



*Page
Number*

WATERFLOOD STUDY
OF THE
MESA GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO

3-21-89
H-21-89

FOR:

GRAND RESOURCES, INC.

March 21, 1989
(Revised April 21, 1989)



JACK SCHRENKEL & ASSOCIATES, INC.

320 S. BOSTON, SUITE 719 • TULSA, OKLAHOMA 74103-3709

(918) 582-7900/TELEX: 701481 UD

March 22, 1989

(Revised April 21, 1989)

Grand Resources, Inc.
2250 E. 73rd St.
Tulsa, Oklahoma 74136

Gentlemen:

In response to your instructions we have made a study of the Mesa Gallup Field located in San Juan, New Mexico, for the purpose of determining the feasibility of waterflooding this field. As you know the adjacent Horseshoe Gallup and Many Rocks Fields have been successfully waterflooded for many years. The engineering and geologic data available on the Mesa Gallup reservoir and analogies with the Horseshoe Gallup and Many Rocks Fields indicates a high probability of additional oil being recovered from the Mesa Gallup Field by secondary recovery operations. The cumulative production from the Mesa Gallup reservoir, as of December 31, 1988, is 562,200 barrels.

The economic primary oil has been recovered and the field has been marginal for several years. A waterflood program will recover an additional 440,000± barrels of oil with a required investment of \$372,000 and an estimated future profit to unit owners of \$3,094,000. Pertinent information on the Field is summarized in Table 1 and comparative recoveries with the Many Rocks Field and the Navajo F, G, & M leases in the Horseshoe Gallup Field are presented on Table 2.

The reservoir is a northwest southeast trending strike sand which is shown by Map 2 (Gallup Net Pay). The field contains 10,410 oil acre-feet, which it is believed that 8,160 acre-feet may be swept. Initially it is proposed to use the 4 injection wells shown on Map 1. In addition there is a small gas-cap on the northwest tip of the field indicated by the dashed lines. A fault at the east boundary of Tract No. 12 appears to isolate the Dugan Horseshoe No. 2-E in S. 30-T.32N-R.18W from the Mesa Gallup reservoir. This fault is said to be expressed at the surface. The exclusion or inclusion of the Dugan Horseshoe No. 2-E would have only negligible effect on recoveries or equities.

It is proposed that the Morrison Sand water supply well be drilled NE SE S.23-T.32N-R.18W and the injection plant constructed at this point to service the water injection wells. An adequate water supply to produce and inject approximately 1,000 barrels of water per day may be developed in the Morrison water sands at depths 2500-3000

feet at the injection plant location. The Morrison is a blanket water sand and study of wells in the area indicates a depth of less than 3000 feet should be adequate to develop a satisfactory water supply.

Many of the oil wells drilled in Sections 14, 23, 24 and 25 have been cored by the operators who originally drilled the wells and are those properties owned by Grand Resources, et al. Details of wells in the general vicinity are shown by Appendix 2. In addition Appendix 1 lists the complete production history of properties in this reservoir.

To effectively waterflood the field, it should be unitized to include the 6 wells operated by Ari-Mex Exploration in Sections 10 and 15. Ari-Mex has expressed their desire to join in an unitized effort to waterflood. The proposed unit boundary and the tracts are shown by Map 1. The legal description, by tract, gross acre-feet, net floodable acre-feet, number of wells, cumulative oil (in thousands of barrels), and tract participation factors are shown on Table 3. These values are summed by operator. All of the mineral interests are owned by the Navajo Nation with this area being productive since August 24, 1961.

The field is at its economic limit. December production was 360 barrels for the field, which is an average of 18 barrels per well per month or approximately 1/2 barrel per day. From this it is obvious the field is at its economic limit. For this reason no primary participation factors or values were assigned.

It is our recommendation that the secondary participation be weighted 60 percent net floodable acre-feet, 10 percent well count, and 30 percent cumulative oil production as of December 31, 1988. In our opinion this results in a equitable distribution of future oil to each unit owner in proportion to the actual value they bring to the unit. Based on the foregoing the recommended working interest participation factors are as follows:

Ari-Mex Exploration
21st Century Investment Co.
Jack Schrenkel
Grand Resources

~~44.269258~~ 15.42615
~~57.868258~~ 57.08734
~~21.432698~~ 21.14346
~~6.429818~~ 6.34305

TOTAL

100.00000%

Grand Resources, Inc.

March 22, 1989
(Revised April 21, 1989)

In addition to Table 4 showing the economics of water injection for the Unit owners, Table 5 sets out the future revenue to the Navajo Nation from this proposed Unit operation.

It is our recommendation that we proceed with this unitization effort and secondary recovery project in a diligent manner. This is one of those happy projects where everyone will benefit.

Yours very truly,

Jack Schrenkel & Associates, Inc.

Jack Schrenkel & Associates, Inc.

JS:sl

TABLE OF CONTENTS

TABLES

Pertinent Data.....	1
Comparative Recoveries & Reservoir Characteristics for adjacent Gallup Fields.....	2
Recommended Tract Participation factors	3
Projected Economics of Water Injection for the Unit.....	4
Projected Economics of Water Injection for the Navajo Mineral Interest.....	5

FIGURES

Past Performance & Predicted Future Performance Under Water Injection for the Mesa Gallup Field.....	1
Typical Log showing Gallup Sand to be Flooded.....	2
Time Stratigraphic Nomenclature Chart for the San Juan Basin.....	3

MAPS

Proposed Unit & Tract.....	1
Gallup Net Pay.....	2
Gallup Cumulative Oil.....	3
Gallup Average Flow Capacity C.I. = 100 md-ft.....	4
Top of Gallup Sand.....	5

APPENDIX 1

Mesa Gallup Field Total (Excluding Dugan Prod. Horseshoe #2-E)
Grand Resources - Navajo "C" 1 - 6
Grand Resources - Aztec Navajo A4 & 5
Grand Resources - Navajo #3 - 12
Ari-Mex Explor. - 6 Navajo Leases
Dugan Prod. - Horseshoe #2E

APPENDIX 2

Well Data

TABLE 1

PERTINENT DATA

Name of Field	Mesa Gallup
Location	T.32N, R.18W NMPM San Juan County, New Mexico
Discovery Well	Amalgamated Petroleum No. 3 Navajo
Date of Discovery	August 24, 1961
Producing Reservoir	Gallup Sandstone
Depth	1100-1500 feet
Current Producing Rate (December 1988)	360 BOPM
Producing Wells	20 (19 oil, 1 SI gas well)
Surface area - Productive	940 acres
Volume of the reservoir	10410 acre-feet
Average pay thickness	11.2 feet
Porosity	13.1 percent
Permeability, average	70 md
Connate Water Saturation	31 percent
Oil gravity	40° API
Oil viscosity @ 94°F	7 cp (est)
Initial solution gas-oil ratio	60± cu. ft. per bbl.
Oil volume factor	1.035 RB/STB
Initial bottom hole pressure	240 psig (?)
Reservoir Temperature	94°F (?)
Primary reserves	562,200 barrels
Oil-in-place per acre-foot original	668 barrels
Cumulative field production, as of December 31, 1988	574,500 barrels
Remaining primary reserves	0 barrels
Waterflood reserves	440,000 barrels
Water source	Morrison Water Sands (2500-3000 feet)
Required investment (water supply well & plant injection system, convert 3 wells to water injection)	\$372,000
Estimated Future Profit (Undiscounted)	\$3,094,000

TABLE 2

COMPARATIVE RECOVERIES
AND RESERVOIR CHARACTERISTICS
FOR ADJACENT GALLUP FIELDS

	Navajo F, G, & M Lease (1) (Horseshoe Gallup Fld)	Many Rocks Fld (2)	Mesa Gallup (12/31/88)
Number of Wells	54	18	21
Average Porosity, %	16.2	14.2	13.1
Permeability, md	90	145	70
Connate Water Saturation, %	34	30	31
Oil Volume Factor	1.03	1.03	1.035
Acres Productive	2445	968	940
Sand Vol., AF	27559	6395	10410
Floodable Acre Feet	?	?	8160
Net Pay Thickness	11.3	6.6	11.2
Oil-In-Place, MSTB	22328	4808	7133
Cumulative Oil, MSTB	4265	801	562.5
	(7-1-80)	(7-1-80)	(12-31-88)
Recovery, %	19	16.7	8.3
	(7-1-80)	(7-1-80)	(12-31-88)
Oil-In-Place STB/AF	810	751	678
Produced Water/Oil Ratio	25	23	0
Remaining Reserve, MSTB	394	100	440
	(7-1-80)	(7-1-80)	(4-1-89)
Ultimate Production, MSTB	4659	811	1014.5
Ultimate Recovery, %	20.9	16.9	14.2

(1) Disc. late 1956
Wtr Inj started three
leases, Oct. 1960

(2) Disc. Nov. 1962
Wtr. Inj. started
1963

** TRACT LEGAL DESCRIPTION AND CURRENT OPERATOR **

TRACT NO	DESCRIPTION	OPERATOR
1	SE/4 S10 - N/2 N/2 + E/2 NE/4 S15	ARI-MEX EXPLORATION
2	W/2 NE/4 + SE/4	ARI-MEX EXPLORATION
3	W/2 + N/2 NE/4 + N/2 SE/4 S14	GRAND RESOURCES
4	N/2 SE S14	GRAND RESOURCES
5	S/2 SW/4 S13	GRAND RESOURCES
6	W/2 + S/2 NE/4 + S/2 SE/4 S23	GRAND RESOURCES
7	N/2 NE/4 S23	GRAND RESOURCES
8	N/2 SE/4 S23	GRAND RESOURCES
9	E/2 + N/2 NW + N/2 SW/4 S24	GRAND RESOURCES
10	S/2 NW/4 S24	GRAND RESOURCES
11	S/2 SW/4 S24	GRAND RESOURCES
12	N/2 S25	GRAND RESOURCES

** MESA GALLUP WATER FLOOD PARAMETERS (12/88, JSA) **

TRACT NO	ACRES	GROSS-AF	NET-AF	NO WELLS	CUM OIL
1	200	740	735	4	80.88
2	240	355	135	2	10.42
3	480	3313	2800	3	97.76
4	80	167	100	1	3.70
5	80	155	40	0	0.00
6	480	489	330	1	47.34
7	80	810	760	2	88.16
8	80	60	30	0	0.00
9	480	1701	1120	2	68.53
10	80	565	430	2	72.81
11	80	835	790	1	56.92
12	320	1220	890	2	35.65
	2680	10410	8160	20	562.17

*Have been revised
See Exhibit 1-A
in back of Rpt*

TABLE 3
RECOMMENDED TRACT
PARTICIPATION FACTORS

** INTEREST IN EXPENSE (WORKING INTEREST) BY TRACTS ** 60% NET_AF, 10% WELL, 30% CUM OIL **

TRACT NO. TRACT FACTOR	ARI-MEX EXPLORATION	21th CENTURY INVESTMENT C	JACK SCHRENKEL	GRAND RSC. INCORPORATED	NAVAJO NATION	TEXACO
1 .1172054	.1172054	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
2 .0254871	.0254871	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
3 .2730516	0.0000000	.1843098	.0682629	.0204789	0.0000000	0.0000000
4 .0143274	0.0000000	.0096710	.0035819	.0010746	0.0000000	0.0000000
5 .0029412	0.0000000	.0019853	.0007353	.0002206	0.0000000	0.0000000
6 .0545275	0.0000000	.0368061	.0136319	.0040896	0.0000000	0.0000000
7 .1129286	0.0000000	.0762268	.0282322	.0084696	0.0000000	0.0000000
8 .0022059	0.0000000	.0014890	.0005515	.0001654	0.0000000	0.0000000
9 .1289237	0.0000000	.0870235	.0322309	.0096693	0.0000000	0.0000000
10 .0804724	0.0000000	.0543189	.0201181	.0060354	0.0000000	0.0000000
11 .0934634	0.0000000	.0630878	.0233658	.0070098	0.0000000	0.0000000
12 .0944657	0.0000000	.0637643	.0236164	.0070849	0.0000000	0.0000000
1.0000000	.1426925	.5786825	.2143269	.06422981	0.0000000	0.0000000

** INTEREST IN NET REVENUE BY TRACTS **

TRACT NO. TRACT FACTOR	ARI-MEX EXPLORATION	21th CENTURY INVESTMENT C	JACK SCHRENKEL	GRAND RSC. INCORPORATED	NAVAJO NATION	TEXACO
1 .1172054	.1025548	0.0000000	0.0000000	0.0000000	.0146507	0.0000000
2 .0254871	.0223012	0.0000000	0.0000000	0.0000000	.0031859	0.0000000
3 .2730516	0.0000000	.1612711	.0597300	.0179190	.0341315	0.0000000
4 .0143274	0.0000000	.0084621	.0031342	.0009403	.0017909	0.0000000
5 .0029412	0.0000000	.0017371	.0006434	.0001930	.0003677	0.0000000
6 .0545275	0.0000000	.0322053	.0119279	.0035784	.0068159	0.0000000
7 .1129286	0.0000000	.0666985	.0247032	.0074109	.0141161	0.0000000
8 .0022059	0.0000000	.0013029	.0004826	.0001447	.0002757	0.0000000
9 .1289237	0.0000000	.0761456	.0282020	.0084606	.0161155	0.0000000
10 .0804724	0.0000000	.0475290	.0176033	.0052810	.0100591	0.0000000
11 .0934634	0.0000000	.0552018	.0204451	.0061336	.0116829	0.0000000
12 .0944657	0.0000000	.0540502	.0200186	.0060056	.0118082	.0025830
1.0000000	.1248560	.5046036	.1868903	.0560671	.1250000	.0025830

TABLE 3 (Continued)

MESA GALLUP FLD AS OF APRIL 1, 1989 UNESCO COSTS

PROPOSED UNIT MESA GALLUP FLD
 GRAND RESOURCES INC. GALLUP SANDSTONE
 ** CASE ** \$15/B
 SAN JUAN COUNTY NEW MEXICO
 LEASE NO : #1 API NO. -

