

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.	
LAND OFFICE	
OPERATOR	

3a. Indicate Type of Lease

State ☐ Fee ☒

3. Lease Oil & Gas Lease No.

7. Unit Agreement Name

8. Form of Lease Name

Mother Lode

9. Well No.

1

10. Field and Pool, or Wildcat

Undesignated Gallup

12. County

Rio Arriba

1a. TYPE OF WELL

OIL WELL ☒GAS WELL ☐DRY ☐

OTHER

1b. TYPE OF COMPLETION

NEW WELL ☒WORK OVER ☐DEEPEN ☐PLUG BACK ☐DIFF. RESVR. ☐

OTHER

2. Name of Operator

Jerome P. McHugh

3. Address of Operator

P O Box 208, Farmington, NM 87499

4. Location of Well

UNIT LETTER H LOCATED 1730 FEET FROM THE North LINE AND 860 FEET FROMTHE East LINE OF SEC. 3 TWP. 24N RGE. 2W NMPM

15. Date Spudded

6-13-83

16. Date T.D. Reached

7-1-83

17. Date Compl. (Ready to Prod.)

9-2-83

18. Elevations (LF, RKB, RT, GR, etc.)

7321' GL; 7333' RKB

19. Elev. Caschinghead

7321'

20. Total Depth

8250'

21. Plug Back T.D.

8152'

22. If Multiple Compl. How Many

GA & DK*

23. Intervals Drilled By

Rotary Tools

TD

Cable Tools

24. Producing Interval(s), of this completion - Top, Bottom, Name

6765-7070', Gallup

25. Was Directional Survey Made

No

26. Type Electric and Other Logs Run

IES; CD Dual Spaced Neutron; GR-CCL

27. Was Well Cored

No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	47	224' RKB	12-1/4"	147.5 cf slurry	---
4-1/2"	11.6	8248' RKB	7-7/8"	2613 cf slurry in 3 stages	---

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
None					2-3/8"	8002' RKB	---

31. Perforation Record (Interval, size and number)

6765, 89; 6801, 08, 25, 36, 39, 47, 53,
61, 67, 73, 82, 84, 97; 6912, 14, 25, 27,
41, 53, 63, 70, 77, 89, 94; 7011, 19, 22,
27, 29, 38, 45, 54, 70. 35 holes - .34"

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
6765-7070	89,500# 20/40 sand; 70,000 gal. 20# gelled water; 70 gal. Aquaflo; 1135# Aquaseal; 70# B-5 breaker

33. PRODUCTION

Date First Production 7-22-83**		Production Method (Flowing, gas lift, pumping - Size and type pump) Swab & Flow				Well Status (Prod. or Shut-in) Shut in	
Date of Test 9-1-83	Hours Tested 8 hrs.	Choke Size None	Prod'n. For Test Period	Oil - Hbl. 21	Gas - MCF 109	Water - Hbl. 60 load	Gas - Oil Ratio 5190
Flow Tubing Press. 0-30 psi	Casing Pressure 1340 psi shut in	Calculated 24-hr flow rate	Oil - Hbl. 63	Gas - MCF 327	Water - Hbl. 180 load	Oil Gravity - API (Corr.) 42 (est)	

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Vented during test; to be sold

OCT 14 1983

C. Hall

35. List of Attachments *DH commingling order no. R-7365.

** First new oil to tank during completion operations.

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

Jim I. Jacobs

Jim I. Jacobs

TITLE

Geologist

DATE 10-12-83

INSTRUCTIONS

This form is to be filled with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and mechanical logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depth, in the case of directionally drilled wells, true vertical depth shall also be reported. For multiple completions, Items 20 through 34 shall be repeated for each zone. The form is to be filed in quadruplicate except on state land, where six copies are required, per Rule 1455.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northern New Mexico

T. Anby	T. Canyon	T. Ojo Alamo	3090'	T. Penn. "B"
T. Salt	T. Strawn	T. Kirtland-Fruitland	3291/3345	T. Penn. "C"
B. Salt	T. Atoka	T. Pictured Cliffs	3425	T. Penn. "D"
T. Yates	T. Miss	T. Cliff House	5115	T. Leadville
T. 7 Rivers	T. Devonian	T. Menefee	5220	T. Madison
T. Queen	T. Silurian	T. Point Lookout	5647	T. Elbert
T. Grayburg	T. Montoya	T. Mancos	5870	T. McCracken
T. San Andres	T. Simpson	T. Gallup	6704	T. Ignacio Qtzite
T. Glorieta	T. McKee	Base Greenhorn	7782	T. Granite
T. Paddock	T. Ellenburger	T. Dakota	7833	T. _____
T. Blinbry	T. Gr. Wash	T. Morrison		T. _____
T. Fubb	T. Granite	T. Todilto		T. _____
T. Drinkard	T. Delaware Sand	T. Entrada		T. _____
T. Abo	T. Bone Springs	T. Wingate		T. _____
T. Wolfcamp	T. _____	T. Chinle		T. _____
T. Penn.	T. _____	T. Permian		T. _____
T. Cisco (Bough C)	T. _____	T. Penn. "A"		T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from _____ to _____ No. 4, from _____ to _____
No. 2, from _____ to _____ No. 5, from _____ to _____
No. 3, from _____ to _____ No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from to feet.

No. 2, from to feet.

No. 3, from to feet.

No. 4, from to feet.

