OIL CONSERVATION DIVISION
DISTRICT I

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 6/18/82

RE: Proposed MC
Proposed DHC
Proposed NSL
Proposed NSP
Proposed SWD X
Proposed WFX
Proposed PMX

Gentlemen:

I have examined the application for the:

Jahae Oil & Cattle Co. Schwalbe #1-P 21-9-37
Operator Lease and Well No. Unit, S - T - R

and my recommendations are as follows:

Hearing - Jerry
Buck Sheet Not Sent

Yours very truly,

/mc

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: Tahoe Oil & Cattle Company

Address: 4402 W. Industrial Avenue Midland, Texas 79703

Contact party: K. A. Freeman Phone: (915) 697-7938

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Tahoe Oil & Cattle Company Title Owner-Petroleum Engineer

Signature: K. A. Freeman Date: June 7, 1982

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

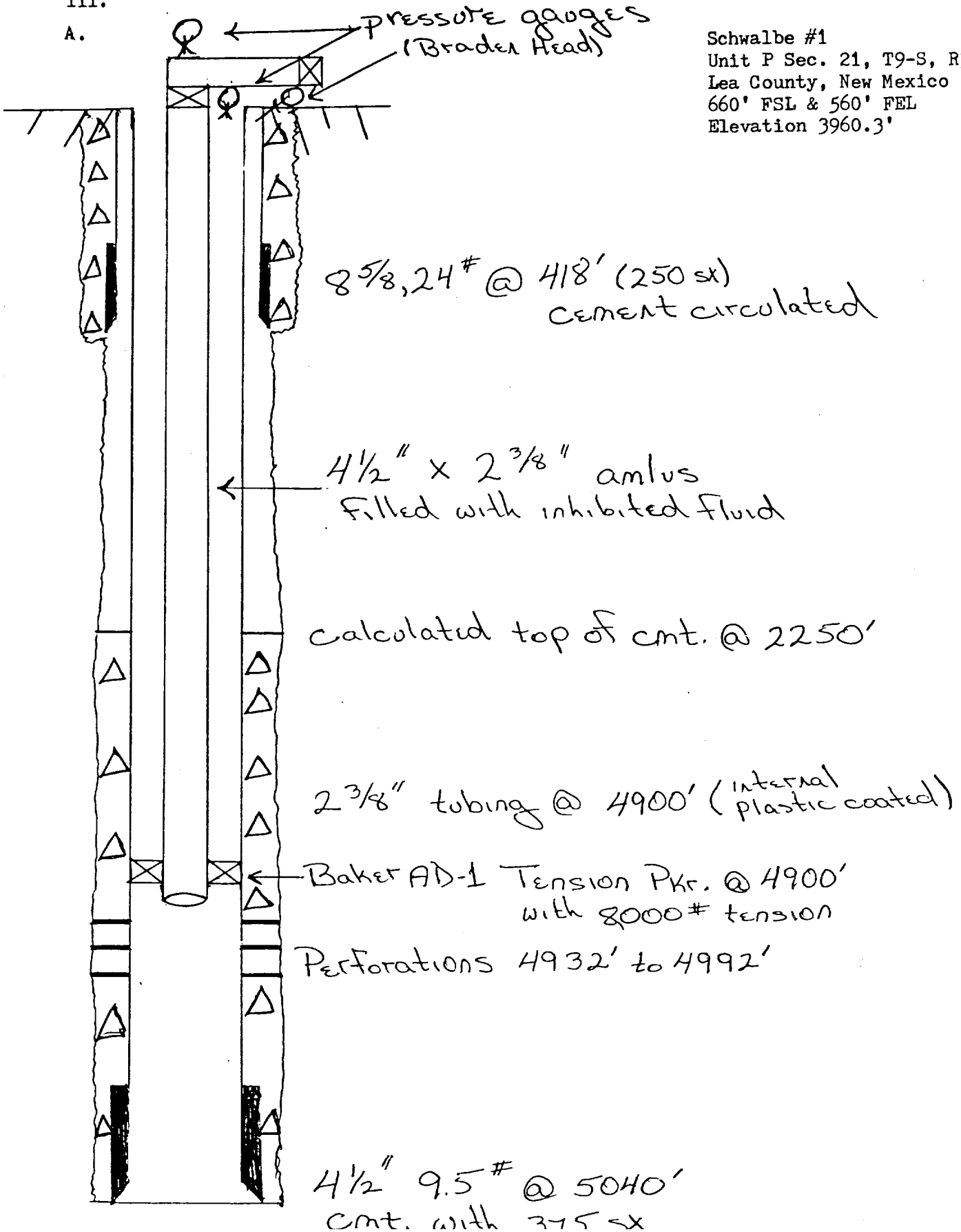
NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

TAHOE OIL & CATTLE CO.

PHONE (915) 697-7938 • 4402 W. INDUSTRIAL • MIDLAND, TEXAS 79703

III.

A.



Schwalbe #1
Unit P Sec. 21, T9-S, R37-E
Lea County, New Mexico
660' FSL & 560' FEL
Elevation 3960.3'

TAHOE OIL & CATTLE CO.

PHONE (915) 697-7938 • 4402 W. INDUSTRIAL • MIDLAND, TEXAS 79703

III.

B.

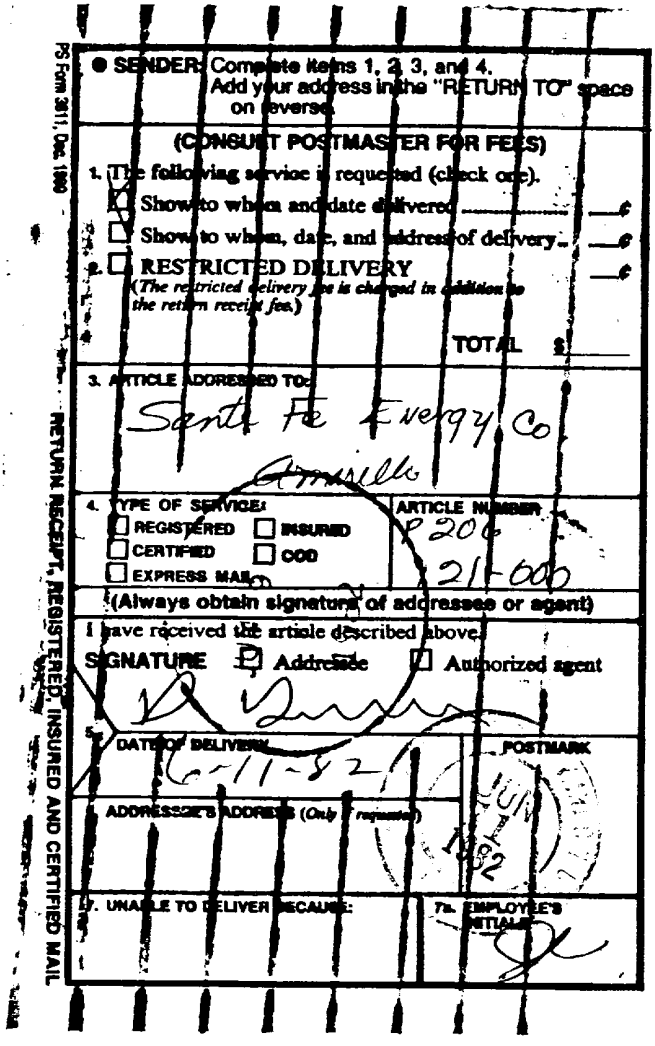
1. San Andres, West Sawyer Field

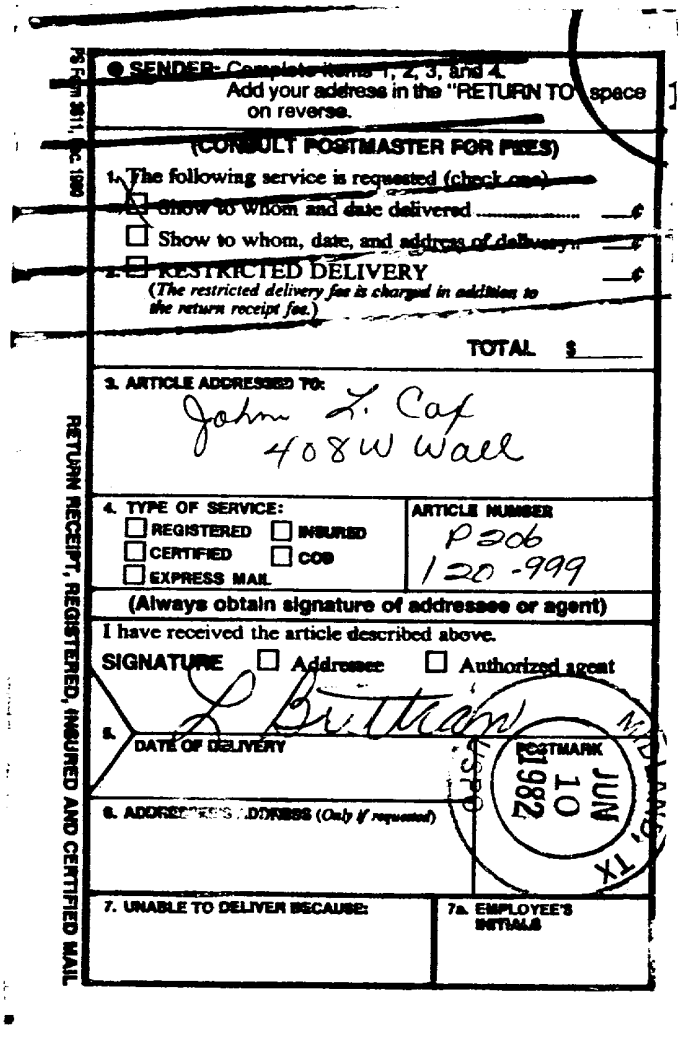
2. Perforated section 4,932' to 4,992' in 4 1/2" production casing.