* RESERVE ESTIMATES AND PREDICTED CASH FLOW * BEFORE FEDERAL INCOME TAX *

CUMULATIVE:	OIL = 0 BBL,	GAS = 0 MCF	***	ULTIMATE:	OIL = 440000 BBL,	GAS = 0 MCF	***	FUTURE NET INCOME =	\$2,178,826			
FIRST PERIOD STARTS 04-1-1989												
PERIOD ENDING	12-31-1989	12-31-1990	12-31-1991	12-31-1992	12-31-1993	12-31-1994	12-31-1995	12-31-1996	12-31-1997	12-31-1998	12-31-1998+	TOTAL OF 10.68 YRS
GROSS VALUES												
OIL/COND	4005	50345	65110	61240	57406	49025	41626	35344	30010	25481	20408	440000
GAS												
GOR												
OPERATING COST	144000	216000	264000	264000	264000	264000	264000	264000	264000	264000	247825	2719825
OIL PRICES	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	
GAS PRICES												
INTANGIBLE INVES	73000	129000										202000
CAPITAL INVES	119000	51000										170000
TAXES												
OIL SEVERENCE	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	
GAS SEVERENCE												
WINDFALL PROFIT												
NET VALUES												
OIL/COND	3504	44052	56971	53585	50230	42897	36423	30926	26259	22296	17857	385000
GAS												
OIL/COND	47970	603072	779933	733579	687649	587260	498631	423377	359486	305232	244462	5270651
GAS												
REVENUE TO NI	47970	603072	779933	733579	687649	587260	498631	423377	359486	305232	244462	5270651
INTANGIBLE INVES	73000	129000										202000
CAPITAL INVES	119000	51000										170000
OPERATING COST	144000	216000	264000	264000	264000	264000	264000	264000	264000	264000	247825	2719825
NET INCOME												
NET INCOME	\$ -288030	\$ 207072	\$ 515933	\$ 469579	\$ 423649	\$ 323260	\$ 234631	\$ 159377	\$ 95486	\$ 41232	\$ -3363	\$ 2178826
CUMULATIVE INCOME	\$ -288030	\$ -80958	\$ 434975	\$ 904554	\$ 1328203	\$ 1651463	\$ 1886094	\$ 2045471	\$ 2140957	\$ 2182189	\$ -3363	\$ 2178826
CUM. P WORTH @ 10.00 %	\$ -284587	\$ -98590	\$ 322704	\$ 671289	\$ 957188	\$ 1155508	\$ 1286368	\$ 1367176	\$ 1411188	\$ 1428466	\$ -1281	\$ 1427185
P WORTH @ 15.00%	1176376	P WORTH @ 20.00%	978718	P WORTH @ 25.00%	820400	P WORTH @ 30.00%	691751	P WORTH @ 40.00%	497673			

REMARKS/BASIS OF RESERVE ESTIMATES..... STARTING PRICES & COSTS PROJECTIONS.....

Gas: 0 \$/M MESA CAT: 101
 Oil: 15 \$/B IRS TIER: 3
 Operating Cost: 22000 \$/M

INITIAL RATE IS = 450 B/M
 (1)CRP @ 450.0 B/M TO 1.0 YRS
 (2)CRP @ 5500.0 B/M TO 3.0 YRS
 (3)CRP @ 5400.0 B/M TO 3.0 YRS
 (4)CRP @ 5000.0 B/M TO 4.0 YRS
 (5)CPD @ 15.1 %/YR TO ELC AT 440.0 MB

PROJECTED ECONOMICS OF
 WATER INJECTION FOR UNIT

DRL/E2P USW78 M\$ TANGIBLE;53 M\$ INTANGIBLE; @ .42 YRS

CONV 3 INJ41 M\$ TANGIBLE;20 M\$ INTANGIBLE; @ .42 YRS

MESA GALLUP FLD

AS OF APRIL 1, 1989

MINERAL INT

PROPOSED UNIT
GRAND RESOURCES INC.
** CASE **
SAN JUAN COUNTY
LEASE NO: #1

MESA GALLUP FLD
GALLUP SANDSTONE
\$15/B
NEW MEXICO
API NO. -

NI 12.5 Z
LIMIT
LIMIT
LIMIT
LIMIT

* RESERVE ESTIMATES AND PREDICTED CASH FLOW * BEFORE FEDERAL INCOME TAX *

CUMULATIVE:	OIL = 0 BBL,	GAS = 0 MCF	***	ULTIMATE:	OIL = 440000 BBL,	GAS = 0 MCF	***	FUTURE NET INCOME =	\$794,197
FIRST PERIOD STARTS	04-1-1989								

PERIOD ENDING	12-31-1989	12-31-1990	12-31-1991	12-31-1992	12-31-1993	12-31-1994	12-31-1995	12-31-1996	12-31-1997	12-31-1998	12-31-1998+	TOTAL OF
GROSS VALUES												10.68 YRS
OIL/COND	4005	50345	65110	61240	57406	49025	41626	35344	30010	25481	20408	440000
GAS												
GOR												
OPERATING COST	144000	216000	264000	264000	264000	264000	264000	264000	264000	264000	247821	2719821
OIL PRICES	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
GAS PRICES												
INTANGIBLE INVES	73000	129000										202000
CAPITAL INVES	119000	51000										170000
TAXES												
OIL SEVERENCE	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
GAS SEVERENCE												
WINDFALL PROFIT												
NET VALUES												
OIL/COND	501	6293	8139	7655	7176	6128	5203	4418	3751	3185	2551	55000
GAS												
OIL/COND	7234	90871	117527	110538	103621	88488	75131	63796	54164	45991	36836	794197
GAS												
REVENUE TO NI	7234	90871	117527	110538	103621	88488	75131	63796	54164	45991	36836	794197
INTANGIBLE INVES												
CAPITAL INVES												
OPERATING COST												

NET INCOME	\$	7234	90871	117527	110538	103621	88488	75131	63796	54164	45991	36836	794197
CUMULATIVE INCOME	\$	7234	98105	215632	326170	429791	518279	593410	657206	711370	757361	36836	794197
CUM. P WORTH @ 10.00 %	\$	7148	88770	184739	266795	336724	391011	432913	465260	490225	509497	14032	523529
P WORTH @ 15.00%		439569		375758		326158		286831		P WORTH @ 40.00%		229078	

REMARKS/BASIS OF RESERVE ESTIMATES..... STARTING PRICES & COSTS PROJECTIONS.....

TABLE 5

Gas: 0 \$/M NGPA CAT: 101
Oil: 15 \$/B IRS TIER: 3
Operating Cost: 22000 \$/M

INITIAL RATE IS = 450 B/M
(1)CRP @ 450.0 B/M TO 1.0 YRS
(2)CRP @ 5300.0 B/M TO 2.0 YRS
(3)CRP @ 5400.0 B/M TO 3.0 YRS
(4)CRP @ 5000.0 B/M TO 4.0 YRS
(5)CRP @ 15.1 %/YR TO 1676.2 B/M AT 440.0 MB

PROJECTED ECONOMICS OF WATER
INJECTION FOR NAVAJO NATION
MINERAL INTEREST

DRL/EGP 4SW ...78 M\$ TANGIBLE; ...53 M\$ INTANGIBLE; @ .42 YRS

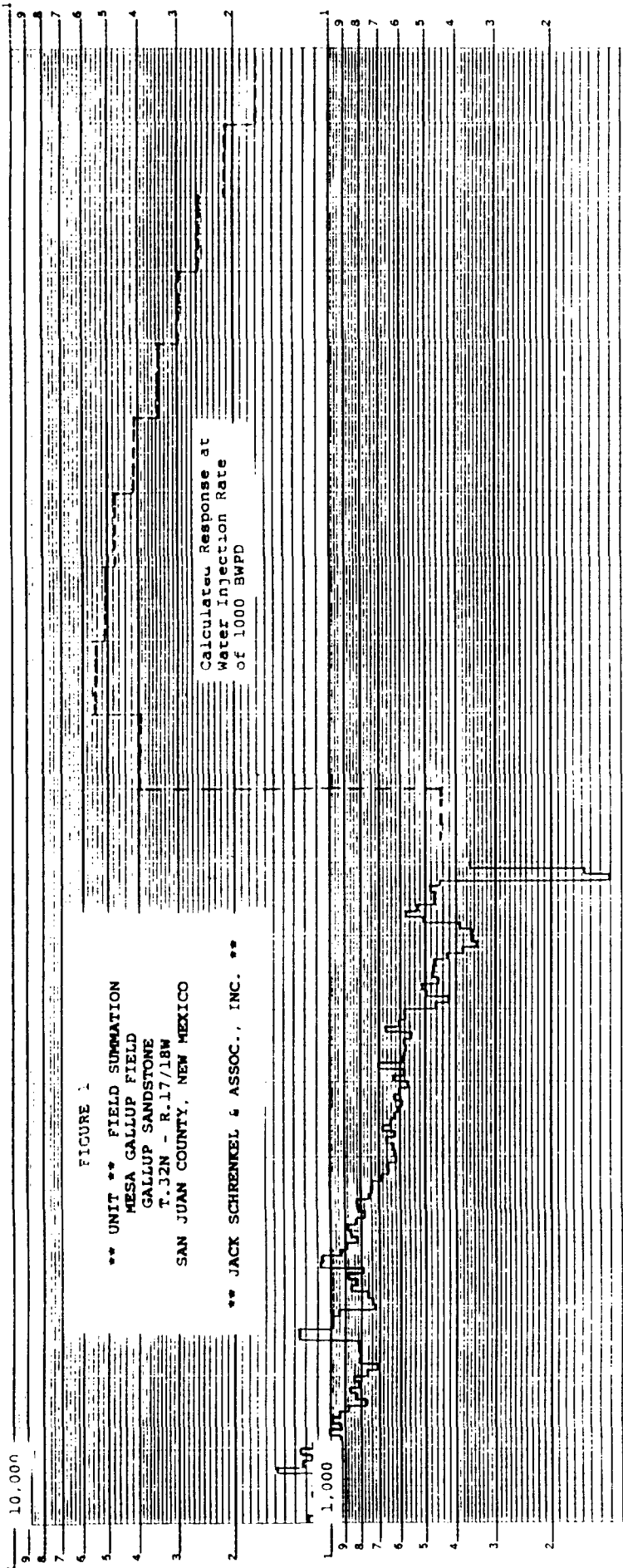
CONV 3 INJ41 M\$ TANGIBLE; ...20 M\$ INTANGIBLE; @ .42 YRS

#1

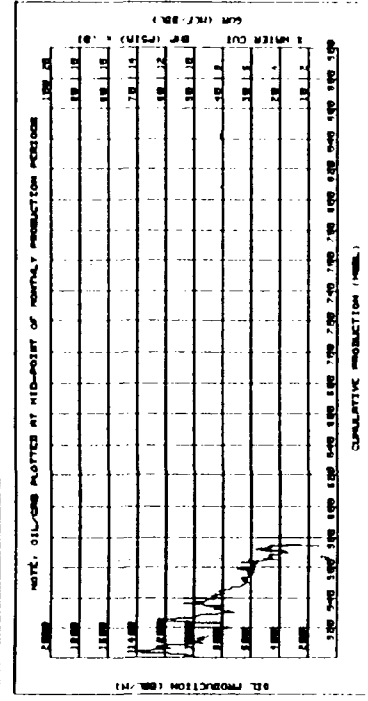
PROPOSED UNIT

1000000 PDP 1000000

PAGE 3



** UNIT ** FIELD SUMMATION
 MESA GALLUP FIELD
 GALLUP SANDSTONE
 T.32N - R.17/18W
 SAN JUAN COUNTY, NEW MEXICO
 ** JACK SCHRENKEL & ASSOC., INC. **



INVESTMENT ITEMS	TIME
Drill 3 wells	6-90
Drill & equip. 1 WSW	9-89
Convert 3 inj. wells #1-H NE of Sec. 15 #11-a NE SW Sec. 15 #3-N SE SW Sec. 24	9-29

FIGURE 2

TYPICAL LOG

SCHLUMBERGER WELL SURVEYING CORPORATION																																															
COMBINATION INDUCTION-GAMMA RAY LOG																																															
COUNTY <u>SAN JUAN, N.M.</u>	Location of Well																																														
FIELD <u>UNDESIGNATED GALLUP</u>																																															
WELL <u>NAVAJO TRIBAL C. #1</u>	660' FWL 2310' FS'																																														
COMPANY <u>TEXAS PACIFIC COAL & OIL COMPANY</u>																																															
FIELD <u>UNDESIGNATED GALLUP</u>	SEC. 24-32N-18W																																														
LOCATION <u>SEC. 24-32N-18W</u>																																															
COUNTY <u>SAN JUAN</u>	Elevation, D.P. <u>5436'</u> K.O. <u>---</u> or O.L. <u>5432'</u>																																														
STATE <u>NEW MEXICO</u>	FILING No. <u>---</u>																																														
<table border="1"> <tr> <td>RUN No.</td> <td>ONE</td> </tr> <tr> <td>Date</td> <td>3-4-62</td> </tr> <tr> <td>First Reading</td> <td>1291</td> </tr> <tr> <td>Last Reading</td> <td>100</td> </tr> <tr> <td>Fast Measured</td> <td>1191</td> </tr> <tr> <td>Csg. Driller</td> <td>---</td> </tr> <tr> <td>Depth Reached</td> <td>1295</td> </tr> <tr> <td>Bottom Driller</td> <td>1295</td> </tr> <tr> <td>Depth Datum</td> <td>DF</td> </tr> <tr> <td>Mud Nat.</td> <td>OIL</td> </tr> <tr> <td>Viscosity</td> <td>---</td> </tr> <tr> <td>Resist.</td> <td>---</td> </tr> <tr> <td>Res. BHT</td> <td>---</td> </tr> <tr> <td>pH</td> <td>---</td> </tr> <tr> <td>Wtr. Loss</td> <td>CC 30 min. CC 30 min.</td> </tr> <tr> <td>Max. Temp. °F</td> <td>---</td> </tr> <tr> <td>Bit Size</td> <td>6 1/4"</td> </tr> <tr> <td>SPCGS</td> <td>---</td> </tr> <tr> <td>IND.</td> <td>5FF27</td> </tr> <tr> <td>Opr. Rig Time</td> <td>1 HOUR</td> </tr> <tr> <td>Truck No.</td> <td>2516FARM</td> </tr> <tr> <td>Recorded By</td> <td>DILLI</td> </tr> <tr> <td>Witness</td> <td>MR. FEFMSTER</td> </tr> </table>		RUN No.	ONE	Date	3-4-62	First Reading	1291	Last Reading	100	Fast Measured	1191	Csg. Driller	---	Depth Reached	1295	Bottom Driller	1295	Depth Datum	DF	Mud Nat.	OIL	Viscosity	---	Resist.	---	Res. BHT	---	pH	---	Wtr. Loss	CC 30 min. CC 30 min.	Max. Temp. °F	---	Bit Size	6 1/4"	SPCGS	---	IND.	5FF27	Opr. Rig Time	1 HOUR	Truck No.	2516FARM	Recorded By	DILLI	Witness	MR. FEFMSTER
RUN No.	ONE																																														
Date	3-4-62																																														
First Reading	1291																																														
Last Reading	100																																														
Fast Measured	1191																																														
Csg. Driller	---																																														
Depth Reached	1295																																														
Bottom Driller	1295																																														
Depth Datum	DF																																														
Mud Nat.	OIL																																														
Viscosity	---																																														
Resist.	---																																														
Res. BHT	---																																														
pH	---																																														
Wtr. Loss	CC 30 min. CC 30 min.																																														
Max. Temp. °F	---																																														
Bit Size	6 1/4"																																														
SPCGS	---																																														
IND.	5FF27																																														
Opr. Rig Time	1 HOUR																																														
Truck No.	2516FARM																																														
Recorded By	DILLI																																														
Witness	MR. FEFMSTER																																														