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation

Application for Downhole Commingling

Jerome P. McHugh
Mother Lode #1 Well
T-24-N, R-2-W, NMPM
Sec. 3: Unit Letter H
1730' FNL & 860' FEL
Rio Arriba Co., New Mexico
Case No. 7966, Exhibit No. A1

McHUGH 3/4 E.A. PHILLIPS 1/4		EL PASO 1/4 DPC 1/4 NM 1/4 01385 FEE EL PASO	
FEE		SF 081296	
TOC 1/2 CONOCO 1/2 MOBIL 1/2	McHUGH NM23033 1/2 McHUGH 1/2 KENAI 1/2	McHUGH	
SF 078-907	FEE	FEE McHUGH 1/2 KENAI 1/2	
TOC 1/2 CONOCO 1/2 MOBIL 1/2 SF 078907	AMOCO	AMOCO	
McHUGH 1/2 KENAI 1/2 FEE	NM40634	NM40635	
9	10	1	

OFFSET OPERATORS

- Jerome P. McHugh (McHugh)
650 S. Cherry St., #1225
Denver, CO 80222

Tenneco Oil Company ()
P.O. Box 3249
Englewood, CO 80155
- E.A. Phillips (Phillips)
1200 Philtower Bldg.
Tulsa, OK 74103

Conoco, Inc. (Conoco)
P.O. Box 1267
Ponca City, OK 74601
- El Paso Natural Gas Company (El Paso)
P.O. Box 1492
El Paso, TX 79978
- Dugan Production Corp. (DPC)
P.O. Box 208
Farmington, NM 87499
- Southland Royalty Company (So. Roy)
801 Cherry Str.
Ft. Worth, TX 76102
- Kenai Oil and Gas Inc. (Kenai)
One Barclay Plaza
1675 Larimer Str., Suite 500
Denver, CO 80202
- Amoco Production Company (Amoco)
Amoco Bldg.
17th and Broadway
Denver, CO 80202
- Mobil Producing Texas and New Mexico (Mobil)
Nine Greenway Plaza East #2700
Houston, TX 77046

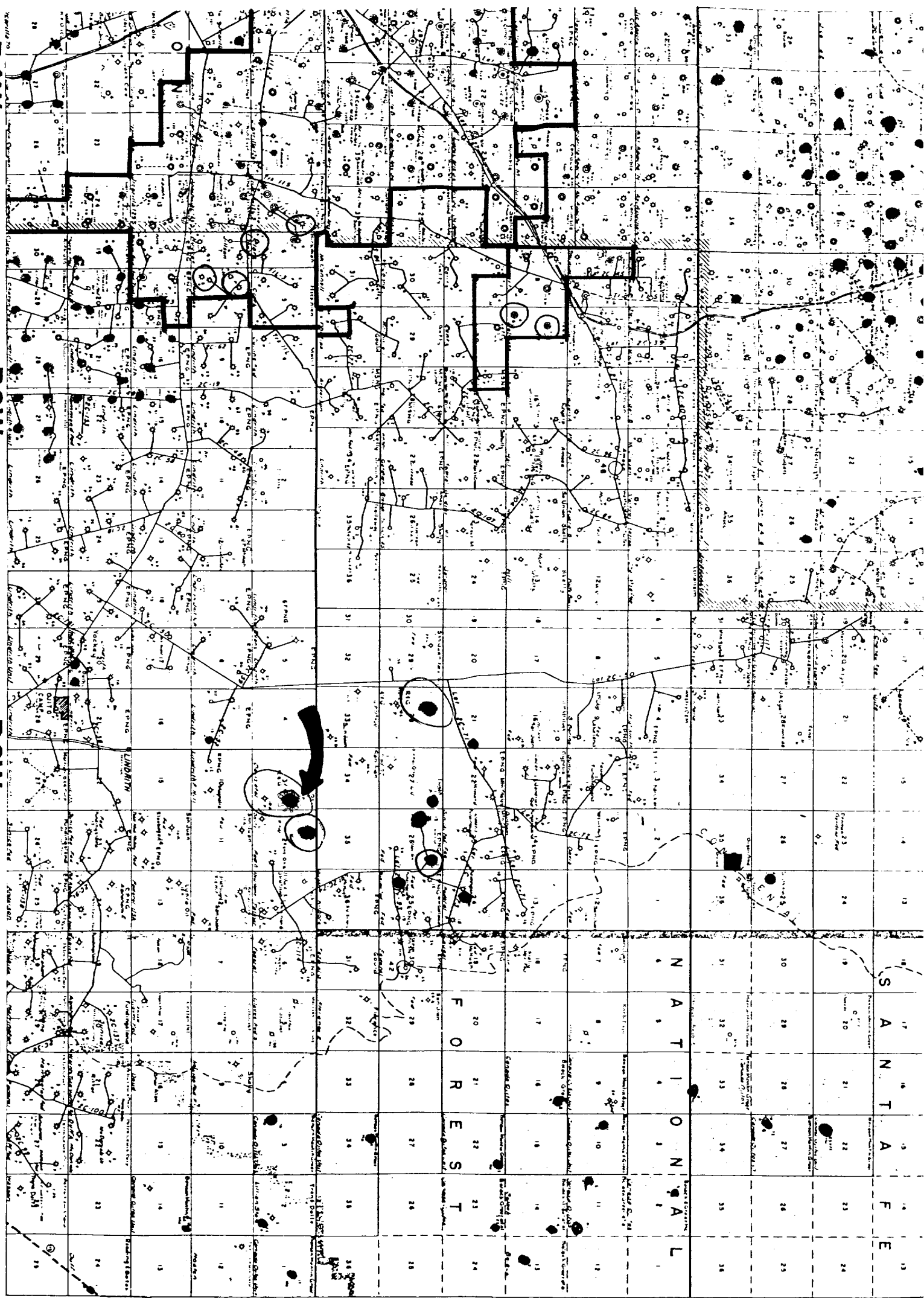
T-24-N, R-2-W, NMPM
Rio Arriba County, New Mexico

R4W

R3W

R2W

R1W



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 Case No. 7966, Exhibit No. A2

KEY

- ⊙ Subject Well
- West Lindrith Gallup-Dakota Pool
- Ojito (Gallup)-Dakota Pool
- Commingled Gallup-Dakota Well
- Dakota Well
- Gallup Well
- Well completed in Gallup & Dakota
- Uncompleted Gallup Well
- Plugged & Abandoned Gallup or Dakota
- Well used for production data

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Case No. 7966, Exhibit No. 43

Welex Induction-Electric Log
6-30-83
Elev. = 7333' KDB

6700
Gallup
6704

← lost 300 bbl mud @ 6976'

← lost 200 bbl mud @ 6974'

✓ OK

GAMMA RAY

200

S.P.