3. Drilled as a producing oil well.

4. None

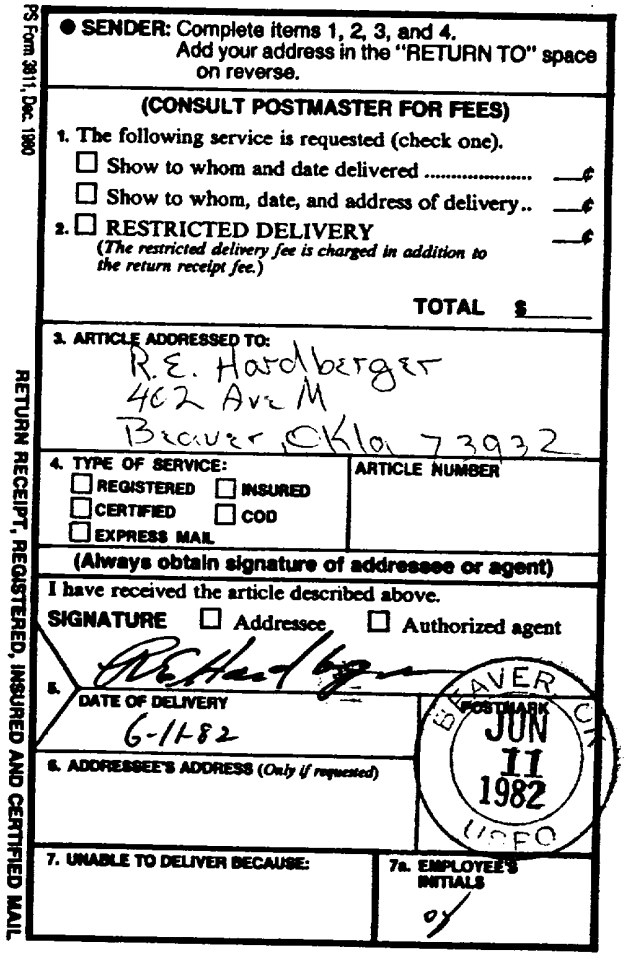
5. There are no known productive zones of oil or gas either above or below the San Andres formation.





TAHOE OIL & CATTLE CO.

PHONE (915) 697-7938 • 4402 W. INDUSTRIAL • MIDLAND, TEXAS 79703



PS Form 3811, Dec. 1980

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
☐ Show to whom and date delivered ..... ¢
☐ Show to whom, date, and address of delivery.. ¢
2. ☐ RESTRICTED DELIVERY ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO:
R.E. Hardberger
402 Ave M
Beaver, Okla 73932

4. TYPE OF SERVICE:
☐ REGISTERED ☐ INSURED
☐ CERTIFIED ☐ COD
☐ EXPRESS MAIL

ARTICLE NUMBER

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

5. DATE OF DELIVERY
6-11-82

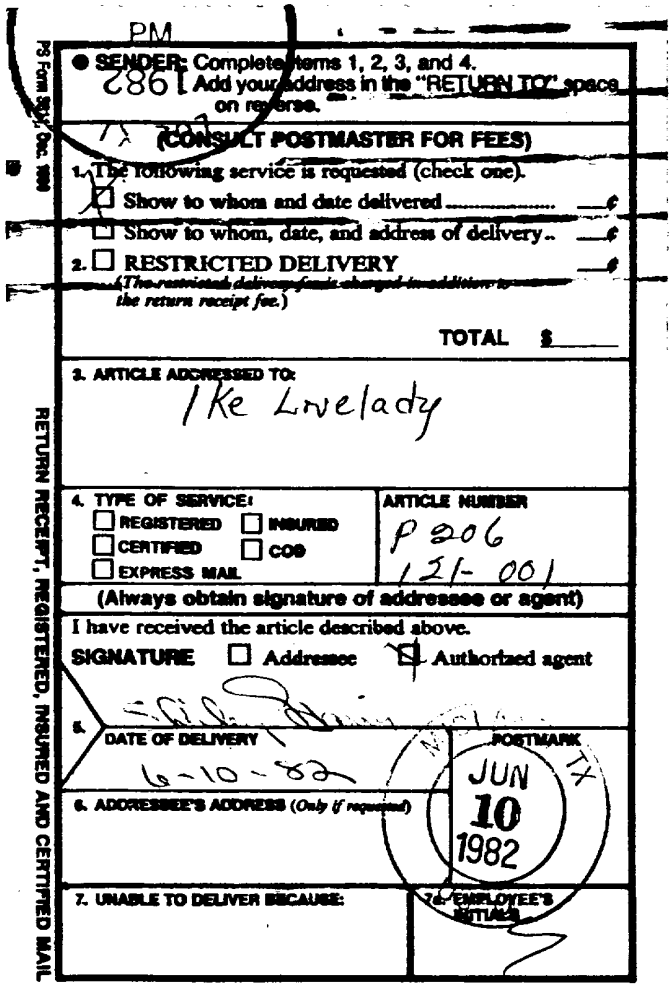
POSTMARK
BEAVER, OK
JUN 11 1982
USFO

6. ADDRESSEE'S ADDRESS (*Only if requested*)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL



PM
286

PS Form 3811, Dec. 1980

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
☒ Show to whom and date delivered ..... ¢
☐ Show to whom, date, and address of delivery.. ¢
2. ☐ RESTRICTED DELIVERY ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO:
Ike Lovelady

4. TYPE OF SERVICE:
☐ REGISTERED ☐ INSURED
☐ CERTIFIED ☐ COD
☐ EXPRESS MAIL

ARTICLE NUMBER
P 206
121-001

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☒ Authorized agent

5. DATE OF DELIVERY
6-10-82

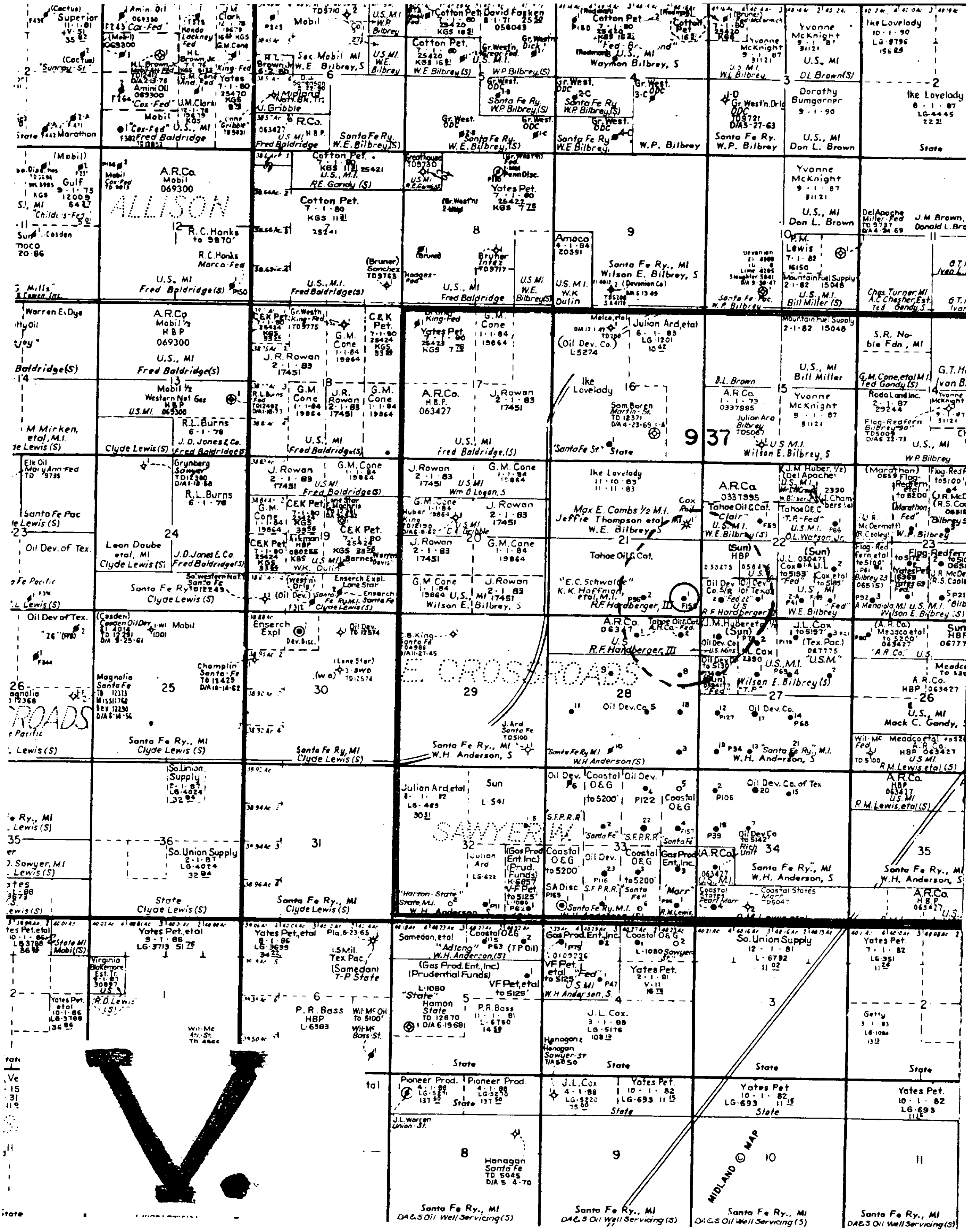
POSTMARK
JUN 10 1982
TX

6. ADDRESSEE'S ADDRESS (*Only if requested*)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL


ALLISON
E. CROSSROADS
SAWYER
Superior
Amini Oil
Mobil
Cotton Pet.
David Fasken
Wayman Bilbrey, S
Ike Lovelady
Yvonne McKnight
Dorothy Bumgarner
W.P. Bilbrey
Don L. Brown
Santa Fe Ry.
Fred Baldridge
A.R.Co.
Gulf
R.C. Hanks
Yates Pet.
Amoco
Wilson E. Bilbrey, S
W.K. Dulin
Bill Miller
J.R. Rowan
G.M. Cone
C&K Pet.
Julian Ard, etal
Oil Dev. Co.
Sam Boren
S.R. Noble Fdn., MI
Mobil ½ Western Nat Gas
R.L. Burns
Clyde Lewis (S)
Max E. Combs ½ M.I.
Jeffie Thompson etal
Tahoe Oil & Cat.
Leon Daube etal, MI
J.D. Jones & Co.
Oil Dev. of Tex.
Ensearch Expl.
Champlin
Magnolia
W.H. Anderson, S
Oil Dev. Co. of Tex
So. Union Supply
Coastal O&G
Gas Prod. Ent. Inc
Sun
P.R. Bass
Samedon, etal
VF Pet., etal
J.L. Cox
Pioneer Prod.
Hanagan
Getty
Santa Fe Ry., MI
DA&S Oil Well Servicing (S)
MIDLAND © MAP
V.

VI.

