid Sampling: Formation Farmer: LIME - LIQUID Mud Wt./Salinity 10.5/ 250,000 Temp. Comp. Setting 100

From	To	ft.	From	To ft.
From	To	ft.	From	To ft.
From	To	ft.	From	To ft.
From	To	ft.	From	To ft.

Remarks:

"This interpretation represents our best judgment. Nevertheless, since all interpretations are opinions based solely on inferences from electrical or other measurements, we cannot and do not guarantee the accuracy or correctness of any interpretation and shall not, except in the case of willful negligence on our part, be liable or responsible for any loss, damage, or expense that may be incurred or sustained resulting from the use of any such interpretation."



SCHLUMBERGER

SIDEWALL NEUTRON POROSITY LOG

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL SEC. 36 STATE #1
COMPANY MARATHON OIL COMPANY

COMPANY [redacted]
WELL [redacted]
FIELD [redacted]
COUNTY [redacted] STATE [redacted]
Location: 660' FROM N/L, 2310' FROM E/L
Other Services: FDC, L, MLL

Permanent Datum: GL Elev.: K.B. 4334
Log Measured From KB 11 Ft. Above Perm. Datum D.F. 4333
Drilling Measured From KB GL 4323

Date	7-20-54
Run No.	ONE
Type Log	SNP-GR
Depth—Driller	4492
Depth—Logger	4490
Top Log Interval	2800
Bottom Log Interval	4492
Type Fluid in Hole	SALT GEL STARCH
Salinity PPM Cl.	171,000
Density	10.9
Level	SURFACE
Max. Rec. Temp. deg. F.	110
Est. Cement Top	
Time Since Circ.	2 HOURS
Equipment Number	SCHAEFFER
Witnessed by	MR. BARBER

BOREHOLE RECORD

Bit No.	From	To
1	0	4492

CASING RECORD

Size	Wgt.	Grade	To
8 5/8			350

EQUIPMENT DATA

	General		
Run No.	ONE	Run No.	ONE
Tool Model No.	PNT-A	Hoist Truck No.	1701
Diameter	4-3/4"	Inst. Truck No.	1701
Det'r Model No.	PND-A	Tool Serial No.	92
Type	EPI-THERMAL	Location	HOBBS

LOGGING DATA

Run No.	Gamma Ray General Depths From	To	Speed Ft/Min	T.C. Sec.	Sens. Settings	Zero Div. L or R	API Units per Log Div.	Log T.C.	Neutron Calibration Data: Environmental Calibrator SFT-116 Drawer In - ACPS	Drawer Out - ACPS
1	2800	4000	30	2	400	0	10	2	Before: 400	392
1	4000	FR	20	3	400	0	10	3	After: 240	236

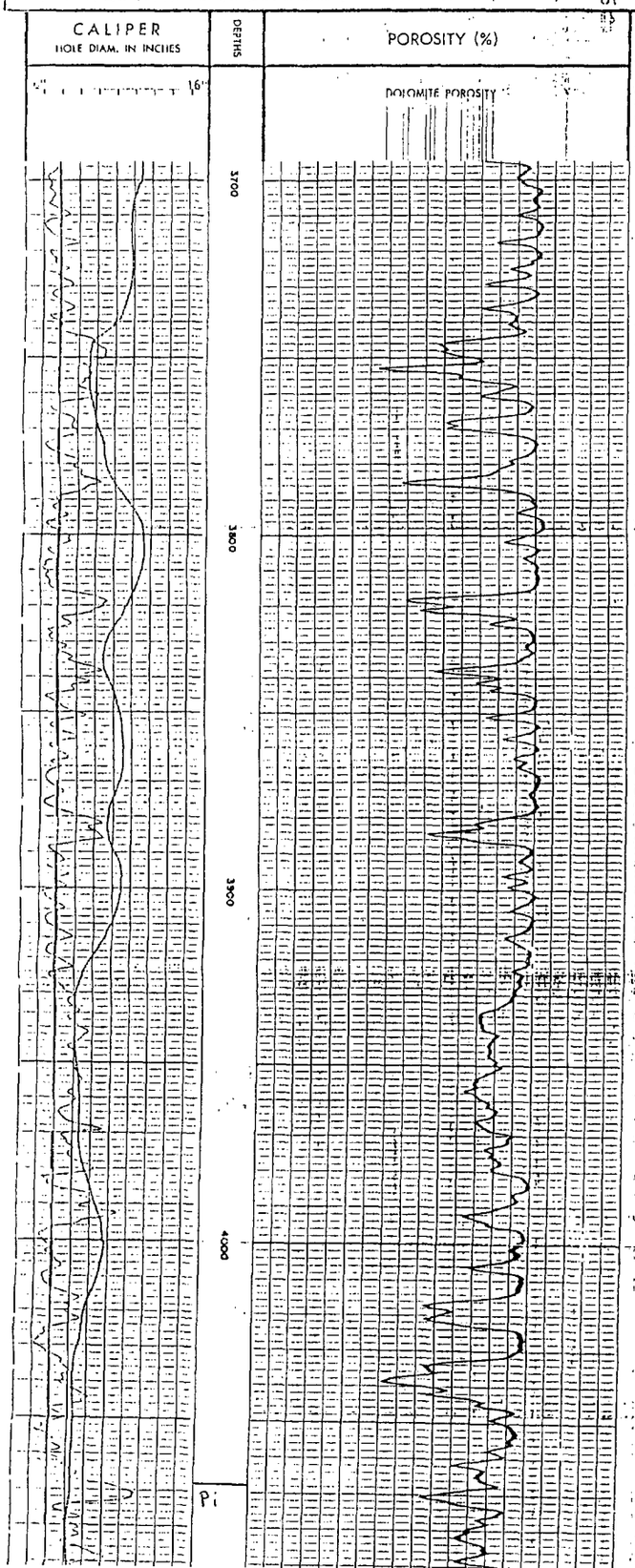
Auxiliary Calibrator SFT-113 ACPS
Before:
After:

Fluid Settings: Function Formula: LIME-LIQUID; Mud Wt. / Salinity 0.1; Temp. Comp. Setting 100

from 2800 to FR ft.	from 2800 to FR ft.	from 2800 to FR ft.
from to ft.	from to ft.	from to ft.
from to ft.	from to ft.	from to ft.

Remarks:

"Our interpretation represents our best judgment. Nevertheless, since all interpretations are opinions based solely on inferences from electrical or other measurements, we cannot and do not guarantee the accuracy or correctness of any interpretation and shall not, except in the case of wilful negligence on our part, be liable or responsible for any loss, damages, or expenses that may be incurred or sustained resulting from this or any other interpretations."



SCHLUMBERGER — BOREHOLE COMPENSATED SONIC LOG · GAMMA RAY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL STATE "K" #1
COMPANY SO. PETRO. EXP. INC

COMPANY SOUTHERN PETROLEUM EXPLORATION, INCORPORATED
WELL STATE "K" #1
FIELD CHAVEROO
COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION 660' FROM N/L
660' FROM W/L
Sec. 36 Twp. 7S Rge. 33E

Other Services: L, MLL

Permanent Datum: GL, Elev. 4330
Log Measured From KB, 10 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4340
D.F. 4339
G.L. 4330

Date	5-5-66			
Run No.	ONE			
Depth—Driller	4460			
Depth—Logger	4455			
Btm. Log Interval	4446			
Top Log Interval	0			
Casing—Driller	8 5/8 @ 354	@	@	@
Casing—Logger	-			
Bit Size	7 7/8"			
Type Fluid in Hole	SALT GEL, STARCH			
Dens. / Visc.	10.4 / 36			
pH / Fluid Loss	6.5 / 18.4ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.064 @ 76 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.051 @ 75 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	.11 @ 75 °F	@ °F	@ °F	@ °F
Source: R_{mf} R_{mc}	M M			
R_m @ BHT	.044 @ 122 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	112 °F	°F	°F	°F
Equip. / Location	4556 HOBBS			
Recorded By	BROWN			
Witnessed By	MR. HICKS & MR. KINCHELOE			

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REMARKS

Scale Changes: Scale Up Hole, Scale Down Hole

Changes in Mud Types or Additional Samples: Depth, Type Log

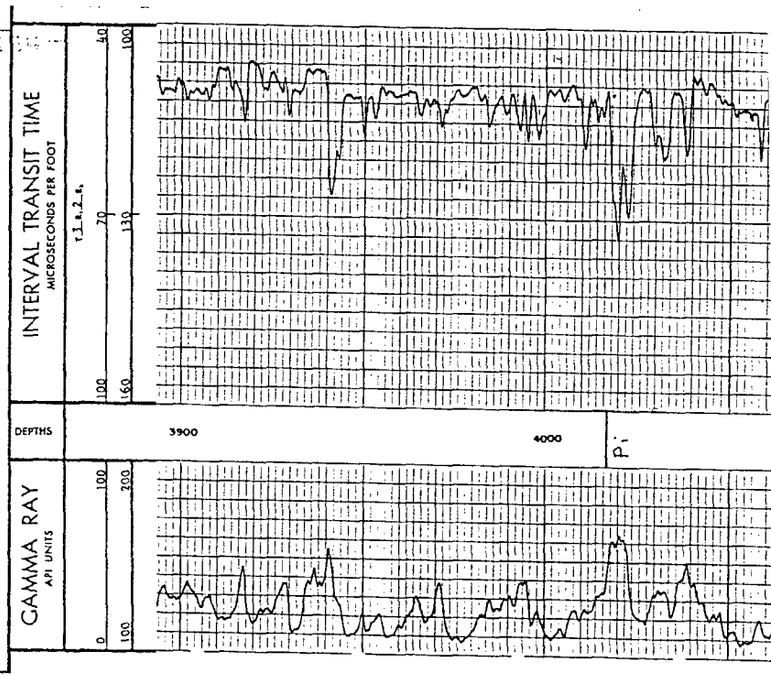
Equipment Data: Run No., Tool Type, Pad Type, Tool Pos., Other

Date, Sample No., Depth—Driller, Type Fluid in Hole, Dens., Visc., pH, Fluid Loss, Source of Sample, R_m @ Meas. Temp., R_{mf} @ Meas. Temp., R_{mc} @ Meas. Temp., Source: R_{mf} R_{mc}, R_m @ BHT

S.O. USED SPRING GUIDE & CALIPER
Equip. Used. CART. No. A.29
PANEL No. A.110
SONDE No. 94

CALIBRATION: BACKGND. SOURCE GAIN INCR. SENS. TAP (FOR CAL.) SENS. TAP (SECOND) TIME CONST. RECORDING SHEET (FT/MIN)
GAMMA RAY: CPS 48 CPS 512 DIVISIONS 82.5 800 400 1 40/80

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)



SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG GAMMA RAY

COMPANY SOUTHERN PETROLEUM EXPLORATION INCORPORATED

WELL STATE K #6

FIELD CHAVEROO

COUNTY ROOSEVELT STATE N. M.

