STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

SWD 698 12/1/97

FORM C-108
Revised 7-1-81

NOV 13 1997

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: SAGA PETROLEUM LLC

Address: 415 W. WALL, SUITE 835 MIDLAND, TX 79701

Contact party: JOE N CLEMENT Phone: 915-684-4293

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.).

PSL N-20486 683

*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: JOE N. CLEMENT Title AREA ENGINEER

Signature: Joe N Clement Date: 11/10/97

* 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 district office

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.

Saga Petroleum LLC

U.D. Sawyer #6
990' FSL & 1650' FEL
Unit O, Sec. 27-T9S-R36E
Lea County, New Mexico

Application for Authorization to Inject

VI. Attached is a tabulation of all wells of public record that fall within the ½ mile radius of the proposed SWD well, the U.D. Sawyer #6. This investigation has further shown that all these wells have a good cement seal around their casing shoe and will therefore prevent the upward migration of the disposed water into any potable water zone. The U.D. Sawyer #6 was returned to production in July, 1997, and has yet to produce any hydrocarbons. Faulting indicated from geologic data and producing volumes would indicate the #6 is either below the oil-water contact, or in a separate reservoir than the offset producers.

VII. The proposed average daily injection rate for the subject well is 10,000 BWPD; the maximum daily injection rate would be 15,000 BWPD. This will be a closed system with an average pressure of zero and a maximum pressure of 1000 psi. Only produced Devonian water will be injected in the proposed well, so incompatibility will not be a problem.

VIII. The injection zone is a dolomite known as the Devonian. The top of the Devonian in this well is at 12,000', and is approximately 300' thick. The zone will be selectively perforated from 12,068' - 12,135'. The main source of drinking water in this area comes from the Cretaceous formation, the base of which is at 180'. The Ogallala overlies the Cretaceous, but pinches out in certain areas around the zone of interest. There are no known sources of drinking water underlying the injection interval.

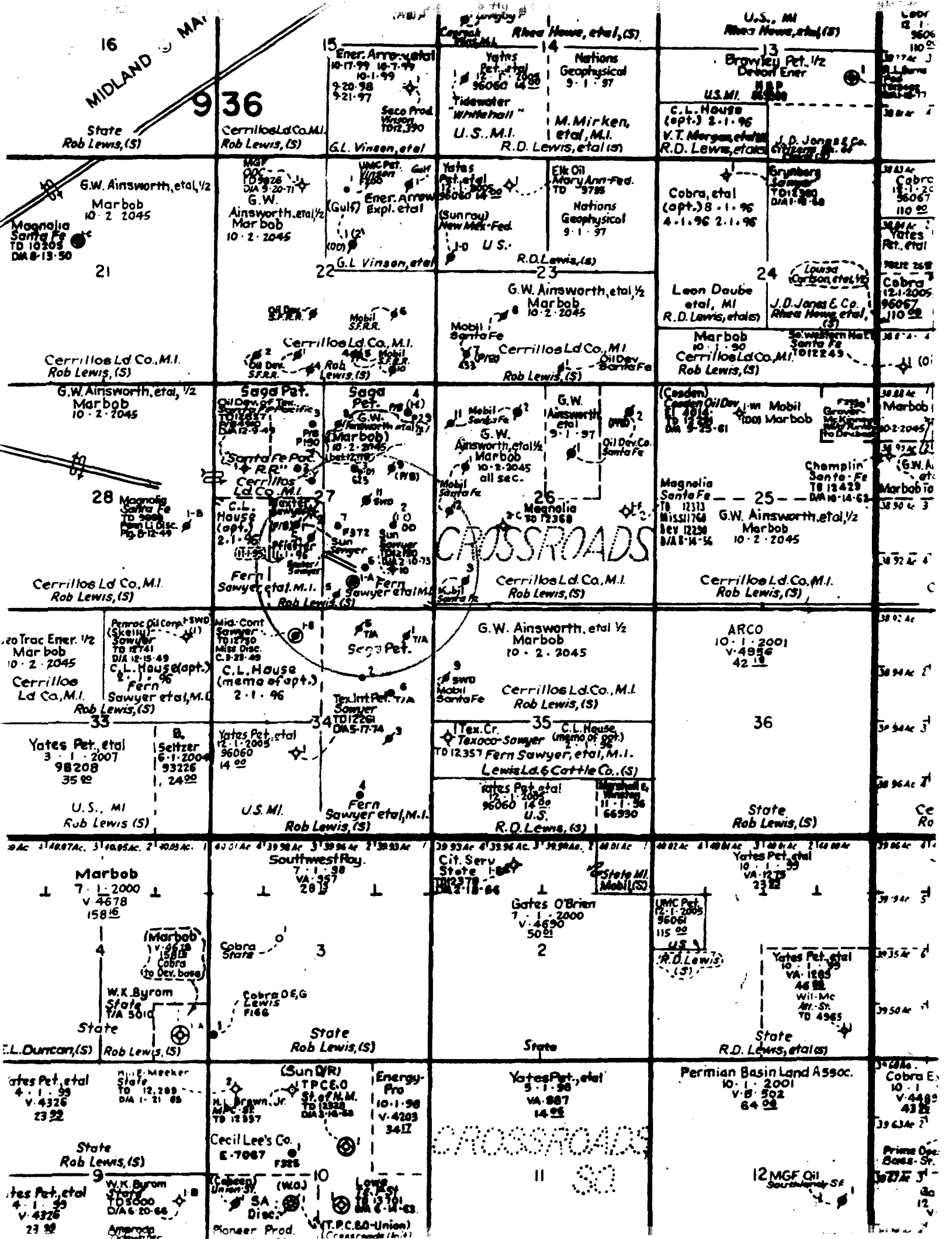
IX. After perforation, the well will be stimulated with 3000 gallons of 15% NEFE HCl and ball sealers.

X. Log and test data is on file with the Division.

XI. Attached is an analysis of the water from a water well approximately 1 mile northwest of the proposed disposal. This is the only well which could be located.

XII. Saga Petroleum LLC has examined the available geologic and engineering data and can find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. The required "Proof of Notice" is attached.