REMARKS

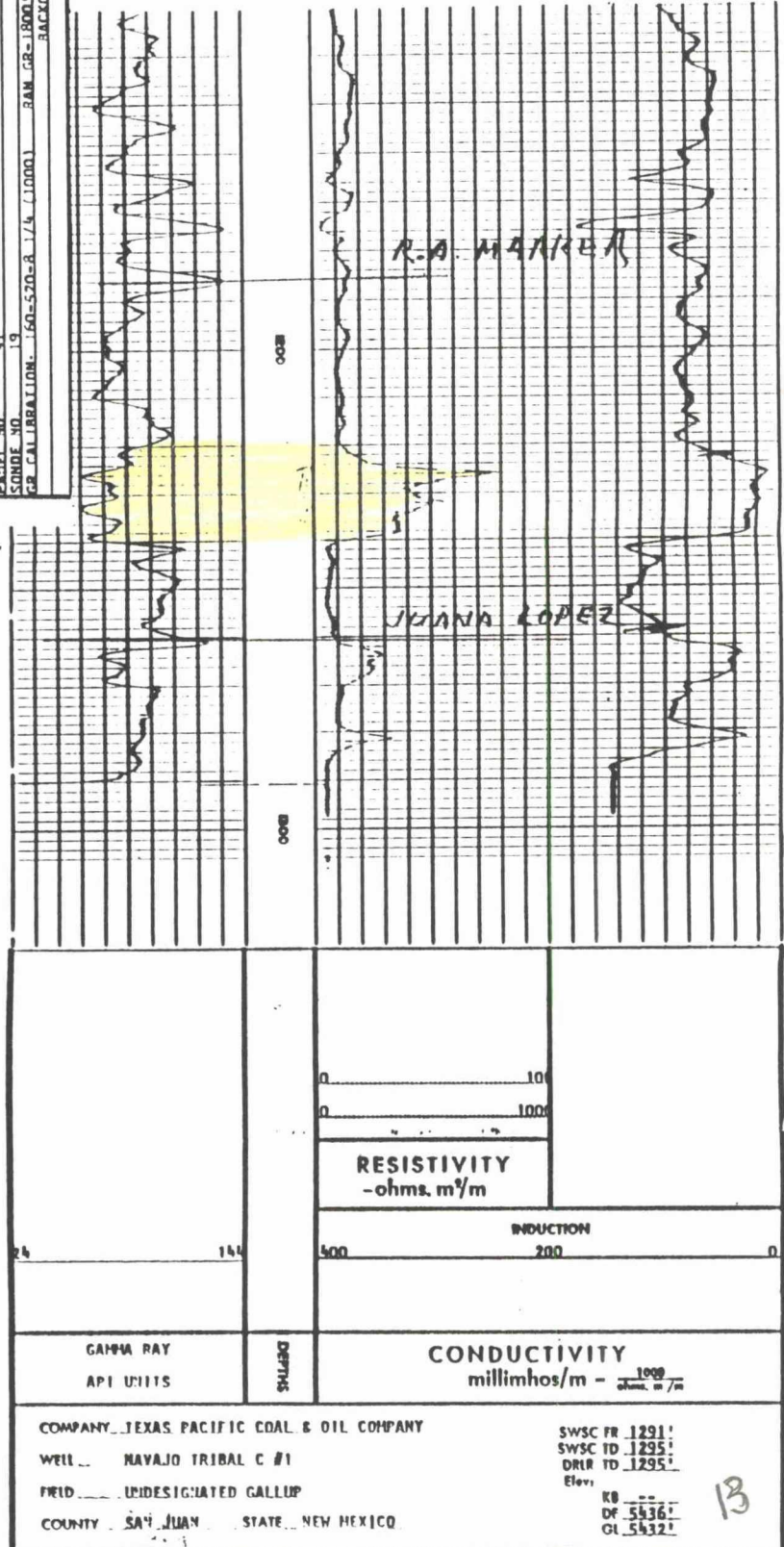
CARTRIDGE NO. 177

PACEL NO. 41

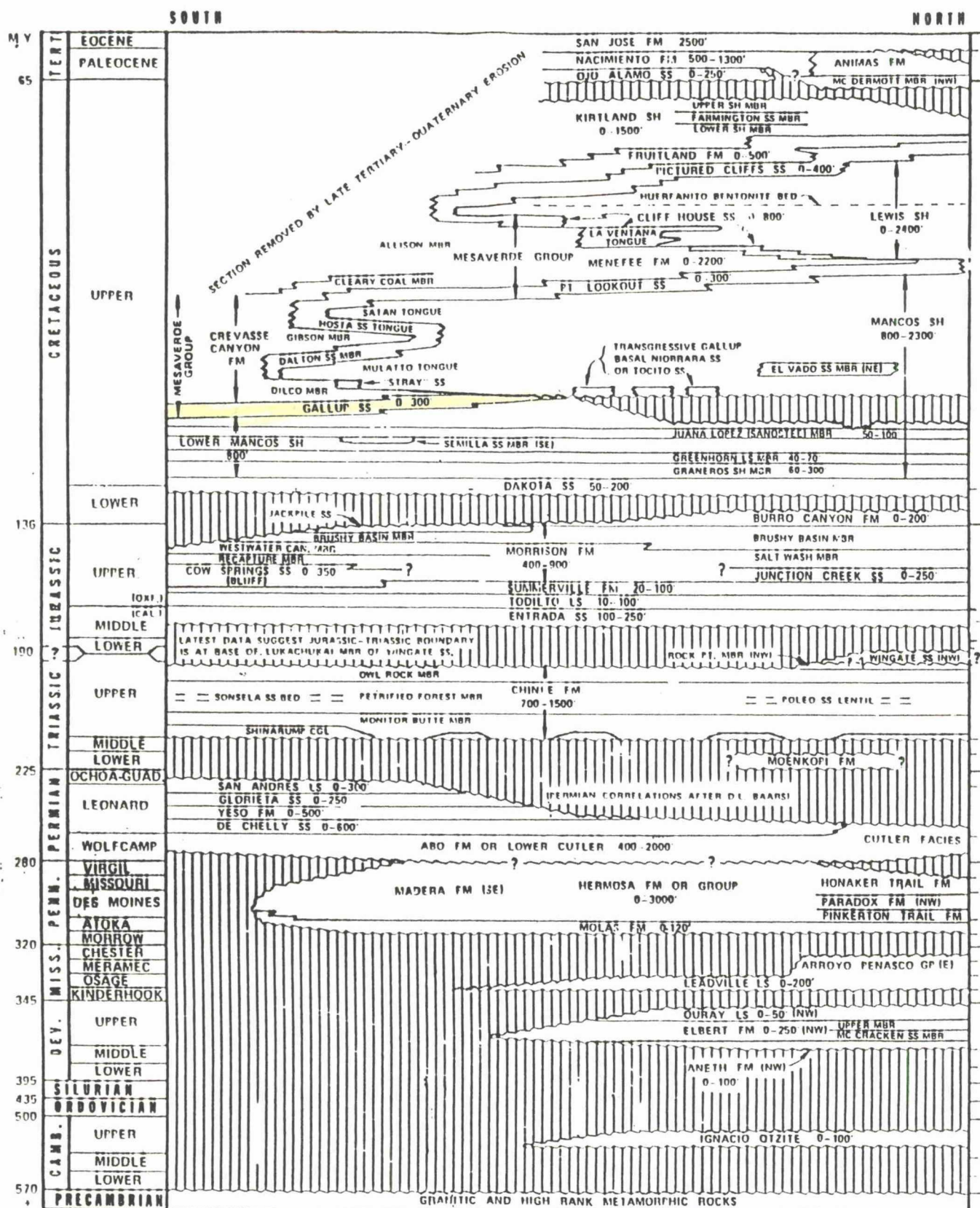
SONDE NO. 19

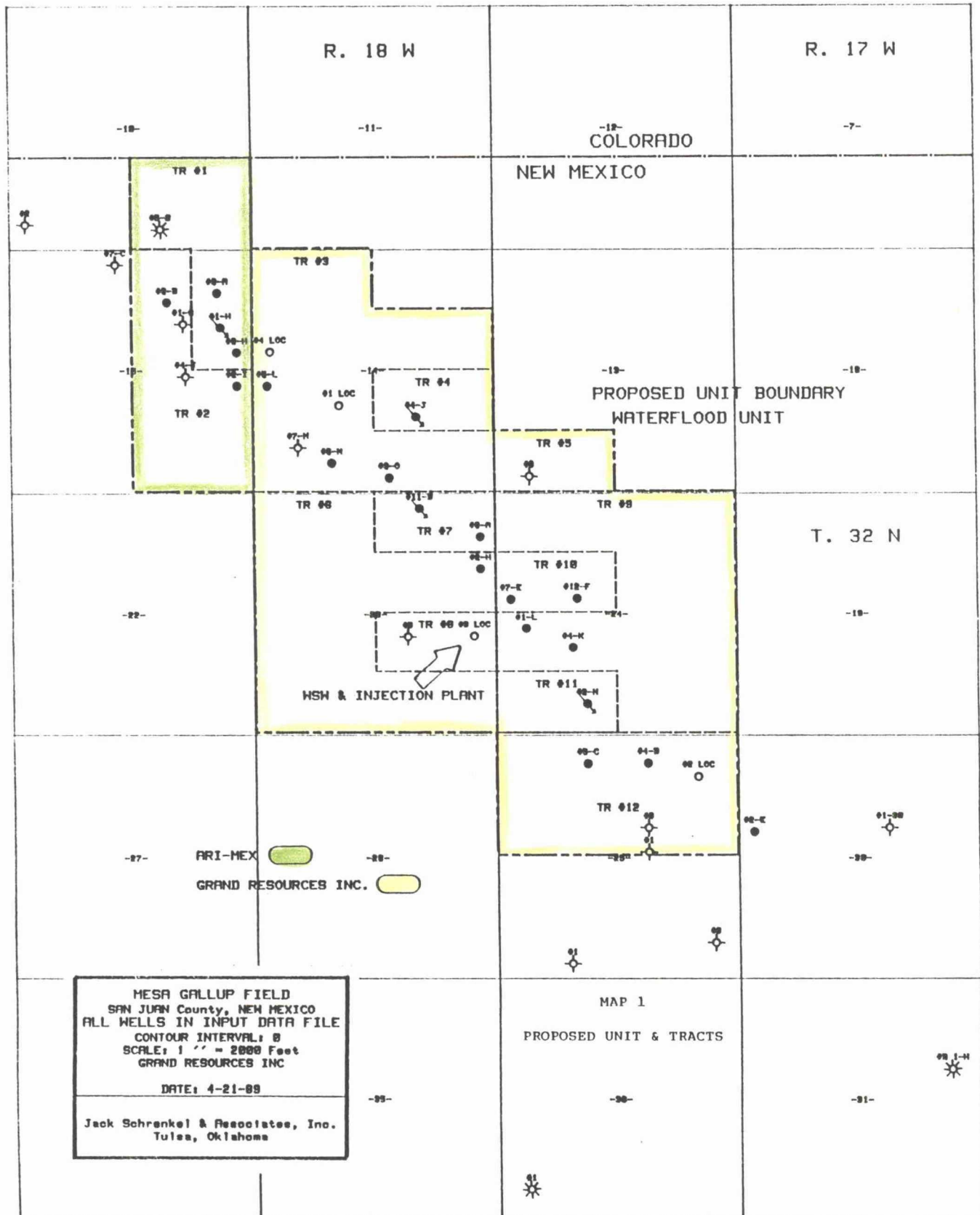
GR CALIBRATION: 160-520-8 1/4 (1000) RAM GR-1800' PER HOUR IC 7 SENS. 600 BACKOFF 2 DIVISIONS

Gallup Sand to be
flooded



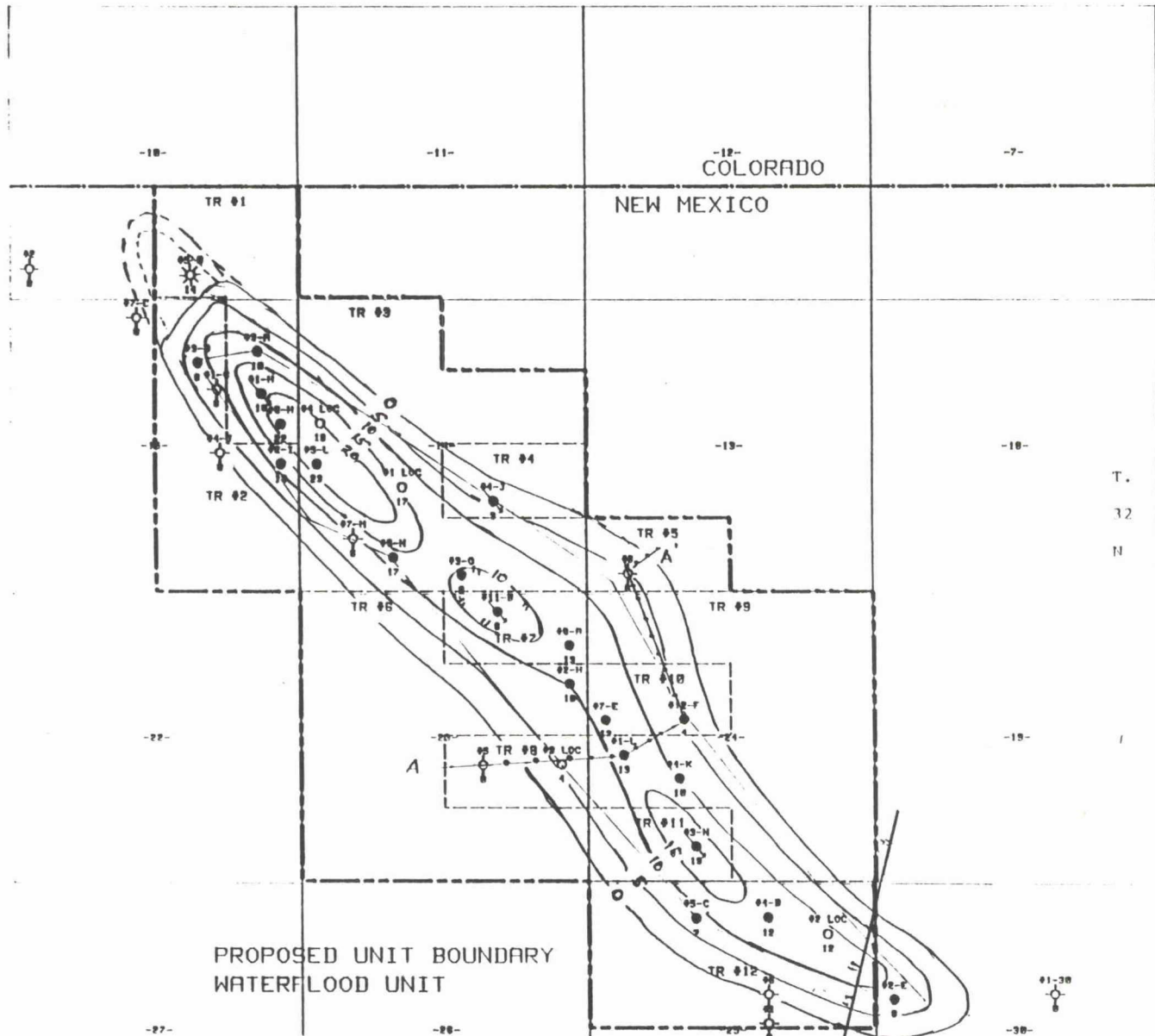
TIME-STRATIGRAPHIC NOMENCLATURE CHART (SAN JUAN BASIN)