CASE 7548 - APPLICATION OF TAHOE OIL & CATTLE COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

OIL DEVELOPMENT CO. OF TEXAS #8 SANTA FE PACIFIC - 1980' FNL, 660' FEL, SECTION 28, IP FLOW 153 BOPD - COMP 12-4-'70, T.D. 5030' - CASING 8-5/8" @ 420' W/325 SX 4½" @ 5030' W/250 SX. - PERF 4936' TO 4992' - AC W/5000 - NO WATER - EL 3980 K/B

OIL DEVELOPMENT CO. OF TEXAS - FEDERAL NO. 2-27 - 1980 FNL, 660' FWL SECTION 27, IP PUMP 84 BO & 29 BW COMP 12-28-76, T.D. 5024' - CASING 8-5/8" @ 427' - 4½" @ 5024' W/250 SX., AC W/9000 - PERF 4950 to 5013 EL 3983

JOHN L. COX - T.P.FEDERAL NO. 2 - 860' FNL & 1980' FWL, SECTION 27, IP PUMP 78 BO & 12 BWPD, COMP. 9-15-'74, T.D. 5100' - CASING 8-5/8" @ 411' W/125 SX. - 4½" @ 5100' W/2500 SX - PERF 4957' to 5007' AC W/5000 EL 3979

OIL DEVELOPMENT COMPANY OF TEXAS - FEDERAL "27" NO. 1 - 660 FNL & 660 FWL - SECTION 27 IP PUMP 166 BOPD, COMP. 8-11-'71, T.D. 5030' - P.B. 5015' - CASING 8-5/8" @ 458' W/325 SX - 4½" @ 5030' W/250 SX - PERF 4944' to 4960' & 4979' to 4996' - AC W/215 & FRAC W/8000 GALS AW & 200 BEADS - EL 3980

TAHOE OIL & CATTLE COMPANY - NO. 2 ARCO FEDERAL - 660' FNL & 660' FEL - SECTION 28, IP PUMP 96 BO & 22 BWPD, COMP 1-23-'77 - T.D. 5037' - P.B. 5022' - CASING 8-5/8" @ 460' W/375 SX - 4½" @ 5037' W/700 SX - PERF 4940 to 5004' - AC W/7000 & FRAC W/8000 - EL 3978

D & B OIL INC. NO. 1 ARCO - 66' FNL & 2180' FEL - SECTION 28, IP FLOW 120 BOPD - COMP 1-4-'71 - T.D. 5040' - CASING 8-5/8" @ 416' W/250 SX. - 4½" @ 5040' W/375 SX, PERF 4920 to 4992 - AC W/9000 EL 3979

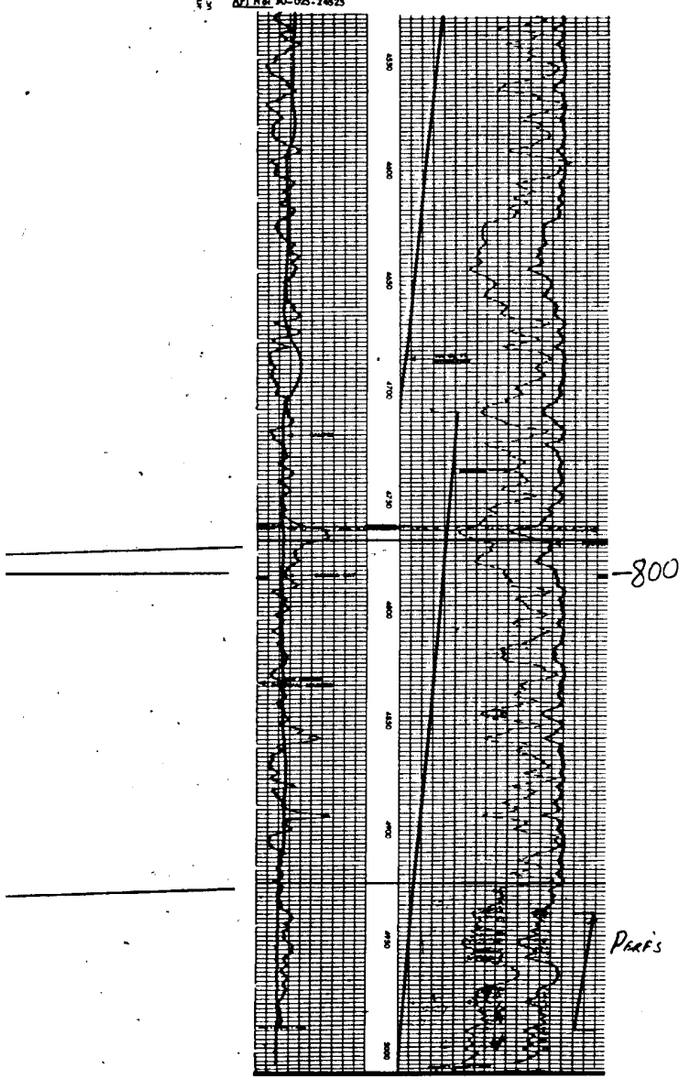
TAHOE OIL & CATTLE CO. NO. 2 - SCHWALBE - 660'FSL & 1980' FEL - SECTION 21 - IP 36 BO & 20 BWPD - COMP 11-26-'77 - T.D. 5044' P.B. 5040' - CASING -8-5/8" @ 460' W/350 SX, 4½" @ 5044' W/700 SX. PERF 4921' to 5006' AC W/7000 & FRAC W/6000 GAL & 12,000 SAND EL 3983

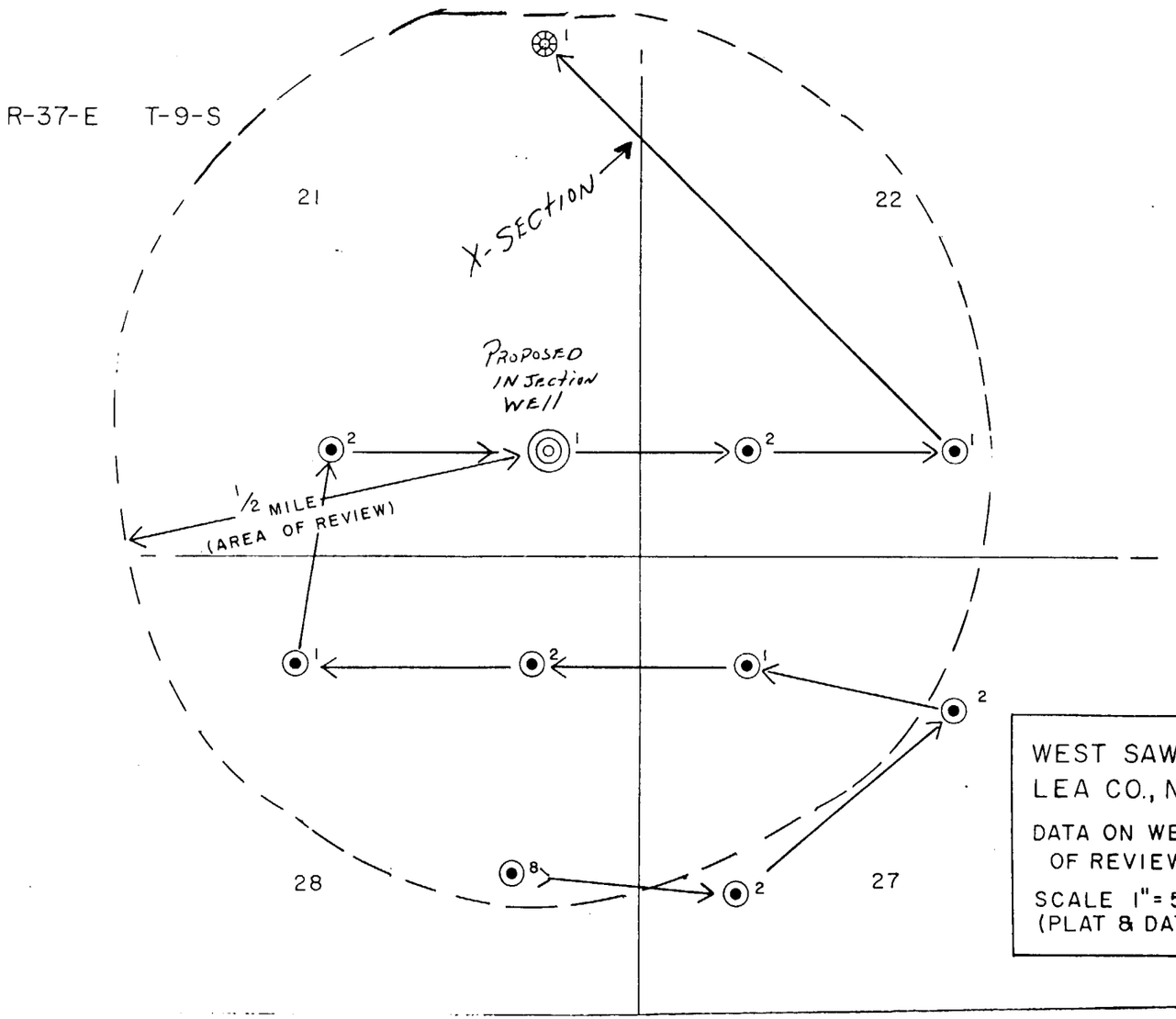
D & B OIL INC., NO. 1 SCHWALBE - 660' FSL & 560' FEL SECTION 21 - IP 158 BOPD - COMP. 4-4-'71 - T.D. 5040' - CASING 8-5/8" @ 418' W/250 SX - 4½" @ 5040' W/375 SX. PERF 4932' to 4954' & 4976' to 4992' - AC W/9000 EL 3981

OIL DEVELOPMENT CO. OF TEXAS NO. 2 FEDERAL "22" - 660' FS&WL - SECTION 22 - COMP. 10-29-'77 - IP PUMP 16 BOPD & 61 BWPD - T.D. 5023' - CASING 8-5/8" @ 434' W/275 SX. - 4½" @ 5023' W/1050 SX PERF 4920' to 4994' - AC W/9000 - EL 3983

OIL DEVELOPMENT CO. OF TEXAS NO. 1 FEDERAL "22" - 660 FSL & 1980' FWL - SECTION 22 - IP PUMP 21 BOPD & 62 BW - COMP 1-29-'71 - T.D. 5050' P.B. 5031' - CASING 8-5/8" @ 450' W/325 SX. 4½" @ 5050' W/ 250 SX. - PERF 4959' to 4982' AC W/6650 & 100# BEADS EL 3981

JOHN L. COX NO. 1 ROIL - 2121' FNL - 519' FEL - SECTION 21 - IPCAOF 959,000 CFGPD - T.D. 5005' - COMP. 11-20-'73 - CASING 8-5/8" @ 424' W/325 SX - 4½" 5005' W/250 SX PERF 4940' to 4992' AC W/7000 EL 3987





WEST SAWYER FIELD
LEA CO., NEW MEXICO

DATA ON WELLS IN AREA OF REVIEW

SCALE 1" = 500' 5-'82
(PLAT & DATA BY A.D.Slover)

LEA COUNTY NEW MEXICO WEST SAWYER (SAN AND) FIELD

Well: T&B OIL INC. 1 Schwalbe Result: OIL DO

Loc'n: 10 mi SW/Bledsoe; 660' FSL 560' FEL sec 21-9S-37E

Spud: 3-17-71; Comp: 4-4-71; Elev: 3970' grd; TD: 5040'