COUNTY / FIELD or LOCATION / WELL / COMPANY

LOCATION 1980 FNL & WL'S

Sec. 36 Twp. 7-S Rge. 33-E

Other Services: L, MLL

35

Permanent Datum: GROUND LEVEL Elev. 4324

Log Measured From K.B. 18 Ft. Above Perm. Datum

Drilling Measured From K.B.

Elev.: K.B. 4342 D.F. — G.L. 4324

Date	10/7/66			
Run No.	ONE			
Depth—Driller	4480			
Depth—Logger	4471			
Btm. Log Interval	4462			
Top Log Interval	0			
Casing—Driller	8 5/8 @ 308	@	@	@
Casing—Logger	—			
Bit Size	7 7/8			
Type Fluid in Hole	SALTGEL + STARCH			
Dens. / Visc.	10.8 / 45			
pH / Fluid Loss	N.A. / 13.0 ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.068 @ 66 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.041 @ 74 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	— @ — °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / —			
R_m @ BHT	.041 @ N/A °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HRS.			
Max. Rec. Temp.	108 °F	°F	°F	°F
Equip. / Location	3701 / HOBBS			
Recorded By	TARDAL			
Witnessed By	MICKS			

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REMARKS

Changes in Mud Type or Additional Samples: Date / Sample No. / Depth—Driller / Type Fluid in Hole / Dens. / Visc. / Fluid Loss / Source of Sample / R_m @ Meas. Temp. / R_{mf} @ Meas. Temp. / R_{mc} @ Meas. Temp. / Source: R_{mf} / R_{mc} / R_m @ BHT / R_{mf} @ BHT / R_{mc} @ BHT

Scale Changes: Type Log / Depth / Scale Up Hole / Scale Down Hole

Equipment Data: Run No. / Tool Type / Pad Type / Tool Pos. / Other

S.O.L.-MAX (HLD-A, CNAF-H)

Equip. Used, CART. No. SAC-A-X3

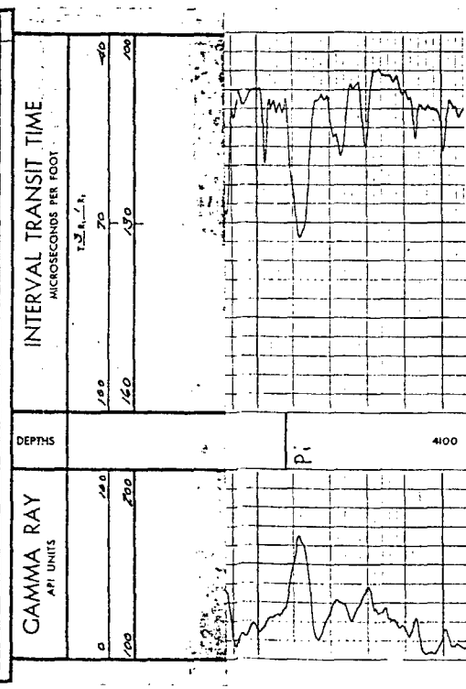
PANEL No. SAS-A-M

SONDE No. SAS-A-

CALIBRATION	BACKGND.	SOURCE	GALV. INCR.	SENS. TAP (TOTAL)	TIME CONST.
	CPS	CPS	DIVISIONS		
GAMMA RAY	64	280	22.5	800	4.0

RECORDING SPEED (FT./MIN.) 30/10

Velocity (feet per second) = interval Transit Time (microseconds per foot) / 1,000,000



COMPENSATED FORMATION DENSITY LOG

MARATHON OIL COMPANY

CHAVERNOY

NEW MEXICO

Other Services: SNP, L, MLL

Elev.: K.B. 4334
D.F. 4334
G.L. 4323

PROPERTY OF:
MARATHON OIL COMPANY
ROSWELL, NEW MEXICO

SALT GEL STARCH
171,000
9
SURFACE
1110
5 HOURS
SCHAEFFER
M. BARBER

CASING RECORD			
Size	Wgt.	From	To
8 5/8		SURFACE	1350

EQUIPMENT DATA

GENERAL

Run No.	Unit No.	Log No.
Pad Truck No.	3701	
Int. Truck No.	110	
Tool Serial No.	1002	
Location	LUBBOCK	

Gamma Gamma

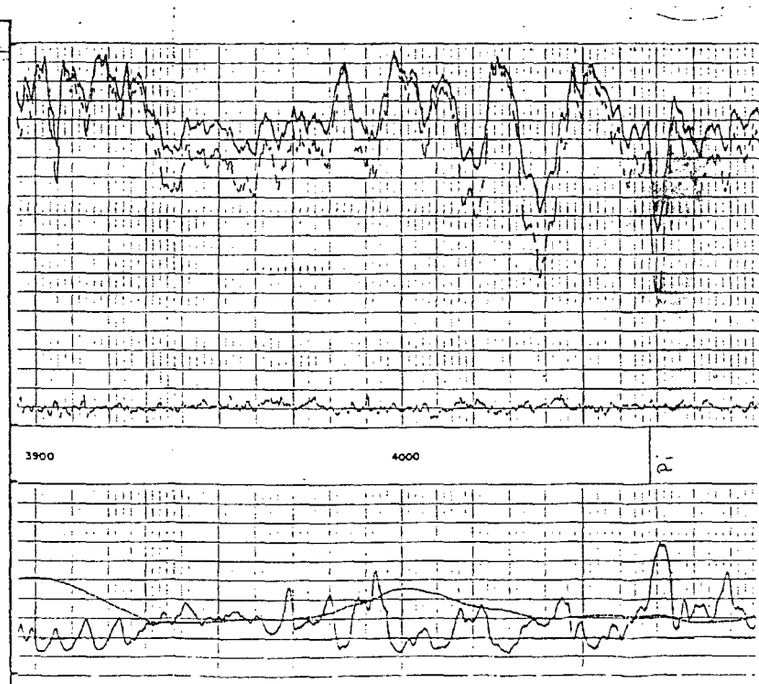
Run No.	Unit No.	Log No.
Pad Truck No.	3701	
Int. Truck No.	110	
Tool Serial No.	1002	
Location	LUBBOCK	

LOGGING DATA

General

Run No.	From	To	Speed Ft./Min.	T.C. Sec.	Sens. Settings	Gamma Gamma Div. 1 or 2	Gamma Gamma Zero	API Units per Log Div.	Log T.C.	Gamma Gamma Calibrate Ft.	Gamma Gamma Calibrate API's	Gamma Gamma Ft.
1	5000	1593	20	3	400	2	0	10	3	500	1000	100L #4
2	1593	0	30	2	400	2	0	10	2	400	1000	100L #43
										370	520	100L #232

Warning: GR: 0-100 = 150 ; D2.5 = BHD



PAN GEO ATLAS CORP.

PGAC Gamma Ray Neutron Log

FILE NO. Part 3rd

COMPANY Pan American Petroleum Corp
WELL Joyce Wolf Federal #1
FIELD Chaveroo (San Andres)
COUNTY Roosevelt STATE New Mexico
LOCATION: 1980 FNL 2310 FEL
Other Services
SEC 19 TWP 7-S RGE 34-E

Permanent Datum G.L. Elev. 4319
Log Measured from K.B. 10 ft. Above Permanent Datum
Drilling Measured from K.B.

Elevations: KB 4329 DF 4327 GL 4319

Date	6-10-66
Run No.	ONE
Type Log	G/N
Depth-Driller	4320
Depth-Logger	4317
Bottom Logged Interval	4316
Top Logged Interval	SURF
Type Fluid in Hole	WATER
Salinity Ppm Cl.	-
Density Lb./Gal.	-
Level	125
Max. Rec. Temp. Deg. F	-
Opr. Rig Time	3 HRS
Recorded By	ADAMS
Witnessed By	MR. SMITH

Run No.	Bore Hole Record Bit	From	To	Size	Wgt.	Casing Record From	To
				4½	9.5	SURF	TD
				8⅝		SURF	1443

FIELD PRINT

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EQUIPMENT DATA

	Gamma Ray	Neutron
Run No.	ONE	ONE
Tool Model No.	TGLB	NGL-EPT
Diam.	1 5/8	2 5/8
Detect. Model No.	TGLB	2PJ25
Type	SCINT	2 BF3
Length	5'11"	2 5'
Dist. to N. Source	76.7	30.5 BF3 (12.5 ION. CHAM)
Source Model No.		
Serial No.		
Spacing		12.5"
Type		RA-BE
Strength		1 X 10 MCS

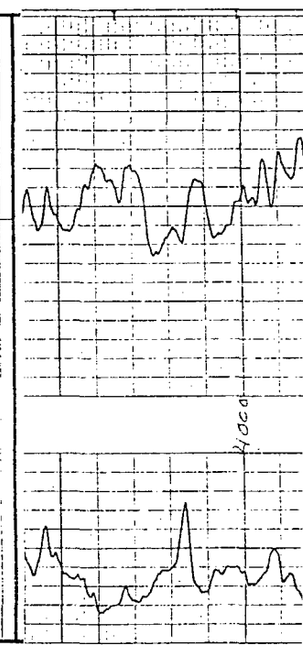
General
Hoist Truck No. SPU21
Init. Truck No. SPU21
Tool Serial No. 201

LOGGING DATA

Run No.	General Depths From	To	Speed Ft./Min	Gamma Ray T.C. Sec.	Sens. Settings	Zero Div. 1 or 8	API G.R. Units Per Log Div.	Neutron T.C. Sec.	Sens. Settings	Zero Div. 1 or 8	API N. Units Per Log Div.
1st	3300	4319	70	3	55	0	10	3	195	0	150
2nd	SURF	3400	60	3	55	0	10	3	195	0	150

Remarks:

References Literature:



PGAC GCD 1186

SCHLUMBERGER

COMPENSATED FORMATION DENSI

19-7-34 "D"

COMPANY DALPORT OIL CORPORATION

WELL HINKLE FEDERAL # 2

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL HINKLE FED. # 2
COMPANY DALPORT OIL CORP.

Location: 990' FROM N/L 330' FROM W/L 4

Sec. 19 Twp. 7S Rge. 34E

Other Services

Permanent Datum: GL Elev. 4320
Log Measured From KB 10.5 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4330
D.F.
G.L. 4320

Date	11-19-62
Run No.	ONE
Type Log	DENSITY
Depth—Driller	4330
Depth—Logger	4330
Bottom logged interval	4330
Top logged interval	3800
Type fluid in hole	SALT WATER
Salinity, PPM Cl	
Density	
Level	
Max rec. temp. deg. F	
Operating rig time	
Recorded by	
Witnessed by	

RUN No.	BIT	BORE HOLE RECORD From	To	Size	Wgt.	CASING RECORD From	To
1						SURF.	320

The well name, location and borehole reference data were furnished by the customer.