MIDLAND
CROSSROADS
16
15
14
13
936
Cerrillos Ld Co. M.I.
Rob Lewis, (S)
Ener. Arrow, etal
10-17-99 10-7-99
10-1-99
9-20-98
9-21-97
Saco Prod.
Winson
TD 12,390
G.L. Vinson, etal
Yates Pet. etal
12-1-2005
96060
14 00
Tidewater
"Whitehall"
U.S. M.I.
Nations
Geophysical
9-1-97
M. Mirken, etal, M.I.
R.D. Lewis, etal (S)
U.S., MI
Rhea Howe, etal, (S)
Brawley Pet. 1/2
Devon Ener
H.B.P.
U.S. MI.
C.L. House
(opt.) 2-1-96
V.T. Morgan, etal
R.D. Lewis, etal (S)
J.D. Jones & Co.
Citizens
G.W. Ainsworth, etal, 1/2
Marbob
10-2-2045
Magnolia
Santa Fe
TD 10205
DIA 8-13-50
21
22
23
24
Mar
000
TD 9826
DIA 9-20-71
G.W.
Ainsworth, etal, 1/2
Marbob
10-2-2045
UMC Pet.
Vinson
Fy66
Ener. Arrow
Expl. etal
(Gulf)
(100)
Yates
Pet. etal
96060
14 00
Elk Oil
Mary Ann-Fed.
TD 9788
(Sunray)
New Mex-Fed.
1-D
U.S.
Nations
Geophysical
9-1-97
R.D. Lewis, (S)
Cobra, etal
(opt.) 8-1-96
4-1-96 2-1-96
Grynberg
Sawyer
TD 12,380
D/A 1-18-68
Louisa
Carlson, etal, 1/2
Leon Daube
etal, MI
R.D. Lewis, etal (S)
J.D. Jones & Co.
Rhea Howe, etal,
(S)
Cobra
12-1-2005
96067
110 00
Yates
Pet. etal
Oil Dev.
S.F.R.R.
Mobil
S.F.R.R.
Cerrillos Ld Co., M.I.
Rob Lewis, (S)
Mobil
Santa Fe
Oil Dev.
Santa Fe
Marbob
10-1-90
Southwestern Nat.
Santa Fe
TD 12249
G.W. Ainsworth, etal, 1/2
Marbob
10-2-2045
28
27
26
25
Magnolia
Santa Fe
TD 9888
Plug 8-12-44
Saga Pet.
Oil Dev. of Tex.
Pacific
TD 12,417
D/A 12-9-49
Saga
Pet.
G.W.
Ainsworth, etal, 1/2
(Marbob)
10-2-2045
Santa Fe Pac.
R.R.
C.L.
House
(opt.)
2-1-96
Texaco
Sawyer
Pfeiffer
Baker
Sawyer
Sun
Sawyer
TD 12,190
Fern
Sawyer, etal, M.I.
Rob Lewis, (S)
G.W.
Ainsworth
etal
9-1-97
G.W.
Ainsworth, etal, 1/2
Marbob
10-2-2045
all sec.
Oil Dev. Co.
Santa Fe
Magnolia
TD 12360
(Cesden)
Cesden Oil Dev.
Mobil
Marbob
Champlin
Santa Fe
TD 13429
D/A 10-14-62
Magnolia
Santa Fe
TD 12313
Miss 11768
Dev 12298
D/A 8-14-56
G.W. Ainsworth, etal, 1/2
Marbob
10-2-2045
Cerrillos Ld Co., M.I.
Rob Lewis, (S)
Trac Ener. 1/2
Marbob
10-2-2045
Cerrillos
Ld Co., M.I.
Rob Lewis, (S)
Penroc Oil Corp.
(Skelly)
Sawyer
TD 12741
D/A 12-15-49
C.L. House (opt.)
2-1-96
Fern
Sawyer, etal, M.I.
Mid-Cont
Sawyer
TD 12750
Miss Disc.
C.3-23-49
C.L. House
(memo of opt.)
2-1-96
Saga Pet.
Tex. Int. Pet.
Sawyer
TD 12261
D/A 5-17-74
Fern
Sawyer, etal, M.I.
Rob Lewis, (S)
G.W. Ainsworth, etal 1/2
Marbob
10-2-2045
Mobil
Santa Fe
Cerrillos Ld. Co., M.I.
Rob Lewis, (S)
ARCO
10-1-2001
V-4956
42 19
33
34
35
36
Yates Pet., etal
3-1-2007
98208
35 00
B. Seltzer
6-1-2004
93226
24 00
U.S., MI
Rob Lewis (S)
Yates Pet. etal
12-1-2005
96060
14 00
U.S. M.I.
Tex. Cr.
Texoco-Sawyer
TD 12357
C.L. House
(memo of opt.)
2-1-96
Fern Sawyer, etal, M.I.
Lewis Ld. & Cattle Co., (S)
Yates Pet. etal
12-1-2005
96060
14 00
U.S.
R.D. Lewis, (S)
Marshall E.
Winston
11-1-56
66930
State
Rob Lewis, (S)
Marbob
7-1-2000
V-4678
158 16
Southwest Roy.
7-1-98
VA-357
28 13
Cit. Serv
State 1-8
TD 12378
D/A 2-18-66
State M.I.
Mobil (S)
Gates O'Brien
7-1-2000
V-4690
50 01
Yates Pet. etal
10-1-99
VA-12775
23 22
UMC Pet.
12-1-2005
96061
115 00
U.S.
R.D. Lewis
(S)
4
3
2
Marbob
V-4618
158 16
Cobra
(to Dev. base)
W.K. Byrom
State
T/A 5010
State
E.L. Duncan, (S)
Rob Lewis, (S)
Cobra
State
Cobra D&G
Lewis
F166
State
Rob Lewis, (S)
State
Yates Pet. etal
10-1-99
VA-1285
46 92
Wil-Mc
Atl.-St.
TD 4965
State
R.D. Lewis, etal (S)
Yates Pet. etal
4-1-99
V-4326
23 92
State
Rob Lewis, (S)
M.E. Meeker
State
TD 12,289
D/A 1-21-69
(Sun O/R)
TPCE.O
St. of N.M.
TD 12328
D/A 3-16-69
H.L. Brown, Jr.
MPC-85
TD 12337
Energy-
Pro
10-1-98
V-4203
34 17
Cecil Lee's Co.
E-7067
F325
Yates Pet. etal
5-1-98
VA-887
14 00
Permian Basin Land Assoc.
10-1-2001
V-B-502
64 00
9
10
11
12
Yates Pet. etal
4-1-99
V-4326
23 99
W.K. Byrom
State
TD 5000
D/A 6-20-66
Amerada
(Cabeen)
Union-St.
(W.O.)
SA
Disc.
Pioneer Prod.
Lowe
T.D. 13701
D/A 6-11-83
(T.P.C.&O.-Union)
MGF Oil
Southwestern St.

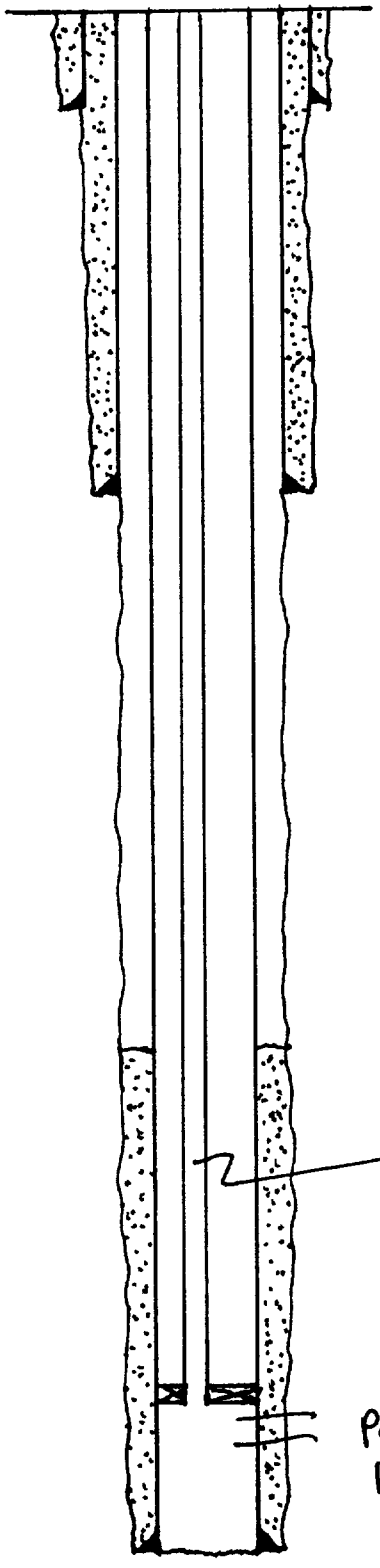
Offset wells to the
U.D. Sawyer #6

Well	Location	Surface Casing	Inter. Casing	Prod. Casing	TD	Completions	P&A
Sawyer #1 Spud 10/4/84	Sec. 27-T9S-R36E Unit K 1650' FSL & 2310' FWL	13 3/8" @ 276' Cmt. w/ 350 sx TOC @ surf by circ	8 5/8" @ 4125' Cmt w/ 1650 sx TOC @ surf by circ	5 1/2" @ 11920' Cmt w/ 250 sx TOC @ 10150' by calc.	11949	Open hole 11920-949'	P/A'd Schematic Attached
Dessie Sawyer #1 Spud 6/22/48	Sec. 27-T9S-R36E Unit K 1980' FSL & 1980' FWL	13 3/8" @ 240' Cmt. w/ 300 sx TOC @ surf by circ	9 5/8" @ 4617' Cmt w/ 4850 sx TOC @ surf by circ	5 1/2" @ 12218' Cmt w/ 2000 sx TOC @ 5407' by calc.	12218	11740-840' sqz w/ 75 sx 11740-780'	P/A'd Schematic Attached
Dessie Sawyer #2 Spud 2/7/68	Sec. 27-T9S-R36E Unit K 2310' FSL & 2310' FWL	13 3/8" @ 249' Cmt. w/ 300 sx TOC @ surf by circ	8 5/8" @ 4199' Cmt w/ 1400 sx TOC @ surf by circ	5 1/2" @ 11869' Cmt w/ 325 sx TOC @ 10490' by TS	11983'	11926-42' sqz w/ 200 sx 11837-57' Ran liner, perf 11833-45'	P/A'd Schematic Attached
Santa Fe Pacific #3 SWD Spud 5/29/48	Sec. 27T9S-R36E Unit M 660' FSL & 660' FWL	13 3/8" @ 320' Cmt. w/ 300 sx TOC @ surf by circ	9 5/8" @ 6198' Cmt w/ 4000 sx TOC @ 1810' by TS	7" @ 12240' Cmt w/ 1750 sx TOC @ 6390' by TS	12556	11445-538' sqz w/ 300 sx 12212-218' Open hole 12240-556'	N/A
Texaco U.D. Sawyer #1 Spud 10/4/57	Sec. 34-T9S-R36E Unit A 660' FNL & 660' FEL	13 3/8" @ 344' Cmt. w/ 400 sx TOC @ surf by calc.	9 5/8" @ 4199' Cmt w/ 3000 sx TOC @ surf by calc.	5 1/2" @ 12187' Cmt w/ 700 sx TOC @ 9800' by TS	12187'	12126-150'	T/A'd Schematic Attached
Texaco U.D. Sawyer #2 Spud 12/4/58	Sec. 34-T9S-R36E Unit G 1650' FNL & 1650' FEL	13 3/8" @ 338' Cmt. w/ 400 sx TOC @ surf by circ.	9 5/8" @ 4142' Cmt w/ sx TOC @ surf by circ.	5 1/2" @ 4074 - 12182' Cmt w/ 500 sx TOC @ 10670' by TS	12182	12176-180'	
Texaco U.D. Sawyer #5 Spud 4/5/70	Sec. 34-T9S-R36E Unit B 475' FNL & 1726' FEL	11 3/4" @ 369' Cmt. w/ 350 sx TOC @ surf by circ.	8 5/8" @ 5000' Cmt w/ 1120 sx TOC @ surf by circ.	5 1/2" @ 4748 - 12145' Cmt w/ 650 sx TOC @ 9085' by calc.	12177	12125-142' Open hole 12145-177'	T/A'd Schematic Attached
U.D. Sawyer "B" #1 Spud 6/5/48	Sec. 34-T9S-R36E Unit C 660' FNL & 1980' FWL	13 3/8" @ 221' Cmt. w/ 300 sx TOC @ surf by circ.	9 5/8" @ 4623' Cmt w/ 3850 sx TOC @ surf by circ.	5 1/2" @ 12514' Cmt w/ 1000 sx TOC @ 9108' by calc.	12514	12240-360' 9695-9724'	P/A'd Schematic Attached
U.D. Sawyer #1 Spud 8/25/47	Sec. 27-T9S-R36E Unit O 660' FSL & 1980' FEL	13 3/8" @ 214' Cmt. w/ 300 sx TOC @ surf by circ.	9 5/8" @ 3706' Cmt w/ 2800 sx TOC @ surf by circ.	5 1/2" @ 12255' Cmt w/ 700 sx TOC @ 8540' by TS	12258	12115-215' sqz w/ 12100-182' 11412-422'	P/A'd Schematic Attached
U.D. Sawyer #2 Spud 6/25/50	Sec. 27-T9S-R36E Unit I 1980' FSL & 990' FEL	13 3/8" @ 240' Cmt. w/ 300 sx TOC @ surf by circ.	9 5/8" @ 4614' Cmt w/ 3500 sx TOC @ surf by circ.	5 1/2" @ 12097' Cmt w/ 1178 sx TOC @ 6320' by TS	12100	12040-092' Open hole 12097-102' 12010-016'	
U.D. Sawyer #3 Spud 2/25/49	Sec. 27-T9S-R36E Unit G 1980' FNL & 1980' FWL	13 3/8" @ 258' Cmt. w/ 300 sx TOC @ surf by circ.	9 5/8" @ 4651' Cmt w/ 2125 sx TOC @ 648' by calc.	5 1/2" @ 12147' Cmt w/ 1090 sx TOC @ 6550' by TS	12147	12000-050'	