Casing: 8 5/8" 418/250 sx, 4½" 5040'/375 sx

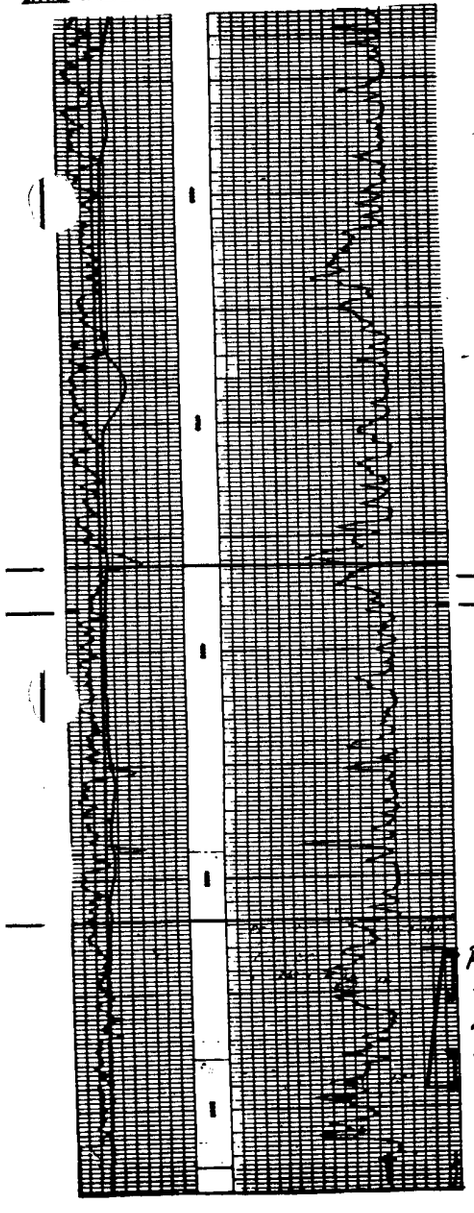
Prod Zone: T/Pay 4932', Prod thru perfs 4932-54' & 4976-92'

IPF: 158 BOPD no wtr, 16/64" ch, Grav NR, GOR 1266-1, TP 100#

Comp Info: No cores or DST's; Perf 4932-54' & 4976-92', A/9000 gals & 12 ball sealers; S&F/20 BFPH (60% oil & 50% AW); C/Veran Drlg. Co.

Tops: (EL) Rustler 2278', Yates 2886', San And 4188', Pt Marker 4768', Slaughter 4919'.

API No.: 30-025-23736



PERF 4932 TO 4954 + 4976 TO 4992

LEA COUNTY NEW MEXICO SAWYER, W. FIELD

Well: OIL DEVELOPMENT CO. OF TEXAS 2 Federal "22" Com. Result: OIL DO

Loc'n: 12 mi E/Crossroads, 660' FSL&WL's Sec 22-9S-37E.

Spud: 9-30-77; Comp: 10-29-77; Elev: 3972' grd; TD: 5023' San And;

Casing: 8 5/8" 434'/275 sx, 4 1/2" 5023'/1050 sx

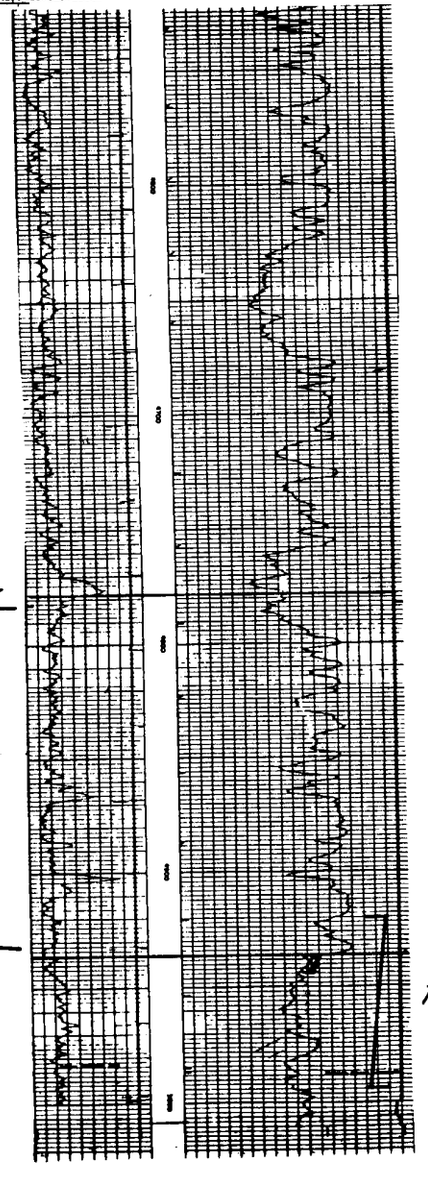
Prod Zone: (San And) T/Pay 4920', prod thru perfs 4920-94'

IPF: 16 BOPD & 61 BW, GOR 555-1, Grav 22

Comp Info: Perf (San And) 4920-30', 4936-94' w/1 SPF; A/9000 gals (20%); S/30 BO & 100 BW/9 hrs; Res GRL & CNL logs; C/Sitton.

Tops: (EL) San And 4340'

API No.: 30-025-23602



PERFS

LEA COUNTY NEW MEXICO W/SAWYER (SAN AND) FIELD

Well: OIL DEVELOPMENT CO. OF TEXAS #1 Federal "22" Result: OIL DO

Loc'n: 12 mi E/Crossroads; 660' FSL 1980' FWL Sec 22-9S-37E.

Spud: 1-5-71; Comp: 1-29-71; Elev: 3981' KB; 3970' grd; TD: 5050'; PB: 5031'

Casing: 8 5/8" 420'/325 sx, 4½" 5050'/250 sx

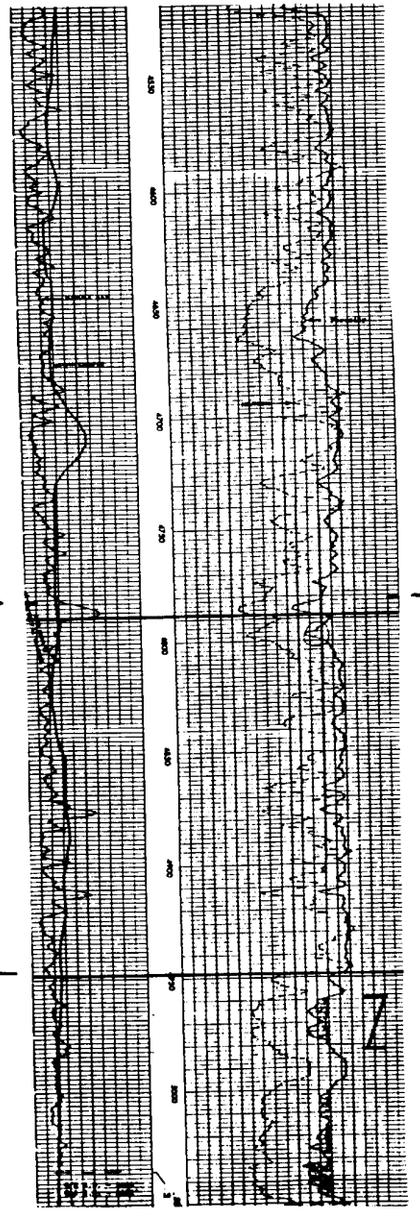
Prod Zone: T/Pay 4959', Prod thru perfs 4959-4982'

IPF: 21 BOPD plus 62 BW, Grav 22.3, GOR 971-1

Comp Info: No cores or DST's; Perf 4959-4982'/46 holes, A/6650 gals & 100# beads/2 stages; S/180 BF (50% LW); POP; P/21 BO & 62 BW/24 hrs; C/Sitton & Norton Drlg. Co.

Tops: (EL) Anhy 2260', Yates 2930', San And 4195'.

API No.: 30-025-23680



PI ZONE

SLAUGHT

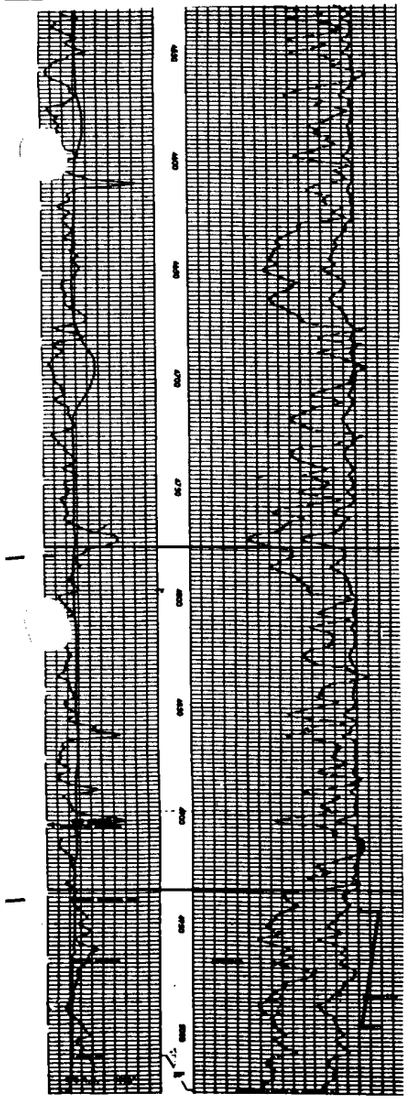
1"=40'

A COUNTY NEW MEXICO W/SAWYER (SAN AND) FIELD

IL DEVELOPEMENT CO. OF TEXAS 1 Federal-27 Result: OIL DO

2 mi E/Crossroads; 660' FN&WL & sec 27-9S-37E.

gud; 7-19-71; Comp: 8-11-71; Elev: 3968' grd, 3980' KB; TD: 5030'; PB: 5015'
asing: 8 5/8" 458'/325 sx, 4½" 5030'/250 sx
rod Zone: T/Pay 4979', Prod thru perfs 4979-96' & 4944-60'
PF: 166 BOPD, Grav 21, GOR 263-1
omp Info: No cores or tests; Perf 4979-96'/34 holes, 4944-60'/32 holes, A/215 gals, frac w/8000 gals AW & 200# beads; S/15 BFPH (90% oil); P/166 BOPD; C/Sitton & Norton Drlg. Co.
ops: (EL) Amby 2266', Salt 2340', Yates 2925', San And 4186'
PI No.: 30-025-23841

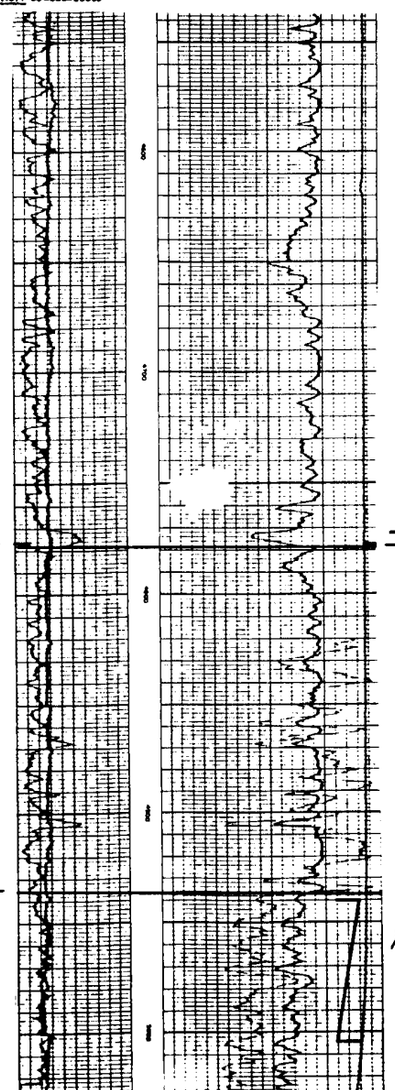


LEA COUNTY NEW MEXICO SAWYER, W. FIELD

Well: TAHOE OIL & CATTLE CO. 2 Arco Federal Result: OIL DO

Loc'n: 10 1/2 mi E/Crossroads, 660' FNL 660' FEL Sec 28-9S-37E.