10

2" = 100'

IEL
depths
Ave 2'-3'
Low to
FDC-PNL
IN Gallup
Interval

400

CONDUCTIVITY

0

0

DEEP RES.

100

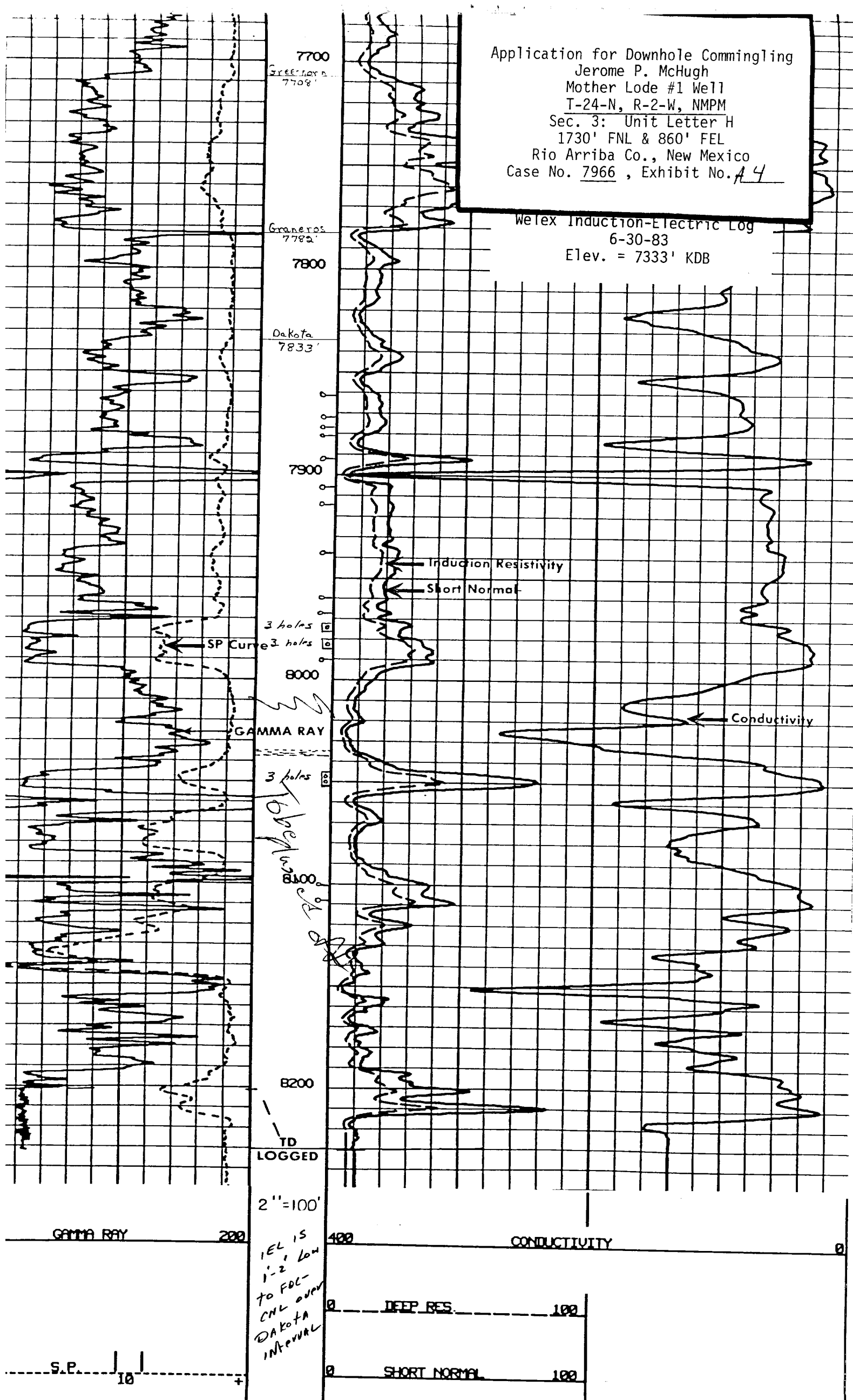
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SHORT NORMAL

100

Application for Downhole Commingling
 Jerome P. McHugh
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 T-24-N, R-2-W, NMPM
 Sec. 3: Unit Letter H
 1730' FNL & 860' FEL
 Rio Arriba Co., New Mexico
 Case No. 7966, Exhibit No. A 4

Welex Induction-Electric Log
 6-30-83
 Elev. = 7333' KDB



7700
 Greenhorn
 7708'

Graneros
 7782'
 7800

Dakota
 7833'

7900

3 holes
 SP Curve 3 holes
 8000

GAMMA RAY

3 holes
 8100

8200

TD
 LOGGED

2"=100'