Offset wells to the
U.D. Sawyer #6

U.D. Sawyer #5 Spud 6/28/63	Sec. 27-T9S-R36E Unit O 330' FSL & 2310' FEL	13 3/8" @ 235' Cmt. w/ 225 sx TOC @ surf by circ.	8 5/8" @ 4186' Cmt w/ 1035 sx TOC @ 102' by TS	5 1/2" @ 12177' Cmt w/ 225 sx TOC @ 11200' by calc.	12180	12168-75' sqz w/ 150 sx 11400-453'	P/A'd Schematic Attached
U.D. Sawyer #7 Spud 5/5/72	Sec. 27-T9S-R36E Unit J 1980' FSL & 2310' FEL	13 3/8" @ 260' Cmt. w/ 275 sx TOC @ surf by circ.	9 5/8" @ 4250' Cmt w/ 1440 sx TOC @ 925' by TS	7" @ 11976' Cmt w/ 250 sx TOC @ 10310' by TS	11976	11958-971'	
U.D. Sawyer #9 Spud 9/10/72	Sec. 27-T9S-R36E Unit H 1980' FNL & 990' FEL	13 3/8" @ 273' Cmt. w/ 275 sx TOC @ surf by circ.	9 5/8" @ 4240' Cmt w/ 1440 sx TOC @ 1520' by TS	7" @ 12049' Cmt w/ 250 sx TOC @ 9400' by TS	12068	12020-48' sqz w/ 250sx Open hole 12049-068' 11358-368'	P/A'd Schematic Attached
U.D. Sawyer #10 Spud 11/8/72	Sec. 27-T9S-R36E Unit P 986' FSL & 1000' FEL	13 3/8" @ 260' Cmt. w/ 365 sx TOC @ surf by circ.	9 5/8" @ 4250' Cmt w/ 1540 sx TOC @ surf by circ.	N/A	12190		P/A'd Schematic Attached
U.D. Sawyer #11 Spud 10/4/84	Sec. 27-T9S-R36E Unit J 2561' FSL & 1610' FEL	13 3/8" @ 356' Cmt. w/ 350 sx TOC @ surf by circ	9 5/8" @ 4500' Cmt w/ 2000 sx TOC @ surf by circ	5 1/2" @ 12890' Cmt w/ 1650 sx TOC @ 1550' by TS	12890'	12120-54' sqz w/ 60 sx 12074-84' sqz w/ 100 sx 12007-017'	N/A
Santa Fe Pacific #27-2Y Spud 7/25/72	Sec. 27-T9S-R36E Unit F 2310' FNL & 2310' FWL	13 3/8" @ 333' Cmt. w/ 300 sx TOC @ surf by circ.	9 5/8" @ 4954' Cmt w/ 750 sx TOC @ 3541' by calc.	7" @ 4819 - 11943' Cmt w/ 250 sx TOC @ 9480' by TS	11943	11430-740' sqz w/ 175sx 11902-922'	
Santa Fe Pacific #26-12 Spud 11/27/72	Sec. 26-T9S-R36E Unit L 2310' FSL & 330' FWL	13 3/8" @ 360' Cmt. w/ 400 sx TOC @ surf by circ.	9 5/8" @ 5000' Cmt w/ 2600 sx TOC @ surf by circ.	7" @ 4810 - 12119' Cmt w/ 2050 sx TOC @ 5054' by calc.	12120	12076-102'	

OPERATOR: Saga Petroleum LLC	LOCATION: Unit O, 990' FSL & 1650' FEL
Lease: U.D. Sawyer #6	Sec. 27, T9S, R36E, Lea County, NM



13 3/8 " casing set at 240 ' with 250 sx of cement.

Hole Size: 17 1/2 ". TOC @ surf by circ .

8 5/8 " casing set at 4194 ' with 1000 sx of cement.

Hole Size: 11 ". TOC @ surf by circ .

_____" casing cut and pulled at _____.

2 7/8" 6.5# 8rd EUE tubing w/ ceramic coating
Baker Model D @ 12018'.

5 1/2 " casing set at 12164 ' with 325 sx of cement.

Hole Size: 7 7/8 ". 1st Stage: TOC @ 10670 ' by TS .
2nd Stage: TOC @ _____ ' by _____.

Total depth 12166 ' DV Tool @ _____ '

INJECTION WELL DATA SHEET

Tubing Size 2 7/8" 6.5# 8rd EUE lined with ceramic set in a Baker Model D packer at 12,018'. Other type of tubing/casing seal if applicable _____.

Other Data

1. Is this a new well drilled for injection? ____Yes _X_No

   If no, for what purpose was the well originally drilled? Oil Production .

2. Name of the injection formation ___Devonian___.

3. Name of Field or Pool (if applicable) Crossroad Siluro Devonian.

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e., sacks of cement or plug (s) used. Perforated 12,068-084', perforated 12054-084'.

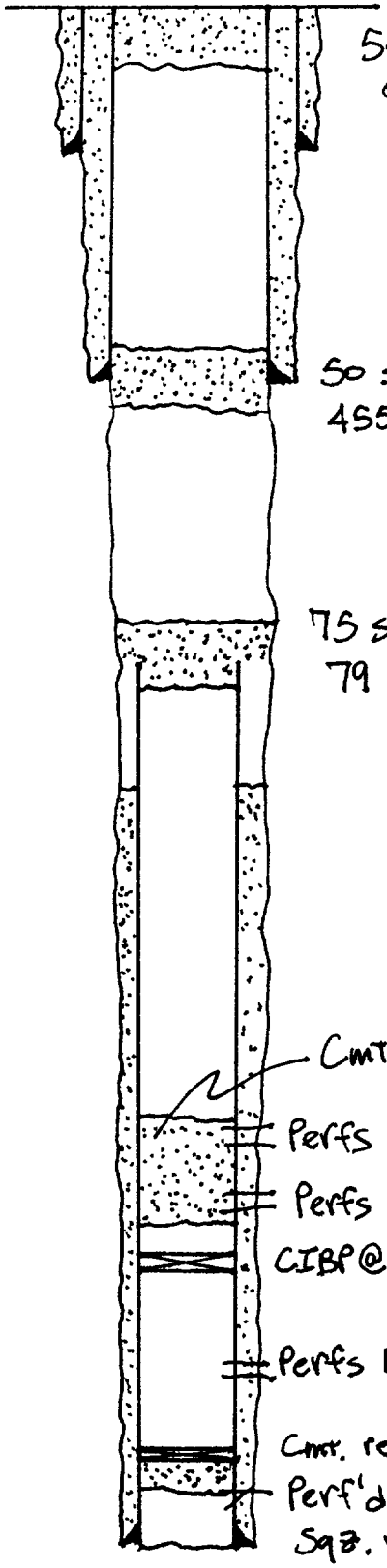
5. Give the names and depths of any over or underlying oil or gas zones (pools) in this area.