EQUIPMENT DATA

General

Run No. 1
Hole Truck No. 1301
Inst. Truck No. 1301
Tool Serial No. 2555-16
Location LEVEES

Gamma Gamma

Run No.
Tool Model No.
Diameter
Det. Model No.
Type

LOGGING DATA

Gamma Ray Zero Div. 1 or 2

Sent Settings

API Unit per log Div. 10

Log TC 2

Gamma Gamma ACPS CALIBRATE 500

General Depths From To

Speed Ft. min.

TC Sec.

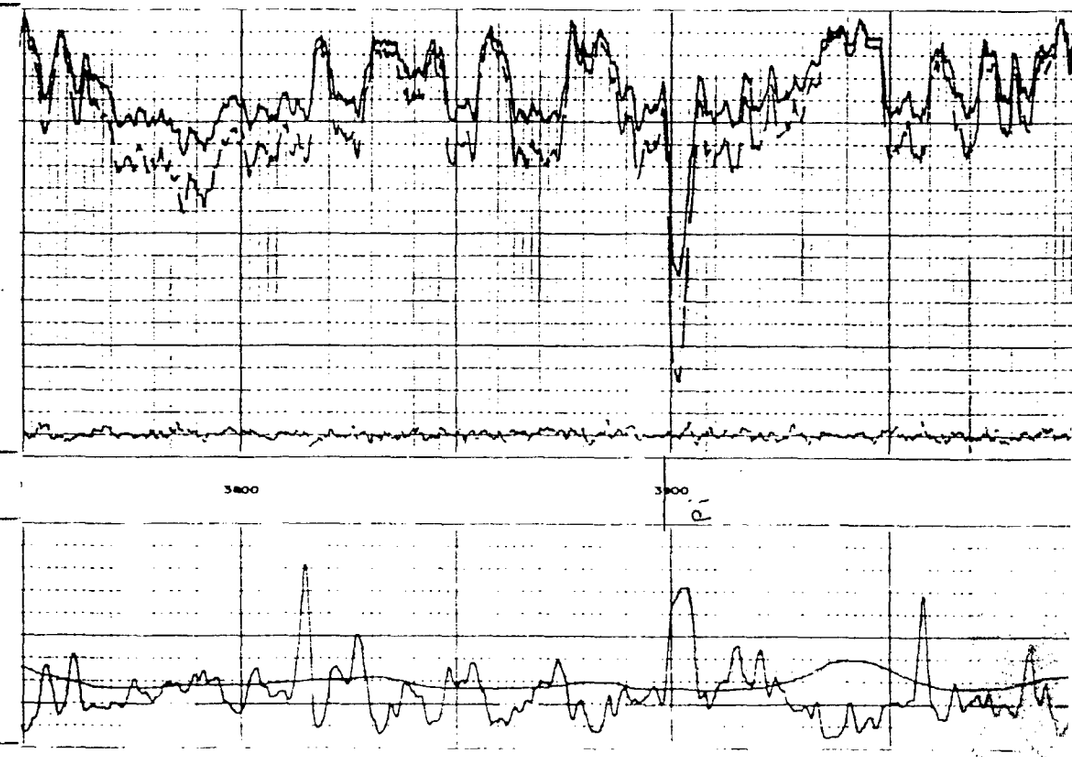
Remarks:

DEPTHS

CALIPER
HOLE DIAM. IN INCHES

BULK DENSITY
GRAMS/CC

GAMMA RAY
API UNITS



THE WESTERN COMPANY

Gammatron

Per 62

COMPANY PAN AMERICAN PETROLEUM CORPORATION

WELL WOLF FEDERAL #4

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location:
660' FNL & 660' FEL
19- 7S 34E

106665-H

Other Services:

Permanent Datum: GROUND LEVEL Elev. 4316
Log measured from K.B. 9 ft above perm. datum
Drilling measured from K.B.

Elev.: K.B. 4325
D.F.
G.L. 4316

Date	10-25-66	10-25-66
Run No.	ONE-NW	ONE-NW
Type Log	GAMMA RAY	NEUTRON
Depth—Driller		
Depth—Logger	4310	4310
Bottom logged interval	4301	4308.5
Top logged interval	SURFACE	SURFACE
Type fluid in hole	WATER	WATER
Salinity, PPM Cl.		
Density		
Level	187	187
Max. rec. temp., deg F.		
Operating rig time	3 HOURS	
Recorded by	SAMS	
Witnessed by	MR. SMITH	

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
				4½		SURFACE	T.D.

EQUIPMENT DATA

	Gamma Ray	Neutron
Run No.	ONE	ONE
Log Type		N/N (THERM)
Tool Model No.	500	500
Diameter	3½"	3½"
Detector Model No.	5PA12	5AL4
Type	SCINT	SCINT
Length	3"	1"
Distance to N. Source	10½"	S12B3

General

Hoist Truck No.	6210
Instrument Truck No.	6210
Tool Serial No.	

LOGGING DATA

General

Run No.	Depths From	To	Speed Ft/Min	T.C. Sec	Sens. Settings	Zero Div. L or R
1	4310	3200	25	2	256	0
2	4310	SURFACE	50	1	256	0

Gamma Ray

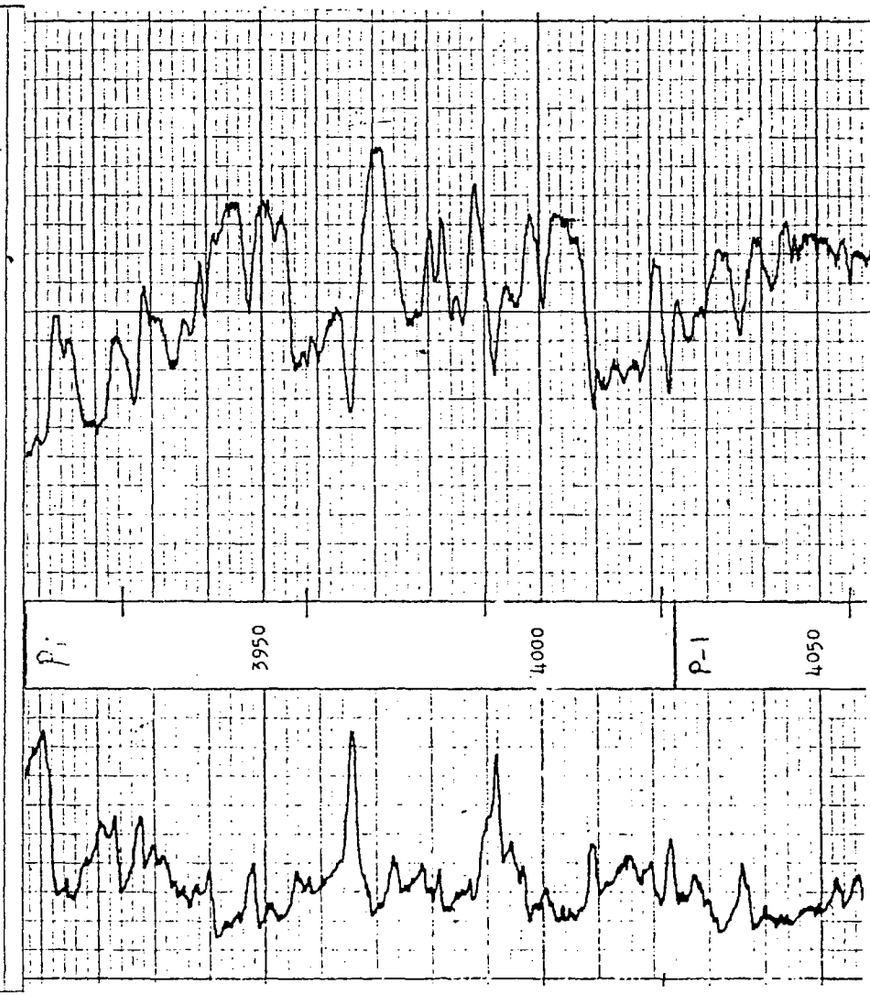
Run No.	G.R. Units per Log Div.	T.C. Sec.	Sens. Settings	Zero Div. L or R
1	8	2	94	5L
2	8	1	94	5L

Neutron

Run No.	N. Units per Log Div.
1	60
2	60

Reference Literature:

Remarks:



McCullough

SCINTILLOMETER
NUCLEAR
GAMMA RAY-NEUTRON LOG

FILING NO. W-25077

COMPANY: PAN AMERICAN PETROLEUM CORPORATION
WELL: WOLF FEDERAL #3
FIELD: CHAVEROO
COUNTY: ROOSEVELT STATE: NEW MEXICO

LOCATION:
1980' FWL & 60' FSL,
SEC. 18

OTHER SERVICES: S

SEC. TWP. -7-S RGE. -34-E

PERMANENT DATUM	GROUND LEVEL ELEV. 4322'
LOG MEASURED FROM	11 FT. ABOVE PERMANENT DATUM
DRILLING MEASURED FROM	KELLY BUSHING
DATE	10-4-66
RUN NO.	ONE
TYPE LOG	G/R-NEUTRON
DEPTH—DRILLER	4340'
DEPTH—LOGGER	4301'
BOTTOM LOGGED INTERVAL	4300'
TOP LOGGED INTERVAL	0'
TYPE FLUID IN HOLE	WATER
SALINITY PPM CL.	
DENSITY LB/GAL.	
LEVEL	160'
MAX. REC. TEMP DEG. F	117°
OPR. RIG TIME	3½ HOURS
RECORDED BY	RIMER
WITNESSED BY	MR. WILLIAMS

ELEVATIONS:
KB 4323'
DF.
GL. 4322'

RUN NO.	BIT	BORE HOLE RECORD FROM	TO	CASING RECORD SIZE	WGT.	FROM	TO
				4-1/2"	-	0	4300'

FOLD HERE

THIS FORM CONFORMS TO API RECOMMENDED STANDARDS AND PRACTICE 40-13

EQUIPMENT DATA

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.	CN-3-S-D	LOG TYPE	IMPROVED
DIAM.	3.5"	TOOL MODEL NO.	CN-3-S-D
DETECT. MODEL NO.	131	DIAM.	3.5"
TYPE	SCINT.	DETECT. MODEL NO.	3-13
LENGTH	21"	TYPE	422
DIST. TO N. SOURCE	21"	LENGTH	SCINT.
		SOURCE MODEL NO.	21"
		SERIAL NO.	3
		SPACING	316
		TYPE	23.5"
		STRENGTH	Pu-Be
			9.24x10⁶

