JAMES BRUCE
ATTORNEY AT LAW

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jamesbruc@aol.com

September 18, 2018

Case 16455

Florene Davidson
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Florene:

Enclosed is an application for a lease pressure maintenance project, filed for HPPC, Inc. Please set this case for the October 18, 2018 examiner hearing. Thanks.

Very truly yours,

James Bruce

Attorney for HPPC, Inc.

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

APPLICATION OF HPPC, INC. FOR APPROVAL OF A LEASE PRESSURE MAINTENANCE PROJECT, LEA COUNTY, NEW MEXICO. **Case No.** 16953

APPLICATION

HPPC, Inc. applies for an order approving a lease pressure maintenance project, and in support thereof, states:

1. Applicant is the operator of the Abo formation underlying State Lease K-3851-6, which covers the Lots 3, 4, and the S/2NW/4 (the NW/4) of Section 2 and Lots 1, 2, and the S/2NE/4 (the NE/4) of Section 3, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico.

2. Applicant seeks approval to inject produced water into the Abo formation at depths of 8887-8928 feet subsurface in the Lea 946 State Well No. 1, located 1980 feet from the north line and 660 feet from the west line (Unit E) of Section 2. The expected maximum injection rate is 500 BWPD, and the maximum injection pressure is 1777 psi.

3. Injection will provide pressure maintenance support for the following existing wells, operated by applicant:

   (a) Lea 946 State Well No. 3 in Unit C of Section 2 (API No. 30-025-21676);

   (b) Lea 946 State Well No. 5 in Unit D of Section 2 (API No. 30-025-32157); and

   (c) Lea 946 State Well No. 2 in Unit H of Section 3 (API No. 30-025-21605).

The initial project area will be Lots 3, 4, and the SW/4NW/4 of Section 2 and the SE/4NE/4 of Section 3.

4. A copy of the C-108 for the project is attached hereto as Exhibit A.

5. The purpose granting of this application will prevent waste and protect correlative rights.

WHEREFORE, applicant requests that, after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

James Bruce
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043

Attorney for HPPC, Inc.

PROPOSED ADVERTISEMENT

Case No. 16455 *:*

Application of HPPC, Inc. for a lease pressure maintenance project, Lea County, New Mexico. Applicant seeks approval to institute a lease pressure maintenance project in the Abo formation underlying State Lease K-3851-6 by the injection of produced water into the Abo formation at the approximate depths of 8887-8928 feet subsurface in the Lea 946 State Well No. 1, located 1980 feet from the north line and 660 feet from the west line (Unit E) of Section 2, Township 18 South, Range 35 East, NMPM, Lea County, New Mexico. The expected maximum injection rate is 500 BWPD, and the maximum injection pressure is 1777 psi. State Lease K-3851-6 covers the NW/4 of Section 2 and the NE/4 of Section 3, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico, and is centered approximately 3-1/2 miles east-southeast of Buckeye, New Mexico.

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

APPLICATION OF HPPC, INC. FOR APPROVAL OF A LEASE PRESSURE MAINTENANCE PROJECT, LEA COUNTY, NEW MEXICO. **Case No.** 16455

APPLICATION

HPPC, Inc. applies for an order approving a lease pressure maintenance project, and in support thereof, states:

1. Applicant is the operator of the Abo formation underlying State Lease K-3851-6, which covers the Lots 3, 4, and the S/2NW/4 (the NW/4) of Section 2 and Lots 1, 2, and the S/2NE/4 (the NE/4) of Section 3, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico.

2. Applicant seeks approval to inject produced water into the Abo formation at depths of 8887-8928 feet subsurface in the Lea 946 State Well No. 1, located 1980 feet from the north line and 660 feet from the west line (Unit E) of Section 2. The expected maximum injection rate is 500 BWPD, and the maximum injection pressure is 1777 psi.

3. Injection will provide pressure maintenance support for the following existing wells, operated by applicant:

   (a) Lea 946 State Well No. 3 in Unit C of Section 2 (API No. 30-025-21676);

   (b) Lea 946 State Well No. 5 in Unit D of Section 2 (API No. 30-025-32157); and

   (c) Lea 946 State Well No. 2 in Unit H of Section 3 (API No. 30-025-21605).

The initial project area will be Lots 3, 4, and the SW/4NW/4 of Section 2 and the SE/4NE/4 of Section 3.

4. A copy of the C-108 for the project is attached hereto as Exhibit A.

5. The purpose granting of this application will prevent waste and protect correlative rights.

WHEREFORE, applicant requests that, after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

James Bruce
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043

Attorney for HPPC, Inc.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: ***Pressure Maintenance (Initial)*** and the application ***MUST go to Examiner Hearing for approval.***

II. OPERATOR: ***HPPC, Inc.*** ***(Ogrid: 371698)***
ADDRESS: ***306 W. Wall Street, Midland, TX 79701***

CONTACT PARTY: ***HPPC, Inc., Rajan Prasad 432-577-5067, Agent: SOS Consulting, LLC – Ben Stone 903-488-9850***

III. WELL DATA: ***All well data and applicable wellbore diagrams are ATTACHED.***

IV. ***This is not an expansion of an existing project.***

V. ***A map is attached*** that identifies all wells and leases within two miles of any proposed injection well with a ***ONE-Mile*** radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

*VI. A tabulation is attached of data on all wells of public record within the area of review which penetrate the proposed injection zone. ***There are 11 Wells in the subject AOR which Penetrate the proposed ABO interval.*** The data includes a description of each well's type, construction, date drilled, location, depth, and a ***schematic of any plugged well(s)*** illustrating all plugging detail. ***7 P&A Wells penetrate.***

EXHIBIT A

VII. ***The following data is ATTACHED*** 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. ***Appropriate geologic data on the injection zone is ATTACHED*** including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with TDS solids concentrations of <=10,000 mg/l) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. ***Additional EXHIBITS will be presented at Hearing.***

IX. ***Stimulation program – a conventional acid job may be performed to clean and open the formation.***

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). ***Well Logs are on file with OCD. Additional EXHIBITS will be presented at Hearing.***

*XI. ***There are several water wells/ PODs within one mile of the proposed Injection Well. 2 or more will be sampled and analyzed – results will be included as EXHIBITS for Hearing.***

XII. ***An affirmative statement is ATTACHED that available geologic and engineering data has been examined and no evidence was found*** of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. ***"Proof of Notice" section on the next page of this form has been completed and ATTACHED. There are 7 offset Operators, Lessees and/or Mineral Owners within ½ mile; State & Private Minerals - all have been noticed. Well location is State.***

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: ***Ben Stone*** TITLE: ***SOS Consulting, LLC agent for HPPC, Inc.***

SIGNATURE: _____ DATE: ***8/22/2018***

E-MAIL ADDRESS: ***ben@sosconsulting.us***

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

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

FORM C-108 – APPLICATION FOR AUTHORIZATION TO INJECT (cont.)

III. WELL DATA – ***The following information and data is included (See ATTACHED Wellbore Schematic):***

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 the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE ***pursuant to the following criteria is ATTACHED.***

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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, 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.

C-108 - Items III, IV, V

Item III - Subject Well Data

Wellbore Diagram - CURRENT
Wellbore Diagram – PROPOSED

Item IV – Tabulation of AOR Wells

Tabulation includes all construction data for all wells within a one-half mile radius.
11 wells penetrate the proposed injection interval; 4 active and 7 P&A'd.

Item V – Area of Review Maps

1. Two Mile AOR Map with One-Mile Fresh Water Well Radius

2. One-Half Mile AOR Map

3. Proposed Buckeye Abo Project Area

All Above Exhibits follow this page.

Additional Exhibits may be presented at hearing.