   Penn - 11,400' - 450'

   San Andres - 4,800' - 4,850'

   No Zones Underlying

OPERATOR: Mid-Continent Petroleum	LOCATION: Unit C, 660 FNL + 1980' FWL
Lease: U. D. Sawyer "B" #1	Sec. 34, T9S, R36E, Lea County, NM



13 3/8 " casing set at 221 ' with 300 sx of cement.
Hole Size: 17 ". TOC @ surf. by circ.

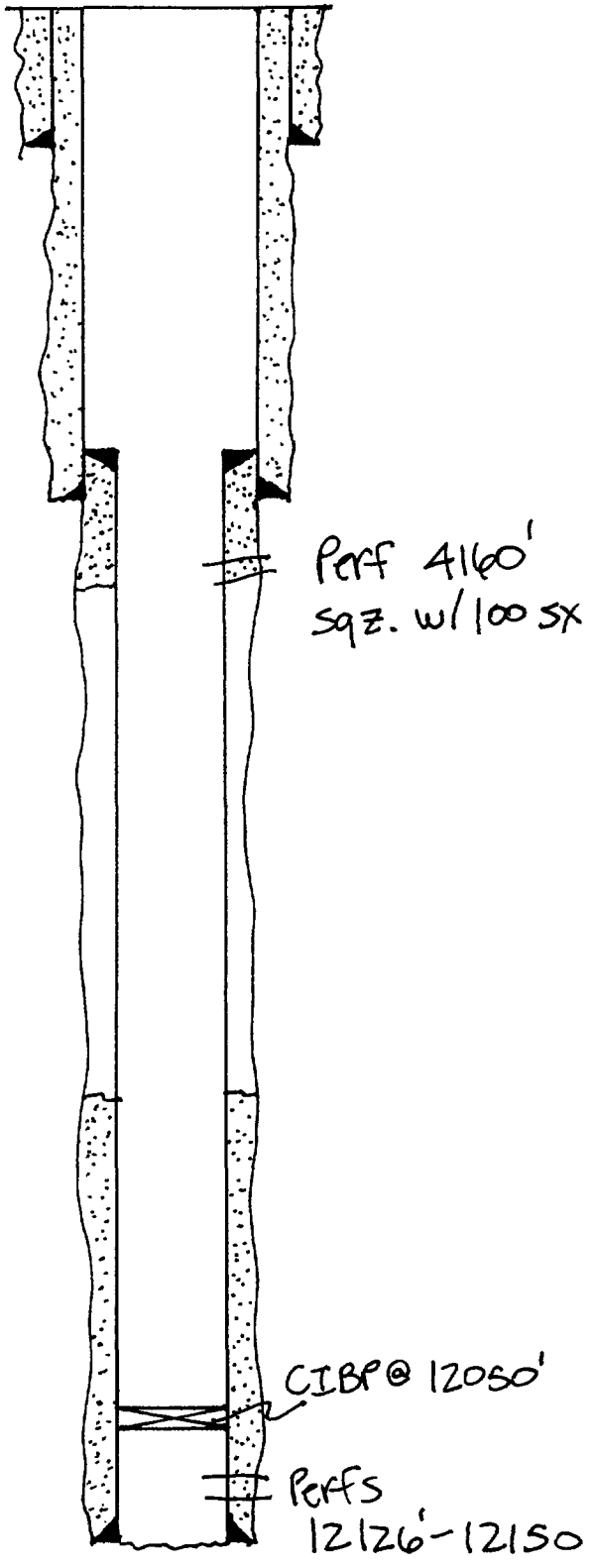
9 5/8 " casing set at 4623 ' with 3850 sx of cement.
Hole Size: 12 1/4 ". TOC @ surf by circ.

5 1/2 " casing cut and pulled at 8068'

5 1/2 " casing set at 12514 ' with 1000 sx of cement.
Hole Size: 7 7/8 ". 1st Stage: TOC @ 9108 ' by calc.
2nd Stage: TOC @ _____ ' by _____.

Total depth 12514 ' DV Tool @ _____ '

OPERATOR: Saga Petroleum LLC of CO	LOCATION: Unit A, 660' FNL + 660' FEL
Lease: Texaco U.O. Sawyer #1	Sec. 34, T9S, R36E, Lea County, NM



13 3/8 " casing set at 344 ' with 400 sx of cement.
Hole Size: 17 1/4 ". TOC @ surf. by calc.

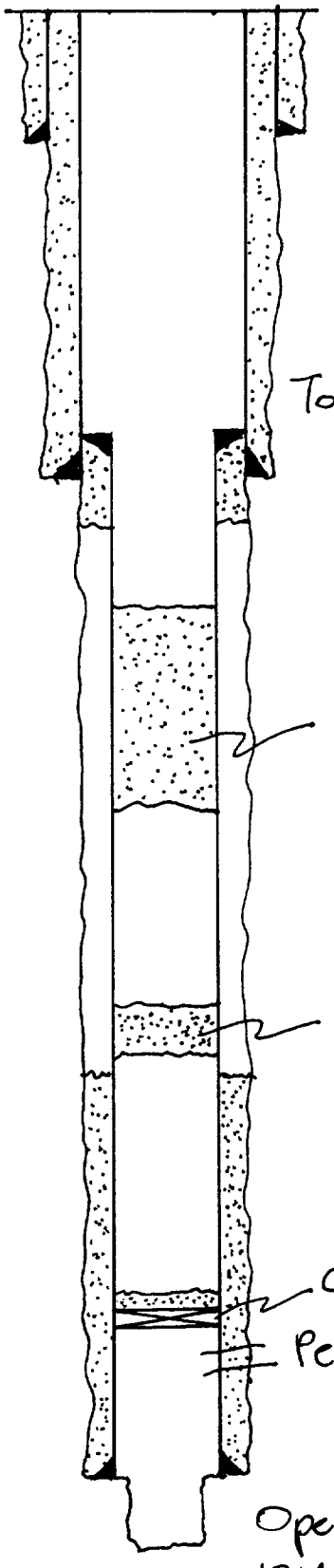
9 5/8 " casing set at 4199 ' with 3000 sx of cement.
Hole Size: 12 1/4 ". TOC @ surf. by calc.

5 1/2 " casing cut and pulled at 4050

5 1/2 " casing set at 12187 ' with 700 sx of cement.
Hole Size: 7 7/8 ". 1st Stage: TOC @ 9800 ' by TS.
2nd Stage: TOC @ _____ ' by _____.

Total depth 12187 ' DV Tool @ _____ '

OPERATOR: Saga Petroleum LLC of CO	LOCATION: Unit B, 475' FNL + 1726' FEL
Lease: Texaco U.D. Sawyer # 5	Sec. 34, T9S, R36E, Lea County, NM



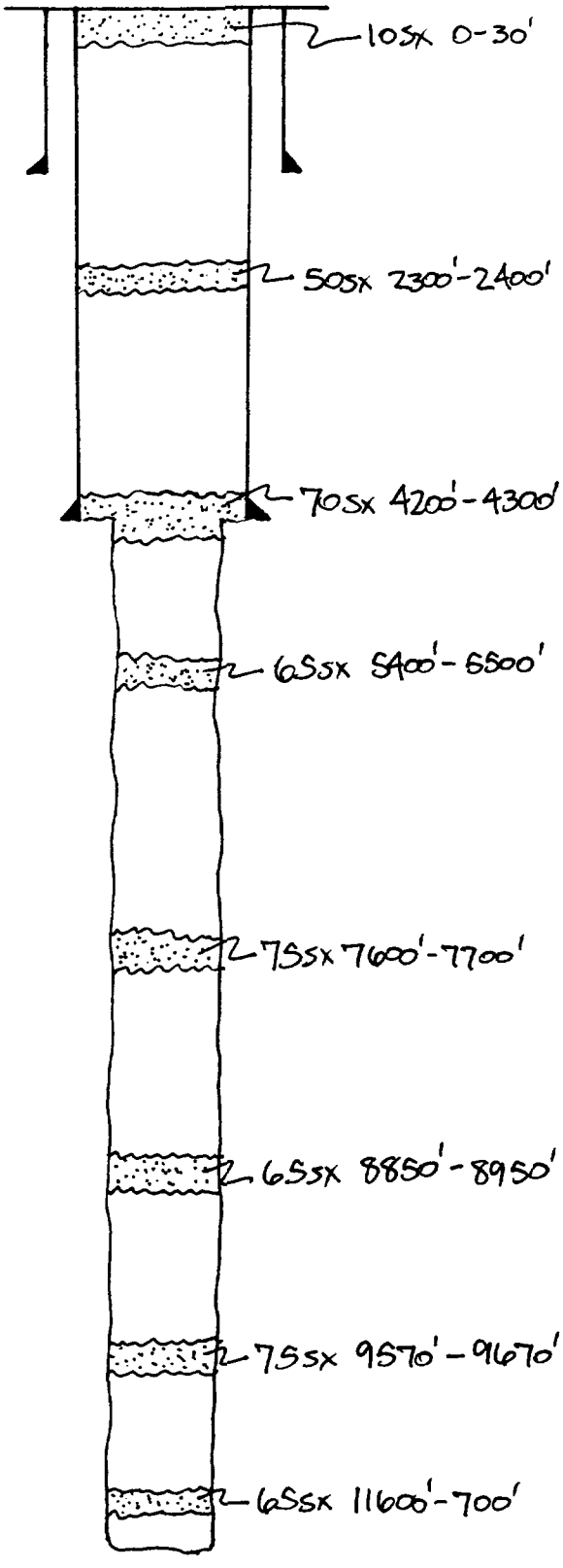
11 3/4" casing set at 369' with 350 sx of cement.
Hole Size: 15". TOC @ surf. by circ.