GENERAL

HOIST TRUCK NO.	1798
INST. TRUCK NO.	1345
TOOL SERIAL NO.	PDL-109
LOG TICKET NO.	E-90459

LOGGING DATA

GAMMA RAY

RUN NO.	GENERAL DEPTHS FROM	TO	SPEED FT/MIN	T.C. SEC	SENS. SETTINGS	SPEED DIV./L. W.R.	API G.R. UNITS PER LOG DIV.
1	4300	3000	25'	1.8	55A, D170, G180	1-1	
2	4300	0	25'	1.8			

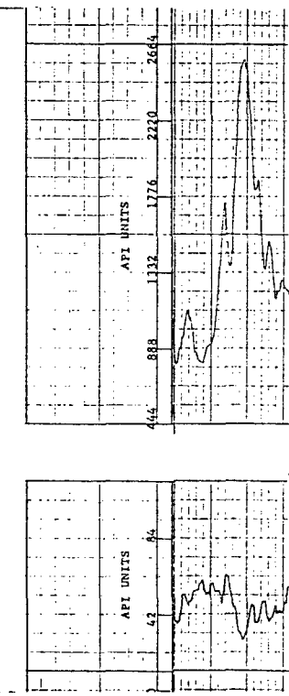
NEUTRON

RUN NO.	SENS. SETTINGS	SPEED DIV./L. W.R.	API N. UNITS PER LOG DIV.
1	A, D200, G150	1-1	

REFERENCE LITERATURE:

REMARKS:

FOLD HERE



SCHLUMBERGER — BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL STATE K #4
COMPANY SOUTHERN PETRO.

COMPANY SOUTHERN PETROLEUM EXPLORATION INCORPORATED
WELL STATE K #4
FIELD CHAVEROO
COUNTY ROOSEVELT STATE NEW MEXICO
LOCATION 1980' FROM S/L 660' FROM W/L
Sec. 36 Twp. 7S Rge. 33E
Other Services: LL, MLL

Permanent Datum: GL, Elev. 4336
Log Measured From KB, 9 Ft. Above Perm. Datum
Drilling Measured From KB
Elev.: K.B. 4345 D.F. 4344 G.L. 4336

Date	9-20-66			
Run No.	ONE			
Depth—Driller	4482			
Depth—Logger	4480			
Btm. Log Interval	4475			
Top Log Interval	3400			
Casing—Driller	8 5/8 @ 322	@	@	@
Casing—Logger	-			
Bit Size	7 7/8			
Type Fluid in Hole	SALT GEL & STARCH			
Dens. / Visc.	11.4 / 50			
pH / Fluid Loss	- / 9.6 ml	ml	ml	ml
Source of Sample	CIRCULATED			
R_m @ Meas. Temp.	.072 @ 76 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.049 @ 70 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / M			
R_m @ BHT	.061 @ 103 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	108 °F	°F	°F	°F
Equip. / Location	4556 / HOBBS			
Recorded By	BROWN/MC CHESNEY			
Witnessed By	MR. HICK[illegible]			

Scale Changes: Type Log / Depth / Scale Up Hole / Scale Down Hole

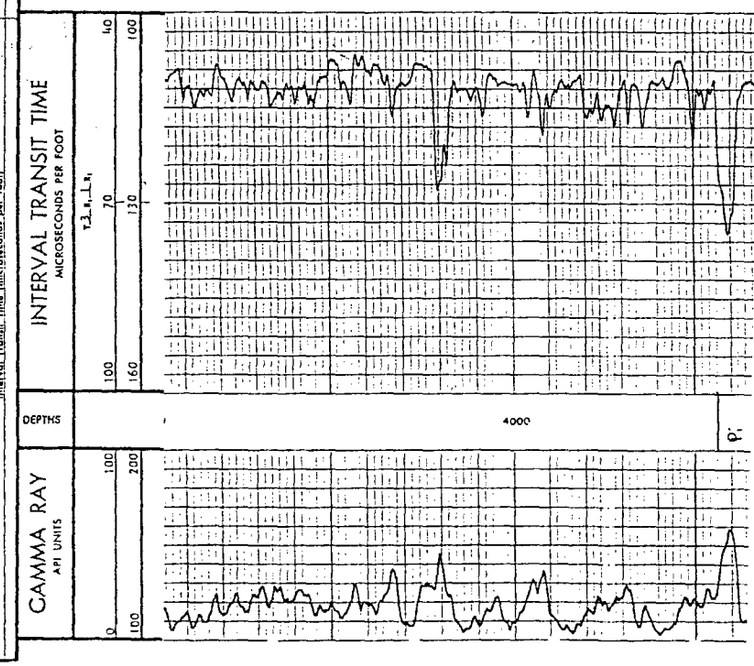
Equipment Data: Run No. / Tool Type / Pad Type / Tool Pos. / Other

REMARKS: Changes in Mud Type or Additional Samples: Date / Sample No. / Depth / Dens. / Visc. / pH / Fluid Loss / Source of Sample / R_m @ Meas. Temp. / R_{mf} @ Meas. Temp. / R_{mc} @ Meas. Temp. / Source R_{mf} / R_{mc} / R_m @ BHT / R_{mf} @ BHT / R_{mc} @ BHT

C.P.L. SEP $S.O.$ SPRING GUIDE & CALIBER
Equip. Und. CART. No. 96
PANEL No. 251
SONDE No. BX1

CALIBRATION: BACGOND. SOURCE GAIN INCR. SENS. TAP TIME RECORDING
CPS 64 CPS 46K DIVISIONS 82.5 (FOR CAL.) 800 (RECORD) 400 CONST. 1 SPEED (FT./MIN.) 36/22

Velocity (feet per second) = Interval Transit Time (microseconds per foot) / 1,000,000



LANE WELLS — A DIVISION OF DRESSER INDUSTRIES, INC.

Gamma Ray Neutron

FILE NO.

COMPANY KERR-MC GEE CORPORATION

WELL STATE "G" NO. 5

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 1650' FSL & 990' FEL

SEC. 19 TWP. 7-S RGE. 34-E

Other Services

Permanent Datum GROUND LEVEL Elev. 4314

Log Measured from K. B. 9 Ft. Above Permanent Datum

Drilling Measured from K. B.

Elevations: KB 4323 DF GL 4314

Date	8/7/66	8/7/66
Run No.	ONE	ONE
Type Log	GAMMA RAY	N/NEUTRON
Depth-Driller	4410	4410
Depth-Logger	4387	4387
Bottom Logged Interval	4374	4386
Top Logged Interval	SURFACE	SURFACE
Type Fluid in Hole	WATER	WATER
Salinity Ppm Cl.		
Density lb./Gal.		
Level		45'
Max. Rec. Temp. Deg. F		
Opr. Rig Time		
Recorded By	JONES	JONES
Witnessed By	MR. ROBBERSON	MR. ROBBERSON

Run No.	Bore Hole Record Bit	From	To	Casing Record Size	Wgt.	From	To
1				5 1/2"	14#	SURFACE	4410

Gamma Ray — Equipment Data

Run No.	ONE
Log Type	407
Tool Model No.	2 1/2"
Diam.	2 1/2"
Outside Model No.	SCINT.
Diam.	4"
Length	13'
Dist. to N. Source	

Neutron — Equipment Data

Run No.	ONE
Log Type	N/NEUTRON
Tool Model No.	407
Diam.	2 1/2"
Outside Model No.	DGN1
Diam.	SCINT.
Type	4"
Length	
Source Model No.	S 1605
Serial No.	1705
Specing	33.5"
Type	PU BE
Strength	5 CURIES

General

Halli Truck No.	P-394
Inst. Truck No.	P-394
Tool Serial No.	

Logging Data

Gamma Ray

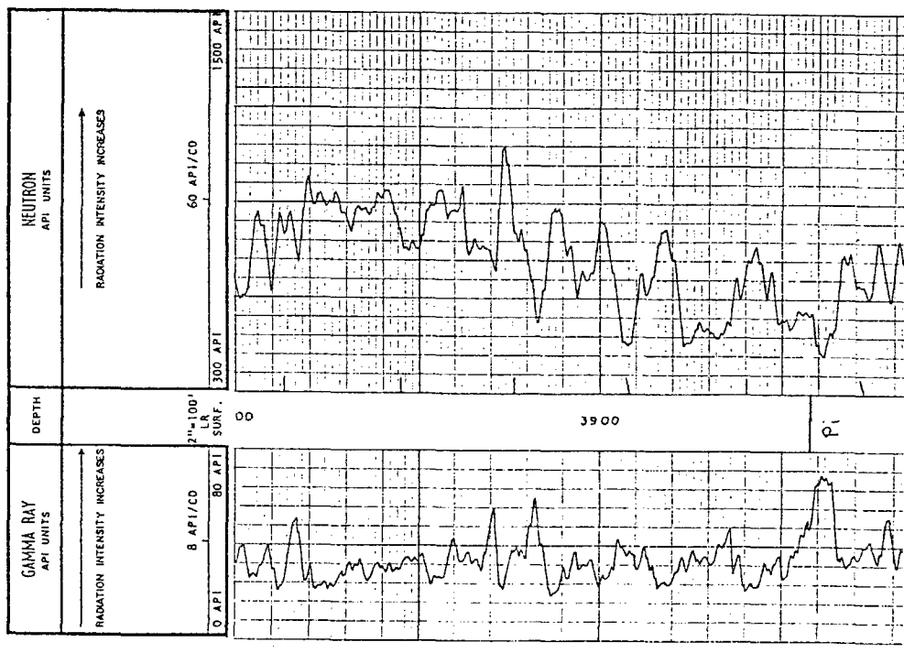
Run No.	Depths From	To	Speed Ft./Min.	T.C. Sec.	Sens. Settings	Zero Div. L or R	API G.R. Units Per Log Div.
1	4386	3000	30	2.0	575 X-1	0	8
1	4386	3000	60	0.9	575 X-1	0	8
1	3000	SURF.	60	0.9	575 X-1	0	8

Neutron

T.C. Sec.	Sens. Settings	Zero Div. L or R	API N. Units Per Log Div.
2.0	83 X-1	8-L	60
0.9	83 X-1	8-L	60
0.9	83 X-1	5-L	60

Remarks:

Reference Literature



SCHLUMBERGER

COMPENSATED FORMATION DENSITY LOG
Gamma-Gamma

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL STATE G # 1
COMPANY KERR MC GEE CORPORATION

COMPANY KERR MC GEE CORPORATION

WELL STATE G # 1

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location: 1980' FROM S/L 660' FROM W/L