GAMMA RAY 200

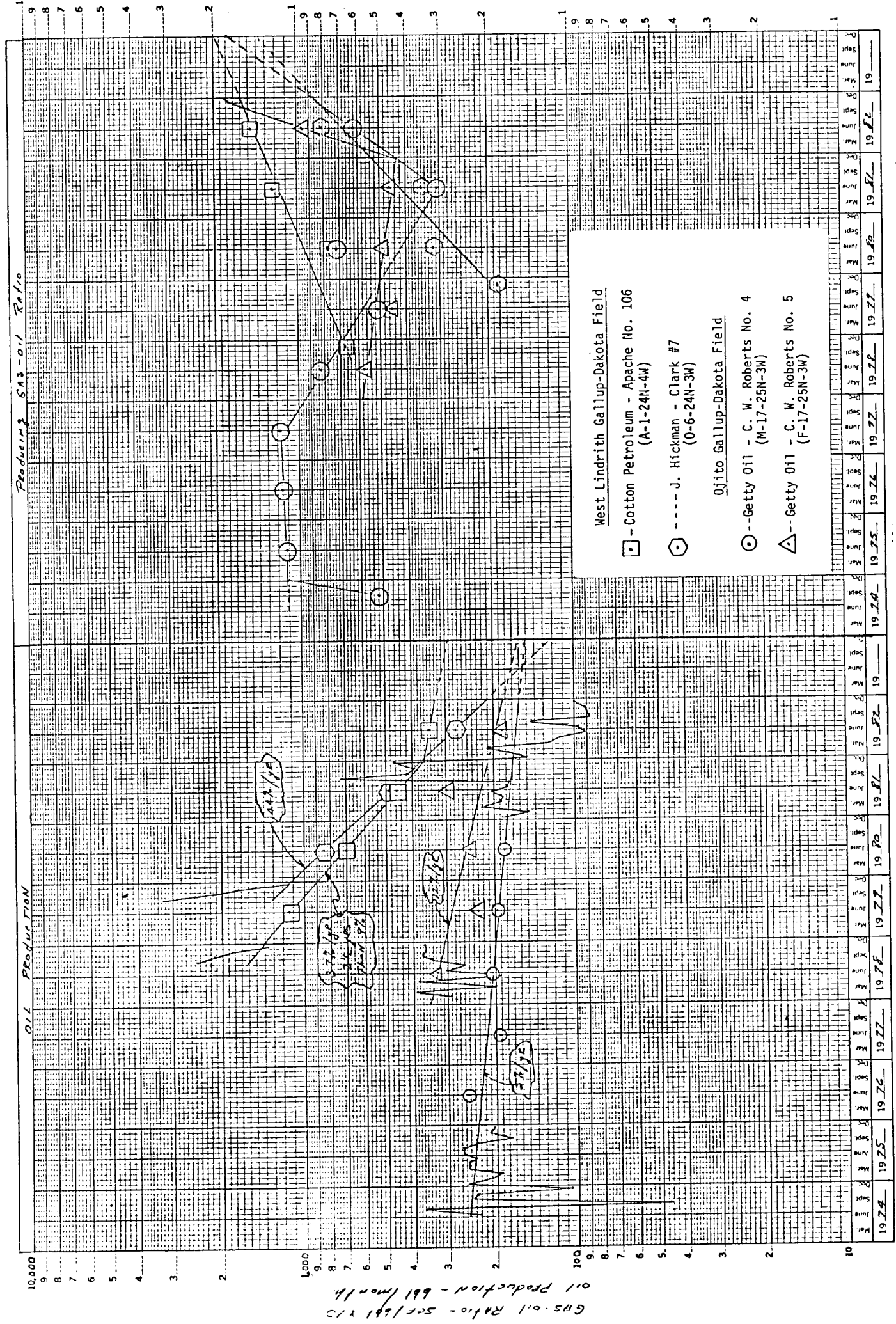
CONDUCTIVITY

DEEP RES.

SHORT NORMAL

S.P.

IEL IS
 1-2' low
 to FOL
 CNL over
 DAKOTA
 INTERVAL



West Lindrith Gallup-Dakota Field

- - Cotton Petroleum - Apache No. 106 (A-1-24N-4W)
- - J. Hickman - Clark #7 (O-6-24N-3W)
- △ - Getty Oil - C. W. Roberts No. 4 (M-17-25N-3W)
- △ - Getty Oil - C. W. Roberts No. 5 (F-17-25N-3W)

Ojito Gallup-Dakota Field

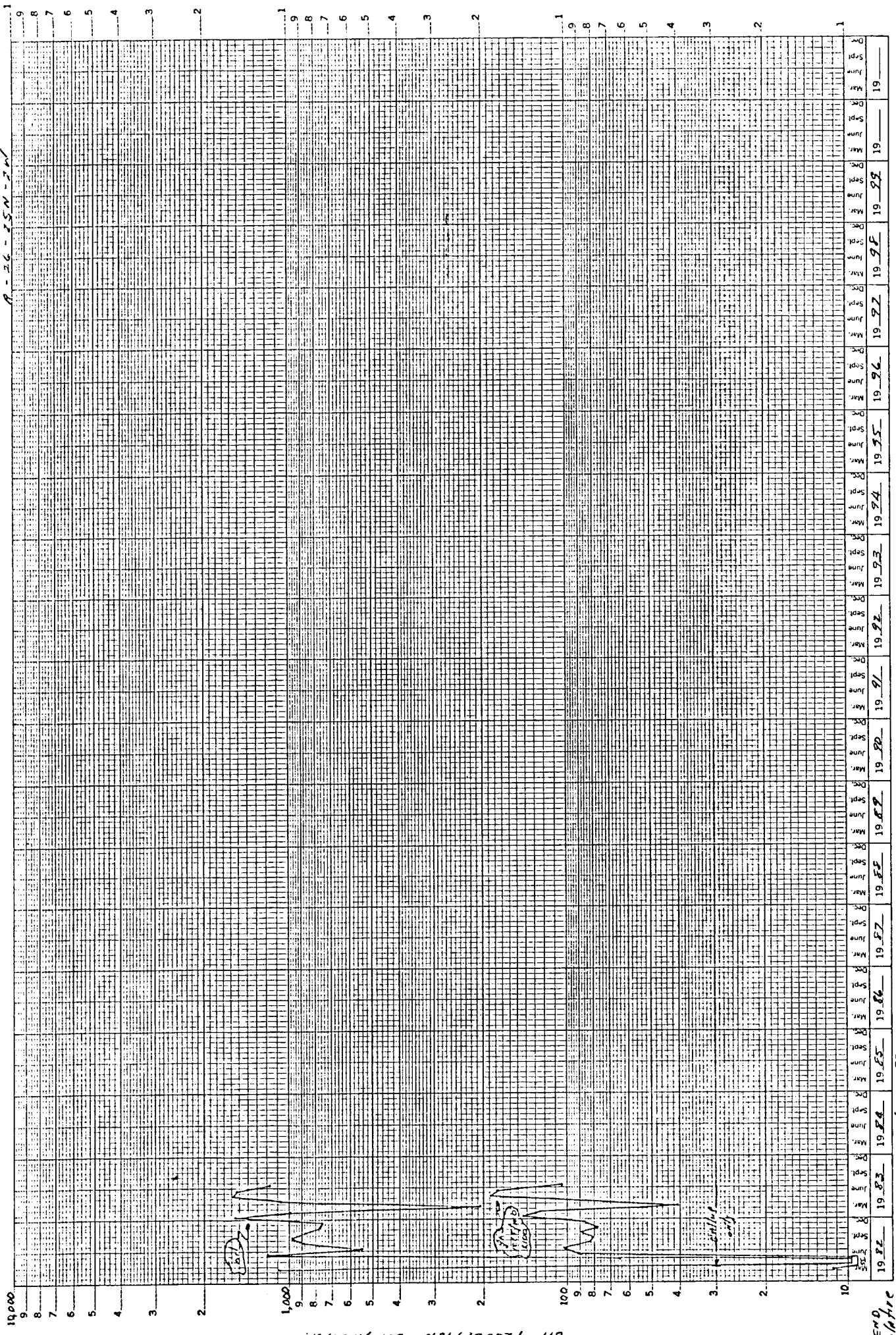
1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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WELL DATA
 Commingled Gallup-Dakota Wells
 General Area of Jerome P. McHugh's Wells in
 Townships 24 and 25 North, Range 2 West
 Rio Arriba County, New Mexico