8 5/8" casing set at 5000' with 1120 sx of cement.
Hole Size: 11". TOC @ surf. by circ.

5½" casing set at 12145' with 650 sx of cement.
Hole Size: 7 7/8". TOC @ 9085' by calc.

Total depth 12177' DV Tool @ N/A.

OPERATOR: Saga Petroleum LLC of CO	LOCATION: Sec. 27, T9S, R36E, Lea County, NM
Lease: U.D. Sawyer #10	Unit P, 1000.5' FEL & 986.1' FSL



13 3/8" casing set at 260' with 365 sx of cement.

Hole Size: 17 1/2". TOC @ Surf. by Circ.

9 5/8" casing set at 4250' with 1540 sx of cement.

Hole Size: 12 3/4". TOC @ Surf. by Circ.

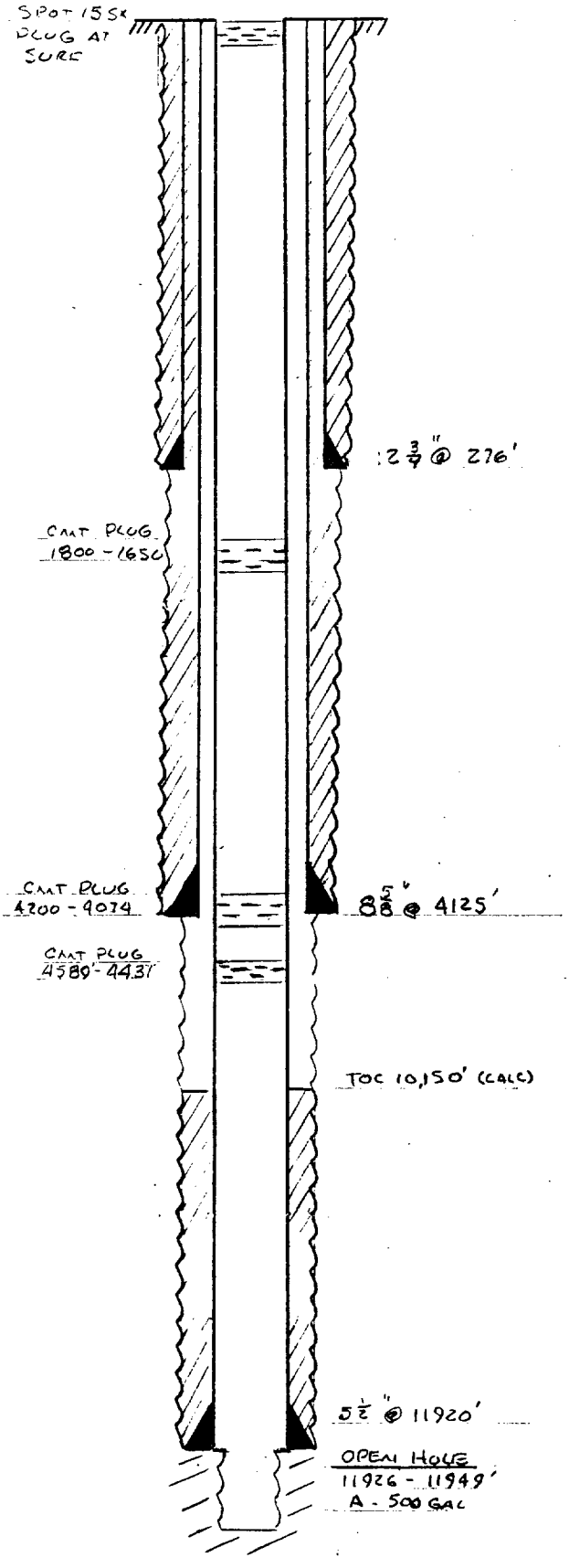
N/A" casing set at _____' with _____ sx of cement.

Hole Size: 7 7/8". 1st Stage: TOC @ _____' by _____.
2nd Stage: TOC @ _____' by _____.

Total depth 12190' DV Tool @ N/A'

BAXTER H. KELLEY

OPERATOR:	CROSSROADS SILURO. DEVONIAN
LEASE: SAWYER WELL NO. 1	LOCATION: K 1650' FSL & 2310' FWL
SEC 27, 9S, 36E, LEA COUNTY, NEW MEXICO	



12 3/4" casing set at 276' with 350 sx of cement.

Hole Size: 17 1/2". CMT CIRC TO SURF

8 5/8" casing set at 4125' with 1650 sx of cement.

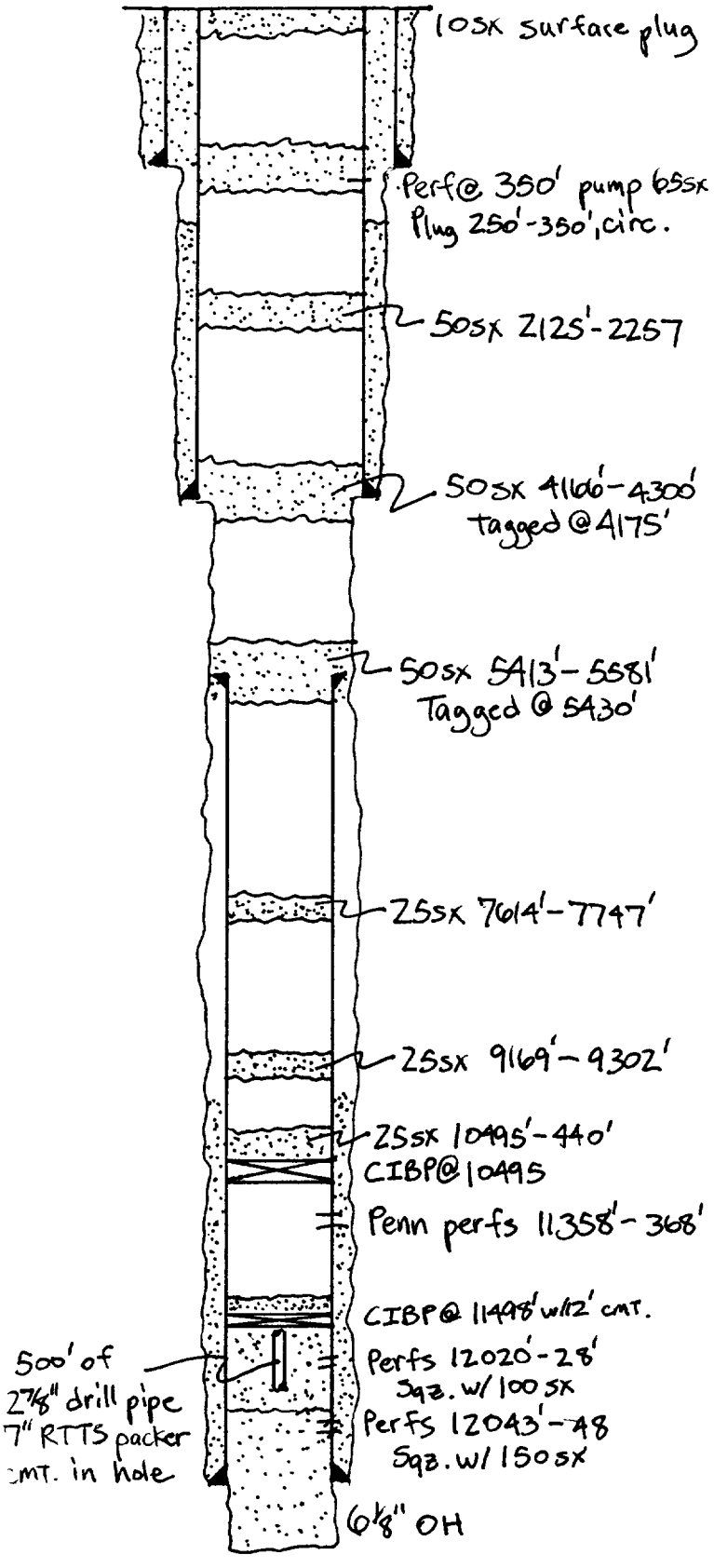
Hole Size: 11". CMT CIRC TO SURF

5 1/2" casing set at 11,920' with 250 sx of cement.