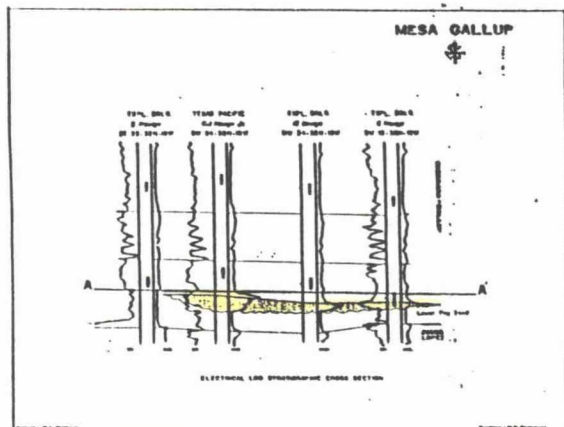


R. 18 W

R. 17 W



PROPOSED UNIT BOUNDARY
WATERFLOOD UNIT



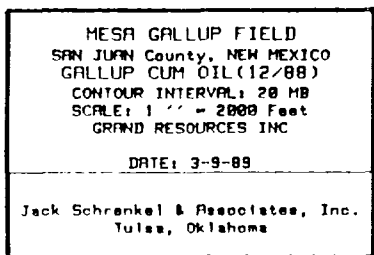
MAP 2

MESA GALLUP FIELD
SAN JUAN County, NEW MEXICO
GALLUP NET PAY
CONTOUR INTERVAL: 5 Feet
SCALE: 1" = 2000 Feet
GRAND RESOURCES INC

DATE: 3-9-89

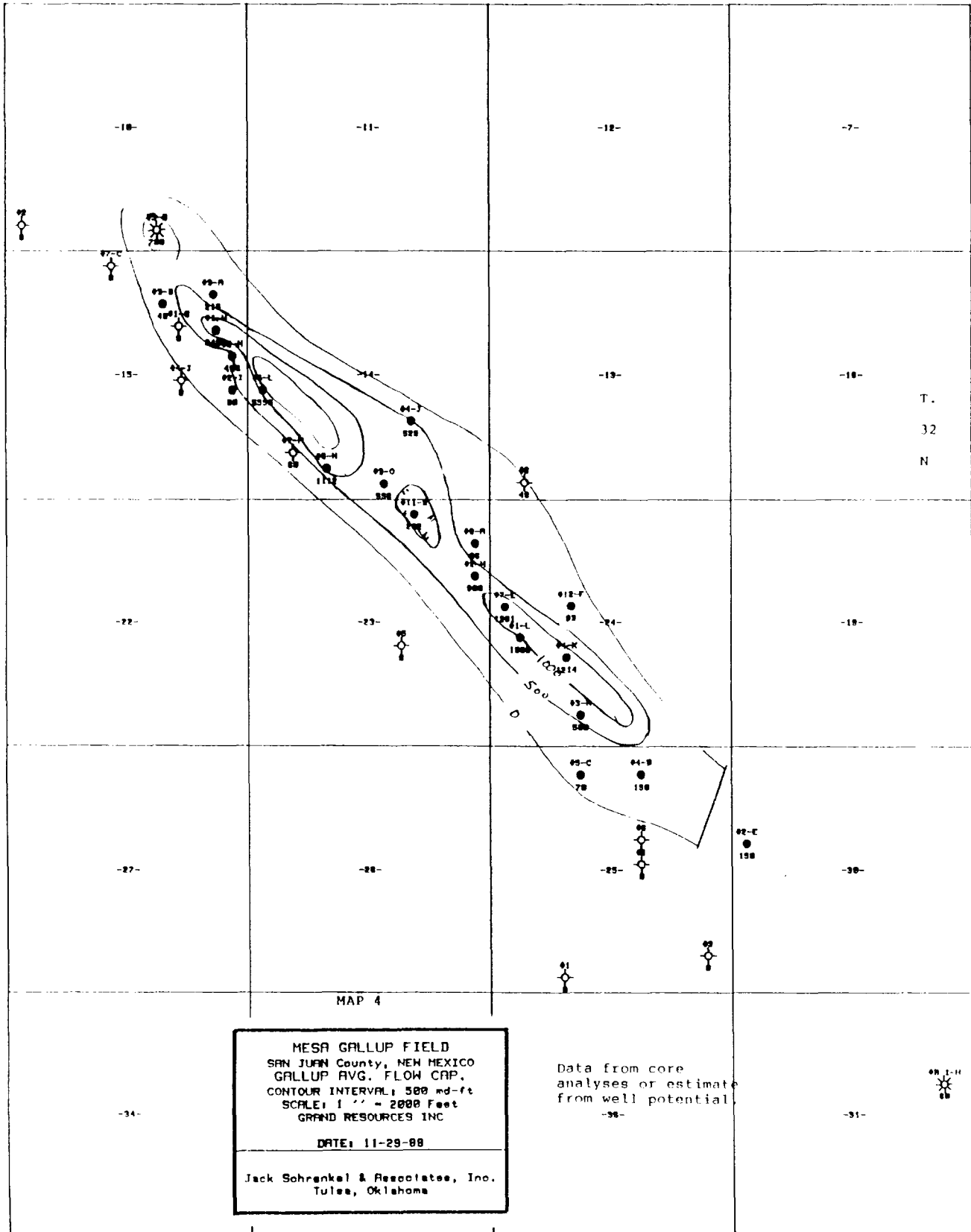
Jack Schrenkel & Associates, Inc.
Tulsa, Oklahoma

R. 17 W



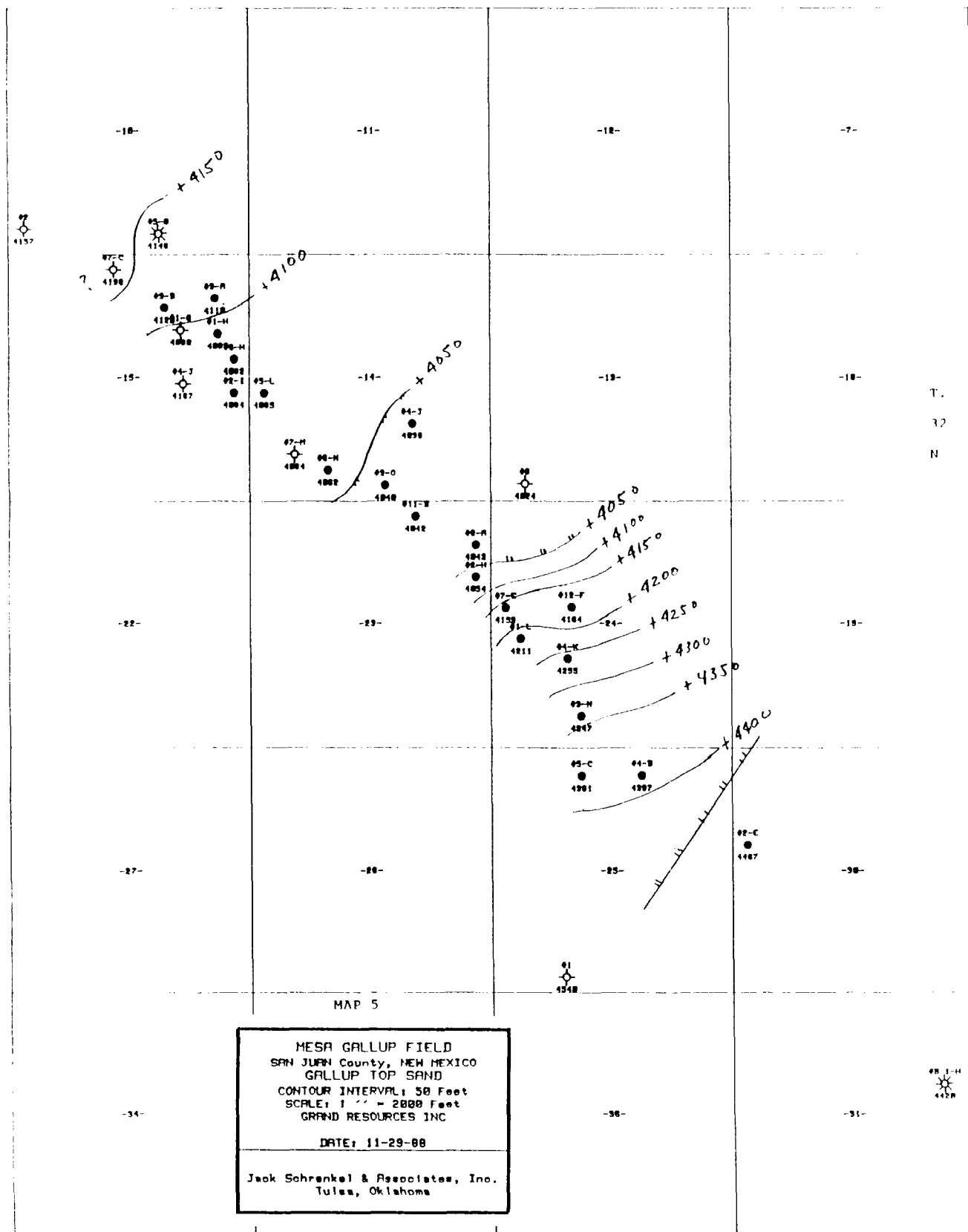
R. 18 W

T. 17 W



R. 18 W

T. 17 W



A P P E N D I X 1

PRODUCTION DATA
BY LEASE

of 4 leases through 12-88

in the MESA GALLUP Field, GALLUP Formation(s)

T.32N-R.17/18W: SAN JUAN, NM

NUMBER	WELL NAME	OPERATOR	FIRST/ LAST DATE	----- PRODUCTION DATA -----		
				- CUM / LAST RATE /-	*- % OF TOTAL FIELD -*	
				OIL (MBBL) (BBL)	GAS (MMCF) (MCF)	WATER (MBBL) (BBL)
40	6 NAVAJO LSES	ARI-MEX	6-73 12-88	90.0 48 13.6	0.0 0 0.0	0.0 0 0.0
27	NAVAJO C 1 - 6	GRAND RES. INC.	6-73 12-88	212.7 116 33.0	0.0 0 0.0	0.0 0 0.0
1	AZTEC NAVAJO A4&5	GRAND RES. INC.	6-73 12-88	35.2 61 17.3	0.0 0 0.0	0.0 0 0.0
14	NAVAJO #3 - 12	GRAND RES. INC.	6-73 12-88	220.4 127 36.1	0.0 0 0.0	0.0 0 0.0
				558.3 352	0.0 0	0.0 0