Spud: 12-22-76; Comp: 1-23-77; Elev: 3967' grd; TD: 5037' San And; PB: 5022'
Casing: 8 5/8" 460'/375 sx, 4 1/2" 5037'/700 sx
Prod Zone: (San And) T/Pay 4940', prod thru perfs 4940-5006'
IPF: 96 BOPD & 22 BW, GOR 942-1, Grav 22.3
Comp Info: Perf (San And) @ 4940', 4949', 4951', 4958', 4961', 4966', 4969', 4961', 4984', 4987', 4993', 5004', 500 ' w/1 SPJ; A/7000 gals (28%); frac w/8000 gals G ad; P/9 BO & 22 BW/24 hrs; C/Sitton.
Tops (EL) Yates 2904', San And 4206', Slaughter 4937'
API No.: 30-025-25359



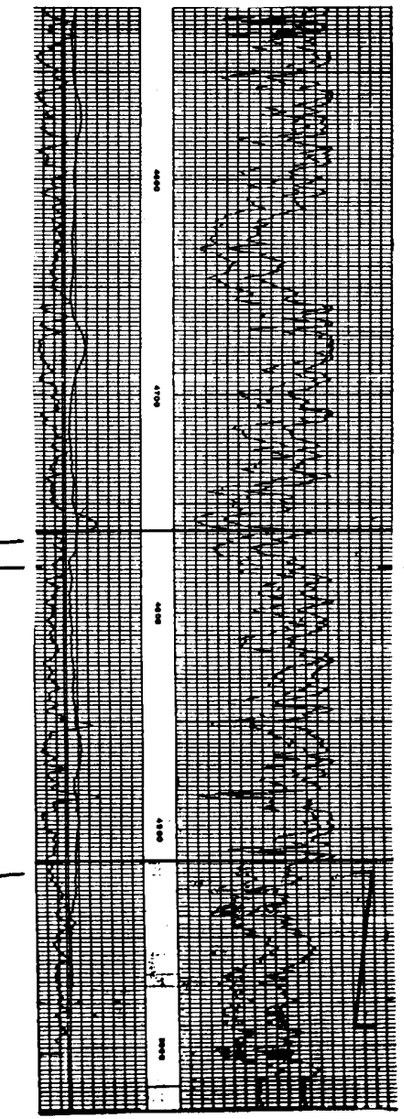
Perf's

LEA COUNTY NEW MEXICO W/SAWYER (SAN AND) FI

Well: D & B OIL INC, 71 ARCO Result: OIL DO

Loc'n: 11 mi E/Crossroads; Sec 28-9S-37E; 660' FNL, 2180' FEL of Sec

Spud: 12-9-70, Comp: 1-4-71; Elev: 3979' K B, 3968' Grd; TD: 5040'
Casing: 8-5/8" 418'/250 sx; 4-1/2" 5040'/375 sx
Prod Zone: (San And), T/Pay 4920', Prod thru Perfs 4920-4992'
IPF: 120 BOPD, no wtr 32/64" ch, Grav 20.5, GOR 600-1, TP 75#, CP 200#
Comp Info: No cores or tests; Perf 4920-4992'/24 holes; A/9,000 gals; C/Sitton & Norton Drlg Co.
Tops (EL) Rustler 2386', Yates 2882', San And 4274'
API No.: 30-025-23450

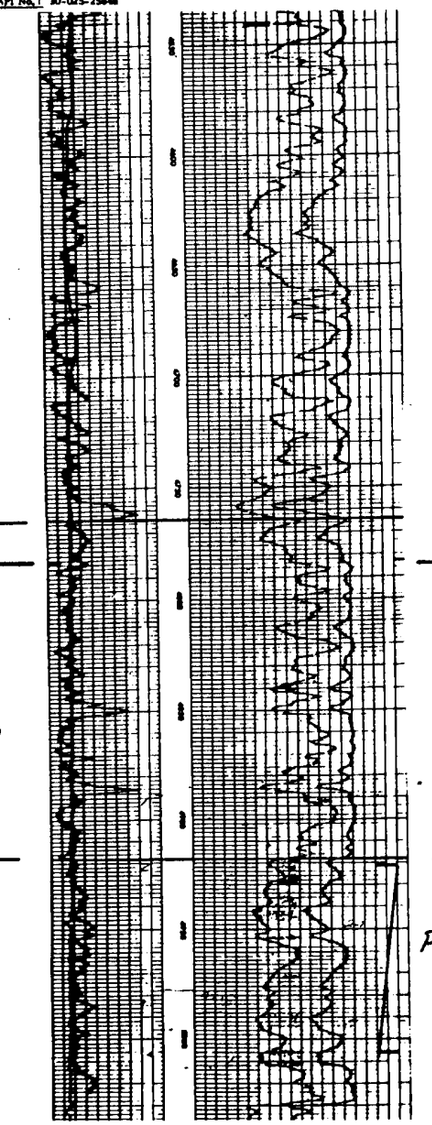


LEA COUNTY NEW MEXICO SAWYER, W. FIELD

Well: TAHOE OIL & CATTLE CO. 2 Schwalbe Result: OIL D

Loc'n: 10 mi E/Crossroads, 660' FSL 1980' FEL Sec 21-9S-37E.

Spud: 10-18-77; Comp: 11-26-77, Elev: 3971' grd; TD: 5044' San And; PB: 5040'
Casing: 8 5/8" 460'/350 sx, 4 1/2" 5044'/700 sx
Prod Zone: (San And) T/Pay 4921', prod thru perfs 4921-5006'
IPF: 36 BOPD & 20 BW, GOR 4417-1, Grav 20.5
Comp Info: No cores or DST's; Perf (San And) 4921-5006' w/12 shots (OA); A/7000 gals (28%); frac w/6000 gals & 12,000# adj C/Sitton.
Tops (EL) Rustler 2304', Yates 2866', San And 4152'
API No.: 30-025-25646



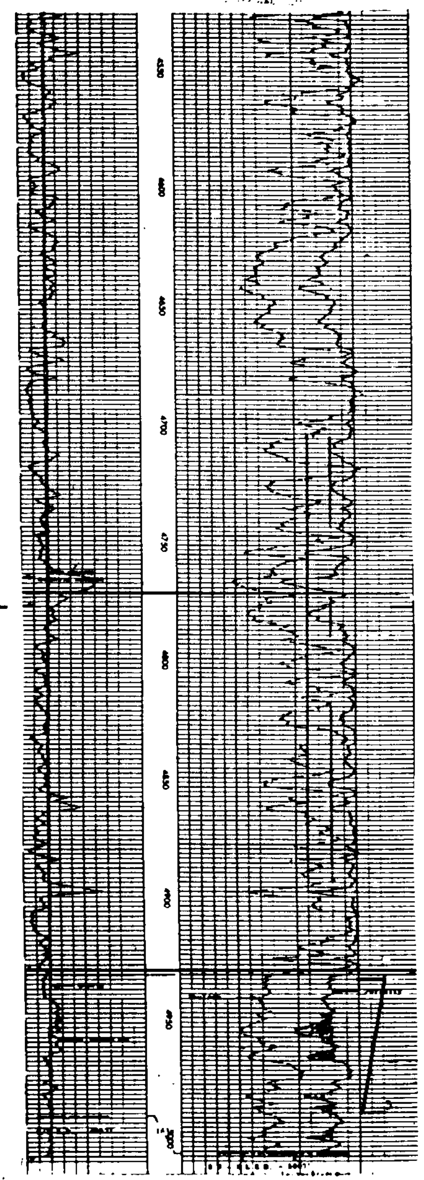
Perf

LEA COUNTY — NEW MEXICO — W/SAWYER (SAN ANDRES) FIELD

Well: OIL DEVELOPMENT CO. OF TEXAS #3 SUPER — Result: OIL DO

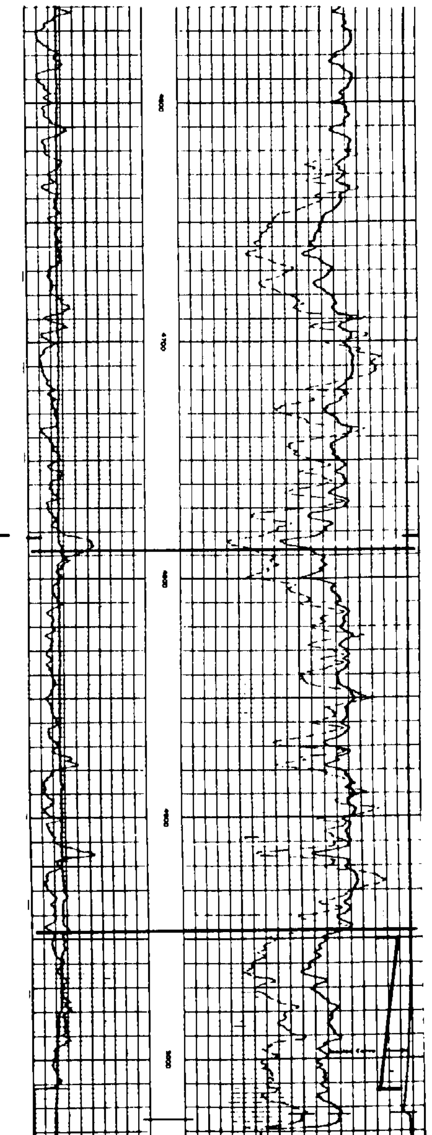
Loc'n 12 mi E/Crossroads; 1980' FNL, 660' FEL, Sec 27-9S-37E

Spud: 11-18-70; Comp: 12-4-70; Elev: 3980' KB; TD: 5030'
Casing: 8 5/8" 420'/325 sx; 4½" 5030'/250 sx
Prod Zone: (San And) T/Pay 4936', Prod thru perfs 4936-4992'
IPF: 153 BOPD no wtr, 5% ch, Grav 23.2, GOR 201-1
Comp Info: No cores or tests; Perf 4936-4992', A/8000 gals; P/153 BOPD, no wtr, 5% ch, Grav 23.2; C/Sitton & Norton Drlg. Co.
Tops: (EL) Rustler 2268', Yates 2920', San And 4154', PI Zone 4773', Slaughter Pay 4934'.