Total depth 11949' Hole Size: 7 7/8". TOC 10150'

POTENTIAL TEST: P- 1288 O & 24 S 13 W, GOR 161, 44° API

OPERATOR: Saga Petroleum LLC of CO	LOCATION: Sec. 27, T9S, R36E, Lea County, NM
Lease: U. D. Sawyer #9	Unit H, 1980' FNL & 990' FEL



13⅜" casing set at 273' with 275 sx of cement.

Hole Size: 17½". TOC @ surf by circ.

9⅝" casing set at 4240' with 1440 sx of cement.

Hole Size: 12¼". TOC @ 1520' by TS.

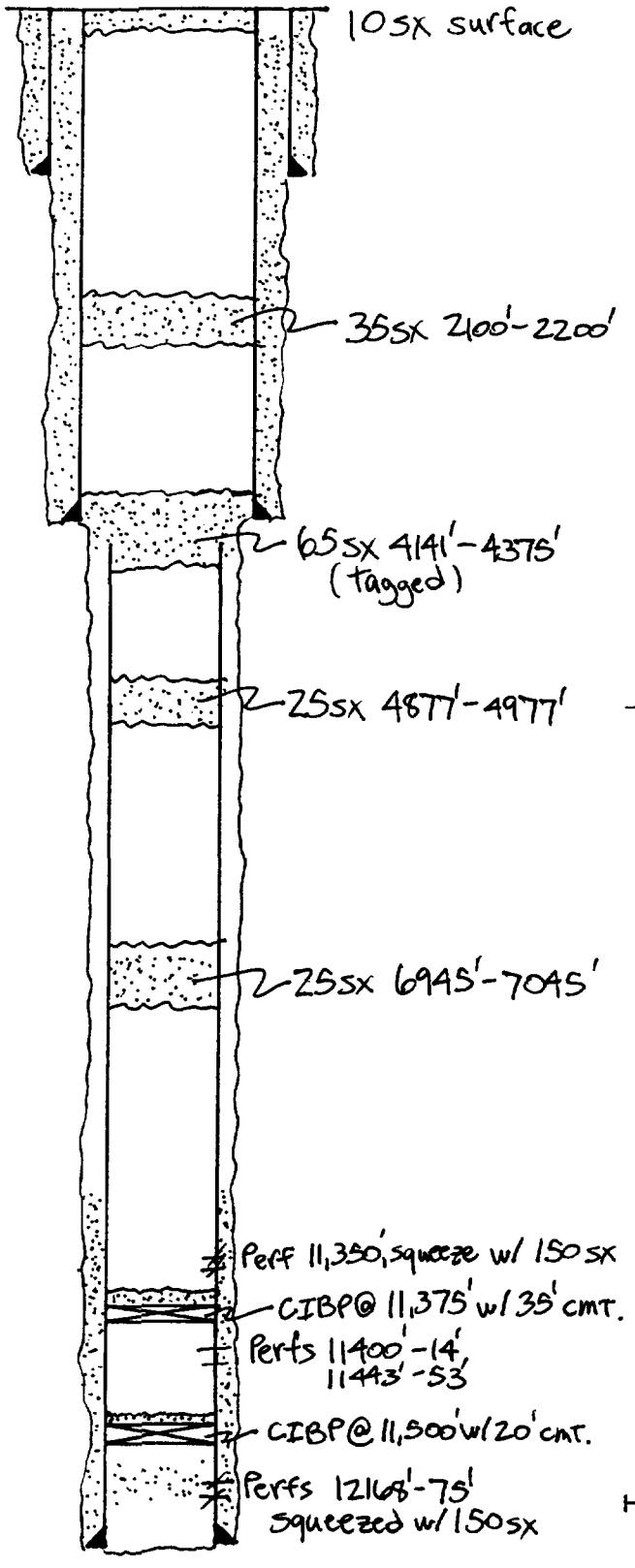
7" casing cut and pulled at 5540'.

7" casing set at 12049' with 250 sx of cement.

Hole Size: 8¾". 1st Stage: TOC @ 9400' by TS.
2nd Stage: TOC @ _____' by _____.

Total depth 12068' DV Tool @ N/A'

OPERATOR: Saga Petroleum LLC of CO	LOCATION: Sec. 27, T9S, R36E, Lea County, NM
Lease: U.D. Sawyer #5	Unit O, 330' FSL & 2310' FEL



13 3/8" casing set at 235' with 225 sx of cement.

Hole Size: 17 1/4". TOC @ surf by circ.

8 5/8" casing set at 4186' with 1035 sx of cement.

Hole Size: 11". TOC @ 102' by TS.

5 1/2" casing cut and pulled at 4325'

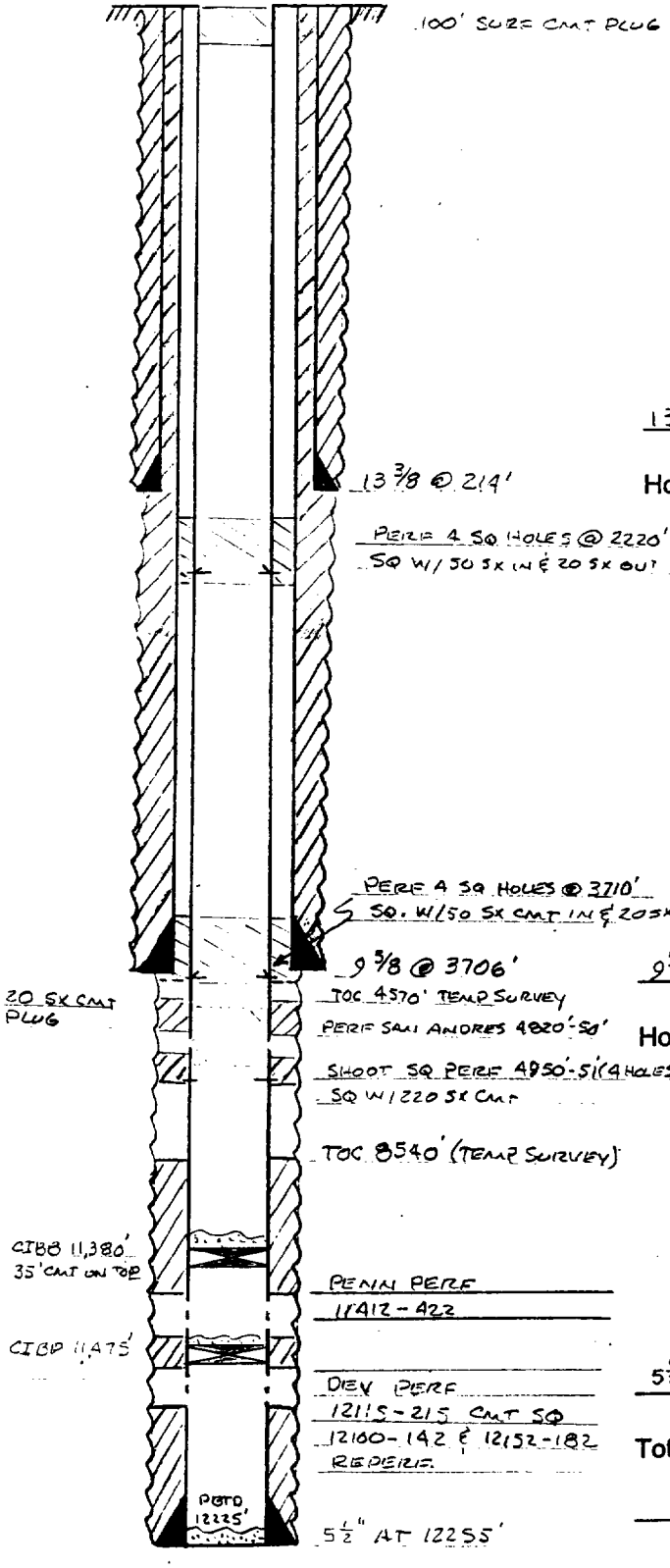
5 1/2" casing set at 12177' with 225 sx of cement.

Hole Size: 7 7/8". 1st Stage: TOC @ 11200' by calc.

2nd Stage: TOC @ _____' by _____.