Operator	Well Name	Location U-S-T-R	Initial			Oil Production			Gas Production			Estimated Ultimate Recovery-Bbl	
			Potential BOPD-GOR	Actual Init.Prod. BOPD-GOR	Production Factor Actual/IP	Initial Decline %/Yr-Yrs	Stabilized Decline % / Yr	Gas Prod. Factor Actual/IP	Incline Rate %/Yr				
<u>West Lindrith Gallup-Dakota Field</u>													
Cotton Petroleum	- Apache No. 106	A-1-24N-4W	97 - 1526	53 - 6400	55%	37 - 3½	9	4.19	25	41,254	76,800		
J. Hickman	- Clark No. 7	O-6-24N-3W	150 - 2666	43 - 1800	29%	44 - --	-	0.68	57	30,597	51,600*		
Mobil Oil	- W.D. Hughes No.5	M-8-24N-3W	28 - 179	9 - 1670	32%	29 - --	-	9.33	19	3,896	12,200*		
Mobil Oil	- Jillson No. 4	E-8-24N-3W	35 - 857	18 - 840	51%	21 - --	-	0.98	39	7,822	38,500*		
<u>Ojito Gallup-Dakota Field</u>													
Getty Oil	- C.W. Roberts No. 4	M-17-25N-3W	9 - 12,220	8 - 11,000	-	5 - --	5	0.90	5	21,031	48,000		
Getty Oil	- C.W. Roberts No. 5	F-17-25N-3W	NR - 4,850	12 - 5,800		12 - --	12	1.20	-	14,894	28,000		
6 Well Average													
			64 - 3,716	24 - 4,585	42%	33 - --	9	1.23	29		42,500		

* Estimated assuming maintaining initial decline rate for a total of 3½ years from the date of first production and then stabilizing at an annual decline rate of 9%

Wellbore exploration
Gavalia No.1
Gavalia No.2 / Basin Dakota?
R-26-25N-2W



Gas production - 100 mcf/month
Oil Production - 400 bbl/month

47 6840

K-E 20 YEARS BY MONTHS X LOG CYCLES
KEUFFEL & ESSER CO. MADE IN USA

YEAR END
Cumulative
Oil, bbl
Gas, MCF

1982 7158 15260
1983 62108 148707
1984 148707 148707
1985 148707 148707
1986 148707 148707
1987 148707 148707
1988 148707 148707
1989 148707 148707
1990 148707 148707
1991 148707 148707
1992 148707 148707
1993 148707 148707

RESERVES AND ALLOCATION FACTORS FOR
COMMINGLED GALLUP-DAKOTA WELLS
Townships 24 and 25 North, Range 2 West
Rio Arriba County, New Mexico

Application for Downhole Commingling
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Mother Lode #1 Well
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Janet No. 1
R-7258

Janet No. 2
R-7312

E. T. No. 1
Proposed

Mother Lode No. 1
Proposed

Wright Way No. 1
Proposed

OIL (Reserves in bbl.)

Gallup	39,200 (63%)	35,600 (75%)	40,600 (84%)	43,900 (79%)	28,000 (67%)
Dakota	<u>22,600</u> (37%)	<u>12,000</u> (25%)	<u>7,800</u> (16%)	<u>11,900</u> (21%)	<u>14,100</u> (33%)
TOTAL	61,800	47,600	48,400	55,800	42,100

GAS (Reserves in MMCF)

Gallup	372.4 (82%)	363.1 (90%)	414.1 (94%)	447.8 (91%)	285.6 (85%)
Dakota	<u>79.1</u> (18%)	<u>42.0</u> (10%)	<u>27.3</u> (6%)	<u>41.7</u> (9%)	<u>49.4</u> (15%)
TOTAL	451.5	405.1	441.4	489.5	335.0

Indicated Initial Potential Commingled Stream	116 BOPD	86 BOPD	86 BOPD	78 BOPD	78 BOPD
Predicted Initial Production	49 BOPD	36 BOPD	36 BOPD	33 BOPD	33 BOPD

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dp dugar production

JEROME P. MCHUGH
Mother Lode #1
1730' FNL - 860' FEL
Sec. 3, T24N R2W
Rio Arriba County, NM

MORNING REPORT

6-14-83 MI & RU Four Corners Drilling Co. Rig ~~#4~~ ^{#10} Spudded 12 $\frac{1}{4}$ " hole
at 4:45 p.m. 6-13-83. Drilled to 237'. Ran 5 jts. 9-5/8"
O.D., 47#, 8 Rd, ST&C casing. T.E. 212' set at 224' RKB.
Cemented with 125 sx class "B" plus 2% CaCl. (147.5 cf slurry)
Good cement to surface. P.O.B. at 10:00 p.m. 6-13-83. W.O.C.