Sec. 19 Twp. 7S Rge. 34E

Other Services: LL

Permanent Datum: GL ; Elev. 4317.7
Log Measured From KB 8 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4325.7
D.F.
G.L. 4317.7

Date	5-22-66
Run No.	ONE
Type Log	GG-GR
Depth—Driller	4340
Depth—Logger	4342
Bottom logged interval	4341
Top logged interval	0
Type fluid in hole	SALT
Salinity, PPM Cl.	180,000
Density	11.8
Level	FULL
Max rec. temp., deg F.	106
Operating rig time	13 HOURS
Recorded by	WILSON
Witnessed by	MR. HAGUE

RUN No.	Bit	BORE-HOLE RECORD From	To	CASING RECORD Size	Wgt.	From	To
1	7 7/8	CSG	10	8 5/8		SURF	397

EQUIPMENT DATA

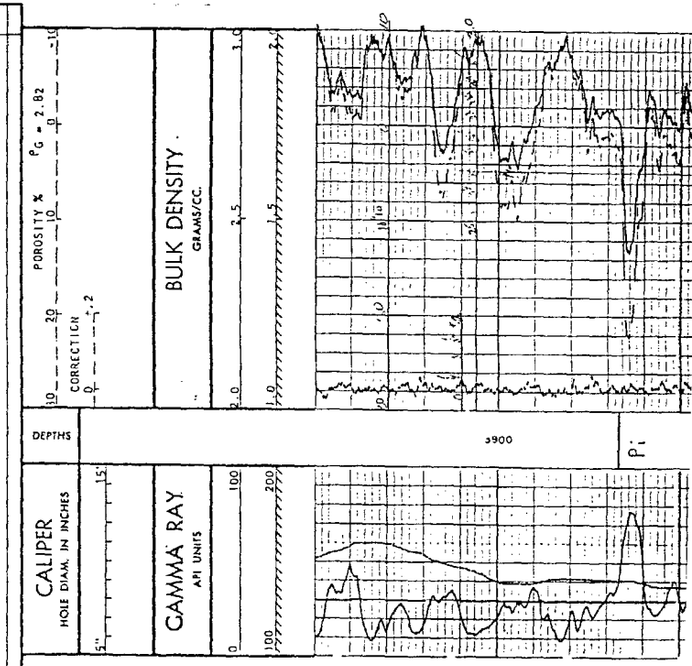
General

	Gamma-Gamma	
Run No.	ONE	ONE
Hole Truck No.	3722	3722
Inst. Truck No.	3722	3722
Tool Serial No.	1-D	1-B
Location	HOBBS	HOBBS

LOGGING DATA

Gamma-Gamma								
Run No.	General Depths From	To	Speed Ft./Min.	T.C. Sec.	Gamma Ray Zero Div. for B	API Units per Log Div.	log. T.C.	CALIBRATE — ACPS
1	50	10	30	2	0	10	2	960
								470

Remarks:



LANE-WELLS Gamma Ray Neutron

f NO.

COMPANY KERR-MC GEE CORPORATION

WELL STATE "G" NO. 4

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 660' FSL & 2310' FEL

Other Services

SEC 19 TWP 7-S RGE 34-E

rmanent Datum	GROUND LEVEL	Elev. 4315.5	Elevations: KB 4325.5
g Measured from	K. B.	10 Ft. Above Permanent Datum	DF
illing Measured from	K. B.		GL 4315.5

ate	7/2/66	7/2/66
un No.	ONE	ONE
ype Log	GAMMA RAY	N/NEUTRON
epth-Driller	4400	4400
epth-Logger	4371	4371
ottom Logged Interval	4358	4370
op Logged Interval	SURFACE	SURFACE
ype Fluid in Hole	WATER	WATER
Salinity Ppm Cl.		
Density Lb./Gal.		
Level	40'	40'
ax. Rec. Temp. Deg. F		
per. Rig Time		
ecorded By	JONES	JONES
itnessed By	MR. ROBBERSON	MR. ROBBERSON

Bore Hole Record				Casing Record			
Run No.	Bit	From	To	Size	Wgt.	From	To
1				5 1/2"		SURFACE	4400

Equipment Data

Neutron	
Run No.	ONE
Tool Type	NEUTRON
Tool Model No.	102
Diam.	3 5/8"
Detect. Model No.	0401
Type	SCINT.
Length	4'
Source Model No.	5-1605
Serial No.	1502
Spacing	11"
Type	PU-BE
Strength	5 CURIES

Gamma Ray	
Run No.	ONE
Tool Model No.	402
Diam.	3 5/8"
Detect. Model No.	DIGI
Type	SCINT.
Length	4'
Dist to N. Source	13'

General	
Run No.	P-394
Truck No.	P-394
Tool Serial No.	

Logging Data

| Gamma Ray | | | |

LANE WELLS — Densilog

A DIVISION OF DRESSER INDUSTRIES, INC.

FILE NO.

COMPANY PAN AMERICAN PETROLEUM CORP.

WELL HOMME FEDERAL NO. 2

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 660' FNL & 1980' FWL

SEC 20 TWP. 7-S RGE. 34-E

Other Services: F/L, MF/L-CALIPER

Permanent Datum: GROUND LEVEL Elev. 4312

Log Measured from: K B 11 Ft. Above Permanent Datum

Drilling Measured from: K B

Elevations: KB 4323, DF 4322, GL 4312

Date	10/12/66
Run No.	ONE
Type Log	DENSILOG
Depth-Driller	4394
Depth-Logger	4395
Bottom Logged Interval	4393
Top Logged Interval	100
Type Fluid in Hole	CHEMICAL
Salinity Ppm Cl.	
Density lb./Gal.	10.5
Level	FULL
Max. Rec. Temp. Deg. F	100
Opr. Rig Time	3 HOURS
Recorded By	JONIETZ
Witnessed By	MR. MEEK

Run No.	Bit	Bore Hole Record From	To	Casing Record Size	Wgt.	From	To
1				18 5/8"		SURFACE	458
1	7 7/8"	458	4394				

Equipment Data

Gamma Ray: Run No. ONE; Tool Model No. 3-57 8"; Diam. 8"; Detect. Model No. DIGI; Type SCINT.; Length 4'; Dist. to D. Source 6'

Densilog: Run No. ONE; Tool Model No. DENSILOG; Diam. 2 7/8"; Detect. Model No. 5-1/2"; Type IGG-COUNTER; Length 3'; Source Model No. S3E10

General: Hoist Truck No. 1-4554; Hoist Truck No. 1-4554; Tool Serial No.

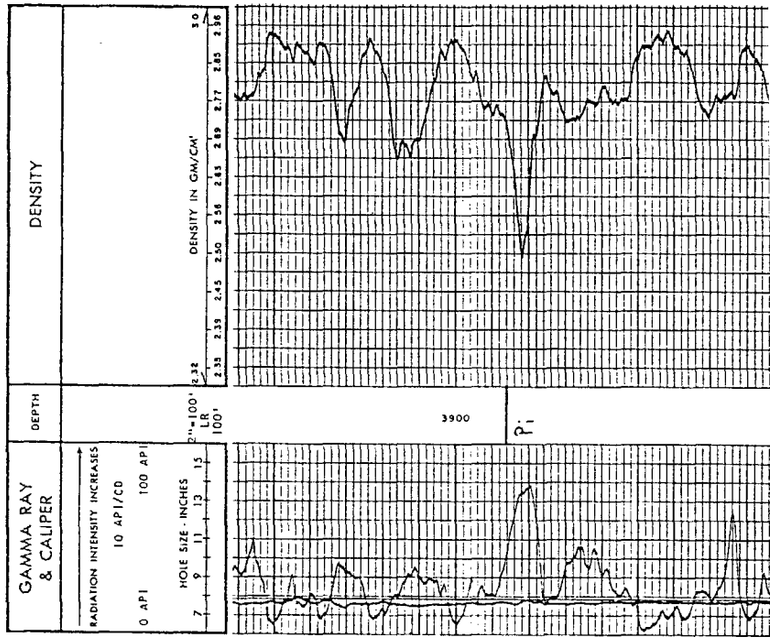
Logging Data

Gamma Ray: Run No. 1; Speed Ft./Min. 30; T.C. Sec. 2.0; Sens. Settings 1700 X1; Zero Div. L or R 0; API G.R. Units Per Log Div. 10

Densilog: Run No. 1; Speed Ft./Min. 30; T.C. Sec. 0.9; Sens. Settings 1200 X1; Zero Div. L or R 9-R; Calibrator Sensitivity 10 C/O

Lengths:

Reference Literature:



LANE WELLS — Gamma Ray Neutron

A DIVISION OF SCHLUMBERGER WELL SERVICES

FILE NO.:

MIDLAND OPERATING CORPORATION
P.O. BOX 1200
ROSWELL, NEW MEXICO 88201

COMPANY: PAN AMERICAN PETROLEUM CORPORATION
WELL: HOMME FEDERAL NO. 1
FIELD: CHAVEROO
COUNTY: ROOSEVELT STATE: NEW MEXICO

LOCATION: 1980' FNL & 660' FWL
SEC. 20 TWP. 7-S RGE. 34-E

Other Services:

Permanent Datum: GROUND LEVEL Elev. 4313
Log Measured from: K. B. 11 Ft. Above Permanent Datum
Drilling Measured from: K. B.