Total depth 12180 DV Tool @ N/A'

OPERATOR: Saga Petroleum LLC of CO	CROSS ROADS SILURO DEV. FIELD
LEASE: U.D. SAWYER NO.1	LOCATION: 660' FSL & 1980' FEL (O)
SEC 27, T-2S, R-36E LEA CO. N.M.	



13 3/8" (40#) casing set at 214 ' with 300 sx of cement.

Hole Size: 17 1/4 ". CIRC. CMT. TO SURF.

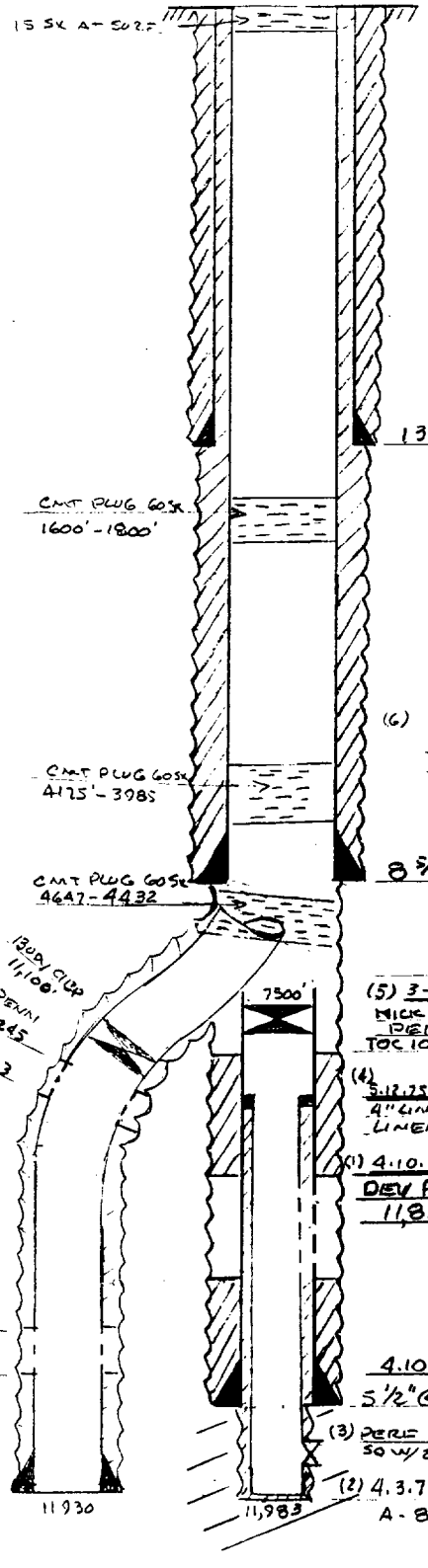
9 5/8" (36#) casing set at 3706 ' with 2800 sx of cement.

Hole Size: 12 1/4 ". CIRC CMT TO SURF

5 1/2 (20#) casing set at 12,225 ' with 700 sx of cement.

Total depth 12258 ' Hole Size: 7 7/8 ".

OPERATOR: Saga Petroleum LLC of CO	CROSSROADS SILURO DEVONIAN
LEASE: DESSIE SAWYER NO.2	LOCATION: (K) 2310' FSL & 2310'
FWL SEC 27, T9S, R36E LEA Co NM	



13 3/8 (48#) " casing set at 249 ' with 300 sx of cement.

Hole Size: 17 1/2 ". CMT CIRC TO SURF

(6) P&A WELL BY CUTTING OFF 5 1/2" CSG @ 4500' & SPOTTING PLUGS. WELL P&A 12.18.80 TO 1.8.83. WELL IS REENTERED. CSG IS TIED BACK TOGETHER. WELL C/O & PERF 11,245'-253' (PENN) SET PKR @ 11,100' W/REMAINS OF CIBP PUSHED TO 11,270 ACIDIZE W/ 3500 GAL REG 15% & 25 BW, PRESS PUSHED BODY OF CIBP UPHOLE TO 11,100', SHUT WELL IN. WELL TA.

8 5/8" (24 & 32 #) casing set at 4199 ' with 1400 sx of cement.

Hole Size: 11 ". CIRC CMT TO SURF.

(5) 3-8-77 SET CIBP AT 7500', FREE POINT & CUT CSG AT 4635', LD 132 JTS, NICK OFF & DRILL 7 7/8" HOLE TO 11930' RAN 11930' 5 1/2" CSG & CMT. W/ 325 SICS PERF 11920-926 & OH 11930-939, P-8580 & 3245 BW. TOC 10490'

(4) 5.12.75 NOTE: NO RECORD WHEN LINER W/ IRON & CMT. 4" LINER 11983-646. PERF 11926-942, SQ PERFS W/ 200 SX, DIO TEST LINER TO 1500#, PERF 11,833-845', F-3780 & 0 BW

(1) 4.10.68 DEV PERF: 11837'-11,857' F-4080 & 0 BW

5 1/2 (17 & 20 #) " casing set at 11,869 ' with 325 sx of cement.

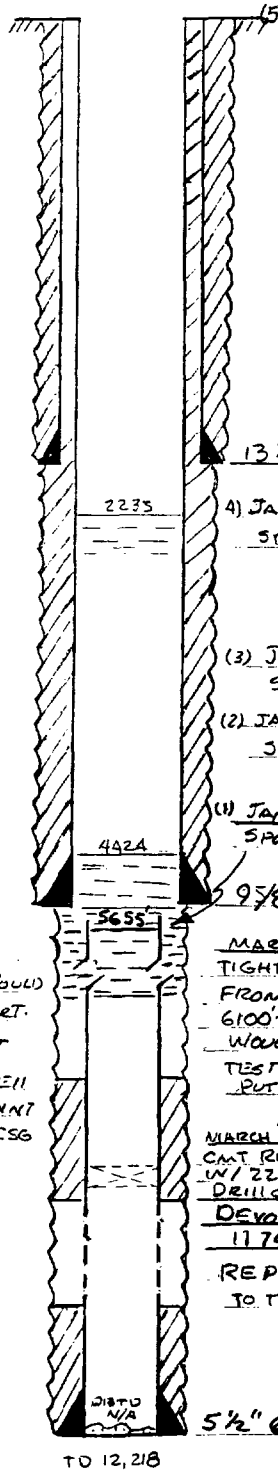
Total depth 11,870 ' Hole Size: 7 7/8 ". TOC @ 10,490' (TEMP. SURVEY)

4.10.68 5 1/2"@ 11,869'

(3) PERF 11926-942 DATE UNKNOWN SQ W/ 200 SX CMT

(2) 4.3.74 D/O TO 11,983' OH 11,869'-11983' A - 8000 GAL, P 3380 & 442 BW

OPERATOR: Baker H. Kelley	CROSS ROADS SILURO DEVONIAN
LEASE: DESSIE SAWYER NO1	LOCATION: (K) 1980' FSL & 1980 FWL
SEC 27, T9S, R36E, LEA CO. N.M.	



(5) JAN 81
SPOT 10 SX PLUG AT SURF & INSTALL MARKER
JAN-81: CUT-OFF WELL HEAD. PULL TOTAL OF 177 JTS 5½" CSG. (± 5655')

13 3/8" (36#) casing set at 240 ' with 300 sx of cement.

13 3/8" @ 240' Hole Size: 17 ". CMT CIRC TO SURF

4) JAN 81
SPOT 35 SK CMT PLUG 2335'-2235'.

(3) JAN 81
SPOT 100 SX PLUG FROM 4650'-4424'. CHK TOC W/TBG @ 4424

(2) JAN 81
SPOT 355X PLUG FROM 4900' TO 4800'. DID NOT FALL BACK.

(1) JAN 81
SPOT 200 SX PLUG FROM TOP OF FISH TO 5000'. CMT FELL BACK TO 5498'

9 5/8" @ 4617' 9 5/8" (36#) casing set at 4617 ' with 4850 sx of cement.

Hole Size: 12 ¼ ". CMT CIRC. TO SURF.

JUNE 68
FOUND 5½" CSG PARTED AT 5746'. COULD NOT GET THRU PART. SQ W/ 200 SX CMT TEST TO 2000#. WELL IA. SAFETY JOINT & PKR STUCK AT CSG PART.

MARCH "64": FOUND TIGHT SPOT IN CSG FROM 5768-70'. SET 35 SX CMT PLUG. FROM 6100'-6400'. TRY TO CUT & PULL CSG. WOULD NOT PULL. MILL THRU TIGHT SPOTS TEST TO 3000#. DRILL & C/O TO TD & REPERF. PUT WELL BACK ON PRODUCTION. (SEE BELOW)

MARCH "64"
CMT RETAINER AT 11701 SQ PERFS W/ 225 SKS CMT IN TWO STAGES. DRILL OUT & REPERF 11740'-780'
DEVONIAN ORIGINALLY PERF. 11740'-11840'. SQ W/CMT
REPERF 11740'-780' ... 5½" (17#) casing set at 12218 ' with 2000 sx of cement.
TO TRY TO SHUT-OFF WTR.