-800

O.L DEV. Co. OF TEXAS NO. 2-27
FEDERAL - 1980 FN - 660 FWL -
SEC 27 - IP PUMP 84 BO + 298 W
COMP. 12-28-76 - 8 5/8" @ 427
4½" @ 5024 W/250 SX - PERF
4950 TO 5013 - AC W/9000.
EL. 3983 T.D. 5024



PERFS

PI ZONE

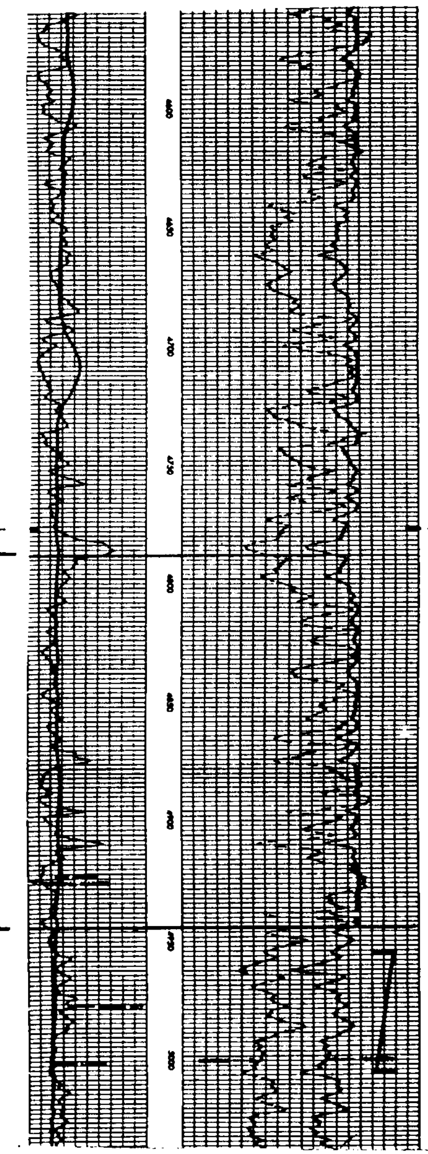
SLAUGHTER PAY

LEA COUNTY — NEW MEXICO — SAWYER WEST FIELD

Well: JOHN L. COX, 2 T.P — Result: OIL DO

Loc'n: 11 mi E/Crossroads; Sec 27-9S-37E; 860' FNL, 1980' FWL Sec

Spud: 8-16-74; Comp: 9-15-74; Elev: 3968' Gr; TD: 5100' San And
Casing: 8-5/8" 411'/125 sx; 4-1/2" 5100'/250 sx
Prod Zone: (San And), T/Pay 4957', Prod thru Perfs 12/4957-5007'
IPP: 78 BOPD + 12 BW, Grav 22, GOR 280-1
Comp Info: Perf 12/4957-5007', A/7000 gals; C/Sitton & Norton
Tops: NR
API No: 30-025-24835



PERF'S

RECEIVED
JUN 17 1982
O. C. D.
HOBBS OFFICE

TAHOE OIL & CATTLE CO.

PHONE (915) 697-7938 • 4402 W. INDUSTRIAL • MIDLAND, TEXAS 79703

VII.

1. Anticipated daily injection volume (bbls.); 50 to 200
2. Type system-open
3. Injection pressure-500 psig to 2000 psig
4. Source of water-produced San Andres formation water. Water analysis attached. See copies A, B, and C.
5. Produced water will be injected into zone it is produced from.

VIII.

The San Andres formation produces at an approximate depth of 4,950 to 5,000 feet. It is of Permian age and is approximately 1,200 feet thick. It consists of brown, finely crystalline dolomite associated with anhydrite nodules and stringers. There are also locally thin shale stringers

All known fresh water of 10,000 mg/l or less is found below the surface to a depth of 350 feet. There is no known source of fresh water of 10,000 mg/l or less below the San Andres formation.

IX.

No stimulation program is planned.

X.

Electrical logs were submitted on the Schwalbe #1 in 1977 when the well was completed. See exhibit D.

XI.

There are no fresh water wells in the "area of review."

XII.

After careful examination, Tahoe Oil & Cattle has found no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII.

See article III, section B

DWL-451-A

DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

An Operating Unit of The Dow Chemical Company

LABORATORY LOCATION

API WATER ANALYSIS REPORT FORM

DATE

LAB NO.

Company		Sample No.	Date Sampled
TAHOE			6-3-82
Field	**Legal Description**	**County or Parish**	**State**
	SEC 23 -	LEA	NM
Lease or Unit	**Well**	**Depth**	**Formation**	**Water, B/D**
ARCO + SUGABAT LEASE			SAN ANDRES	
Type of Water (Produced, Supply, etc.)	**Sampling Point**		**Sampled By**

DISSOLVED SOLIDS

	CATIONS	mg/L	me/L
	Sodium, Na (calc.)	81,200	3530
1.6	Calcium, Ca	12800	640
1.1	Magnesium, Mg	12200	1000
	Barium, Ba		

	ANIONS		
2.9	Chloride, Cl	183,200	5170
	Sulfate, SO_4		
	Carbonate, CO_3	0	
	Bicarbonate, HCO_3	6	

Total Dissolved Solids (calc.)

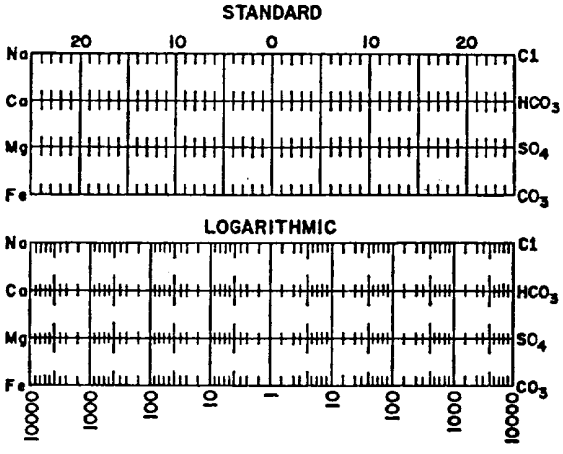
Iron, Fe (total)

Sulfide, as H_2S

OTHER PROPERTIES

pH	6.55 / 6.0
Specific Gravity, 60/60 F.	1.205
Resistivity (ohm-meters) ____ F.	

WATER PATTERNS — me/L



REMARKS & RECOMMENDATIONS:

A.

BASED ON API RECOMMENDED PROCEDURE

PETROLITE CORPORATION
TRETOLITE DIVISION
369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

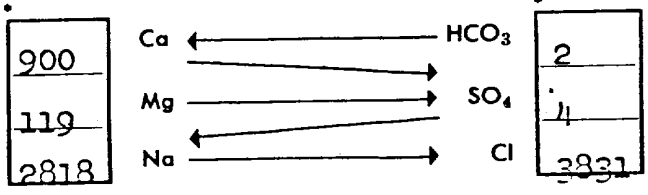
COMPANY Tahoe Oil & Cattle ADDRESS Kermit Tx. DATE: 3-31-80

SOURCE Schwalbe #1 Well File DATE SAMPLED 3-15-80 ANALYSIS NO.

Analysis		Mg/L		*Meq/L	
1. PH	4.8				
2. H_2S (Qualitative)	28 ppm				
3. Specific Gravity	1.175				
4. Dissolved Solids		220,457			
5. Suspended Solids					
6. Phenolphthalein Alkalinity ($CaCO_3$)		0			
7. Methyl Orange Alkalinity ($CaCO_3$)		100			
8. Bicarbonate (HCO_3)	HCO_3	122	÷61	2	HCO_3
9. Chlorides (Cl)	Cl	136,000	÷35.5	3831	Cl
10. Sulfates (SO_4)	SO_4	200	÷48	4	SO_4
11. Calcium (Ca)	Ca	18,000	÷20	900	Ca
12. Magnesium (Mg)	Mg	1458	÷12.2	119	Mg
13. Total Hardness ($CaCO_3$)		51,000			
14. Total Iron (Fe)					
15. Barium (Qualitative)					
16.					

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION



Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
$Ca(HCO_3)_2$	81.04		2		162
$CaSO_4$	68.07		4		272
$CaCl_2$	55.50		894		49,617
$Mg(HCO_3)_2$	73.17		-0-		-0-
$MgSO_4$	60.19		-0-		-0-
$MgCl_2$	47.62		119		5,666
$NaHCO_3$	84.00		-0-		-0-
Na_2SO_4	71.03		-0-		-0-
NaCl	58.46		2818		164,740

Saturation Values Distilled Water 20°C

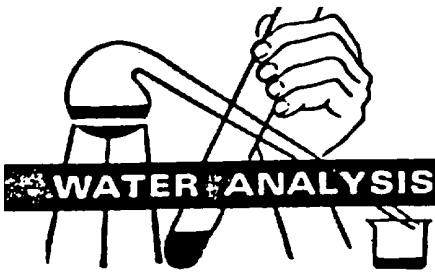
$CaCO_3$	13 Mg/L
$CaSO_4 \cdot 2H_2O$	2,090 Mg/L
$MgCO_3$	103 Mg/L

Freeman

B

Respectfully submitted
TRETOLITE COMPANY

Mark Adkins



WATER ANALYSIS REPORT

SERVICE LABORATORY: Odessa, Texas Phone (915) 362-2353 & 563-0863
RESEARCH LABORATORY: Houston, Texas Phone (713) 431-2561
PLANT: Odessa, Texas Phone (915) 362-2353 & 563-0863

Champion Chemicals, Inc.
BOX 4513
ODESSA, TEXAS 79760

REPORT FOR: James Sellars
CC: Clyde Harrison
CC:
CC:
COMPANY: Tahoe Oil & Cattle Co.
ADDRESS:
SERVICE ENGINEER: Troy Gladden

DATE SAMPLED: 10/3/78
DATE REPORTED: 10/5/78
FIELD, LEASE, OR WELL: as listed below
COUNTY: STATE: N. Mex.
FORMATION:
DEPTH:
SUBMITTED BY: Troy Gladden

CHEMICAL ANALYSIS (AS PARTS PER MILLION)

Chemical Component	Field, Lease, or Well: T.P. Federal #1	Arco #2	* Schwalbe #1	* Schwalbe #2		
Chloride (Cl)	192,000	166,000	187,000	174,000		
Iron (Fe)						
Total Hardness ($CaCO_3$)	121,100	69,900	74,400	78,300		
Calcium (Ca)	24,800	15,400	16,240	17,160		
Magnesium (Mg)	14,361.3	7,630.2	8,213.4	8,602.2		
Bicarbonate (HCO_3)	19.52	124.44	17.08	12.2		
Carbonate (CO_3)	neg.	neg.	neg.	neg.		
Sulfate (SO_4)	300	700	800	900		
Hydrogen Sulfide (H_2S)	strong	mild	mild	0		
Specific Gravity						
Density, lb./gal.						
pH - Meter [X] Strip [ ]	5.6	6.1	5.6	5.4		

OTHER DESCRIPTION, REMARKS AND RECOMMENDATIONS

Arco #1 and Clair #1 were down. Will catch samples ASAP.