Lease: 4 LEASES
Form.: GALLUP

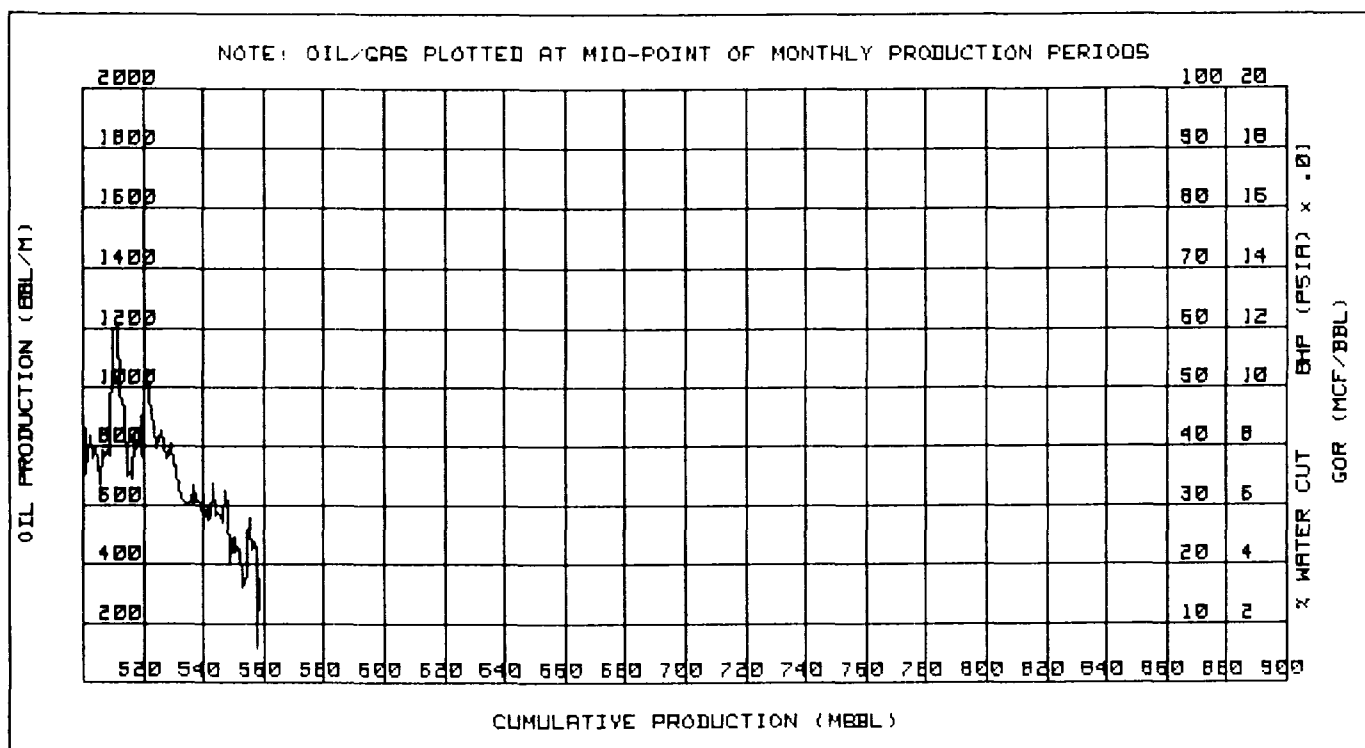
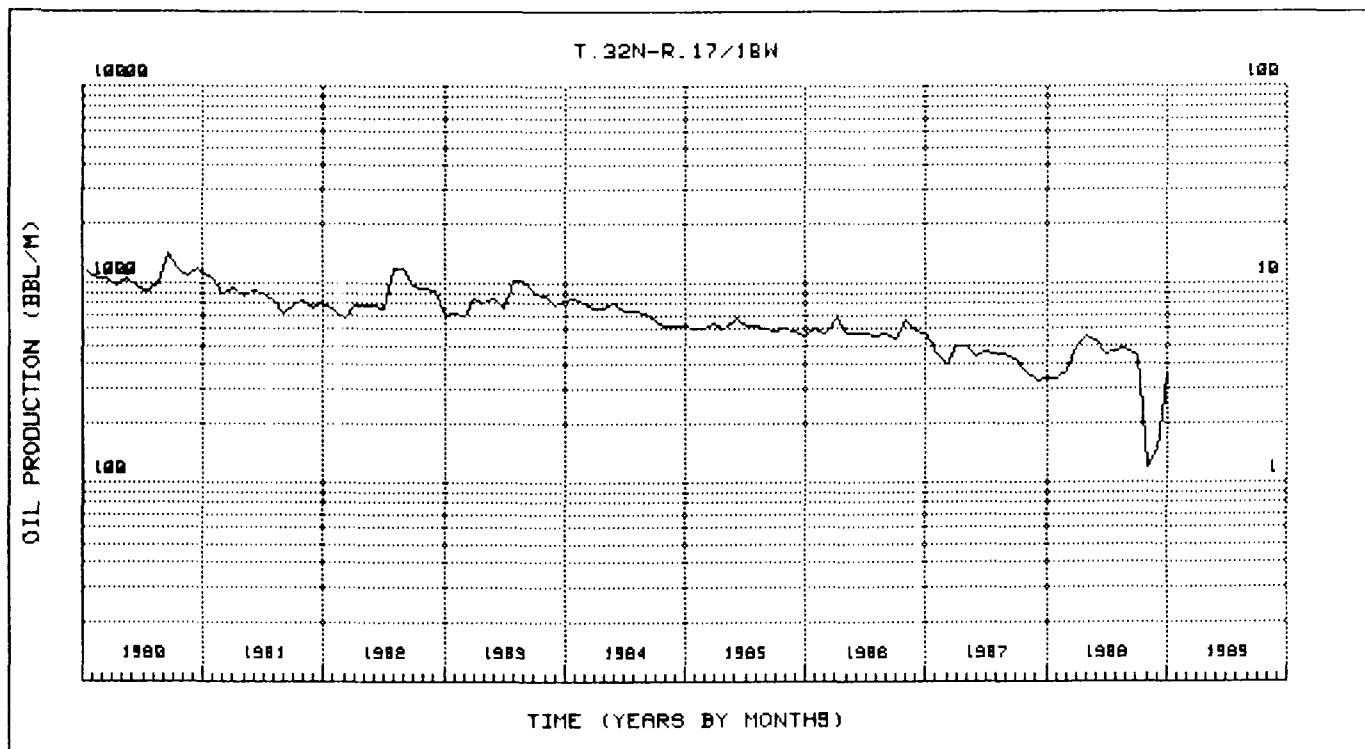
Oper.: FIELD STUDY
API #: 3004560006.00

SAN JUAN, NM
Record number 66

Cumulative production for OIL: 558,368 BBL WATER: 0 BBL
period 6-1973 --> 12-1988 GAS: 0 MCF Cum GOR: 0.00 MCF/BBL

Last 6 Mos. Prodn.		JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
OIL (BBL)		460	476	442	120	147	352
GAS (MCF)		0	0	0	0	0	0
WATER (BBL)		0	0	0	0	0	0

OIL OR GAS PRODUCTION — GOR % WATER CUT — — BHP OR BHP/Z * — *



Lease: NAVAJO C 1 - 6
Form.: GALLUP

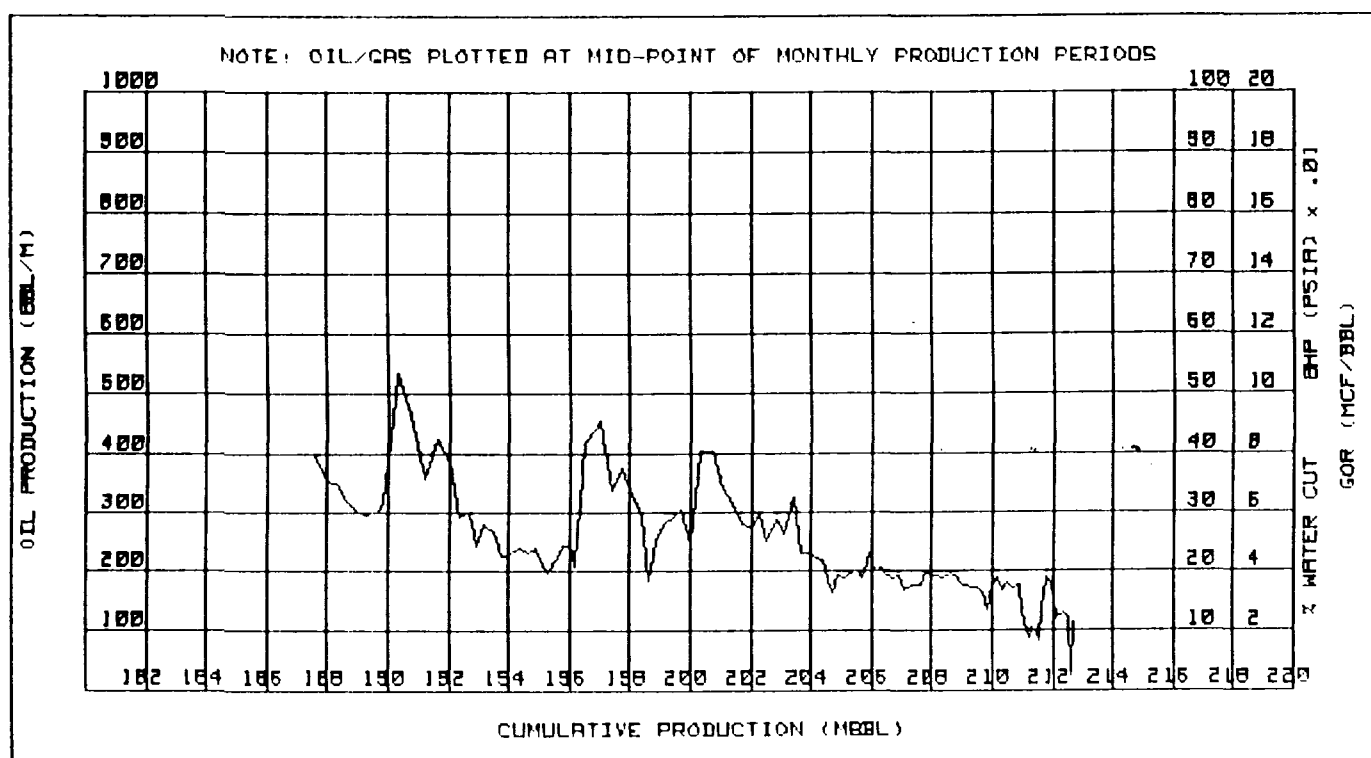
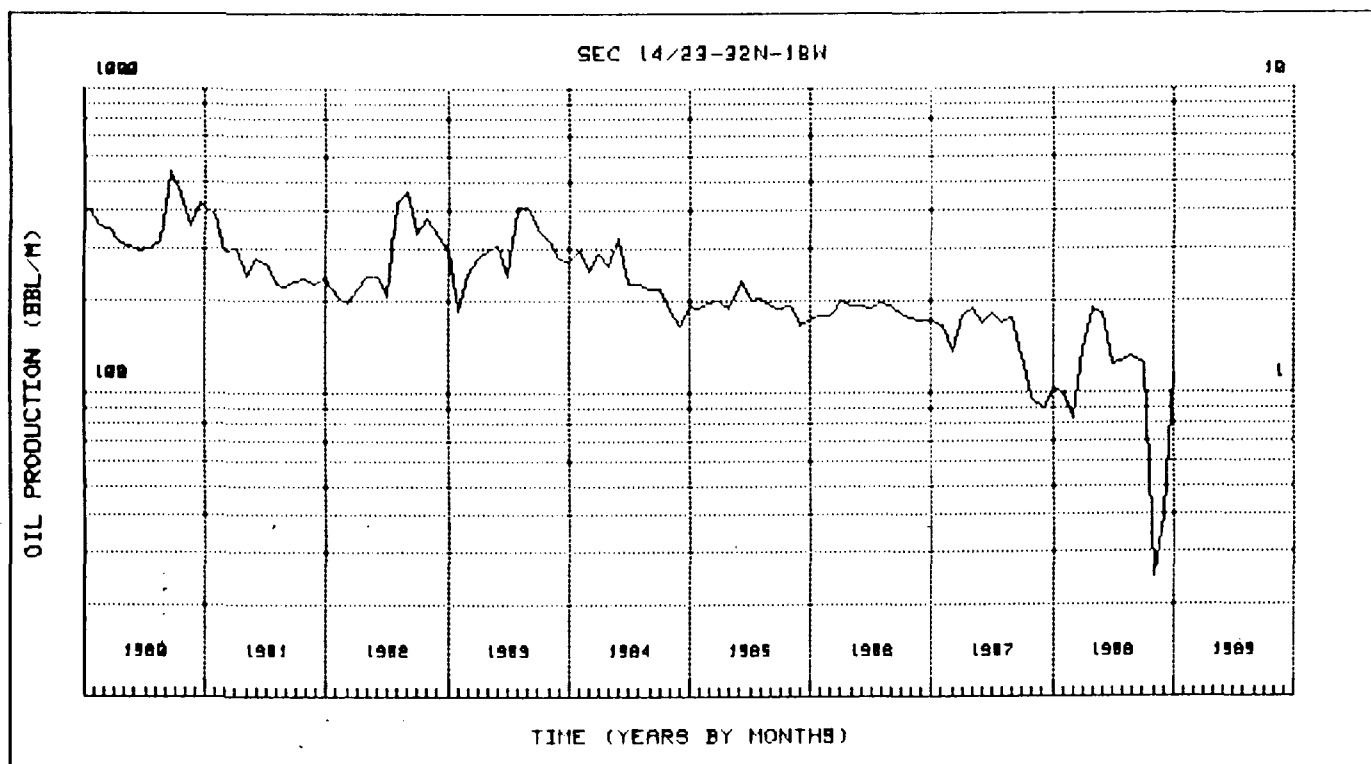
Oper.: GRAND RES. INC.
API #: 3004560002.00

SAN JUAN, NM
Record number 27

Cumulative production for OIL: 212,748 BBL WATER: 0 BBL
period 6-1973 --> 12-1988 GAS: 0 MCF Cum GOR: 0.00 MCF/BBL

Last 6 Mos. Prodctn.:		JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
OIL	(BBL)	126	131	124	25	40	116
GAS	(MCF)	0	0	0	0	0	0
WATER	(BBL)	0	0	0	0	0	0

OIL OR GAS PRODUCTION — GOR % WATER CUT — — BHP OR BHP/Z *—*



Field Name : MESA GALLUP
 Formation : GALLUP
 Date of First Production : 6- 73
 Oil Purchaser : -

Date of First Recorded Data : 1- 80
 Oil Cum as of Above Date : 187380

Operator : GRAND RES. INC.
 Lease : NAVAJO C 1 - 6
 Location : SEC 14/23-32N-18W
 API/RRC/DIC: 3004560002.00
 SAN JUAN CO., NM
 Record Number = 27

File Name : P30045:55

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL	CUM
80															
OIL	B/M	399	357	353	321	308	297	300	319	535	451	361	427	4428	191808
81															
OIL	B/M	388	295	304	245	281	270	229	228	234	240	230	239	3183	194991
82															
OIL	B/M	211	196	220	243	242	209	424	458	338	377	332	296	3546	198537
83															
OIL	B/M	185	251	280	294	306	246	408	408	342	320	281	276	3597	202134
84															
OIL	B/M	297	254	288	264	325	232	231	223	220	185	165	193	2877	205011
85															
OIL	B/M	191	197	200	191	233	202	207	192	189	194	167	174	2337	207348
86															
OIL	B/M	179	178	202	193	193	189	196	192	183	176	173	174	2228	209576
87															
OIL	B/M	165	137	178	191	168	183	171	175	131	98	90	105	1792	211368
88															
OIL	B/M	100	84	139	189	182	124	126	131	124	25	40	116	1380	212748