Total depth 12218 ' Hole Size: 7 7/8 ". _____

TOP OF PRIM. CMT FOR 5½" CSG NOT REPORTED.

5½" @ 12,218'

TD 12,218

HALLIBURTON ENERGY SERVICES
WATER ANALYSIS REPORT
HOBBS NEW MEXICO

COMPANY Saga Petroleum
Fax: 915-684-0829

REPORT 97-152
DATE 5/2/97
DISTRICT Hobbs

SUBMITTED BY

WELL Off set water well DEPTH FORMATION
COUNTY FIELD SOURCE

SAMPLE	See below		
RESISTIVITY	11.0988 @ 72 °F	@ °F	@ °F
SPECIFIC GR.	0.988		
pH	7.46		
CALCIUM	150 mpl	mpl	mpl
MAGNESIUM	75 mpl	mpl	mpl
CHLORIDE	270 mpl	mpl	mpl
SULFATES	100 mpl	mpl	mpl
BICARBONATES	195 mpl	mpl	mpl
SOLUBLE IRON	0 mpl	mpl	mpl
OIL GRAVITY	@ °F	@ °F	@ °F

REMARKS Water well located approximately 1 mile north west of disposal

ANALYST: J LEWIS

Resitivity measured in: Ohm/m2/m

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice Of Produced Water Disposal Well

.....

and numbered ..... in the

..... Court of Lea

County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1) day consecutive weeks, beginning with the issue of

November 7, 19 97

and ending with the issue of

November 7, 19 97

And that the cost of publishing said notice is the sum of $ 16.98

which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 7th day of November, 19 97

Jean Jeniers

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 19 98

LEGAL NOTICE
NOTICE OF
PRODUCED
WATER DISPOSAL
WELL

Saga Petroleum Limited Liability Co. of Colorado, 415 W. Wall, Suite 835, Midland, Texas 79701, 915-684-4293, contact Joe N. Clement, has made application for a produced water disposal well with the New Mexico Oil Conservation Commission. The well, known as the U.D. Sawyer #6, is located 990' FSL and 1650' FEL, Sec. 27-T9S-R36E, Lea County, New Mexico. Disposal will be into the Devonian zone through perforations from 12,068' - 12,135'. Maximum rate and pressure is anticipated to be 15,000 BWPD and 500 PSI. Interested parties must file objections or requests for hearing with the New Mexico Oil Conservation Commission, P.O. Box 2088, Santa Fe, New Mexico 87504 within fifteen (15) days of this notice.
Published in the Lovington Daily Leader November 7, 1997.

Z 425 541 553

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, March 1993

Sent to	Meteor Development
Street and No.	511 16th, Suite 400
P.O., State and ZIP Code	Denver, CO 80202
Postage	$1.01
Certified Fee	1.35
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	1.10
TOTAL Postage & Fees	$3.46
Postmark or Date	MIDLAND, TX DOWNTOWN STA. NOV 12 1997 USPS

Z 425 541 550

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, March 1993

Sent to	Bobby Lewis
Street and No.	
P.O., State and ZIP Code	Crossroads, NM 88114
Postage	$1.01
Certified Fee	1.35
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
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TOTAL Postage & Fees	$3.46
Postmark or Date	MIDLAND, TX DOWNTOWN STA. NOV 12 1997 USPS

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PS Form 3800, March 1993

Sent to	CL House
Street and No.	401 W. Texas, Suite 919
P.O., State and ZIP Code	Midland, TX 79701
Postage	$1.01
Certified Fee	1.35
Special Delivery Fee	
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Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	1.10
TOTAL Postage & Fees	$3.46
Postmark or Date	MIDLAND, TX DOWNTOWN STA. NOV 12 1997 USPS

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PS Form 3800, March 1993

Sent to	Kelly Baxter
Street and No.	P.O. Box 11193
P.O., State and ZIP Code	Midland, TX 79702
Postage	$1.01
Certified Fee	1.35
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	1.10
TOTAL Postage & Fees	$3.46
Postmark or Date	MIDLAND, TX DOWNTOWN STA. NOV 12 1997 USPS

Z 425 541 551

Receipt for Certified Mail

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(See Reverse)

PS Form 3800, March 1993

Sent to	GW Ainsworth
Street and No.	Box 7
P.O., State and ZIP Code	Mimesand, NM 88215
Postage	$1.01
Certified Fee	1.35
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	1.10
TOTAL Postage & Fees	$3.46
Postmark or Date	MIDLAND, TX DOWNTOWN STA. NOV 12 1997 USPS

Z 425 541 552

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, March 1993

Sent to	Marbob Energy
Street and No.	P.O. Box 227
P.O., State and ZIP Code	Artesia, NM 88211-0227
Postage	$1.01
Certified Fee	1.35
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	1.10
TOTAL Postage & Fees	$3.46
Postmark or Date	MIDLAND, TX DOWNTOWN STA. NOV 12 1997 USPS

EXHIBIT "A"

INJECTION WELL MONITORING GUIDANCE
(Revised 5/7/97)

INJECTION PROFILES

1) All injection profiles shall be a combination of temperature and radioactive tracer logs. A representative of the Division will always witness the injection profiles.

2) All log curves shall be started (or finished) at a minimum of 200 feet above the top perforation. Temperatures curves shall be run: a) while injecting, and, ***if the well is on vacuum or goes on vacuum within 30 minutes of shutting in the well*** at the conclusion of the tracer studies; b) 30 minutes after shut-in, c) 1 hour after shut-in, and d) 2 hours after shut-in. ***If the well is holding surface pressure*** at the conclusion of the tracer studies, shut- in temperature curves will be run: b) 1 hour after shut-in, c) 2 hours after shut-in, and d) 24 hours after shut-in.

3) Radioactive tracer runs shall start at a minimum of 150 feet above the top perforation and consist primarily of an "intensity" type survey. The initial recorded runs through the radioactive material should have a minimum of 6 inches chart deflection immediately above any anticipated loss interval. The tracer intensity shall be recorded until the R/A residual falls below 1 chart division deflection over background.

4) The "velocity" type and "drop shot" type surveys are not required but may be run at the discretion of the operator of the well. The determination should however, take into consideration the injection rate. It may be desirable to run velocities if the rate is such that drag runs cannot easily be made. As a rule of thumb, it is difficult to keep up with a slug with an injection rate over about 1500 bpd in 5-½ inch casing.

5) A "no flow" interval should be established immediately below the bottom perforation or, if flow exists, a percentage or rate of movement below the perforated interval should be calculated.

6) Channel (leak) checks should be made first at the bottom perforation and finally at the top perforation with the detector tool positioned approximately 10 feet below (for a downward check) or above (for upward) the subject perforations. Possible casing leak situations should be investigated by breaking down the entire blank pipe interval (unless the probable interval is identified by temperature or previous tracer studies), from the top perforation to the packer in 10 foot intervals. Any suspect casing collars

should be closely investigated in a similar method as channel detection utilizing subsequent drag runs. The R/A "burst" or "slug" should be of very high intensity and recorded on time-drive for a minimum of 5 minutes (unless R/A material is detected rapidly). At the conclusion of the time-drive survey, the logger shall drop below the

remaining R/A material and make a number of depth-drive (log through) runs until the existence or severity of any channeling or leak is determined. Every effort should be made to establish the top or bottom of the channel(s) if one exists. If there is a severe channel, this might include "unloading" the R/A ejector tool at the top or bottom perforation in an attempt to saturate the fluid moving in the channel. The logging unit operator should be able to allocate the usage of R/A material so as to leave no doubt about the existence and severity of channels or leaks at these two positions.

7) If any channeling exists, the Division representative on location shall make the determination, based on their judgement as to the severity of the channel or leak, to immediately shut the well in or not.

8) Copies of all logs shall be forwarded to the District office and the Division office of the Oil Conservation Division. After reviewing the results in the Division office, a final determination shall be made as to the future status of the well.

FREQUENCY OF INJECTION PROFILES

A complete injection profile consisting of combination temperature and radioactive tracer conducted as outlined above, shall be run at the following times:

1) An initial profile may be required prior to commencing injection operations into the well depending on the outcome of the post-frac evaluation log. If there is any question as to the fracture height and/or the existence of any upward channelling, a pump-in injection profile should be run in accordance with the above guidelines.

2) After injection into the well has stabilized, but not to exceed sixty days from implementation, and;

3) Approximately one year after the date of 2) above and each year thereafter.

4) The Division may suspend additional annual profiles depending upon the results of the initial and first year profiles. Additionally, the Division may request profiles be conducted at times other than those mentioned above.

SWD 615

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

GOVERNOR

12/24/97

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

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

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

Gentlemen:

I have examined the application for the:

Saga Petroleum LPCo U D Sawyer #6-D 27-9s-36e
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

None -

Yours very truly,

Chris Williams
Supervisor, District 1

/ed