4-1/2 hrs - MI & RU
1-1/4 hrs - drill rat and mouse holes
3-1/4 hrs - drill 12 $\frac{1}{4}$ " hole
1/4 hr - trip
3/4 hr - run 9-5/8" casing
1 hr - cement casing
8 hrs - W.O.C.

6-15-83 1785' - Drilling Wt. 8.8 Vis 28 W.L. 10
1° at 505'; 1 $\frac{1}{2}$ ° at 769'; 2° at 1041'; 2 $\frac{1}{2}$ ° at 1290'; 3° at
1440'; 2-3/4° at 1580'; 2-1/4° at 1739'

1-1/4 hrs - trip
15-1/2 hrs - drilling
2-1/4 hrs - survey
4 hrs - W.O.C.
1 hr - repairs

Pressure tested surface casing at 800 psi for 30 min. Held
OK.

6-16-83 2950' - trip Wt. 8.7 Vis 28 W.L. 10.0
2 $\frac{1}{4}$ ° at 1833'; 1-3/4° at 1986'; 1-3/4° at 2076'; 1-3/4° at 2200';
2° at 2355'; 1-3/4° at 2527'; 2° at 2677'; 2° at 2835'

3 hrs - trip
18-1/4 hrs - drilling
1/4 hr - rig service
2-1/4 hrs - survey
1/4 hr - wash to bottom

6-17-83 3636' - Drilling Wt. 8.8 Vis 38 W.L. 10
4% L.C.M.; 2% 3071', 2° at 3197'; 2¼° at 3347'; 2½° at 3478'

2 hrs - trip
17-1/4 hrs - drilling
1 hr - survey
3 hrs - lost circ. (lost 250 bbls. at 3432')
3/4 hr - wash to bottom

6-18-83 4020' - Drilling Wt. 8.8 Vis 45 W.L. 10.5
5% L.C.M.. 1-3/4° at 3676'; 1-3/4° at 3840'; 1-3/4° at 3942'.

4-1/4 hrs - trip
13 hrs - drilling
1-1/4 hrs - survey
3-1/4 hrs - lost circ.
1-3/4 hrs - washing bridges 2856-3942'
1/2 hr - cut drilling

6-19-83 4547' - Drilling Wt. 9.0 Vis 40 W.L. 10.0
3/4° at 4410'.

23 hrs - drilling
1/2 hr - rig service
1/2 hr - survey

6-20-83 5015' - Drilling Wt. 9.0 Vis 41 W.L. 10.0
3/4° at 4648'.

3-1/2 hrs - trip
19 hrs - drilling
1/4 hr - rig service
1 hr - survey
1/4 hr - wash to bottom

6-21-83 5653' - Drilling Wt. 9.1 Vis 42 W.L. 10 ¼° at 5157'

23 hrs - drilling
1/2 hr - rig service
1/2 hr - survey

6-22-83 6068' - Drilling Wt. 9.0 Vis 42 W.L. 5.5 8% L.C.M.
½° at 5620' (Lost 150 bbls. at 5872')

20-3/4 hrs - drilling
1/2 hr - rig service
1/4 hr - survey
1/2 hr - pull 5 stds
1-1/2 hrs - mix mud
1/4 hr - pump L.C.M.
1/4 hr - trip in hole

6-23-83 6249' - Drilling Wt. 9.0 Vis 41 W.L. 10 2% LCM
 3/4° at 6151'

 8-1/2 hrs - trip
 11-1/2 hrs - drilling
 1/2 hr - survey
 1 hr - wash to bottom and fish for cone
 2 hrs - W.O. magnet
 1/2 hr - repairs

6-24-83 6670' - Drilling Wt. 9.0 Vis 39 W.L. 11 1° at
 6619'.

 23-1/4 hrs - drilling
 1/4 hr - rig service
 1/2 hr - survey

6-25-83 6974' - Repairs Wt. 9.1 Vis 44 W.L. 10.5 15% LCM
 1° at 6619'

 15-1/4 hrs - drilling
 1/2 hr - survey
 5-1/4 hrs - lost circ. (lost 300 bbl. at 6916' & 200 bbls. at 6974')
 3 hrs - repairs

6-26-83 7221' - Drilling Wt. 9.0 Vis 41 W.L. 11.0 2% LCM
 1 1/4° at 7129'

 1/4 hr - trip
 13-3/4 hrs - drilling
 1/4 hr - rig service
 1/2 hr - survey
 8-1/4 hrs - rig repair
 3/4 hr - mix mud
 1/4 hr - wash to bottom

6-27-83 7525' - drilling Wt. 9.0 Vis 40 W.L. 10.0 4% LCM
 3/4° at 7421'

 5 hrs - trip
 17-1/4 hrs - drilling
 1/4 hr - rig service
 1/4 hr - survey
 3/4 hr - lost circ. (200 bbls. at 7324')
 1/2 hr - wash to bottom

6-28-83 7895' - Trip Wt. 9.0 Vis 45 W.L. 10.5 Tr. L.C.M.

 23-1/2 hr - drilling
 1/4 hr - rig service
 1/4 hr - survey

6-29-83 8029' - Drilling Wt. 9.0 Vis 60 W.L. 10.0 $\frac{1}{2}^{\circ}$ at 7895'

10-3/4 hrs - trip
11-1/2 hrs - drilling
1 hr - wash to bottom
3/4 hr - cut drilling line

6-30-83 T.D. 8220' - Logging Wt. 9.1 Vis 63 W.L. 10.5

4 hrs - trip
14 hrs - drilling
1/4 hr - rig service
2 hrs - circ.
3-3/4 hrs - logging

7-1-83 T.D. 8250' - Running 4 $\frac{1}{2}$ " casing. Wt. 9.0 Vis 47 W.L. 10.5
 $1\frac{1}{2}^{\circ}$ at 8250'

3-1/2 hrs - trip
5-1/4 hrs - drilling
8 hrs - logging
1/4 hr - wash to bottom
5-1/4 hrs - lay down drill pipe
1-1/2 hrs - circ.
1/4 hr - rig up casing crew

7-2-83 Ran 208 jts. 4 $\frac{1}{2}$ " O.D., 11.6#, N-80, 8 Rd, LT&C casing. T.E. 8239' set at 8248' RKB.