REPORTED BY: Ginger Rohloff TITLE: Chemist

LEA

21-9-37

Dresser Atlas — Sidewall Neutron Gamma Ray

FILE NO.	
COMPANY	D & B OIL, INCORPORATED
WELL	SCHNALBE NO. 1
FIELD	WEST SAWYER
COUNTY	LEA STATE NEW MEXICO
LOCATION	660'FSL & 560'FEL
Other Services	L/L
SEC. 21 TWP. 9-S RGE. 37-E	
Permanent Datum: GROUND LEVEL Elev. 3970	Elevations: KB 3981
Log Measured from: K. B. 11 Ft. Above Permanent Datum	DF 3980
Drilling Measured from: K. B.	GL 3970

Date	3-26-71			
Run No.	ONE			
Depth—Driller	5030			
Depth—Logger	5025			
Bottom Logged Interval	5023			
Top Logged Interval	SURFACE			
Casing—Driller	8 5/8@ 418	@	@	@
Casing—Logger	416			
Bit Size	7 7/8"			
Type Fluid in Hole	SALT MUD			
Density and Viscosity	10.5 41			
pH and Fluid Loss	10 cc	cc	cc	cc
Source of Sample	PIT			
Rm @ Meas. Temp.	.092 @ 72 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.068 @ 72 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.110 @ 72 °F	@ °F	@ °F	@ °F
Source of Rmf and Rmc	MEAS.	MEAS.		
Rm @ BHT	.061 @105 °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS			
Max. Rec. Temp. Deg. F.	105 °F	°F	°F	°F
Equip. No. and Location	5040 HOBBS			
Recorded By	HOWE			
Witnessed By	MR. MONROE			

Reproduced By
Electrical Log Services
Monahans, Texas 79756

REFERENCE W 4913P ELSI

10 COMPLETION RECORD

SPUD DATE

COMP DATE

DST RECORD

API 30-025-23726

CASING RECORD

PERFORATING RECORD

D.

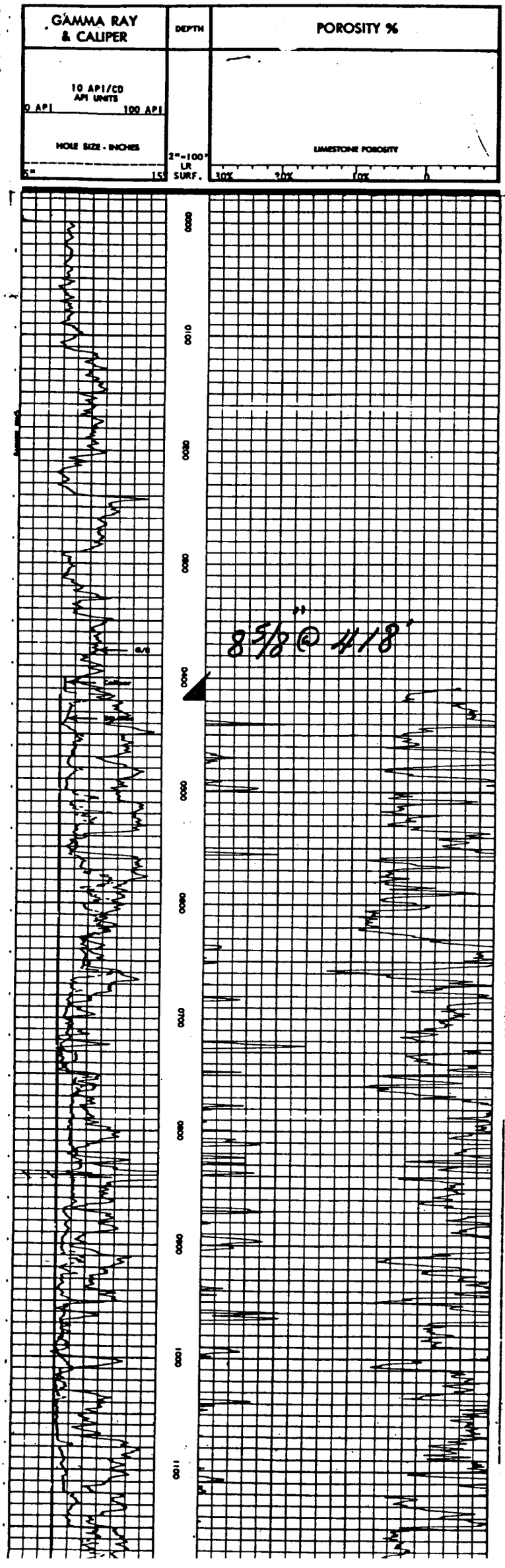
REMARKS:

Gamma Ray		Equipment Data		Sidewall Neutron	
Run No.	ONE	Run No.	ONE		
Tool Model No.	422-40	Log Type	N/EN		
Diam.	3 3/8"	Tool Model No.	2407		
Detect. Model No.	RGDA	Serial No.	301		
Type	SCINT.	Diam.	3"		
Length	24	Detect. Model No.	03H		
Dist. to Ht. Source	120"	Type	P-COUNTER		
		Length	4"		
Computer Data		Source Model No.	51785		
1974	1	Serial No.	3736		
		Type	AM BE		
		Strength	6.5 CURIES		