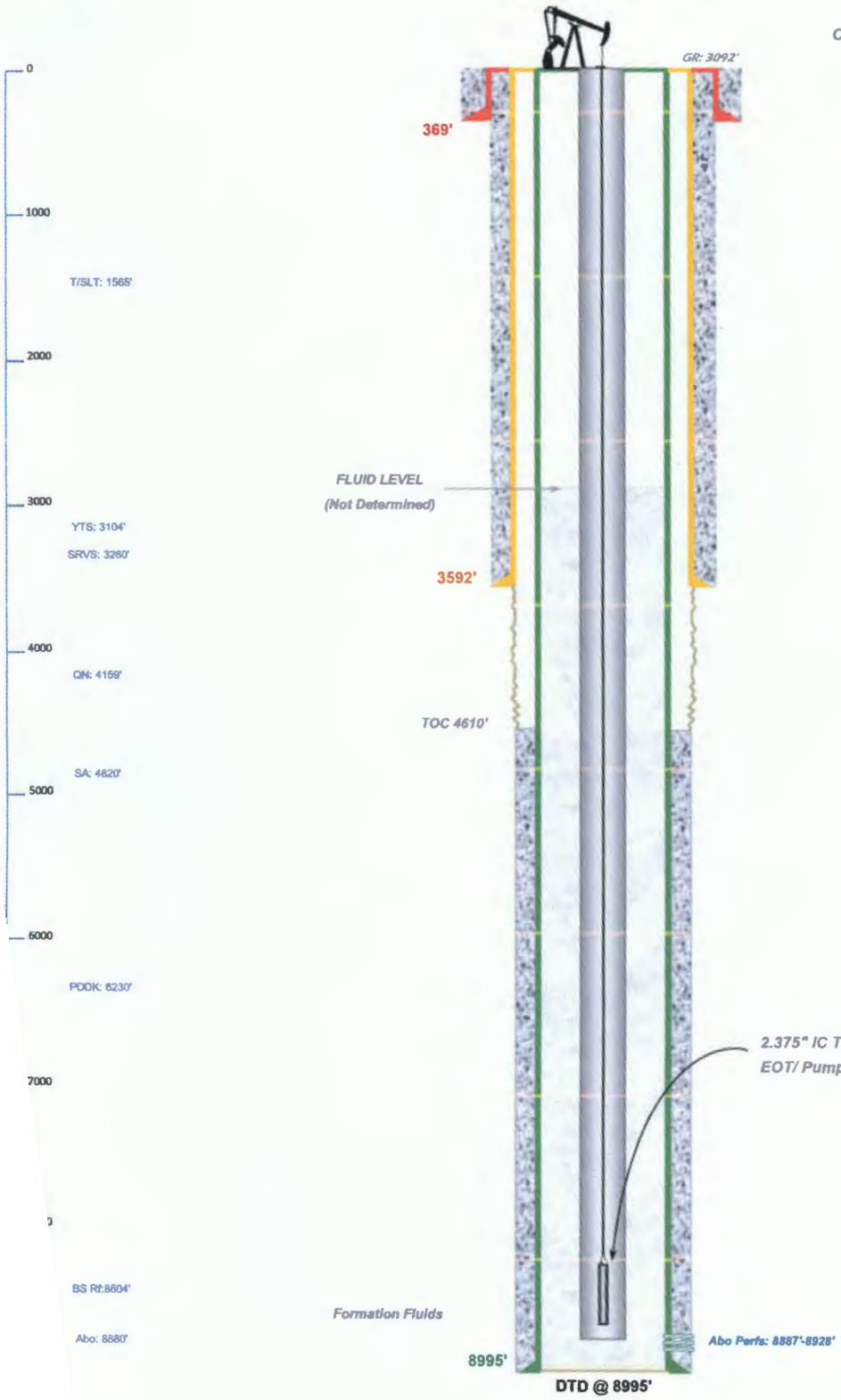
WELL SCHEMATIC - CURRENT
Lea 946 State Well No.1

Buckeye; Abo (8100)

API 30-025-21623
1980' FNL & 660' FWL, SEC. 2-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 11/02/1992
Config Inj. Dt (Est): 11/01/2C

Current Production Avgs: 4 bopd; 19 mcf; 45 bwpd



Surface Casing
13.375", 48.0# H-40 STC Csg. (17.5" Hole) @ 369'
380 sx - Circulated to Surface

Intermediate Casing
8.625", 32.0# J-55 Csg. (11.0" Hole) @ 3592'
2450 sx - Circulated

HPPC, Inc.
Abo Producer on Pump.

Production Casing
4.5", 11.6# Csg. (7.875" Hole) @ 8995'
DV @ 7398'; 1st w/ 360 sx;
2nd w/ 610 sx - TOC @ 4610' by Temp.

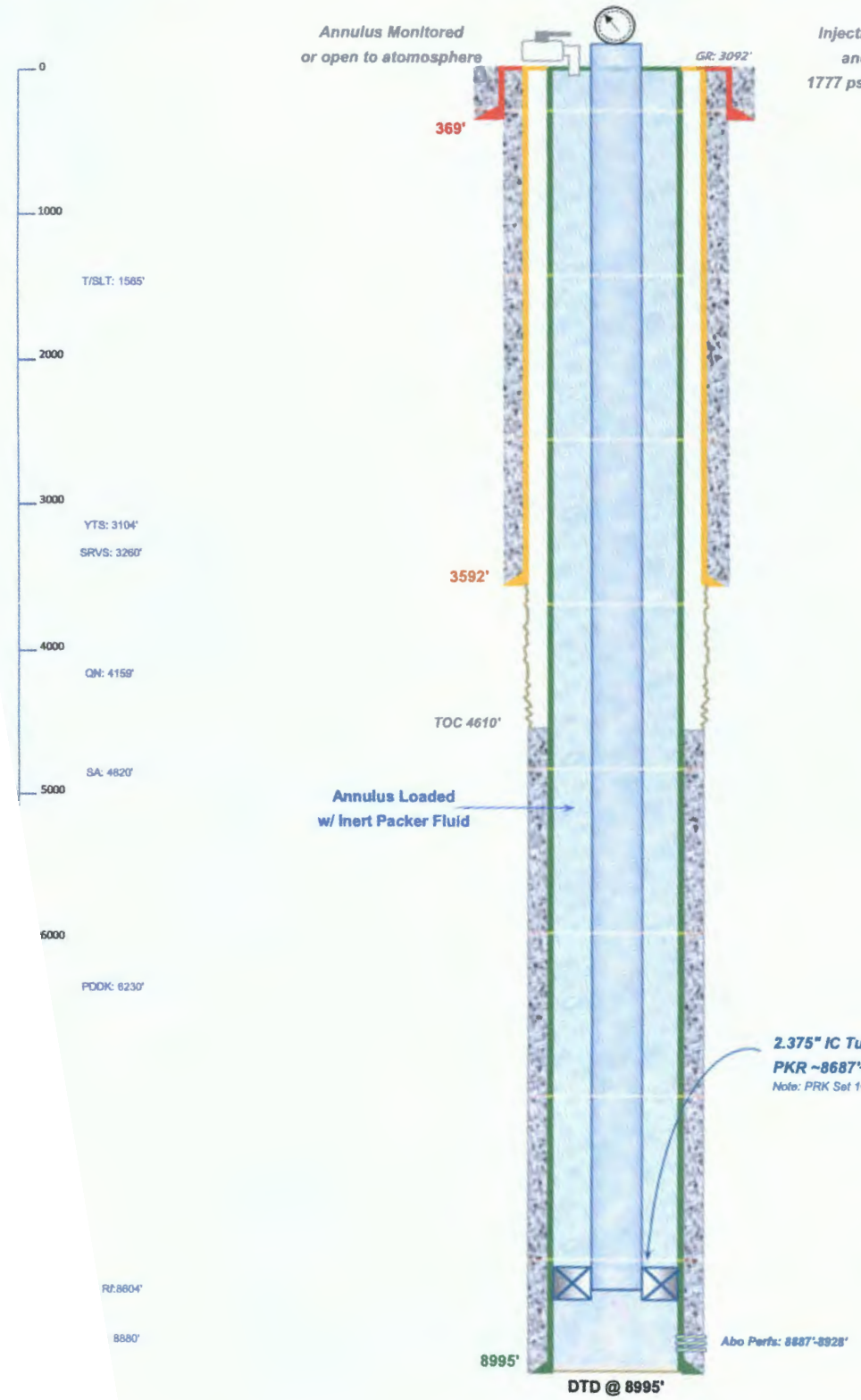
Drawn by: Ben Stone, 8/21/2018
SOS Consulting, LLC

WELL SCHEMATIC - PROPOSED
Lea 946 State Well No.1

Buckeye; Abo (8100)

API 30-025-21623
1980' FNL & 660' FWL, SEC. 2-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 11/02/1992
Config Inj. Dt (Est): 11/01/2C



Injection Pressure Regulated
and Volumes Reported
1777 psi Max. Surface (0.2 psi/ft)

Surface Casing
13.375", 48.0# H-40 STC Csg. (17.5" Hole) @ 369'
380 sx - Circulated to Surface

Intermediate Casing
8.625", 32.0# J-55 Csg. (11.0" Hole) @ 3592'
2450 sx - Circulated

Convert to Injection:
POOH w/ Rods, Pump & Tubing.
RIH w/ 2.375" IPC Injection Tbg & PKR.
Set PKR @ ~8687'+/-. Conduct MIT.
Acidize if necessary or desired.
Commence Injection Operations.