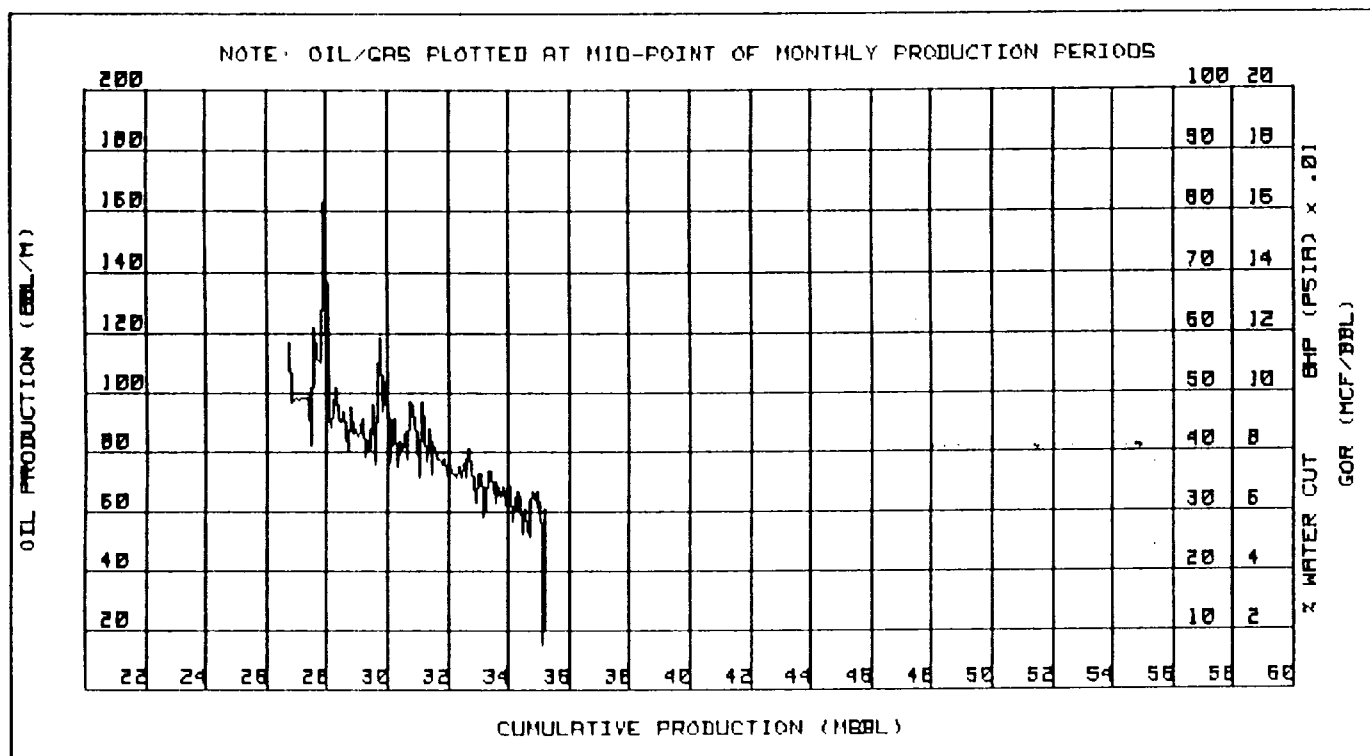
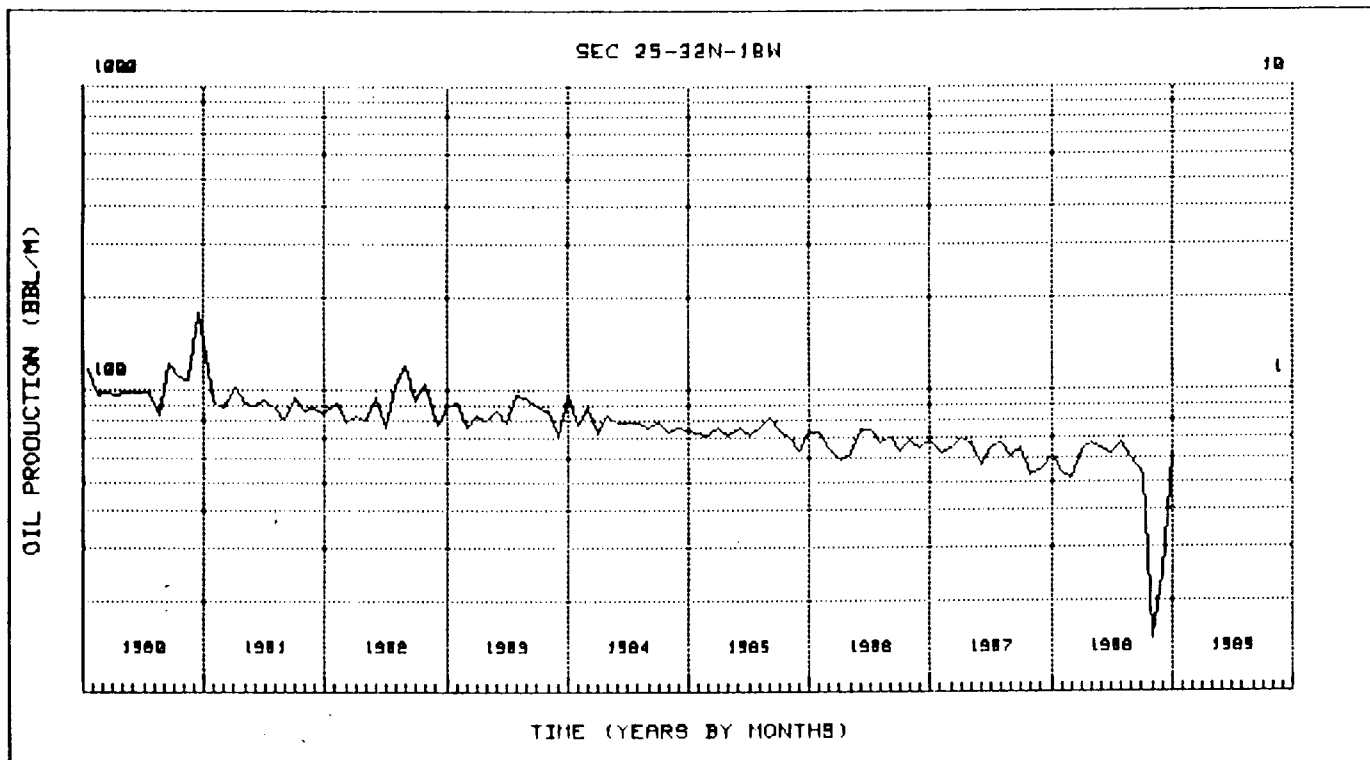
Lease: AZTEC NAVAJO A4&5 Oper.: GRAND RES. INC.
 Form.: GALLUP API #: 3004560000.00

SAN JUAN, NM
 Record number 1

Cumulative production for OIL: 35,243 BBL WATER: 0 BBL
 period 6-1973 --> 12-1988 GAS: 0 MCF Cum GOR: 0.00 MCF/BBL

Last 6 Mos. Production:		JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
OIL (BBL)		67	60	53	15	25	61
GAS (MCF)		0	0	0	0	0	0
WATER (BBL)		0	0	0	0	0	0

OIL OR GAS PRODUCTION — GOR — % WATER CUT — — BHP OR BHP/Z * — *



Field Name : MESA GALLUP
 Formation : GALLUP
 Date of First Production : 6- 73
 Oil Purchaser : -

Date of First Recorded Data : 1- 80
 Oil Cum as of Above Date : 26704

Operator : GRAND RES. INC.
 Lease : AZTEC NAVAJO A445
 Location : SEC 25-32N-18W
 API/RRR/OTC: 3004560000.00
 SAN JUAN CO., NM
 Record Number = 1

File Name : P30045:55

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL	CUM
80 OIL B/M	117	97	99	98	99	99	99	83	122	112	110	181	1316	28020
81 OIL B/M	93	89	102	91	90	94	88	80	95	86	88	85	1081	29101
82 OIL B/M	91	79	84	80	76	76	104	119	94	105	77	88	1093	30194
83 OIL B/M	91	75	84	80	86	78	97	96	88	86	72	97	1030	31224
84 OIL B/M	77	88	73	84	79	78	78	76	78	73	76	74	934	32158
85 OIL B/M	73	72	75	72	76	72	75	81	74	70	64	73	877	33035
86 OIL B/M	73	65	59	63	74	74	67	70	64	69	65	69	812	33847
87 OIL B/M	63	65	70	68	57	65	67	61	65	53	56	61	751	34598
88 OIL B/M	54	52	64	67	65	62	67	60	53	15	25	61	645	35243

Lease: NAVAJO #3 - 12
Form.: GALLUP

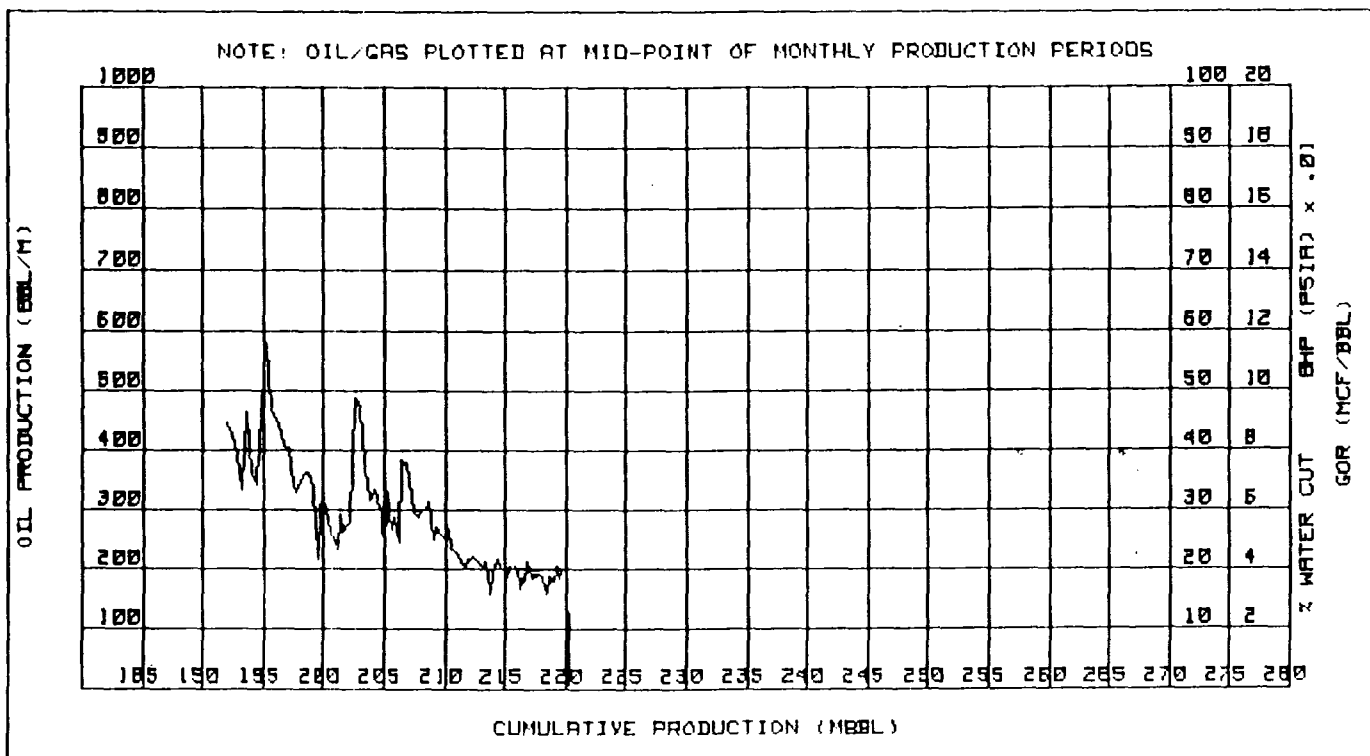
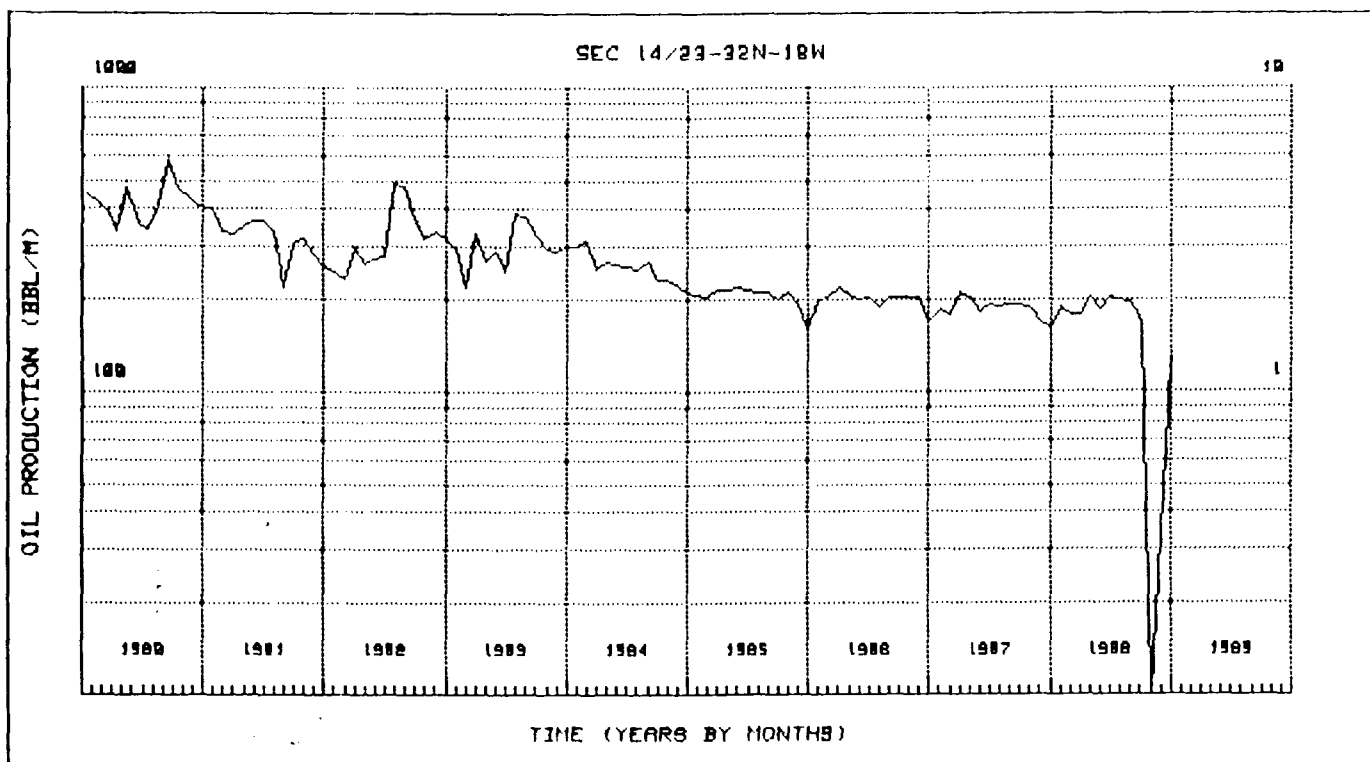
Oper.: GRAND RES. INC.
API #: 3004560001.00

SAN JUAN, NM
Record number 14

Cumulative production for OIL: 220,392 BBL WATER: 0 BBL
period 6-1973 --> 12-1988 GAS: 0 MCF Cum GOR: 0.00 MCF/BBL

Last 6 Mos. Production:	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
OIL (BBL)	203	198	171	10	33	127
GAS (MCF)	0	0	0	0	0	0
WATER (BBL)	0	0	0	0	0	0