Elevations: KB 4324, DF, GL 4313

Date	9-12-66	9-12-66
Run No.	ONE	ONE
Type Log	GAMMA RAY	N/NEUTRON
Depth-Driller	4410	4410
Depth-Logger	4401	4401
Bottom Logged Interval	4398	4400
Top Logged Interval	SURFACE	SURFACE
Type Fluid in Hole	WATER	WATER
Salinity Ppm Cl.		
Density Lb./Gal.		
Level	88'	88'
Max. Rec. Temp. Deg. F		
Opr. Rig Time		
Recorded By	JONES	JONES
Witnessed By	MR. SMITH	MR. SMITH

Run No.	Bit	Bore Hole Record From	To	Size	Wgt.	Casing Record From	To
1				8 5/8"		SURF.	452
1	7 7/8"	452	T.D.	4 1/2"		SURF.	4448

Equipment Data

	Gamma Ray	Neutron
Run No.	ONE	ONE
Tool Model No.	402	N-TN
Diam.	3 1/2"	402
Detect. Model No.	DNG1	3 1/2"
Type	SCINT.	DBN1
Length	4'	SCINT.
Dist. to N. Source	13'	4'
Source Model No.		S1505
Source No.		33 Ci
Specific.		PU-BE
Type		5 CURIES
Strength		

General

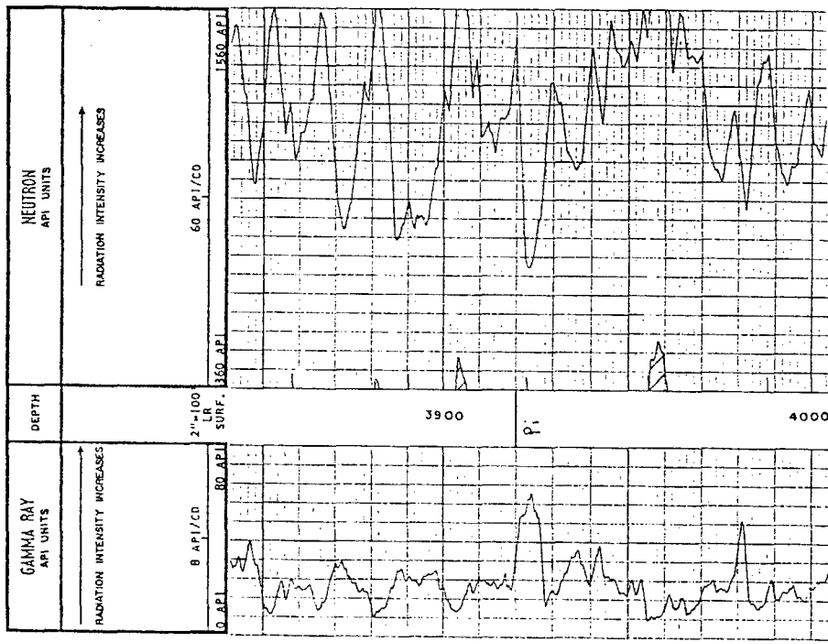
	Gamma Ray	Neutron
Hoist Truck No.	B-304	
Init. Truck No.	P-394	
Tool Serial No.		

Logging Data

	Gamma Ray	Neutron
Run No.	1	1
Depths From	4400	4400
Depths To	3900	SURF.
Speed Ft./Min.	20	20
T.C. Sec.	0.3	0.3
Sens. Settings	SBC-X1	SBC-X1
Zero Div.	0	0
API G.R. Units Per Log Div.	8	8
T.C. Sec.	0.3	0.3
Sens. Settings	77-X1	77-X1
Zero Div. Lor R.	L-6	L-6
API N. Units Per Log Div.	60	60

Remarks:

Reference Illustrations:



COUNTY
FIELD or LOCATION
WELL
COMPANY

COMPANY ANCHORAGE PRODUCTION CORPORATION
WELL NEW MEXICO STATE X #3
FIELD CURVEROO
COUNTY ROOSEVELT STATE NEW MEXICO
LOCATION 1980 FS & WL
Sec 20 Twp 7S Rge 32E

Other Services
L. M. L.

Permanent Datum GL
Log Measured From KB
Drilling Measured From KB

Elev. K.B. 4377
D.F. 4377
G.L. 4372

REMARKS

Highest In Mud Type or Additional Samples

Bit	Sample No.	Type Log	Depth	Scale Up Hole	Scale Down Hole
Depth—Driller					
Type Fluid in Hole					

Scale Changes

Equipment Data

Run No.	Tool Type	Pad Type	Tool Pos.	Other

Source of Sample

Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source Rmf Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT

Max. Rec. Temp. °F
Equip. Loc.
Recorded By
Witnessed By

U.S.O. 30" SPRING GUIDE & CALIPER
Equip. U.S.O. CART. No. 96
PANEL No. 41
SONDE No. 12

CALIBRATION	BACKGROUND	SOURCE	GAIN-INCH DIVISION	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED IN INCHES
Gamma Ray	4d	100	412	80R	100		40/60

Velocity (feet per second) 1,000,000
Interval Transit Time (microseconds per foot)

GAMMA RAY API UNITS		INTERVAL TRANSIT TIME MICROSECONDS PER FOOT
0 — 100		100 — 70 — 40
50 — 200		160 — 130 — 100

ILLEGIBLE

3950

P1 4000

PAN AMERICAN ATLAS CORP.

PGAC Gamma Ray Neutron Log

(EPITHERMAL NEUTRON)

FILE NO.

COMPANY AMERICAN TRACTING & PRODUCTION

WELL NEW MEXICO STATE 20 NO. 2

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 660' FSL & 660' FWL

Other Services: PERF

SEC 20 TWP 7-S RGE 34-E

Permanent Datum GROUND LEVEL 11.3 Elev. 4312.0 — Elevations KB 4324.0

Log Measured from KELLY BUSHING 11.3 Ft. Above Permanent Datum — DF 4323.0

Drilling Measured from KELLY BUSHING — GL 4312.0

Date	10-6-66
Run No.	ONE
Type Log	GAMMA RAY NEUTRON
Depth-Driller	4365
Depth-Logger	4365
Bottom Logged Interval	4344
Top Logged Interval	3200
Type Fluid in Hole	WATER
Salinity Ppm Cl.	-
Density Lb. Gal	-
Level	FULL
Max. Rec. Temp. Deg. F	-
Opr. Rig Time	TWO HOURS
Recorded By	K. HARTSELL
Witnessed By	MR. GRAHAM

Oil Conservation Commission
P. O. Box 2045
Hobbs, New Mexico

Run No.	Bit	Bore Hole Record From	To	Size	Casing Record Wgt.	From	To
				4 1/2	11.60	SURF	

TOOL PRINT DATA

Neutron: Run No. ONE; Tool Type N/K EPI; Tool Serial No. PH 125; Diam 3 5/8"; Detect. Model No. PH 125; Type PROP; Length 8.1/01; Source Model No. 300 MC; Serial No. 164161162164; Shielding 12"; Type E.A. Be; Strength 5 X 10⁷ N/S

Gamma Ray: Run No. ONE; Tool Type TCLF; Tool Model No. 3 5/8"; Diam TCLB; Detect. Model No. SC1N1; Type 5"; Length 16.31; Source

General: Hand Track No. SPU 21; Tool Track No. SPU 21; Tool Serial No. GR/N NO. 11

LOGGING DATA

General: Run No. ONE; Depth From 4344; To 3836; Speed Ft./Min. 30; T.C. Sec. 3; Sens. Setting 80

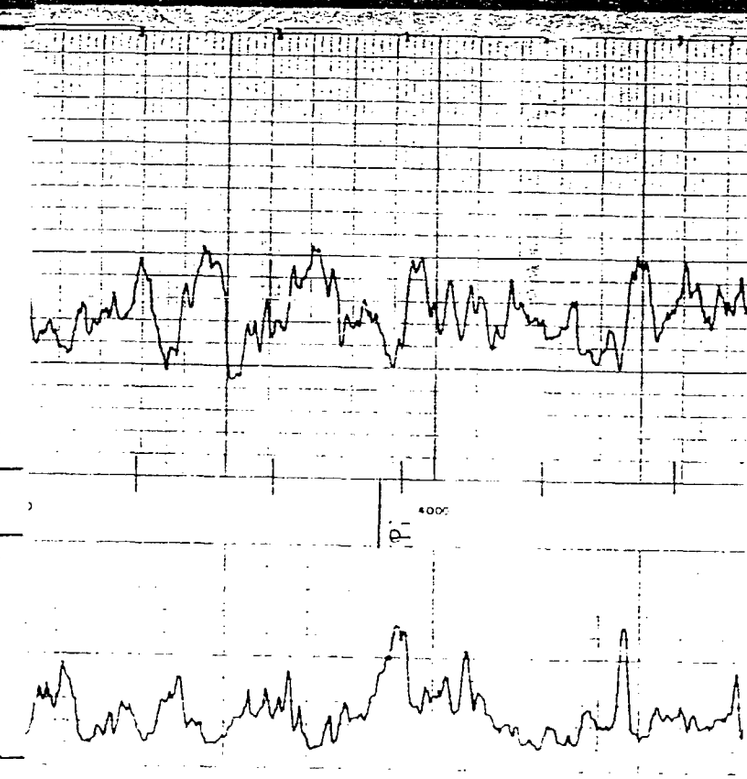
Gamma Ray: From Unit 0; To 10; API G.R. Units Per Log Div. 10

Neutron: From Unit 3; To 317; Sens. Setting 312; T.C. Sec. 3; Zero Div. 2.1; Zero Div. 2.1; API N. Units Per Log Div. 180; 150

Remarks: COLLARS MARKED IN DEPTH COLUMN. REFER MARKER ON LOG.

Release Operator: NO. 13369

* INFORMATION NOT AVAILABLE



SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COMPANY SKELLY OIL COMPANY
WELL HOBBS W #8
FIELD CHAVEROO
COUNTY ROOSEVELT STATE NEW MEXICO
LOCATION 330' FROM W/L 1650' FROM W/L
Sec. 32 Twp. 7S Rge. 35E

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL HOBBS W #8
COMPANY SKELLY OIL CO.

Permanent Datum: GL Elev. 4302
Log Measured from KB 10 Ft. Above Perm. Datum
Drilling Measured from KB

Elev.: K.B. 4312
D.F. 4313
G.L. 4302

Other Services: SNP, FDC, LL, NGL

Date 10-9-66
Run No. ONE
Depth—Driller 4479
Depth—Logger 4477
Btm. Log Interval 4463
Top Log Interval 10
Casing—Driller 5 5/8" @ 377
Casing—Logger 377
Bit Size 7 7/8
Type Fluid in Hole SALT GEL STARCH
Dens. Visc.
pH Fluid Loss 10.1 cc 10.2 ml
Source of Sample BLL
R_m @ Meas. Temp. .967 @ 75 F
R_mf @ Meas. Temp. .122 @ 75 F
R_mc @ Meas. Temp. .1 @ 75 F
Source R_mf R_mc
R_m @ BHT F
R_mf @ BHT F
R_mc @ BHT F
Time Since Circ. 12 HRS
Max. Rec. Temp. 125 F
Equip. Location HOBBS
Recorded By HASELL
Witnessed By MR. WALL

Spud: 10-10-66
Comp: 11-16-66
Frmn. Pen: San Andres
Strtr: 363.90 + 3 BNPD
Pb @ TD: San Andres
least Per: 7162%
Shelly Interest: 100%

GEOLOGICAL FILE
DEC 21 1966
SKELLY OIL COMPANY
EXPLORATION DEPT.
MIDLAND DISTRICT

REMARKS

Changes in Mud Type or Additional Samples
Date Sample No.
Depth—Driller
Type Fluid in Hole
Dens. Visc.
pH Fluid Loss ml
Source of Sample
R_m @ Meas. Temp. F
R_mf @ Meas. Temp. F
R_mc @ Meas. Temp. F
Source R_mf R_mc
R_m @ BHT F
R_mf @ BHT F
R_mc @ BHT F

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down Hole

Equipment Data

Run No.	Tool Type	Pad Type	Tool Pos.	Other

CDT USED S.O. MAX (SCD-A CML-H)
Equip. Used: CART. No. SLC-A-41
PANEL No. SLP-C-251
SONDE No. SLS-B-11

CALIBRATION	BACKGND CPS	SOURCE CPS	GALV. INCB DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (FT./MIN.)
GAMMA RAY	48	496	82.5	800	400	1	50/70

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)

Welex — RADIOACTIVITY LOG

COMPANY Skelly Oil Company
WELL Hobbs "W" # 7
FIELD Chaveroo
County Roosevelt State N. M.