Production Casing
4.5", 11.6# Csg. (7.875" Hole) @ 8995'
DV @ 7398'; 1st w/ 360 sx;
2nd w/ 610 sx - TOC @ 4610' by Temp.

Drawn by Ben Stone, 8/21/2018

Form C-108 Item VI - Tabulation of AOR Wells

Top of Proposed ABO Interval ~8680'

11 Wellbores Penetrate Proposed Interval.

Subject Well

API	Current Operator	Well Name	Well Number	Type	Mineral Owner	Status	ULSTR	Measured Depth	Plugged On
30-025-21623	[371698] HPPC, INC.	LEA 946 STATE	#001	Oil	State	Active	E-2-18S-35E	8995	
	ABO Perfs: 8887'-8928'; *13.375" (17.5" hole) @ 369' w/ 380 sx, Circ to Surf.; 8.625" (11.0" hole) @ 3592' w/ 2450 sx – Circ.; 4.5" (7.875" hole) @ 8995' w/ 970 sx TOC @ 4610' by Temp.*								
Section 2 Wells									
30-025-03039	[148967] SAGA PETROLEUM LLC	GEORGE MCGONAGILL	#001	Oil	Private	P&A-R	A-2-18S-35E	9259'	5/31/2002
									SEE P&A DIAGRAM.
30-025-21758	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#002	Oil	Private	P&A-R	B-2-18S-35E	9015'	10/22/1982
									SEE P&A DIAGRAM.
30-025-21676	[371698] HPPC, INC.	LEA 946 STATE	#003	Oil	State	Active	C-2-18S-35E	9000'	
	ABO Perfs: 8681'-8975'; 13.375" (17.5" hole) @ 375' w/ 325 sx, Circ to Surf.; 8.625" (11.0" hole) @ 3596' w/ 1300 sx – TOC 2640' by Temp.; 4.5" (7.875" hole) @ 9000' w/ 1290 sx TOC @ 3430' by Temp.								
30-025-32157	[371698] HPPC, INC.	LEA 946 STATE	#005	Oil	State	Active	D-2-18S-35E	9125'	
	ABO Perfs: 8692'-8916'; 13.375" (17.5" hole) @ 501' w/ 500 sx, Circ to Surf.; 9.625" (12.25" hole) @ 3620' w/ 1550 sx – Circ 250 sx to Surf.; 5.5" (7.875" hole) @ 9125' w/ 1700 sx TOC @ 3000' by Calc. Est.								
30-025-21877	[16696] OXY USA INC	LEE	#001	Oil	Private	Active	G-2-18S-35E	9200'	
	ABO Perfs: 8688'-8710'; 13.375" (17.5" hole) @ 334' w/ 300 sx, Circ to Surf.; 8.625" (11.0" hole) @ 3585' w/ 650 sx – TOC 2800' by Calc.; 5.5" (7.875" hole) @ 9212' w/ 1900 sx TOC @ 2500' by Calc. Est.								
30-025-25593	[228937] MATADOR PRODUCTION COMPANY	HANLAD STATE	#001	Gas	State	Active	K-2-18S-35E	4699'	
									DOES NOT PENETRATE
30-025-21259	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil	State	P&A-R	L-2-18S-35E	12625'	5/7/1965
									SEE P&A DIAGRAM.
30-025-32964	[10179] HARVEY E YATES CO	BUCKEYE 2 STATE	#001	Oil	State	P&A-R	O-2-18S-35E	9282'	6/23/1995
									SEE P&A DIAGRAM.
Section 3 Wells									
30-025-30595	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#004	Oil	State	P&A-R	G-3-18S-35E	9238'	7/16/1990
									SEE P&A DIAGRAM.
30-025-21605	[371698] HPPC, INC.	LEA 946 STATE	#002	Oil	State	Active	H-3-18S-35E	9000'	
	ABO Perfs: 8887'-8928'; 13.375" (17.5" hole) @ 369' w/ 380 sx, Circ to Surf.; 8.625" (11.0" hole) @ 3592' w/ 2450 sx – Circ.; 4.5" (7.875" hole) @ 8995' w/ 970 sx TOC @ 4610' by Temp.								
30-025-21315	[17643] PHILLIPS PETROLEUM CO	SANTA FE	#114	Oil	State	P&A-R	I-3-18S-35E	9100'	1/11/1974
									SEE P&A DIAGRAM.
30-025-21638	[17643] PHILLIPS PETROLEUM CO	SANTA FE	#116	Oil	State	P&A-R	J-3-18S-35E	9025'	8/10/1971
									SEE P&A DIAGRAM.

SUMMARY: 11 wells penetrate proposed injection interval. 4 Active; 7 P&A.

SOS Consulting, LLC

C-108 ITEM VI

AOR Well Information

Plugged Well Schematics

P&A WELLBORE DIAGRAM

George McGonagill #1

330' FNL & 990' FEL
Sec. 2 (A), T18S, R35E
Lea County, NM
API No. 30-025-03039
Vacuum G..., ... San Andres Pool

Gr Elev 3891'
DF Elev 3904'
Spud 10-21-61
Drlg Comp 11-25-61

Tops:
Anhydrite 1792'
Yates 3167'
Queen 4213'
San Andres 5035'
Glorieta 6596'
Abo Porosity 8794'

10-14-83 First Production
Vac Greyburg San Andres

Spot 25 sx
60'-0

Spot 30 sx
370'-260'
Tag @ 3283'

Spot 30 sx
1930'-1820'

Spot 35 sx
2940'-2738'
Tag @ 753'

Spot 25 sx
3548'-3296'
Tag @ 3282'

Spot 5 sx
4950'-4496'
Tag @ 4478'

PBTD 4870'
TD 9259'

17" hole
13-3/8" 48# csg @ 320'
Cmtd w/330 sx, circ surf

Top of 5-1/2" csg stub @ 2888'

11" hole
8-5/8" 24 & 32# csg @ 3496'
Cmtd w/1365 sx, circ

Perfs' 4790'-4846' open
Perfs 4632'-4844', sqzd w/25 sx

CIBP @ 4870' w/2 sx cmt

Perfs 5020'-5038' sqzd w/25 sx

CIBP @ 8600' w/2 sx cmt

Perfs 8780'-8808' open
Perfs 8720'-8980' sqzd w/50 sx

7-7/8" hole
5-1/2" 15.5 & 17# csg @ 9260'
Cmtd w/720 sx, TOC 3500' by TS

Submit 3 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO. 30-025-03039

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: George McGonagill

1. Type of Well: OIL WELL ☒ GAS WELL ☐ OTHER

2. Name of Operator: Saga Petroleum LLC

8. Well No. 1

3. Address of Operator: 415 W. Wall, Ste. 1900, Midland, TX 79701

9. Pool name or Wildcat: Vac Grayburg San Andres

4. Well Location
Unit Letter A: 330 Feet From The North Line and 990 Feet From The East Line

Section 2 Township 18S Range 35E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3891 GR 3904 DF

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☒
PULL OR ALTER CASING ☐		CASING TEST AND CEMENT JOB ☐	
OTHER: ☐		OTHER: ☐	

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

5/28/02 Spot 5 sx cmt. from 4950' to 4496', WOC & tag TOC @ 4478'.
5/29/02 Circulate hole w/ mud.
5/29/02 Spot 25 sx cmt. from 3548' to 3296', WOC & tag TOC @ 3282'.
5/29/02 Spot 35 sx cmt. from 2940' to 2738', WOC & tag TOC @ 2753'.
5/29/02 Spot 30 sx cmt. from 1930' to 1820'.
5/30/02 Spot 30 sx cmt. from 370' to 260', WOC & tag TOC @ 264'.
5/30/02 Spot 25 sx cmt. from 60' to surface.
5/31/02 Cut off wellhead and install dry hole marker.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Roger Massey TITLE Agent DATE 06/04/02

TYPE OR PRINT NAME Roger Massey TELEPHONE NO. (915) 530-0907

(This space for State Use)

APPROVED BY Johnny Robinson TITLE COMPLIANCE OFFICER DATE OCT 18 2002

CONDITIONS OF APPROVAL, IF ANY:

PLUGGED WELL SCHEMATIC

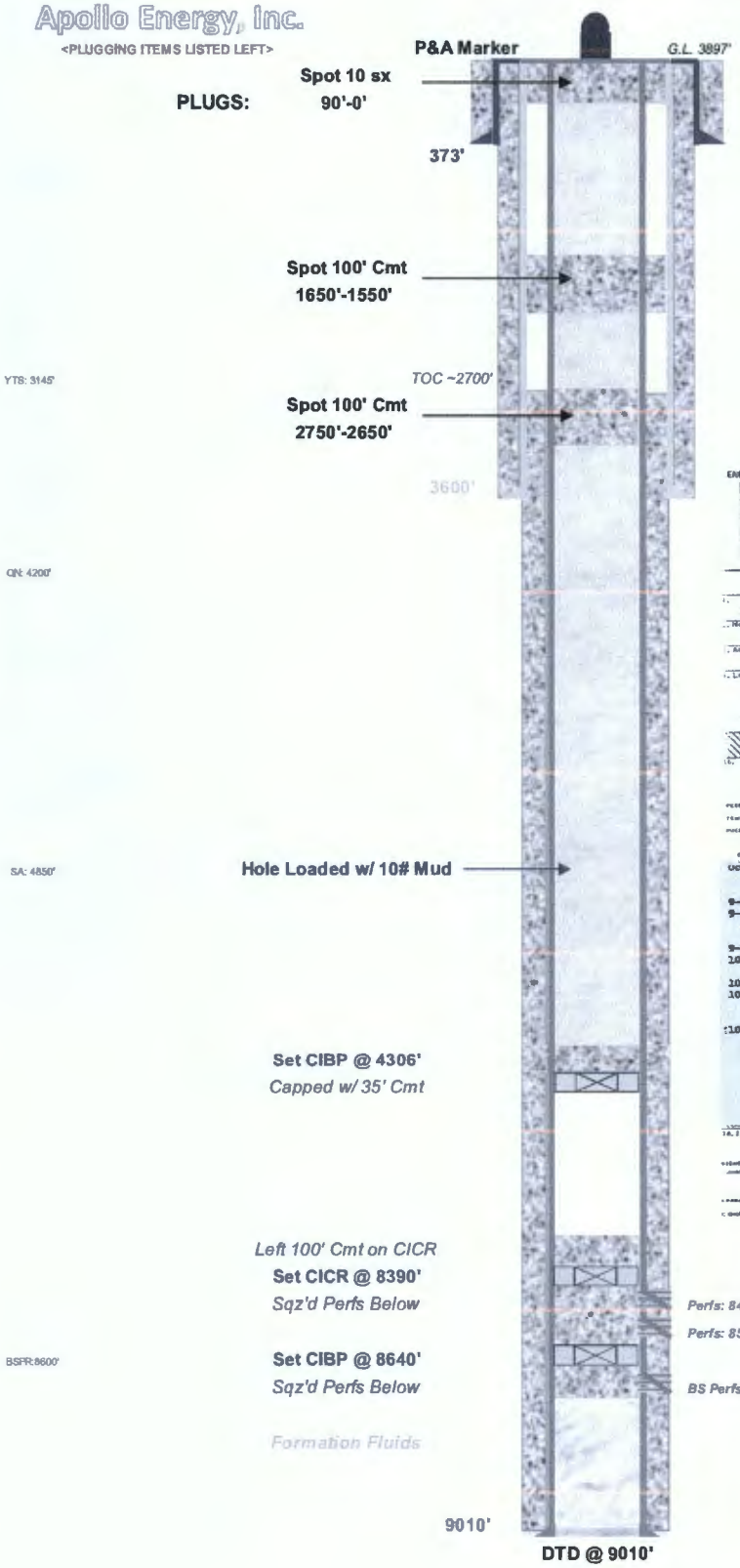
Lee No.2

API 30-025-21758
330' FNL & 2310' FEL, SEC. 2-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 3/28/1966
P&A Date: 10/22/1982

Well Plugged by:
Apollo Energy, Inc.

<PLUGGING ITEMS LISTED LEFT>



<PRE-P&A EXISTING ITEMS LISTED RIGHT>

Surface Casing
13.375", 48.0# Csg. (17.5" Hole) @ 373'
400 sx - Circulated to Surface

Intermediate Casing
8.625", 24.0# Csg. (11.0" Hole) @ 3600'
1250 sx -Circulated to Surface

<P&A SUBSEQUENT SUNDRY>

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

NMOCD: 0+2
File: 1

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

Form C-103
Revised 10-1-78

SUNDRY NOTICES AND REPORTS ON WELLS

1. OIL WELL [X] GAS WELL [ ] OTHER-
2. Name of Operator: APOLLO ENERGY, INC.
3. Address of Operator: P. O. Box 5315, HOBBS, NEW MEXICO 88241
4. Location of Well: UNIT LETTER B, 2310 FEET FROM THE East LINE AND 330 FEET FROM THE North LINE, SECTION 2, TOWNSHIP 18S, RANGE 35E, NMPM
15. Elevation (Show whether DF, RT, GR, etc.): 3897' GL
12. County: Lea

5. Indicate Type of Lease: State [ ] Fee [X]
6. State Oil & Gas Lease No.
7. Unit Agreement Name
8. Farm or Lease Name: Lee
9. Well No.: 2
10. Field and Pool, or Wildcat: Vacuum Abo Reef

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK [ ] TEMPORARILY ABANDON [ ] PULL OR ALTER CASING [ ] CHANGE PLANS [ ]

SUBSEQUENT REPORT OF: REMEDIAL WORK [ ] COMMENCE DRILLING OPNS. [ ] CASING TEST AND CEMENT JOB [ ] ALTERING CASING [ ] PLUG AND ABANDONMENT [X]

OTHER Unsuccessful attempt for completion [X]

OCT. 25, 1982

9-24/
9-29-82 Removed rot. BP out of hole. Re-perf. 8650-8670'. Acidized w/4500 gals. 15%, then fracsd w/50,000# 20/40 sand. Sanded out half way thru the job. Attempted to pull pkr. and tubing. Tubing parted @ 427' from surface.

9-29/
10-20-82 Fished all tubing in 3 attempts. Ran pkr. and tubing. Swab tested for 10 days w/slight show of gas and mixture of oil. Recovered 90% of load - no oil or gas.

10-20/
10-24-82 Squeezed perfs. 8650-8670' under a cement retainer. Ran another cement retainer and squeezed perfs. 8400-8420' and 8510-8530', leaving 100' cement on top. Set CIBP @ 4306'. Perf. 4232-4232'. Acidized and swab tested for no shows.

10-22-82 As per verbal approval from N.M.O.C.D. Plugged and Abandoned as follows:
Loaded hole w/10# mud.
Set 100' of cement on top of BP @ 4306'.
Set 100' of cement plug 2650-2750'. WO. Tagged plug next morning. Plug in place.
Set cement plug from 1550-1650'. Set 10 sx. surface plug. Installed dry hole marker. Cut-off anchors, cleaned up location.

Note: Location ready for inspection. Reserve pits will be cleaned up when dry.

16. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED M. Y. Merchant TITLE Vice President DATE Oct. 25, 1982

APPROVED BY Ronald Eidson TITLE OIL & GAS INSPECTOR DATE DEC 29 1982

CONDITIONS OF APPROVAL, IF ANY:

Production Casing
4.5", 11.6;10.5;9.5# Csg. (7.875" Hole) @ 9010'
1171 sx - TOC ~2700' Calc.