OIL OR GAS PRODUCTION — GOR % WATER CUT — — BHP OR BHP/Z * — *



Field Name : MESA GALLUP
 Formation : GALLUP
 Date of First Production : 6- 73
 Oil Purchaser : -

Date of First Recorded Data : 1- 80
 Oil Cum as of Above Date : 191738

Operator : GRAND RES. INC.
 Lease : NAVAJO #3 - 12
 Location : SEC 14/23-32N-18W
 API/RRG/OTC: 3004560001.00
 SAN JUAN CO., NM
 Record Number = 14

File Name : P30045:55

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL	CUM
80 OIL B/M	448	426	393	335	466	361	344	409	582	469	442	409	5084	196822
81 OIL B/M	405	340	330	354	365	363	339	220	307	318	285	260	3886	200708
82 OIL B/M	250	236	295	264	275	280	490	474	374	318	337	317	3910	204618
83 OIL B/M	294	222	331	268	288	249	386	381	324	297	291	303	3634	208252
84 OIL B/M	300	313	252	271	265	257	252	267	235	234	227	214	3087	211339
85 OIL B/M	211	207	219	219	222	219	215	212	201	214	194	161	2494	213833
86 OIL B/M	197	206	220	208	200	206	191	206	204	205	204	168	2415	216248
87 OIL B/M	187	180	213	204	184	194	191	192	193	189	168	162	2257	218505
88 OIL B/M	190	180	180	206	185	204	203	198	171	10	33	127	1887	220392

Lease: 6 NAVAJO LSES
Form.: GALLUP

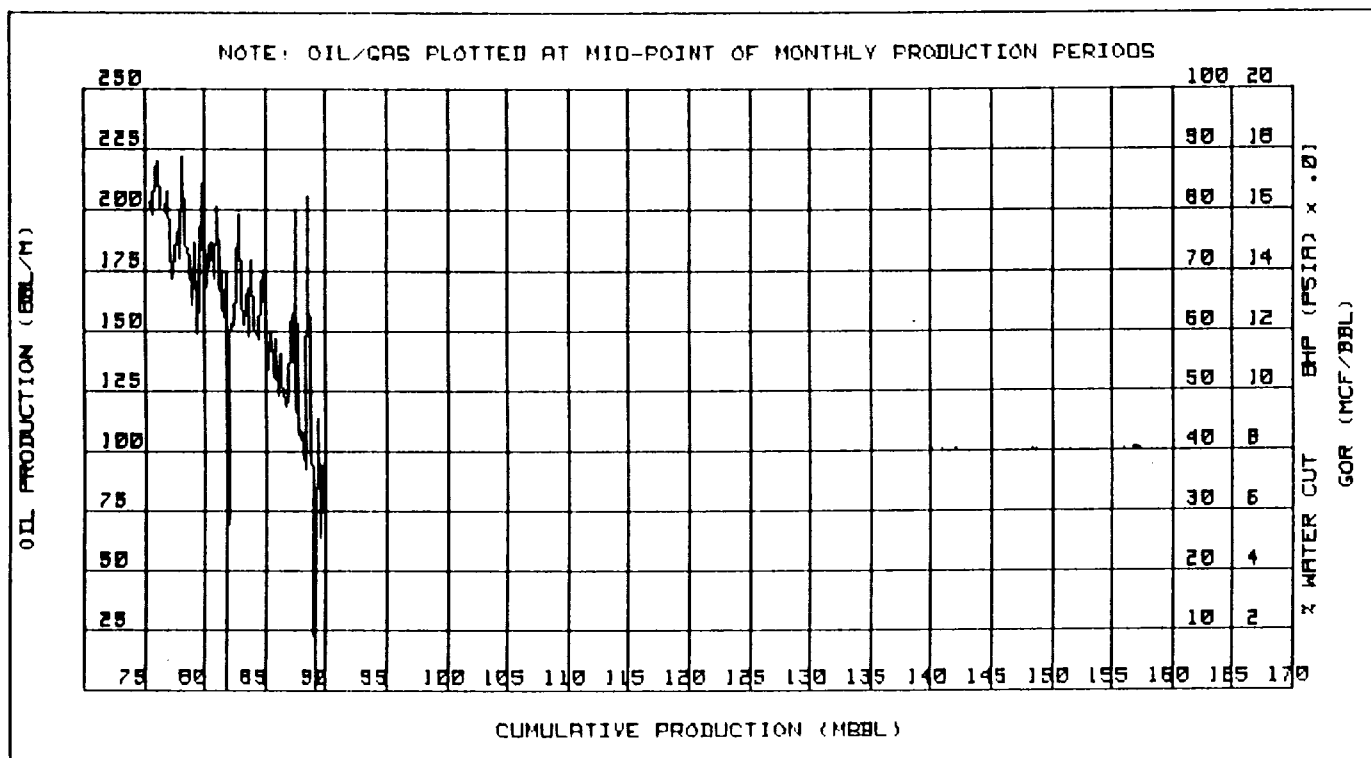
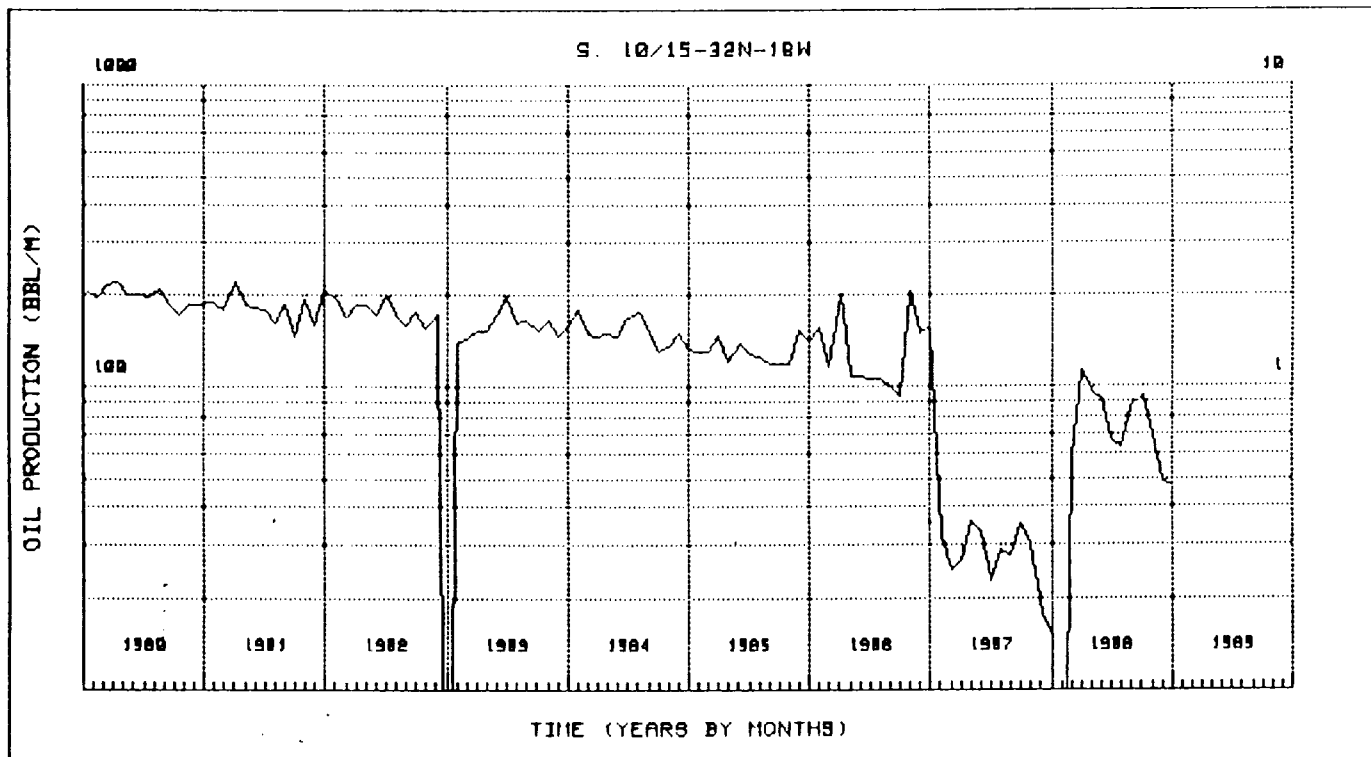
Oper.: ARI-MEX
API #: 3004560003.00

SAN JUAN, NM
Record number 40

Cumulative production for OIL: 89,985 BBL WATER: 0 BBL
period 6-1973 --> 12-1988 GAS: 0 MCF Cum GOR: 0.00 MCF/BBL

Last 6 Mos. Production:		JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
OIL	(BBL)	64	87	94	70	49	48
GAS	(MCF)	0	0	0	0	0	0
WATER	(BBL)	0	0	0	0	0	0

OIL OR GAS PRODUCTION — GOR — % WATER CUT — — BHP OR BHP/Z * — *



Field Name : MESA GALLUP
 Formation : GALLUP
 Date of First Production : 6- 73
 Oil Purchaser : -

Date of First Recorded Data : 1- 80
 Oil Cum as of Above Date : 75339

Operator : ARI-MEX
 Lease : 6 NAVAJO LSES
 Location : S. 10/15-32N-18W
 API/RRC/OTC: 3004560003.00
 SAN JUAN CO., NM
 Record Number = 40

File Name : P30045:SS

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL	CUM
80	OIL B/M	204	198	218	220	200	201	199	208	185	172	186	187	2378	77717
81	OIL B/M	191	181	222	188	183	181	162	187	149	193	159	211	2207	79924
82	OIL B/M	194	169	186	187	172	202	174	160	176	157	174	0	1951	81875
83	OIL B/M	139	146	154	154	172	198	162	165	154	166	148	159	1917	83792
84	OIL B/M	180	150	149	151	147	168	175	150	133	137	150	135	1825	85617
85	OIL B/M	132	131	147	123	141	129	126	119	120	121	155	142	1586	87203
86	OIL B/M	158	117	201	108	109	106	107	100	93	206	150	157	1612	88815
87	OIL B/M	32	25	27	36	33	23	29	28	35	30	18	15	331	89146
88	OIL B/M	0	58	114	97	91	67	64	87	94	70	49	48	839	89985

Lease: HORSESHOE #2E
Form.: GALLUP

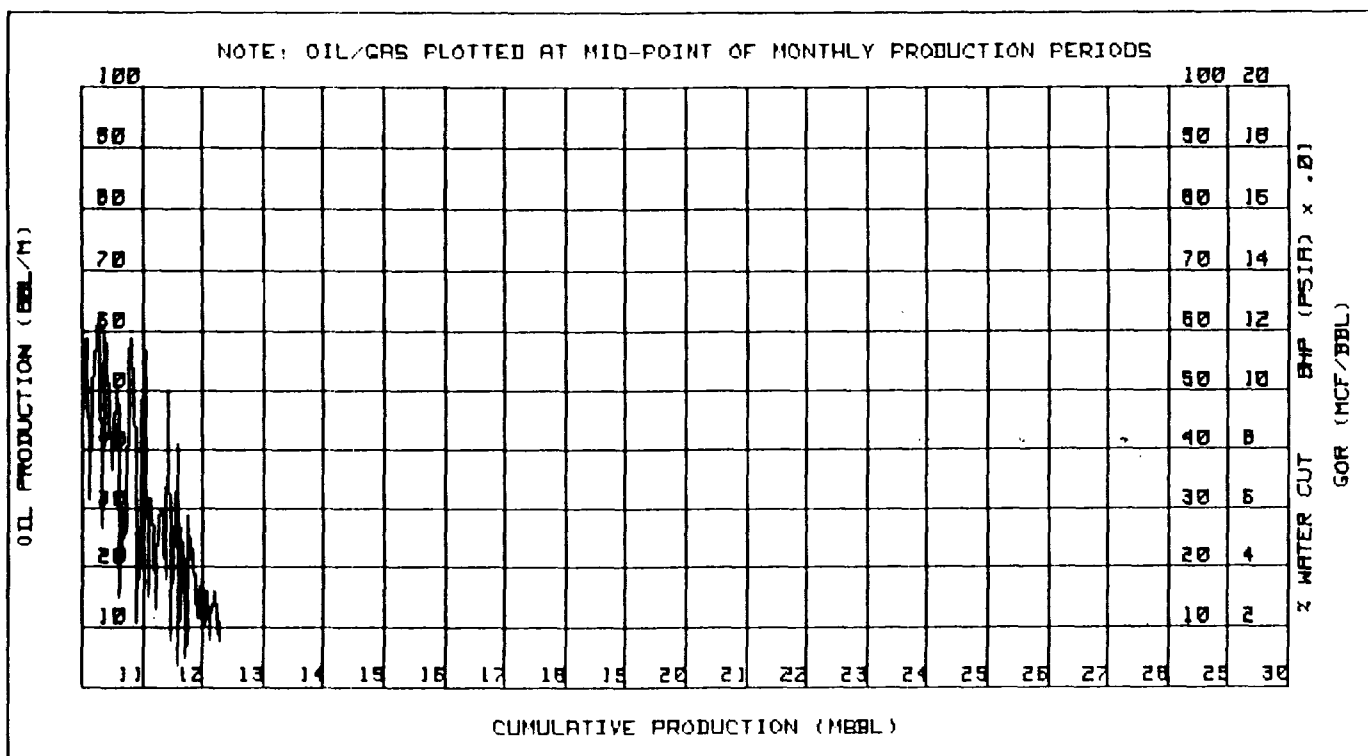
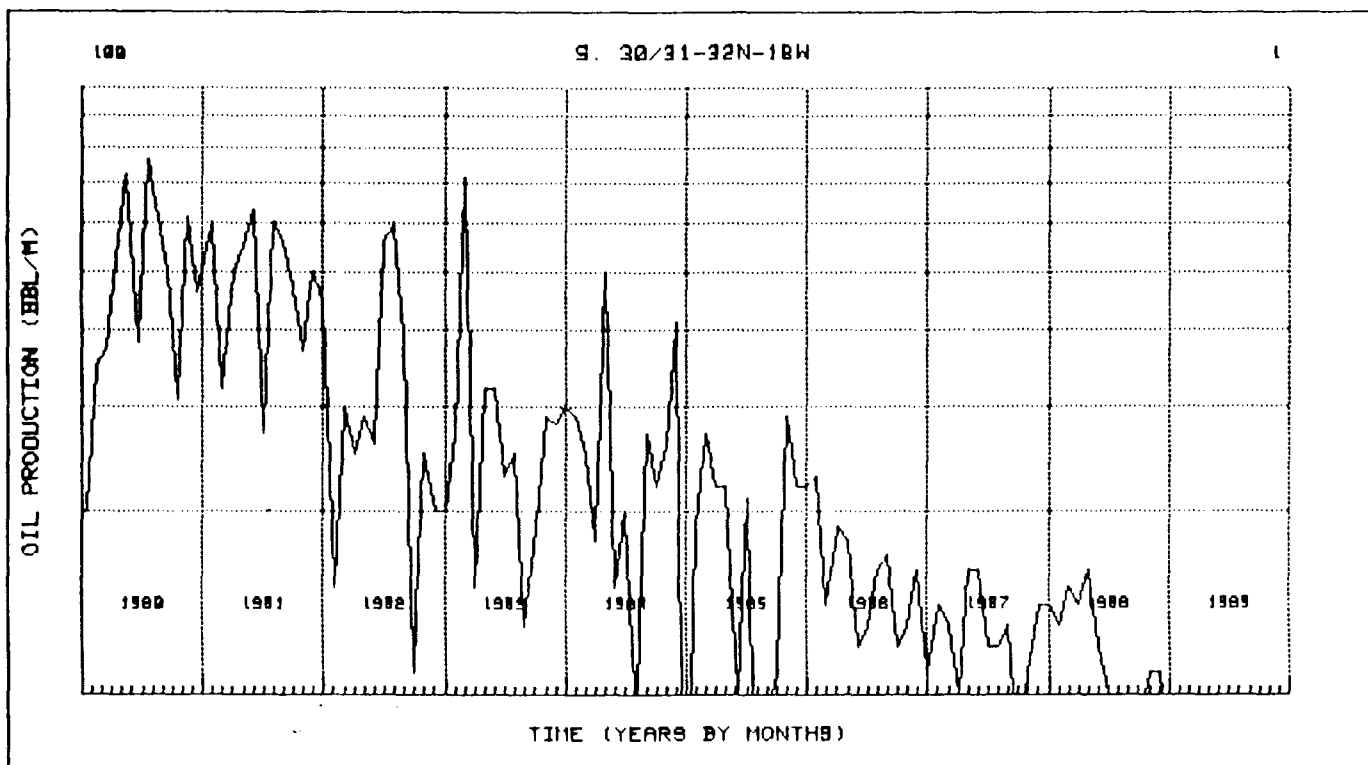
Oper.: DUGAN PROD.
API #: 3004560004.00