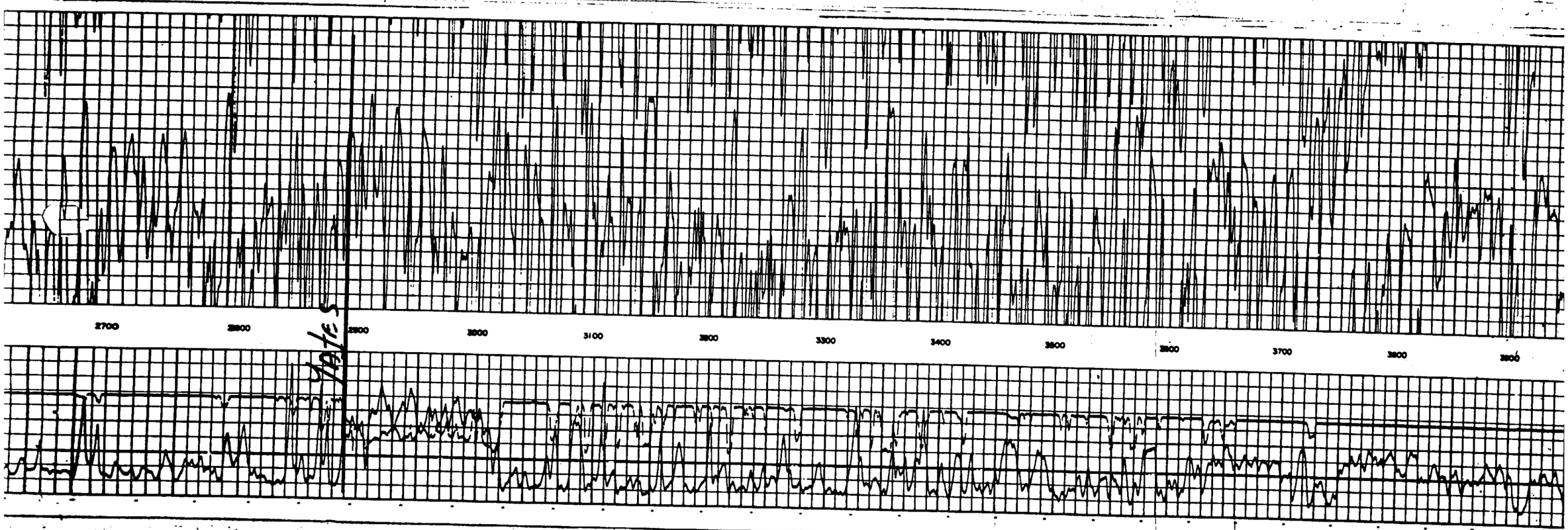
Logging Data

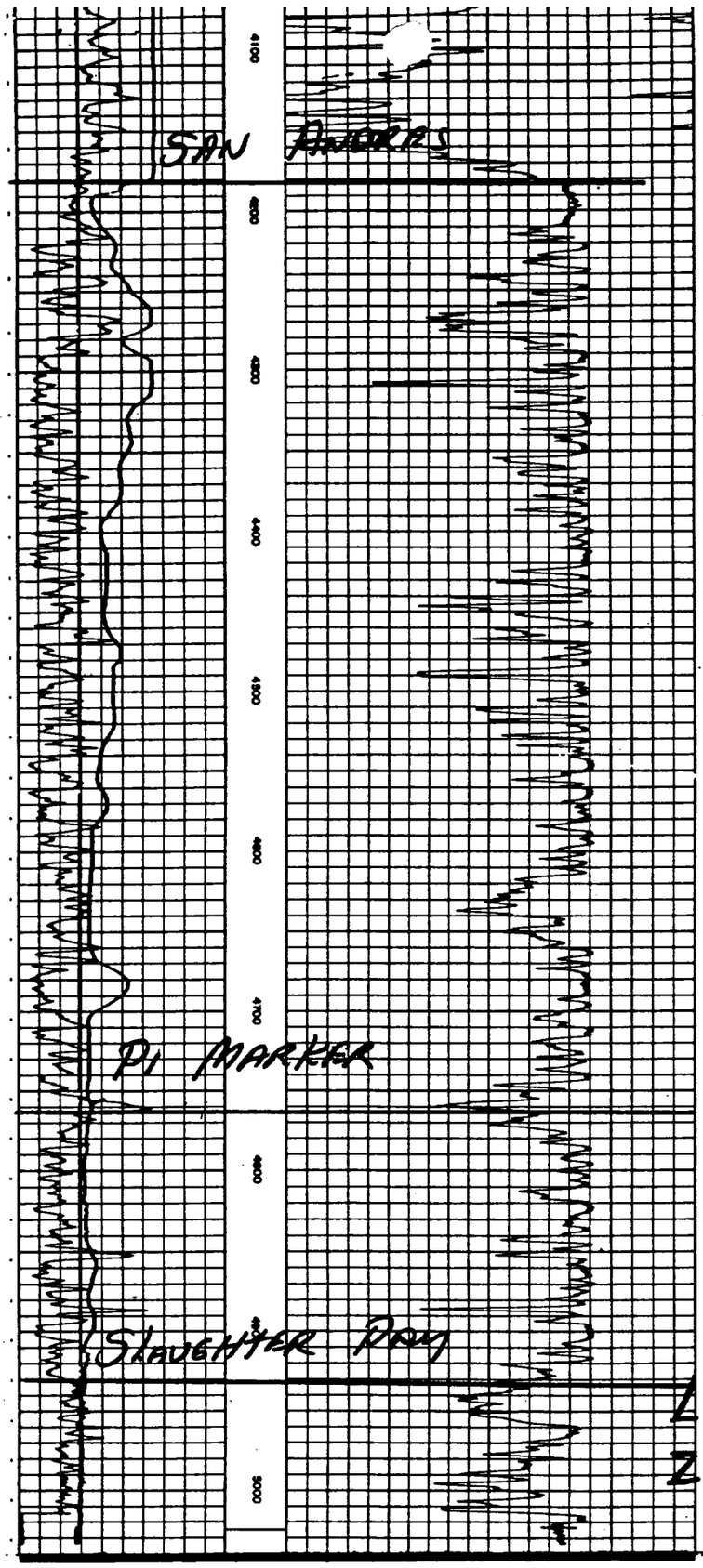
Run No.	General Depths From	To	Speed Ft./Min.	T.C. Sec.	Gamma Ray Scale Settings	Sidewall Neutron Zero	Porosity Units/Div.	Scale	Gamma Ray T.C. Sec.	Gamma Ray Scale Settings	Gamma Ray Zero Div. 1 or 0	Gamma Ray API G.R. Units/Div.
1	5023	SURF.	REC	1	316	1-5.45	2%	30K/0	1	686	0	10

Remarks: MAXIMUM CALIPER READING 1 3/4". Reference Literature


GAMMA RAY & CALIPER
DEPTH
POROSITY %
10 API/CD
API UNITS
0 API
100 API
HOLE SIZE - INCHES
6"
15
2"=100'
LR
SURF.
LIMESTONE POROSITY
30%
20%
10%
0
8 5/8" @ 418'

Total Penetration Depth


2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900



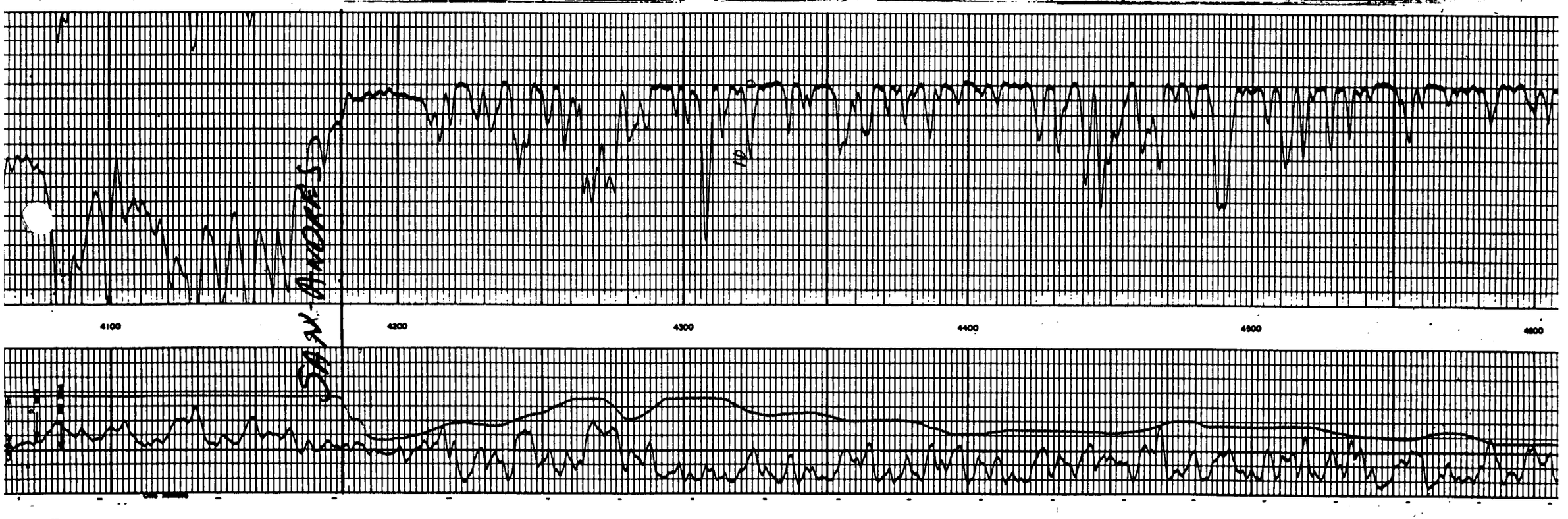
PERF 4932
TO 4954
PERF 4976
TO 4992

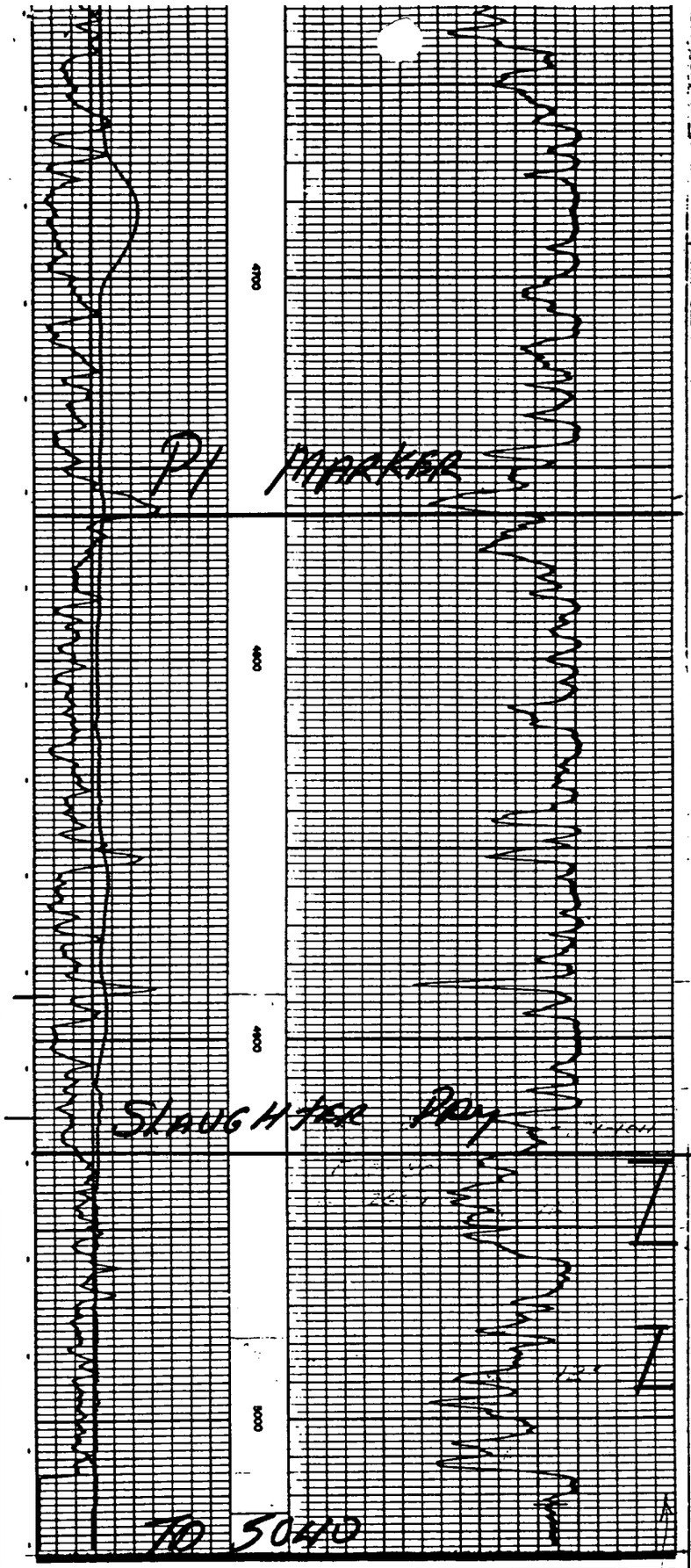
AC W/ 9000.
IP FLOW 158 BOPD

5" ——— 15" HOLE SIZE - INCHES 0 API 100 API 10 API/CD API UNITS		30% 20% 10% 0 LIMESTONE POROSITY
GAMMA RAY & CALIPER	DEPTH	POROSITY %

Company	D & B OIL, INCORPORATED	Drillers T.D.	5030'
Well	SCHALBE NO. 1	Log F.R.	5023'
Field	WEST SAWYER	Log T.D.	5025'
County	LEA	Elevations:	
State	NEW MEXICO	K.B. 3981' D.F. 3980'	G.L. 3970'

GAMMA RAY & CALIPER	DEPTH	POROSITY %
10 API/CD API UNITS 0 API 100 API HOLE SIZE - INCHES 5" 15"	5"=100' LR 4050'	LIMESTONE POROSITY 30% 20% 10% 0


4100
4200
4300
4400
4500
4600



PERFS
4932 TO
4954

4976 TO
4992

AC W/ 9000
IP FLOW 158BOPD

5" HOLE SIZE - INCHES 15"
0 API 100 API
10 API/CD
API UNITS

30% 20% 10% 0
LIMESTONE POROSITY

GAMMA RAY & CALIPER	DEPTH	POROSITY %

Company	D & B OIL, INCORPORATED	Drillers T.D.	5030'		
Well	SCHMALBE NO. 1	Log F.R.	5023'		
Field	WEST SAWYER	Log T.D.	5025'		
County	LEA	Elevations:			
State	NEW MEXICO	K.B. 3981'	D.F. 3980'	G.L. 3970'	

REPEAT SECTION