Perfs: 8400'-20' (Sqz'd)
Perfs: 8510'-30' (Sqz'd)
BS Perfs: 8650'-70' (Sqz'd)

Drawn by: Ben Stone, 8/16/2018

SOS Consulting, LLC

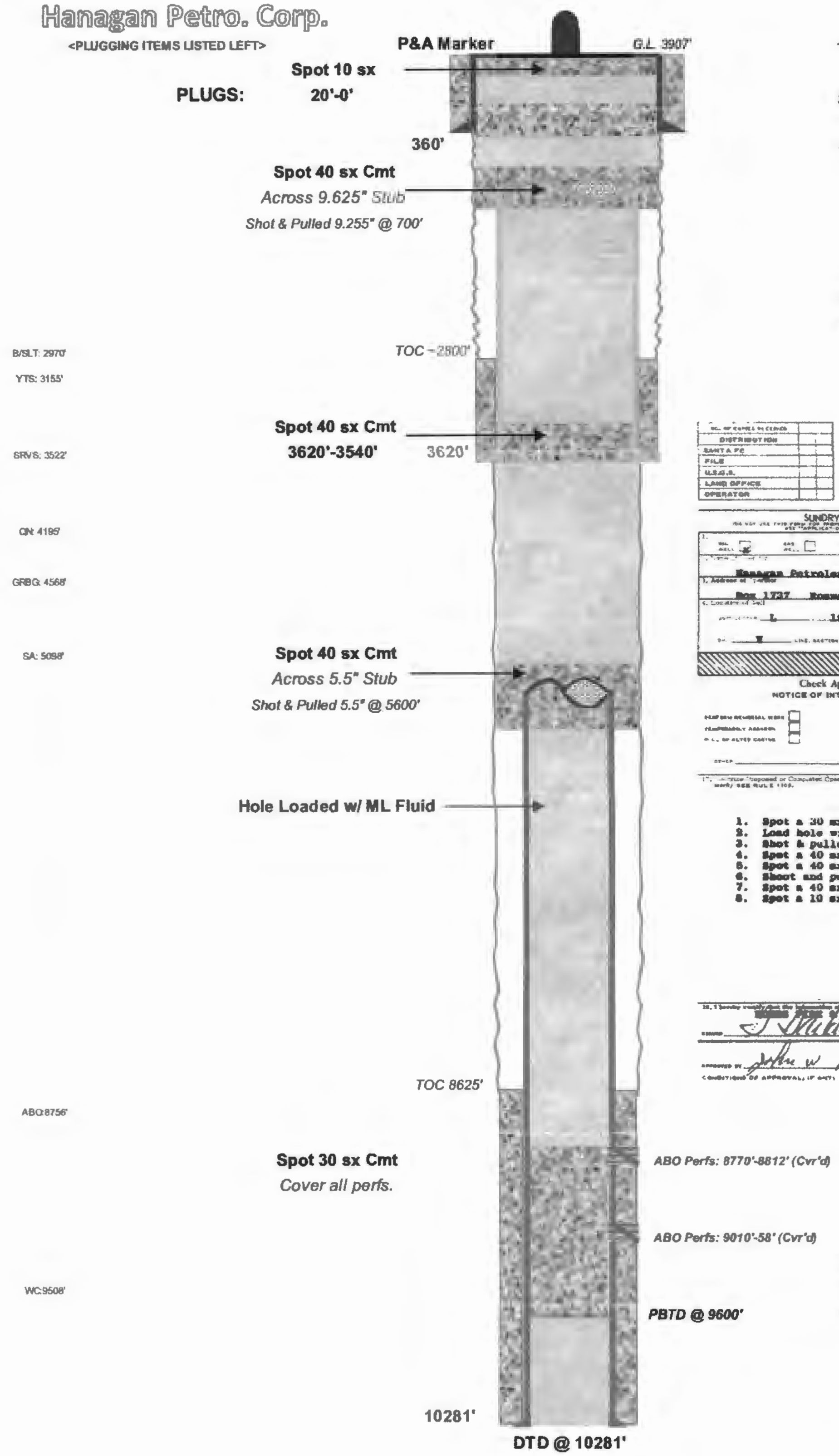
PLUGGED WELL SCHEMATIC

Superior A State No.1

API 30-025-21259
1980' FSL & 660' FWL, SEC. 2-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 5//71965
P&A Date: 4/30/1967

Well Plugged by:
Hanagan Petro. Corp.



<PRE-P&A EXISTING ITEMS LISTED RIGHT>

Surface Casing
13.375", 48.0# Csg. (17.5" Hole) @ 360'
300 sx - Circulated to Surface

Intermediate Casing
9.625", 36.0# Csg. (12.25" Hole) @ 3620'
200 sx - TOC @ 2800' by Calc.

<P&A SUBSEQUENT SUNDRY>

DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103

SUNDRY NOTICES AND REPORTS ON WELLS

Hanagan Petroleum Corp.

Box 1737 Roswell, New Mexico

Superior "A" State

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

1. Spot a 30 sx plug in bottom to cover all perforation.
2. Load hole with mud laden fluid.
3. Shot & pulled 5600' - 5 1/2" casing.
4. Spot a 40 sx plug at stub of 5 1/2".
5. Spot a 40 sx plug at 3620'.
6. Shoot and pull 700' - 9 5/8" casing.
7. Spot a 40 sx plug at 700' and 360'.
8. Spot a 10 sx plug in top and erect a regulation marker.

TITLE Agent DATE 4-30-67

APPROVED BY John W Runyan

CONDITIONS OF APPROVAL, IF ANY:

Production Casing
5.5", 17.0# Csg. (7.875" Hole) @ 10281'
400 sx - TOC 8625' by Temp.

Drawn by: Ben Stone, 8/16/2018

SOS Consulting, LLC

PLUGGED WELL SCHEMATIC

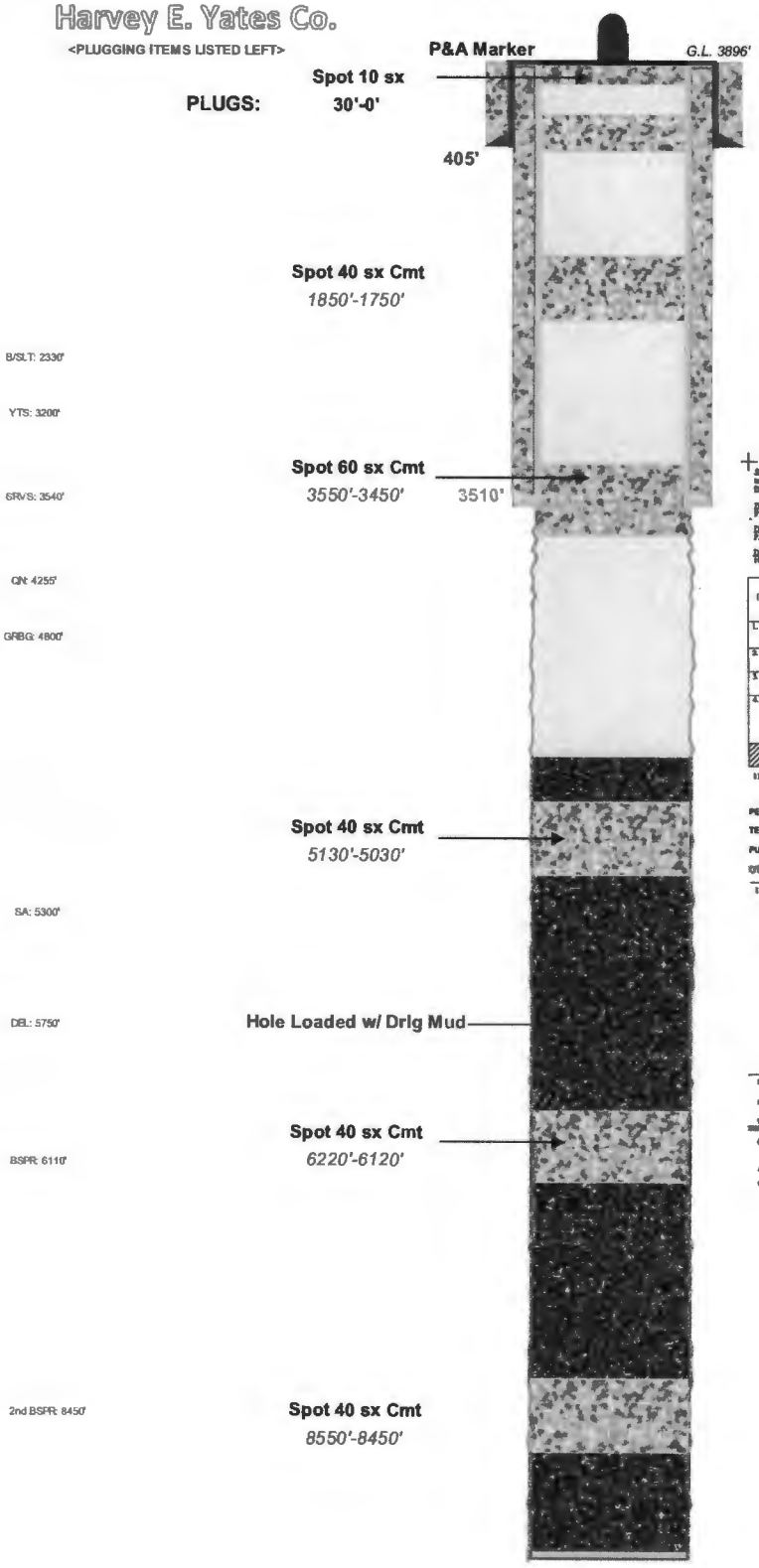
Buckeye 2 State No.1

API 30-025-32964
660' FSL & 1650' FEL, SEC. 2-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 5//71965
P&A Date: 6/23/1995

Well Plugged by:
Harvey E. Yates Co.