SAN JUAN, NM
Record number 53

Cumulative production for OIL: 12,297 BBL WATER: 0 BBL
period 1-1973 --> 12-1988 GAS: 0 MCF Cum GOR: 0.00 MCF/BBL

Last 6 Mos. Production:		JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
OIL (BBL)	10	10	8	11	11	8	
GAS (MCF)	0	0	0	0	0	0	
WATER (BBL)	0	0	0	0	0	0	

OIL OR GAS PRODUCTION — COR — — % WATER CUT — — BHP OR BHP/Z * — *



Field Name : MESA GALLUP
Formation : GALLUP
Date of First Production : 1- 73
Oil Purchaser : -

Date of First Recorded Data : 1- 80
Oil Cum as of Above Date : 9459

Operator : DUGAN PROD.
Lease : HORSESHOE #2E
Location : S. 30/31-32N-18W
API/RRC/DIC: 3004560004.00
SAN JUAN CO., NM
Record Number = 53

File Name : P30045:55

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL	CUM
80 OIL B/M	20	35	37	52	72	38	76	61	50	31	61	46	579	10038
81 OIL B/M	59	32	50	55	63	27	60	56	47	37	50	45	581	10619
82 OIL B/M	15	30	25	29	26	56	59	39	11	25	20	20	355	10974
83 OIL B/M	27	71	15	32	32	23	25	13	19	29	28	30	344	11318
84 OIL B/M	29	25	18	50	15	20	8	27	22	26	41	4	285	11603
85 OIL B/M	19	27	22	22	10	21	5	9	11	29	22	22	219	11822
86 OIL B/M	23	14	19	18	12	13	16	17	12	13	16	11	184	12006
87 OIL B/M	14	13	10	16	16	12	12	13	8	11	14	14	153	12159
88 OIL B/M	13	15	14	16	12	10	10	10	8	11	11	8	138	12297

APPENDIX 2

WELL DATA

WELL NAME 3-T-R	API NO X	OPERATOR Y	WELL CODE COMP DATE	TOTAL DEPTH POROSITY(PCT)	ELEVATION AVG K (md)	FORMATION KH (md-ft)
ELEVATION	TOP SAND(SS)	BASE SAND(SS)	NET FT	ALL		
SUM OIL(12/88)	IBOPD	BOPM(12/88)	9**			
HORSESHOE #2-E	-	DUGAN PROD	0	1175	5525	GAL 150
30-32N-17W	330	3210	6-17-64	-	-	
5525	4467	4475	8	ALL		
12.28	10	8	9**			
HORSESHOE #B 1-H-		DUGAN PROD	G	1145	5490	GAL 60
31-32N-17W	4620	3300	3-29-64	-	-	
5490	4420	4412	8	ALL		
3.0	4	0	9**			
NAVAJO #2	30-045-11498	HAYNES & UT DRLGDH	5-11-64	1183	5253	GAL 0
10-32N-18W	350	540	0	-	-	
5253	4157	4139	0	ALL		
0		0				
NAVAJO #5-0	30-045-20111	ARI-MEX	G	1873	5810	GAL 700
10-32N-18W	3300	440	10-4-67	-	12.96	
5810	4146	4132	14	ALL		
0		0				
NAVAJO #6	-	EXPL DRLG	DH	1372	5424	GAL 49
13-32N-18W	760	365	1-6-62	9	8	
5424	4024	4018	6	ALL		
0		0				
NAVAJO 'C' #7-M	-	EXPL DRLG	DH	1327	5338	GAL 60
14-32N-18W	990	990	4-69	-	-	
5338	4064	4050	6	ALL		
0		0				
NAVAJO TRIBAL C	-	MURPHY OIL CORP	0	1380	5347	GAL 556
14-32N-18W	2970	330	4-3-62	13.7	62	
5347	4040	4031	9	ALL		
25.89	36	4	9**			
NAVAJO TRIBAL C	30-045-20251	EXPL DRLG	0	1762	5724	GAL 5555
14-32N-18W	330	2310	3-31-68	17	214	
5724	4085	4060	23	ALL		
48.66	84	90	9**			

WELL NAME	API NO	OPERATOR	WELL CODE	TOTAL DEPTH	ELEVATION	FORMATION
S-T-R	X	Y	COMP DATE	POROSITY(PCT)	AVG K (md)	KH (md-ft)
ELEVATION	TOP SAND(SS)	BASE SAND(SS)	NET FT	ALL		
CUM OIL(12/88)	IBOPD	BOPM(12/88)	9**			
NAVAJO #4-J	-	AMALGAMATED PET	CWI			
14-32N-18W	3570	1650	11-20-61	1365	5347	GAL
5347	4036	4025	3	12.1	178	529
3.7	6	0	9**	ALL		
NAVAJO TRIBAL C	30-045-20430	EXPL DRLG	0			
14-32N-18W	1720	650	3-27-69	1310	5306	GAL
5306	4062	4040	.17	14.5	65	1112
22.5	77	22	9**	ALL		
NAVAJO C #1-H	30-045-11472	ARI MEX	CWI			
15-32N-18W	4595	3580	5-2-64	1276	5311	GAL
5311	4089	4071	18	-	133	2400
48.69	32	40	9**	ALL		
NAVAJO #3-A	30-045-11478	ARI MEX	0			
15-32N-18W	4530	4335	5-30-64	1312	5360	GAL
5360	4110	4100	10	-	-	215
19.2	19	8	9**	ALL		
NAVAJO #7-C	30-045-20409	AAA FISHING TOOLDH				
15-32N-18W	2310	4950	2-24-69	1295	5390	GAL
5390	4196	4192	0	0	0	0
0		8		ALL		
NAVAJO 'B' #1-G	30-045-20621	AAA FISHING TOOLDH				
15-32N-18W	3780	3660	12-18-70	1285	5278	GAL
5278	4080	4076	6	0	0	0
0		8		ALL		
NAVAJO #4-J	30-045-20208	AAA FISHING TOOLDH				
15-32N-18W	3830	2510	1-24-68	1414	5422	GAL
5422	4167	0	0	0	0	0
0		8		ALL		
NAVAJO 'B' #3-B	30-045-20627	ARI MEX	0			
15-32N-18W	3430	4130	3-27-70	1275	5318	GAL
5318	4120	4114	6	-	-	40
6.8	62	5	9**	ALL		

2/2

WELL NAME 3-T-R	API NO X	OPERATOR Y	WELL CODE COMP DATE	TOTAL DEPTH POROSITY(PCT)	ELEVATION AVG K (md)	FORMATION KH (md-ft)
ELEVATION	TOP SAND(SS)	BASE SAND(SS)	NET FT	ALL		
CUM OIL(12/88)	IBOPD	BOPM(12/88)	9**			
NAVAJO 'B' #2-I	30-045-20622	ARI MEX	0			
15-32N-18W	4950	2310	8-15-70	1718	5696	GAL
5696	4084	4072	12	-	-	50
3.5	-	1	9**	ALL		
NAVAJO #6-H	30-045-20271	ARI MEX	0			
15-32N-18W	4950	3030	5-16-68	1360	5374	GAL
5374	4092	4070	.22	-	-	400
13.0	-	0	9**	ALL		
NAVAJO #8-A	-	EXPL DRLG	0			
23-32N-18W	4950	4330	2-15-62	1445	5421	GAL
5421	4043	4031	13	10.6	2.8	36
31.4	23	0	9**	ALL		
NAVAJO #5	-	EXPL DRLG	DH			
23-32N-18W	3345	2135	1-3-62	-	5375	GAL
5375	-	-	0	-	-	0
0	-	0		ALL		
NAVAJO #11-B	-	EXPL DRLG	CWI			
23-32N-18W	3630	4950	1-28-62	1436	5416	GAL
5416	4042	4026	6	11.8	34	202
56.38	87	14	9**	ALL		
NAVAJO TRIBAL C	-	TEX PACIFIC	0			
23-32N-18W	4950	3630	3-22-62	1478	5461	GAL
5461	4054	4044	10	-	-	900
47.27	89	0	9**	ALL		
NAVAJO #7-E	-	EXPL DRLG	0			
24-32N-18W	330	2970	1-19-62	1482	5565	GAL
5565	4155	4136	13	13.7	106	1381
70.88	88	20	9**	ALL		
NAVAJO TRIBAL C	-	TEX PACIFIC	0			
24-32N-18W	660	2310	3-6-62	1300	5432	GAL
5432	4211	4199	13	-	-	1000
47.20	92	0	9**	ALL		

WELL NAME	API NO	OPERATOR	WELL CODE	TOTAL DEPTH	ELEVATION	FORMATION
S-T-R	X	Y	COMP DATE	POROSITY(PCT)	AVG K (md)	KH (md-ft)
ELEVATION	TOP SAND(SS)	BASE SAND(SS)	NET FT	ALL		
CUM OIL(12/88)	IBOPD	BOPM(12/88)	9**			
NAVAJO TRIBAL C	-	MURPHY OIL	0			
24-32N-18W	1680	1890	4-15-62	1510	5702	GAL
5702	4255	4242	10	14.2	121	1214
21.24	28	0	9**	ALL		
NAVAJO #12-F	-	EXPL DRLG	0			
24-32N-18W	1780	2990	3-25-62	-	5685	GAL
5685	4164	4155	4	15.6	23	93
1.51	8	0	9**	ALL		
NAVAJO #3-N	-	AMALGAMATED	CWI			
24-32N-18W	1980	660	8-15-61	1163	5451	GAL
5451	4347	4328	19	-	-	500
56.55	49	61	9**	ALL		
AZTEC NAVAJO 'A'	-	EXPL DRLG(TEXACOO				
25-32N-18W	3300	4680	11-11-61	1120	5468	GAL
5468	4387	4381	12	-	-	150
25.56	8	61	9**	ALL		
TRACY #1	30-045-20389	WILBUR STEVENS	DH			
25-32N-18W	1610	330	1-10-79	1610	5471	GAL
5471	4540	-	0	-	-	0
0		61		ALL		
NAVAJO #6	-	R.L. BAYLESS	DH			
25-32N-18W	3300	3300	7-2-64	1093	-	GAL
-	-	-	0	-	-	0
0		61		ALL		
S. BLUE HILLS #1-		ZOLLER & DANNEBERDH				
25-32N-18W	3300	2770	7-26-65	1573	5449	GAL
5449	-	-	0	-	-	0
0		61		ALL		
TEXAS NAVAJO 'A'	-	AZTEC O & G	DH			
25-32N-18W	4745	790	11-14-59	1616	5498	GAL
5498	-	-	0	-	-	0
0		61		ALL		

WELL NAME	API NO	OPERATOR	WELL CODE	TOTAL DEPTH	ELEVATION	FORMATION
S-T-R	X	Y	COMP DATE	POROSITY(PCT)	AVG K (md)	KH (md-ft)
ELEVATION	TOP SAND(SS)	BASE SAND(SS)	NET FT	ALL		
CUM OIL(12/88)	IBOPD	BOPM(12/88)	9**			
AZTEC NAVAJO 'A'		EXPL DRLG (TEXACO)				
25-32N-18W	1980	4670	2-1-62	1062	5426	GAL
5426	4381	4387	7	-	-	70
9.7	5	0	9**	ALL		
AZTEC & NAVAJO '30-045-11151		TEXACO INC	G			
36-32N-18W	660	660	5-8-62	8150	5364	GAL
5364	-	-	-	-	-	-
	5	0	-	ALL		
TRIBAL #1-30		BAUNGARTNER	DH			
30-32N-17W	3300	3300	-	-	-	GAL
-	-	-	0	-	-	-
-	-	-	9**	ALL		
NAVAJO C #1 LOC		GRAND RSC	L			
14-32N-18W	1900	1900	-	-	-	GAL
-	-	-	17	-	-	-
-	-	-	9**	ALL		
AZTEC NAVAJO A #		GRAND RSC	L			
25-32N-18W	4400	4400	-	-	-	GAL
-	-	-	12	-	-	-
-	-	-	9**	ALL		
NAVAJO C #3 LOC		GRAND RSC	L			
23-32N-18W	4800	2150	-	-	-	GAL
-	-	-	4	-	-	-
-	-	-	9**	ALL		
NAVAJO C #4 LOC		GRAND RSC	L			
14-32N-18W	400	3050	-	-	-	GAL
-	-	-	19	-	-	-
-	-	-	9**	ALL		