Cemented 1st stage with 10 bbl. mud flush, 315 sx 50-50 poz + 2% gel + 6 $\frac{1}{4}$ # gilsonite + $\frac{1}{4}$ # flocele/sk (mixed 12.9#/gal. - slurry yield 1.4 cf/sk) followed by 125 sx class "B" neat w/ $\frac{1}{4}$ # flocele/sk (mixed 15.6#/gal. - slurry yield 1.18 cf per sk). Total slurry 589 cf. Reciprocated pipe and had good circulation during cementing operations. Bumped plug with 1400 psi. Held OK. P.O.B. at 12:00 noon, 7-1-83. Opened D.V. tool at 5935' with 800 psi. Circulated with rig pumps for 3 hrs.

Cemented 2nd stage with 10 bbls. mud flush, 200 sx 65-35 poz with 12% gel + 6 $\frac{1}{4}$ # gilsonite + $\frac{1}{4}$ # flocele/sk (mixed 11.7#/gal. - slurry yield 2.34 cf/sk) followed by 315 sx 50-50 poz w/ 2% gel + $\frac{1}{4}$ # flocele per sk (mixed at 13.4#/gal. - slurry yield 1.27 cf/sk). Total slurry 868 ft. Had good circulation while cementing. Bumped plug with 2100 psi. Held OK. P.O.B. at 3:45 p.m. 7-1-83. Opened DV tool at 3524' with 800 psi. Circulated with rig pumps for 1 hour.

7-2-83
(cont.) Cemented 3rd stage with 10 bbl. mud flush, 480 sx 65-35 poz + 12% gel & $\frac{1}{4}$ # flocele/sk (mixed at 11.8#/gal. - slurry yield 2.21 cf/sk) followed by 75 sx 50-50 poz with 2% gel + $\frac{1}{4}$ # flocele/sk (mixed at 13.4#/gal. - slurry yield 1.27 cf/sk). Total slurry 1156 cf. Lost circulation one half way thru displacement. Bumped plug with 2500 psi. Held OK. P.O.B. at 6:00 p.m. Nipple down BOP. Set slips. Cut off casing. Rig released at 7:30 p.m. 7-1-83.

DAILY REPORT

7-7-83 Moved in & Rigged up Farmington Well Service unit. Installed BOP. Picked up 3-7/8" bit+sub and ran in 2-3/8" tubing. Cleaned out cement and rubber on D.V. tool at 3524'. Bit plugged while drilling rubber plug. Pulled tubing off bottom and unplugged bit. Shut down for night.

7-8-83 Finish Drilling D.V. tool. G. I. H. to $\pm$ 5900'. Drilling cement and D.V. tool @ $\pm$ 5935'. G. I. H. to 8088'. Clean out to $\pm$ 8152' loggers depth; tubing measurement 8125'. Circulate clean.

7-9-83 Rig up Western Co. Pressure test to 4000 psi; okay. Spot 250 gal. $7\frac{1}{2}$ % H.C.L. P. O. H. Rig up Basin Perforators. Ran GR-CCL with 3.771" O.D. Gauge Ring from PBTD 8152' to 7700', 7100 to 6700', 5850-5100'. Perforate Dakota formation with 3-1/8" gun as follows: 7861, 72, 77, 80 $\frac{1}{2}$, 92, 7905, 14, 37, 60, 66, 72, 74, 76, 80, 82, 84, 90, 8045, 48, 51, 8100, 08, Total 22 holes (0.34"). Break down formation with 2800 psi. Drop 33 RCN ball sealers. Good ball action. Ball off with 4000 psi. Ran 4 $\frac{1}{2}$ " junk basket. Recovered 22 balls (20 hits). Shut down.

7-10-83 Shut down.

7-11-83 Rig up Western Co. Frac Dakota Perfs as follows:

10,000 gal. Mini-max III - 30 + 2% diesel - pad
15,000 gal. Mini-max III - 30 + 2% diesel + 1# ppg 20/40 sand
8,000 gal. Mini-max III - 30 + 2% diesel + 2# ppg 20/40 sand
8,000 gal. Mini-max III - 30 + 2% diesel + 3# ppg 20/40 sand
5,082 gal. H₂O flush
ISDP - 1600 psi
15 min. - 1300 psi
Maximum treating pressure - 4000 psi
Minimum treating pressure - 3000 psi
Average treating pressure - 3200 psi @ 24 bbl/min.

Totals:
54,000 # 20/40 sand; 41,000 gal. Mini-max III-30;
820 gal. Diesel; 41 Gal. Aquaflo.

7-11-83 Rig up Basin Perforators. Set retrievable bridge plug @ 7600'.
(Cont.) Pressure test to 4000 psi - okay. Dump sand on top of bridge plug.
Perforate Gallup formation as follows:
6765, 89, 6801, 08, 25, 36, 39, 47, 53, 61, 67, 73, 82, 84, 97,
6912, 14, 25, 27, 41, 53, 63, 70, 77, 89, 94, 7011, 19, 22, 27,
29, 38, 45, 54, 70. Total 35 holes.(0.34").
Attempt to break down perfs. Taking fluid @ 1800 psi @ 18 bbl./min.
Drop 52 RCN ball sealers. Ball off with 4000 psi. Run 4½" junk
basket. Recovered 5 balls (4 hits).

Frac Gallup as follows:

15,000 gal. J-2 gel water + 25# Aqua seal/1000 - pad
20,000 gal. J-2 gel water + 15# Aqua seal/1000 + 1 ppg 20-40 sand
12,000 gal. J-2 gel water + 10# Aqua seal/1000 + 1½ ppg 20-40 sand
12,000 gal. J-2 gel water + 10# Aqua seal/1000 + 2 ppg 20-40 sand
11,000 gal. J-2 gel water + 10# Aqua seal/1000 + 2½ ppg 20-40 sand
4,404 gal. water flush
ISDP - 800 psi
15 min. - 400 psi
Maximum treating pressure - 3800 psi
Minimum treating pressure - 2550 psi
Average treating pressure - 2900 psi @ 50 bbl./min.