<PLUGGING ITEMS LISTED LEFT>



<PRE-P&A EXISTING ITEMS LISTED RIGHT>

Surface Casing
13.375", 48.0# Csg. (17.5" Hole) @405'
425 sx - Circulated to Surface

Intermediate Casing
8.625", 32.0# Csg. (12.25" Hole) @ 3510'
1700 sx - TOC @ 2800' Circulated

<P&A SUBSEQUENT SUNDRY>

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-103
Revised 1-1-89

WELL API NO. 30-025-32964
5. Indicate Type of Lease STATE [X] FEE [ ]
6. State Oil & Gas Lease No. L-201-2

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: Buckeye 2 State

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER P&A
2. Name of Operator: Harvey E. Yates Company
8. Well No. #1
3. Address of Operator: P.O. Box 1933, Roswell, N.M. 88202 505/623-6601
9. Pool name or Wildcat: Reeves, Bone Spring
4. Well Location: Unit Letter O : 660 Feet From The South Line and 1650 Feet From The East Line
Section 2 Township 18S Range 35E NMPM Lea County
10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3896'

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]	CHANGE PLANS [ ]	COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [X]
PULL OR ALTER CASING [ ]		CASING TEST AND CEMENT JOB [ ]	
OTHER: [ ]		OTHER: [ ]	

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

6/21/95 TD 7 7/8" hole @ 9282'

6/23/95 P&A well as follows:
Set 40 sk plug @ 8450-8550'
Set 40 sk plug @ 6120-6220'
Set 40 sk plug @ 5030-5130'
Set 60 sk plug @ 3450-3550'
Set 40 sk plug @ 1750-1850'
Set 10 sk plug @ surface
Cut off well head & Install dry hole marker
RR @ 11:30 pm 6/23/95

I hereby certify that the information above is true and complete to the best of my knowledge and belief.
SIGNATURE Bob Williams TITLE Drlg Superintendent DATE 7/3/95
TYPE OR PRINT NAME Bob Williams TELEPHONE NO. 505/623-660
(This space for State Use)
APPROVED BY TITLE DATE
CONDITIONS OF APPROVAL, IF ANY:

Production Casing
Never Set...

Drawn by: Ben Stone, 8/16/2018

SOS Consulting, LLC

PLUGGED WELL SCHEMATIC

Lea 946 State No.4

API 30-025-30595

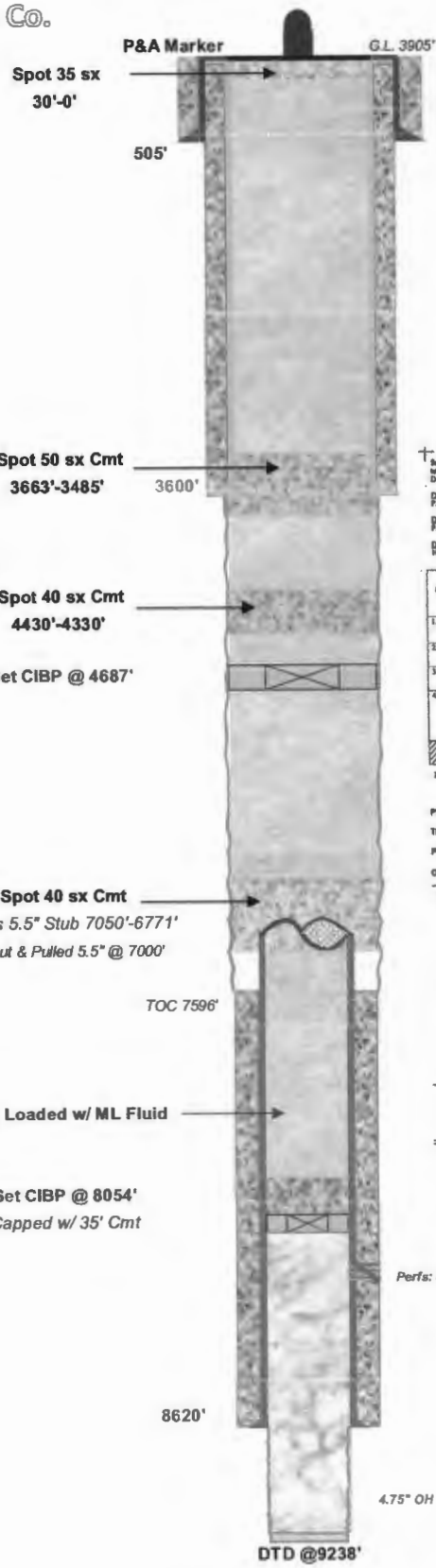
2307' FNL & 1980' FEL, SEC. 3-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 5/04/1989
P&A Date: 7/16/1990

Well Plugged by:
Hondo Oil & Gas Co.

<PLUGGING ITEMS LISTED LEFT>

<PRE-P&A EXISTING ITEMS LISTED RIGHT>



Surface Casing
13.375", 48.0# Csg. (17.5" Hole) @ 505'
525 sx - Circulated to Surface

Intermediate Casing
8.625", 24.0; 32.0# Csg. (11.0" Hole) @ 3600'
1400 sx - Circulated

<P&A SUBSEQUENT SUNDRY>

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO. 30-025-30595
5. Indicate Type of Lease STATE ☑ FEE ☐
6. State Oil & Gas Lease No. K-3581-1

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS)

7. Lease Name or Unit Agreement Name: Lea 946 State
1. Type of Well: OIL WELL ☑ GAS WELL ☐ OTHER
2. Name of Operator: Hondo Oil & Gas Company
8. Well No. 4
3. Address of Operator: P. O. Box 2208, Roswell, NM 88202
9. Pool name or Wildcat: Buckeye GB/SA
4. Well Location: Unit Letter G : 2307 Feet From The North Line and 1980 Feet From The East Line
Section 3 Township 18S Range 35E NMPM Lea County
10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3905' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☑
PULL OR ALTER CASING ☐		CASING TEST AND CEMENT JOB ☐	
OTHER: ☐		OTHER: ☐	

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

This well was plugged as follows:

(1) CIBP was set @ 8054' with 35' of cement on top
(2) jet cut 5 1/2" casing @ 7000' and pulled
(3) spotted 40 sx. cement plug in and out of 5 1/2" casing stub from 7050-6771'
(4) CIBP was set @ 4687'
(5) set 40 sx. cement plug from 4430-4330'
(6) set 50 sx. cement plug from 3663-3485'
(7) set 35 sx. cement plug from 30' to surface
(8) cut off wellhead and installed dry hole marker 5/11/90

Plugging procedure per Paul Kautz, NMOCD-Hobbs District Office.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.
SIGNATURE Lisa Bohannon TITLE Engineering Technician DATE 7/16/90
TYPE OR PRINT NAME Lisa Bohannon TELEPHONE NO. 505/625-6739

(This space for State Use)
APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

Production Casing
5.5", 17.0# Csg. (7.875" Hole) @ 8620'
200 sx - TOC 7596' by Temp.