COMPANY SKELLY OIL COMPANY

WELL HOBBS "W" # 7

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

Location 1650'FNL 330'FWL

Other Services:

Sec. 29 Twp. 7-S Rge. 34-E

Permanent Datum Ground Level Elev. 4308

Log Measured from D. F. 11 ft. Above Perm. Datum

Drilling Measured from Derrick Floor

Elev.: K.B. ____ D.F. 4319 G.L. 4308

Date	10-31-66
Run No.	- One -
Type Log	GR - NG
Depth-Driller	4415 PB
Depth-Wlmr	4411
Bottom Logged Interval	4410
Top Logged Interval	Surf.
Type Fluid in Hole	Water
Salinity, PPM Cl.	
Density	
Level	60
Max. rec. temp., deg. F.	
Operating Rig Time	
Recorded By	B. A. Kithas
Witnessed by	Mr. Norton

Spud 10/1/66
Comp. 10/31/66
Elev. 4308 Ground Level
RTD: 151 90, 18 90/24'
PB 8 TD: San Andres
Log Top: 3900
Bottom Interval: 3006

RUN No.	BORE-HOLE RECORD Bit	From	To	Size	Wgt.	CASING RECORD From	To	Size	Wgt.
	7-7/8"	-	4415	4-1/2"	10.5	0	4415		

GEOLOGICAL FILE
DEC 21 1966
SKELLY OIL COMPANY
EXPLORATION DEPT.
ROSWELL DISTRICT

Fold Here

EQUIPMENT DATA

	GAMMA RAY	NEUTRON
Run No.	- One -	- One -
Log Type		Non Con - Gamma
Tool Model No.	2000	2000
Diameter	3-5/8"	3-5/8"
Detector Model No.	1311	1311
Type	GM	GM
Length	28"	13"
Source Model No.	1408.9"	5 Ci
Serial No.		N-27
Spacing		13.9"
Type		PuBe
Strength		8.5 x 10^6 Neutrons/Sec.

GENERAL

Hoist Truck No.	3001
Instrument Truck No.	3001
Tool Serial No.	108812

LOGGING DATA

GENERAL Run No.	Depths From	To	Speed Ft. Min.	T.C. Set.	GAMMA RAY Sens. Settings	Time Div. Lo #	API G.R. Units per Log Div.	NEUTRON T.C. Set.	Sens. Settings	Time Div. Lo #	API N. Units per Log Div.
1	Surf.	4410	*	2	80	0	8	2	1500	6-L	75

Reference Literature * See Interval markers on left.

Remarks:

Service Ticket No.

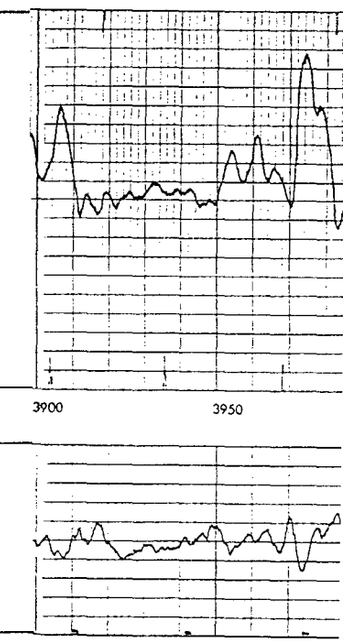
Fold Here

2" 100'

NEUTRON API Neutron Units 1850 3450

GAMMA API Gamma Ray Units 80 160

3900 3950



SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL HOBBS "W" #9
COMPANY SKELLY OIL CO.

COMPANY SKELLY OIL COMPANY

WELL HOBBS "W" #9

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION 1650' FN & WL

Sec. 29 Twp. 7-S Rge. 34-E

Other Services: FDC, SNP, L, MLL.

Permanent Datum: G.L. Elev. 4309
Log Measured From K.B. 11.4 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 4320.4
D.F.
G.L. 4309

Date	6-4-68			
Run No.	ONE			
Depth—Driller	4450			
Depth—Logger	4447			
Btm. Log Interval	4445			
Top Log Interval	4000			
Casing—Driller	8 5/8 @ 360	@	@	@
Casing—Logger	360			
Bit Size	7 7/8			
Type Fluid in Hole	SALT GEL			
Dens. / Visc.	10.0 / 44			
pH / Fluid Loss	6.0 / 15.6 ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.087 @ 84 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.065 @ 80 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
Source: R_{mf} R_{mc}	M -			
R_m @ BHT	.07 @ 110 °F	@ °F	@ °F	@ °F
Time Since Circ.	6 + HOURS			
Max. Rec. Temp.	110 °F	°F	°F	°F
Equip. / Location	3720 / HOBBS			
Recorded By	LEFLER			
Witnessed By	HOLLEY			

The well name, location and borehole reference data were furnished by the customer.

REMARKS

Changes in Mud Type or Additional Samples

Date	Sample No.	Depth—Driller	Type Fluid in Hole	Dens.	Visc.	pH	Fluid Loss	Source of Sample	R_m	@ Meas. Temp.	R_{mf}	@ Meas. Temp.	R_{mc}	@ Meas. Temp.	R_m	@ BHT
							ml		°F	@	°F	@	°F	@	°F	@

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down Hole

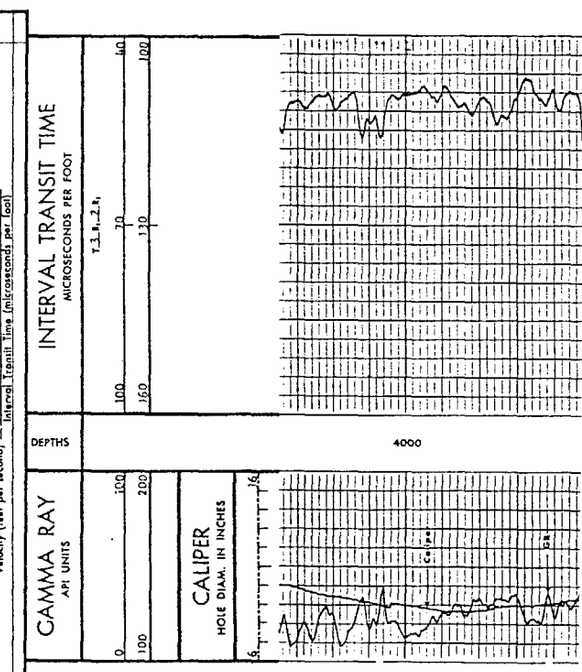
Equipment Data

Run No.	Tool Type	Pad Types	Tool Pos.
			Other

C.O. USED SPRING GUIDE & CALIPER
Equip. Used: CART. No. SLH-A-56
PANEL No. SLP-A-49
SONDE No. SLS-A-11

CALIBRATION: BACKGND. 80 CPS; SOURCE 480 CPS; GAIN, INCR. DIVISIONS 82.5; SENS. TAP (FOR CAL) 800; SENS. TAP (RECORD) 400; TIME CONST. 1; RECORDING SPEED (FT./MIN.) 40; GAMMA RAY

Velocity (feet per second) = Interval Transit Time (microseconds per foot) 1,000,000



SCHLUMBERGER

BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COMPANY SKELLY OIL COMPANY

WELL HOBBS "MM" #2

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

COUNTY ROOSEVELT
FIELD or LOCATION CHAVEROO
WELL HOBBS "MM" #2
COMPANY SKELLY OIL CO.

LOCATION 3301' FROM N/L
990' FROM E/L
Sec. 20 Twp. 7S Rge. 34E

Other Services: FDC, SNP, CL, MLL

Permanent Datum: GL Elev. 4313
Log Measured From KB 10.5 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4323.5
D.F. 4322
G.L. 4313

Date	8-12-65
Run No.	ONE
Depth—Driller	4422
Depth—Logger	4433
Btm. Log Interval	4433
Top Log Interval	0
Casing—Driller	8 5/8" @ 330
Casing—Logger	337
Bit Size	7 7/8
Type Fluid in Hole	GEL-CHEM
Dens. / Visc.	10.0 / 45
pH / Fluid Loss	10.5 / 12 ml
Source of Sample	PIT
R_m @ Meas. Temp.	2.75 @ 83 F
R_{mf} @ Meas. Temp.	2.20 @ 83 F
R_{mc} @ Meas. Temp.	1.85 @ 83 F
Source R_{mf} R_{mc}	MIX MIX
R_m @ BHT	2.24 @ 125 F
Time Since Circ.	3 HRS
Max. Rec. Temp.	125 F
Equip. Location	HOBBS HOBBS
Recorded By	[illegible]
Witnessed By	[illegible]

Scale Changes: Scale Up Hole / Scale Down Hole

Equipment Data: Pad Type / Tool Pos. / Other

Type Log / Depth / Run No. / Tool Type

Changes in Mud Type or Additional Samples: Date / Sample No. / Depth—Driller / Type Fluid in Hole / Dens. / Visc. / pH / Fluid Loss / Source of Sample / R_m @ Meas. Temp. / R_{mf} @ Meas. Temp. / R_{mc} @ Meas. Temp. / Source R_{mf} R_{mc} / R_m @ BHT / R_{mf} @ BHT / R_{mc} @ BHT

REMARKS

CO. USED SO. MASK VCD-2
Equip. Used CART. No. [illegible]
PANEL No. [illegible]
SONDE No. [illegible]

CALIBRATION	BACKGND CPS	SOURCE CPS	GALV. INCR. DIVISIONS	SEMS TAP MODE CAL.	SEMS TAP SECOND	TIME CONST.	RECORDING SPEED (FT./MIN.)
GAMMA RAY	61	1,281	82.5	800	4.30	1	50/10

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)

DEPTHS

GAMMA RAY
API UNITS
0 100 200

CALIPER
HOLE DIAM. IN INCHES
6" 16"

INTERVAL TRANSIT TIME
MICROSECONDS PER FOOT
100 140 70 130 40 100

4000

ILLEGIBLE

File Copy

LANE WELLS — Densilog

A DIVISION OF DRESSER INDUSTRIES, INC.

FILE NO.