Totals:

89,500# - 20-40 sand; 70,000 gal. 20#/1000 gal. J-2 gelled water;
70 gal. Aquaflo; 1135# Aqua seal; 70# B-5 breaker;

Left well shut in over night.

- 7-12-83 Open well up. Did not flow back. Went in hole with retrieving
head. Tag sand @ 6875'. Clean out 180' sand to 7055'.
Tag sand again @ 7500'. Clean out sand to bridge plug. Unseat
bridge plug. P.O.H. Shut well in.
- 7-13-83 Open well up on vacuum. G.I.H. with tubing. Tag sand ± 8000'.
Clean to PBTD. Circulate clean. Land tubing as follows: 256 jts.
2-3/8" O.D., 4.7#, J-55, 8 Rd, EUE Tubing. T.E. 7994.17' set at
8002' RKB with seating nipple at 7969'. ND BOP. NU Wellhead.
Shut in. Rig down Monument Service Unit.
- 7-14-83 Move in & Rig up Ponderosa Oil Field Service swabbing unit.
Casing pressure 75 psi; tubing pressure 0. Made 32 swab runs.
Swabbed an estimated 180 Bbls. of frac fluid. Fluid level at
beginning of day 1500'. Fluid level at end of day 2200'. Show
of gas and slight show of oil last 15 swab runs. Casing pressure
140 psi at end of day.

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- 7-22-83 MI & RU Ponderosa Oilfield Service swabbing unit. Casing pressure 1100 psi. Tubing pressure zero. Made 16 swab runs to tank. *between well to tank.* Swabbed estimated 75 bbls. frac fluid and 10 bbls. oil. Casing pressure at end of day 1125 psi. Well gassing good last 6 runs. S.D.O.N.
- 7-23-83 Casing pressure 1225 psi. Tubing pressure 300 psi. Opened well to tank. Did not unload. Made 15 swab runs. Fluid level first run 2400'. Well kicked off at 1:25 p.m. when casing pressure built up to 1275 psi. Flowed 2 hrs. and 35 min. Shut well in at 4:00 p.m. Casing pressure 925 psi. Drained all water from tank. Made 38 bbls. oil and estimated 100 bbls. frac fluid.
- 7-24-83 Shut down - Sunday.
- 7-25-83 Casing pressure 1300 psi. Tubing pressure 500 psi. Well would not unload. Fluid level first run 2800'. Made 15 swab runs. Well kicked off at 1:20 p.m. Flowed 1 hr. and 40 min. Released swabbing unit. Casing at 950 psi when rigging down. Well died after one more hour. Casing pressure 1050 psi. Shut well in and equalized casing and tubing pressures.
- 7-27-83 Rigged up Ponderosa swab unit. SICP = 1150 psi and SITP = 1125 psi. Opened tubing to tank and ran in with swab. Fluid level at 2600'. Made 10 swab runs in 2½ hrs., recovering approximately 1 BO and 39 BW. Well kicked off and flowed 15 min. at 10% oil and casing pressure at 1175 psi. Made 10 more swab runs in 3 hrs. with fluid level 2200 to 1500 ft. and casing pressure increasing to 1225 psi. Recovered approximately 65 bbl. gas-cut fluid, averaging 10% oil. Well gassing after each swab run. Shut in for night. Total recovery during day = 16 BO to tank and approx. 175 bbl. water.
- 7-28-83 SITP 180 psi. SICP 1325 psi. Made nine swab runs. Well kicked off flowing gas and oil-cut water (oil cut averaged approx. 10%). Left flowing overnight.
- 7-29-83 Well dead. Tubing pressure = 0, and Casing pressure = 1475 psi. Plan to equalize and try to kick off again Monday. Tank 6'3" Total fluid. (approximately 2' water).
- 7-30 to 8-28-83 Attempting to get well to flow; did not kick off.
- 8-29-83 MI & RU Hinson Service swabbing unit. Casing pressure 1190 psi. Fluid level at 1500' first run. Made 3 swab runs. Well did not kick off, but blows after each run. S.D.O.N.

- 8-30-83 Casing pressure 1220 psi. Tubing pressure TSTM. Fluid level 1650'. Made 11 swab runs, over 99% water after 1st run. Well kicked off and flowed to tank for 1 hr. 15 minutes and died. Made two swab runs. Well flowed 20 minutes, lifting fluid and died. Made 1 swab run. Well flowed 30 minutes. S.D.O.N. Casing pressure 1270 psi. Made total of 12 bbls. oil to tank and estimated 80 bbls. water.
- 8-31-83 Casing pressure 1340 psi. Tubing pressure 50 psi. Blew tubing down. Fluid level first swab run 1500'. Made 8 swab runs. Well kicked off and flowed 45 minutes and died. Made two swab runs and well kicked off. Flowed 30 minutes and died. Made 1 swab run. Well kicked off and flowed 20 minutes and died. Kicked well off with one more swab run. Well died. S.D.O.N. Made estimated 75 bbls. total fluid during day with total of 10 bbls. oil.
- 9-1-83 Rig shut down
- 9-2-83 Casing pressure 1270 psi. Opened well thru prod. unit. Well kicked off and flowed 1½ hrs., making estimated 207 MCFPD and 10 bbls. oil. Well died. Made 5 swab runs. Swabbed 8 bbls. oil and estimated 25 bbls. water. Well kicked off. Released swabbing unit and moved to E.T. #1.
- 9-3-83 Well dead. Had made 37 bbls. oil in undetermined time. Total oil in tank 195 bbls.
- 9-19-83 SITP = 30 psi and SICP = 1280 psi. Tubing bled to zero in one minute. Shut in.