Drawn by: Ben Stone, 8/16/2018

SOS Consulting, LLC

PLUGGED WELL SCHEMATIC

Santa Fe No.114

API 30-025-21315

2307' FNL & 1980' FEL, SEC. 3-T18S-R35E

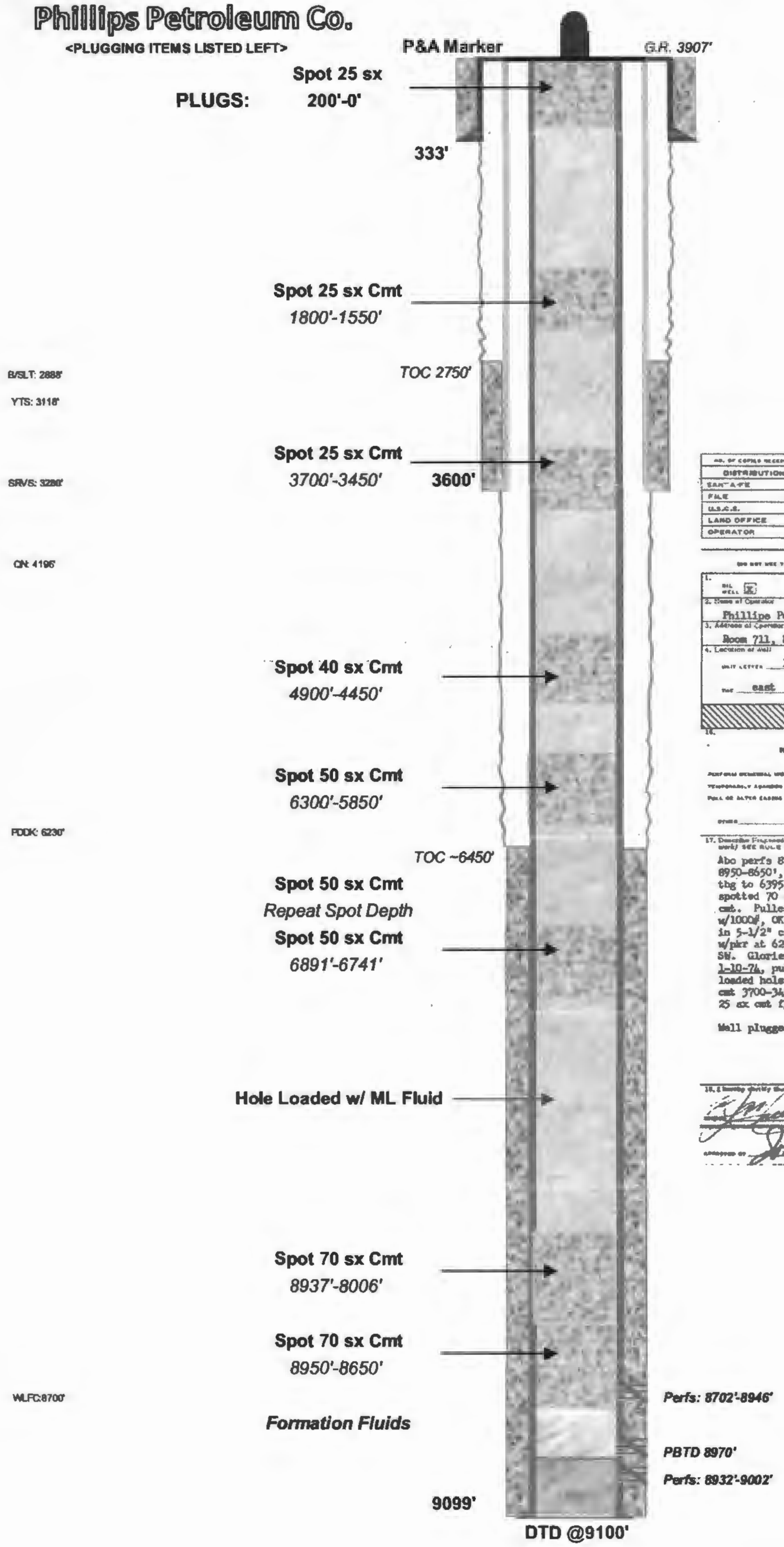
LEA COUNTY, NEW MEXICO

Spud Date: 10/12/1965

P&A Date: 1/11/1974

Well Plugged by:

Phillips Petroleum Co.



<PRE-P&A EXISTING ITEMS LISTED RIGHT>

Surface Casing

13.375", 48.0# Csg. (17.5" Hole) @ 333'

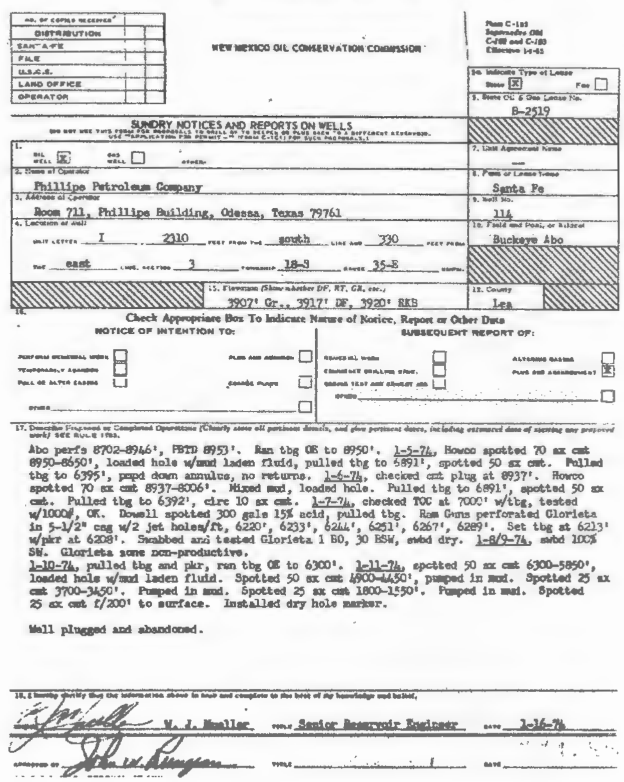
400 sx - Circulated to Surface

Intermediate Casing

8.625", 24.0; 32.0# Csg. (11.0" Hole) @ 3600'

400 sx - TOC @ 2750' by Temp

<P&A SUBSEQUENT SUNDRY>



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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103 Supersedes Old C-102 and C-103 Effective 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No. B-2519

SUNDRY NOTICES AND REPORTS ON WELLS

1. Oil Well [X] Gas Well [ ] Other

7. Unit Agreement Name —

2. Name of Operator: Phillips Petroleum Company

8. Farm or Lease Name: Santa Fe

3. Address of Operator: Room 711, Phillips Building, Odessa, Texas 79761

9. Well No. 114

4. Location of Well: Unit Letter I, 2310 feet from the south line and 330 feet from the east line, section 3 township 18-S range 35-E NMPM.

10. Field and Pool, or Wildcat: Buckeye Abo

15. Elevation (Show whether DF, RT, GR, etc.) 3907' Gr., 3917' DF, 3920' RKB

12. County: Lea

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: / SUBSEQUENT REPORT OF: Plug and Abandonment [X]

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Abo perfs 8702-8946', PBTD 8953'. Ran tbg OE to 8950'. 1-5-74, Howco spotted 70 sx cmt 8950-8650', loaded hole w/mud laden fluid, pulled tbg to 6891', spotted 50 sx cmt. Pulled tbg to 6395', pmpd down annulus, no returns. 1-6-74, checked cmt plug at 8937'. Howco spotted 70 sx cmt 8937-8006'. Mixed mud, loaded hole. Pulled tbg to 6891', spotted 50 sx cmt. Pulled tbg to 6392', circ 10 sx cmt. 1-7-74, checked TOC at 7000' w/tbg, tested w/1000#, OK. Dowell spotted 300 gals 15% acid, pulled tbg. Ram Guns perforated Glorieta in 5-1/2" csg w/2 jet holes/ft, 6220', 6233', 6244', 6251', 6267', 6289'. Set tbg at 6213' w/pkr at 6208'. Swabbed and tested Glorieta 1 BO, 30 BSW, swbd dry. 1-8/9-74, swbd 100% SW. Glorieta zone non-productive.
1-10-74, pulled tbg and pkr, ran tbg OE to 6300'. 1-11-74, spotted 50 sx cmt 6300-5850', loaded hole w/mud laden fluid. Spotted 50 sx cmt 4900-4450', pumped in mud. Spotted 25 sx cmt 3700-3450'. Pumped in mud. Spotted 25 sx cmt 1800-1550'. Pumped in mud. Spotted 25 sx cmt f/200' to surface. Installed dry hole marker.

Well plugged and abandoned.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed: W. J. Mueller Title: Senior Reservoir Engineer Date: 1-16-74

Approved by: [signature] Title Date

Production Casing

5.5", 17.0# Csg. (7.875" Hole) @ 9099'

500 sx - TOC ~6450' by Calc.