COMPANY TENNECO OIL COMPANY

WELL STATE "V" NO. 1

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 660' FNL & 660' FWL

SEC 30 TWP 7-S RGE 24-E

Other Services: F/L

Permanent Datum: GROUND LEVEL Elev. 4317

Log Measured from: K. B. 10 Ft. Above Permanent Datum

Drilling Measured from: K. B.

Elevations: KB 4327 DF 4326 GL 4317

Date	8-3-66
Run No.	ONE
Type Log	DENSILOG
Depth-Driller	4358
Depth-Logger	4356
Bottom Logged Interval	4354
Top Logged Interval	100
Type Fluid in Hole	SALT GEL
Salinity Ppm Cl.	90,000
Density Lb. Gal.	10.4
Level	FULL
Max. Rec. Temp. Deg. F	99
Opr. Rig Time	
Recorded By	SHANKS
Witnessed By	MR. EATON

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Bore Hole Record				Casing Record			
Run No.	Bit	From	To	Size	Wgt.	From	To
1				8 5/8"		SURF.	362
1	7 7/8"	362	4358				

Equipment Data

	Densilog	Gamma Ray
Run No.	ONE	ONE
Tool Model No.	2283-B	1304
Other	5-61	5-61
Density Model No.	1-68	DUAL
Type	C-COUNTER	SCINT
Length	3'	4'
Dist. to D. Source	5 3/10	16'
Source Model No.	CS-1	General
Serial No.	11-137	L-14591
Spacing	15"	L-14591
Type	CS-137	
Strength	1000 MC	

Logging Data

| General | | | |

SCHLUMBERGER — BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COMPANY SKELLY OIL COMPANY

WELL HOBBS "W" #3 [redacted]

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

County — Parish
FIELD or LOCATION CHAVEROO
WELL HOBBS "W" #3
COMPANY SKELLY OIL CO.

LOCATION 1650' FROM N/L
1980' FROM E/L
Sec. 30 Twp. 7S Rge. 34E

Other Services: FDC, SNP, L, MLL

Permanent Datum: GL, Elev.
Log Measured From KB, Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B.
D.F. 4322
G.L.

Date	18-28-66			
Run No.	ONE			
Depth—Driller	14475			
Depth—Logger	14477			
Btm. Log Interval	14468			
Top Log Interval	10			
Casing—Driller	16 5/8@ 168	@	@	@
Casing—Logger	168			
Bit Size	17 7/8			
Type Fluid in Hole	SALT GEL			
	STARCH			
Dens. / Visc.	10.0 / 40			
pH / Fluid Loss	/ 10 ml	ml	ml	ml
Source of Sample	CIRCULATED			
R_m @ Meas. Temp	0.072@ 80 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp	0.043@ 78 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp	0.135@ 78 °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / M			
R_m @ BHT	0.056@ 105 °F	@ °F	@ °F	@ °F
Time Since Circ.	12 HOURS			
Max. Rec. Temp.	1105 °F	°F	°F	°F
Equip. Location	3722 / HOBBS			
Recorded By	LEFLER			
Witnessed By	MR. MORTON			

REMARKS

Changes in Mud Type or Additional Samples
Date / Sample No. / Depth—Driller / Type Fluid in Hole / Dens. / Visc. / pH / Fluid Loss / Source of Sample / R_m @ Meas. Temp / R_{mf} @ Meas. Temp / R_{mc} @ Meas. Temp / Source R_{mf} / R_{mc} / R_m @ BHT / R_{mf} @ BHT / R_{mc} @ BHT

Scale Changes: Type Log / Depth / Scale Up Hole / Scale Down Hole

Equipment Data: Run No. / Tool Type / Pad Type / Tool Pos. / Other

S.O. SPRING GUIDE & CALIPER
Equip. Used CART. No. 11
PANEL No. 49
SONDE No. 45

CALIBRATION:	BACKGND. CPS. 64	SOURCE CPS. 404	GALV. INCR. DIVISIONS 82.5
GAMMA RAY:			SENS. TAP (FOR CAL.) 800
			SENS. TAP (RECORD) 400

TIME CONST. 1 — RECORDING SPEED (FT./MIN.) 40/80

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)

INTERVAL TRANSIT TIME
MICROSECONDS PER FOOT

100 — 70 — 40
160 — 130 — 100

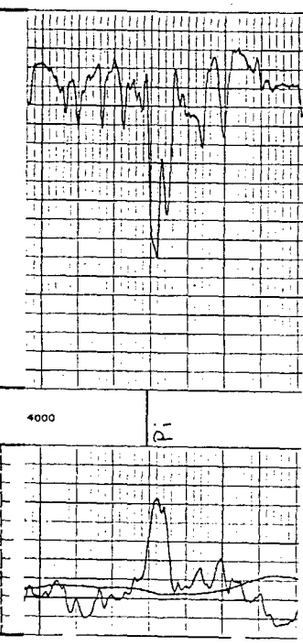
DEPTHS 4000

GAMMA RAY
API UNITS

0 — 100
100 — 200

CALIPER
HOLE DIAM. IN INCHES

6" — 7" SHALLOW — 16"



Welex

RADIOACTIVITY LOG

COMPANY Tenneco Oil Company
WELL State "V" # 4
FIELD Chaveroo
County Roosevelt State N. M.

COMPANY TENNECO OIL COMPANY Well File
WELL STATE "V" # 4
FIELD CHAVEROO
COUNTY ROOSEVELT STATE NEW MEXICO

Location 990'FEL 2310'FSL
Sec. 30 Twp. 7-S Rge. 34-E

Other Services:

Permanent Datum Ground Level Elev. 4310
Log Measured from K.B. 10 Ft. Above Perm. Datum
Drilling Measured from Kelly Bushing

Elev.: K.B. 4320
D.F. 4319
G.L. 4310

Date	12-1-66
Run No.	- One -
Type Log	GR - NG
Depth—Driller	4382
Depth—Welex	4379
Bottom Logged Interval	4378
Top Logged Interval	20'
Type Fluid in Hole	Water
Salinity, PPM Cl.	
Density	
Level	60
Max. rec. temp., deg. F.	105°
Operating Rig Time	
Recorded By	B. A. Kirkas
Witnessed by	Mr. Sedway

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RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
				8-5/8"		0	374
	7-7/8"	374	4410	4-1/2"		0	4410

Fold Here

EQUIPMENT DATA

GAMMA RAY		NEUTRON	
Run No.	- One -	Run No.	- One -
Tool Model No.	2000	Log Type	Neutron-Gamma
Diameter	3-5/8"	Tool Model No.	2000
Detector Model No.	1611	Diameter	3-5/8"
Length	CN	Detector Model No.	108
Type	4-1/2"	Length	14"
Detector in N. Source	108.0"	Source Model No.	S-CU
		Serial No.	N-27
		Spacing	13.5"
		Type	Pu-Be
		Strength	H.5 X 10

GENERAL

Hole Trust No.	3001
Instrument Trust No.	3001
Tool Serial No.	10802

LOGGING DATA

GENERAL Run No.	Depth: From	To	Speed Ft/Min	T.C. Sec.	Sens. Settings	GAMMA RAY Zero Div. 1 or 2	API G.R. Units per Log Div.	T.C. Sec.	Sens. Settings	NEUTRON Zero Div. 1 or 2	API N. Units per Log Div.
1	21	4387	*	2	80	0	8	2	1300	0-1	75

Neutrons/Sec.

Reference Literature:

* See Interval markers on left

Remarks:

Service Ticket No.

Fold Here

2" = 100'

GAMMA API Gamma Ray Units		NEUTRON API Neutron Units	
0	80	450	1950
80	160	1950	3450

LANE WELLS *Densilog*

A DIVISION OF DRESSER INDUSTRIES, INC.

FILE NO.

COMPANY TENNECO OIL COMPANY

WELL STATE "V" NO. 3

FIELD CHAVEROO

COUNTY ROOSEVELT STATE NEW MEXICO

LOCATION: 2314' FSL , 330' FWL

SEC 30 TWP 7-S RGE 34-E

Other Services: F/L

Permanent Datum GROUND LEVEL Elev. 4315

Log Measured from K. B. 10 ft. Above Permanent Datum

Drilling Measured from K. B.

Elevations: KB 4325 DF 4324 GL 4315

Date	10/8/66
Run No.	ONE
Type Log	DENSILOG
Depth-Driller	4400
Depth-Logger	4402
Bottom Logged Interval	4400
Top Logged Interval	100
Type Fluid in Hole	SALT GEL
Salinity Ppm Cl.	145,000
Density lb. Gal.	10.2#
Level	FULL
Max. Rec. Temp. Deg. F	99
Opr. Rig Time	3 HOURS
Recorded By	SCHLOTTERBACK
Witnessed By	MR. EATON

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Run No.	Bore Hole Record Bit	From	To	Casing Record Size	Wgt.	From	To
1	11"	SURFACE	385	8 5/8"		SURFACE	385
1	7 7/8"	385	4400				

Equipment Data

Gamma Ray: Run No. ONE; Tool Model No. 3304 3 5/8"; Diam. DIGIT; Detect. Model No. SCINTI; Type SCINTI; Length; Dist to Ø Source

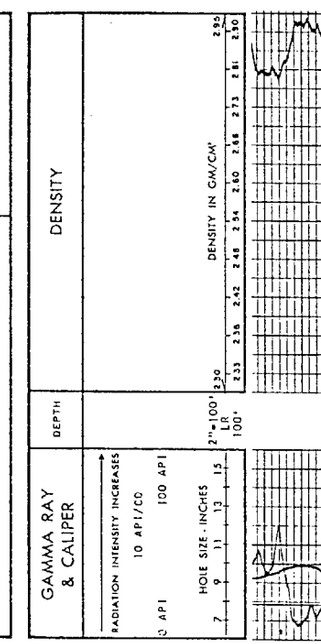
Densilog: Run No. ONE; Tool Model No. DENSILOG 2203-B; Diam. 7 1/2"; Detect. Model No. Geiger COUNTER; Type; Length; Source Model No. S3E10; Source No. C-1-; Shielding 11"; Strength 65-137 10000 MC

General: Hole Fluid No. L-4534; Hole Fluid No. L-4534; Tool Serial No.

Logging Data

Gamma Ray: General — Run No. 1; Depths From 3400, To 3200; Speed Ft. Min. Sec. 30, 60; T.C. Sec. 2.0, 0.5; Sens. Settings 0.01238 X1, 0.01238 X1; Calibrator Dis. I or R 0, 0

Densilog: General — Run No. 1; Depths From 3400, To 3200; Speed Ft. Min. Sec. 30, 60; T.C. Sec. 3.0, 1.5; Sens. Settings .734 X1, .734 X1; Calibrator Dis. I or R 10 C/O, 10 C/O; Calibrator Sensitivity 10-R, 10-R

Remarks

Reference (Elevations)