Drawn by: Ben Stone, 8/16/2018

SOS Consulting, LLC

PLUGGED WELL SCHEMATIC

Santa Fe No.116

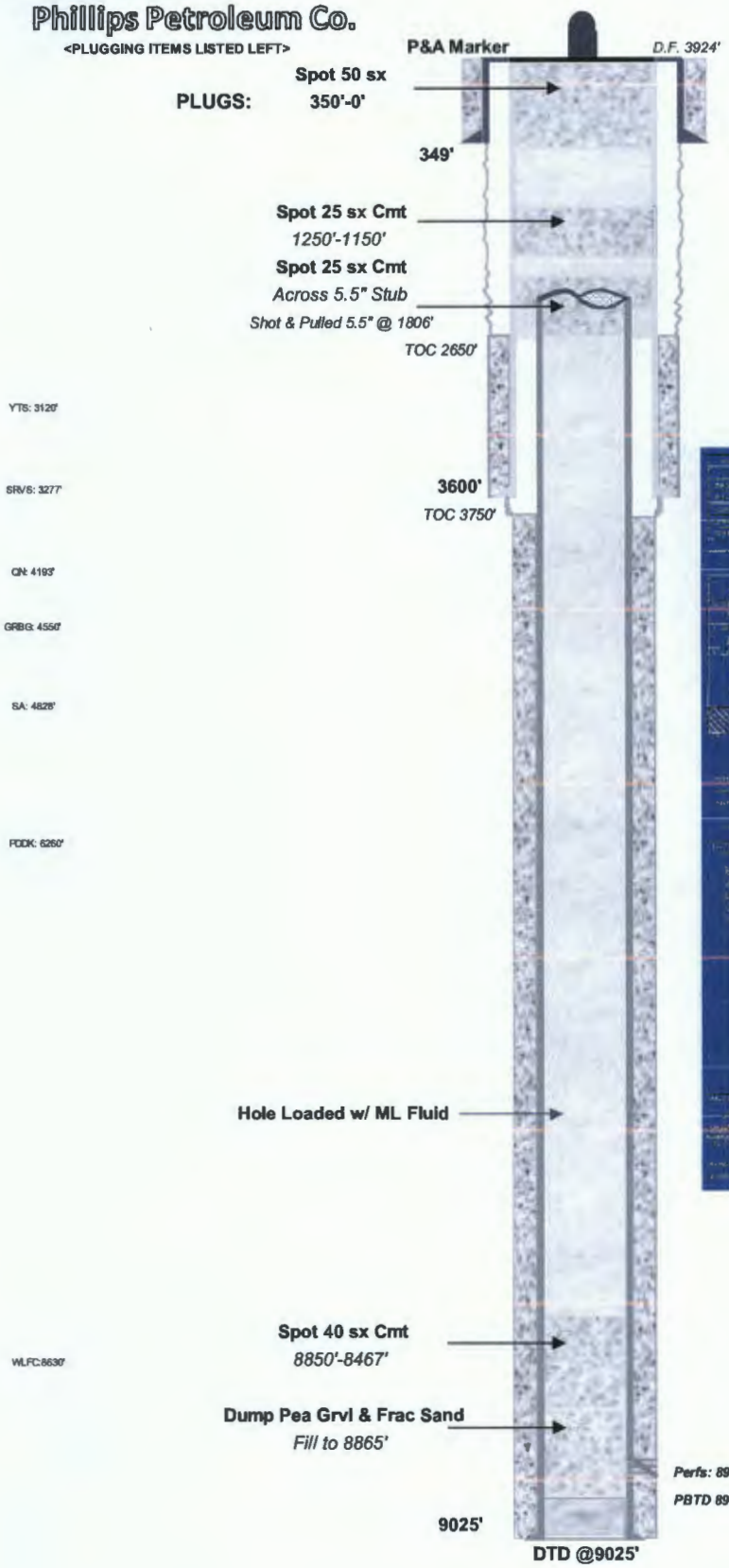
API 30-025-21638

1980' FSL & 1658' FEL, SEC. 3-T18S-R35E
LEA COUNTY, NEW MEXICO

Spud Date: 11/21/1965
P&A Date: 8/10/1971

Well Plugged by:
Phillips Petroleum Co.

<PLUGGING ITEMS LISTED LEFT>



<PRE-P&A EXISTING ITEMS LISTED RIGHT>

Surface Casing
13.375", 48.0# Csg. (17.5" Hole) @ 349'
400 sx - Circulated to Surface

Intermediate Casing
8.625", 24.0; 28.0# Csg. (11.0" Hole) @ 3600'
400 sx - TOC @ 2650' by Temp

<P&A SUBSEQUENT SUNDRY>

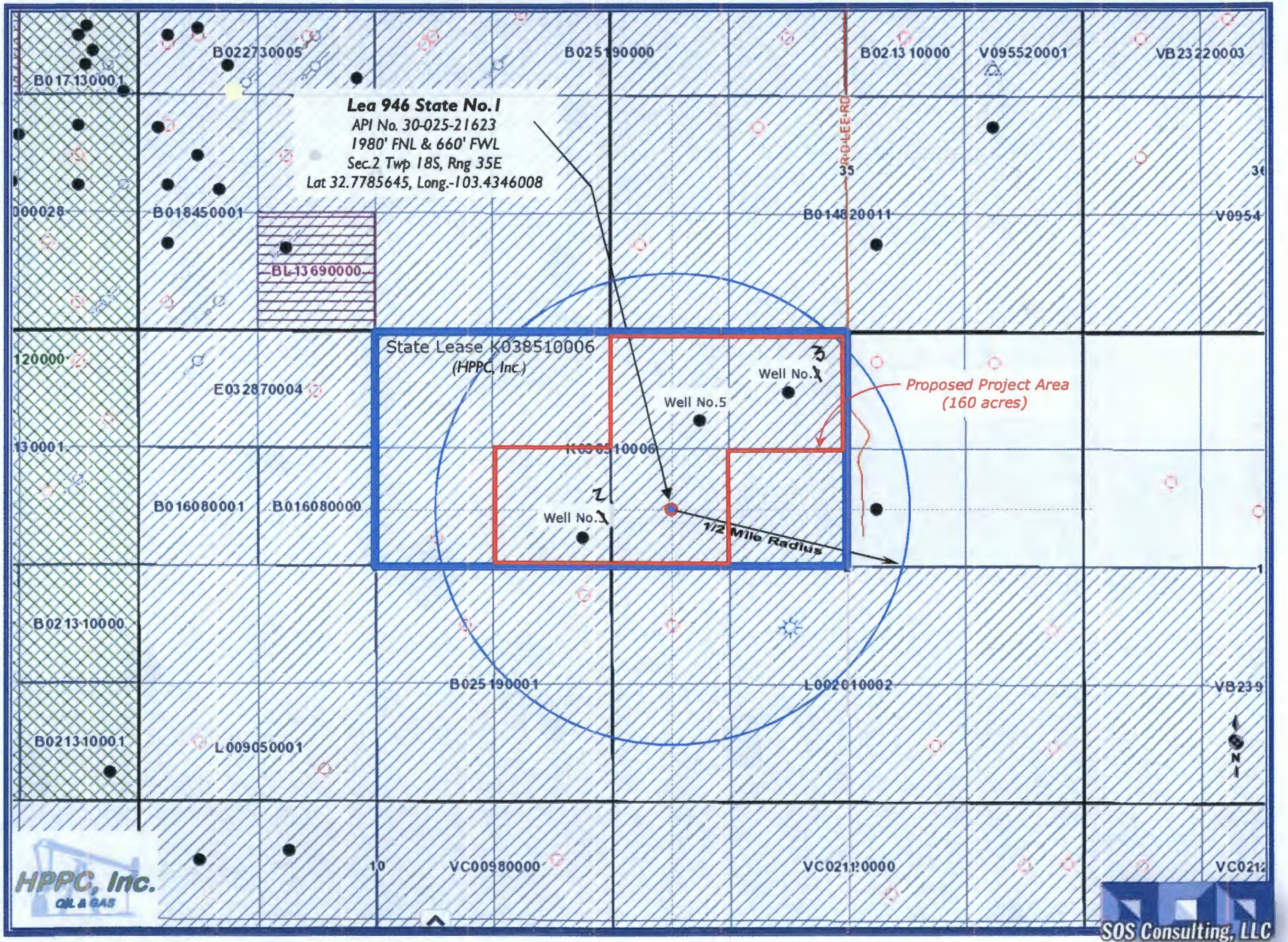
Production Casing
5.5", 17.0# Csg. (7.875" Hole) @ 9025'
600 sx - TOC 3750' by Temp.

Drawn by: Ben Stone, 8/16/2018

SOS Consulting, LLC

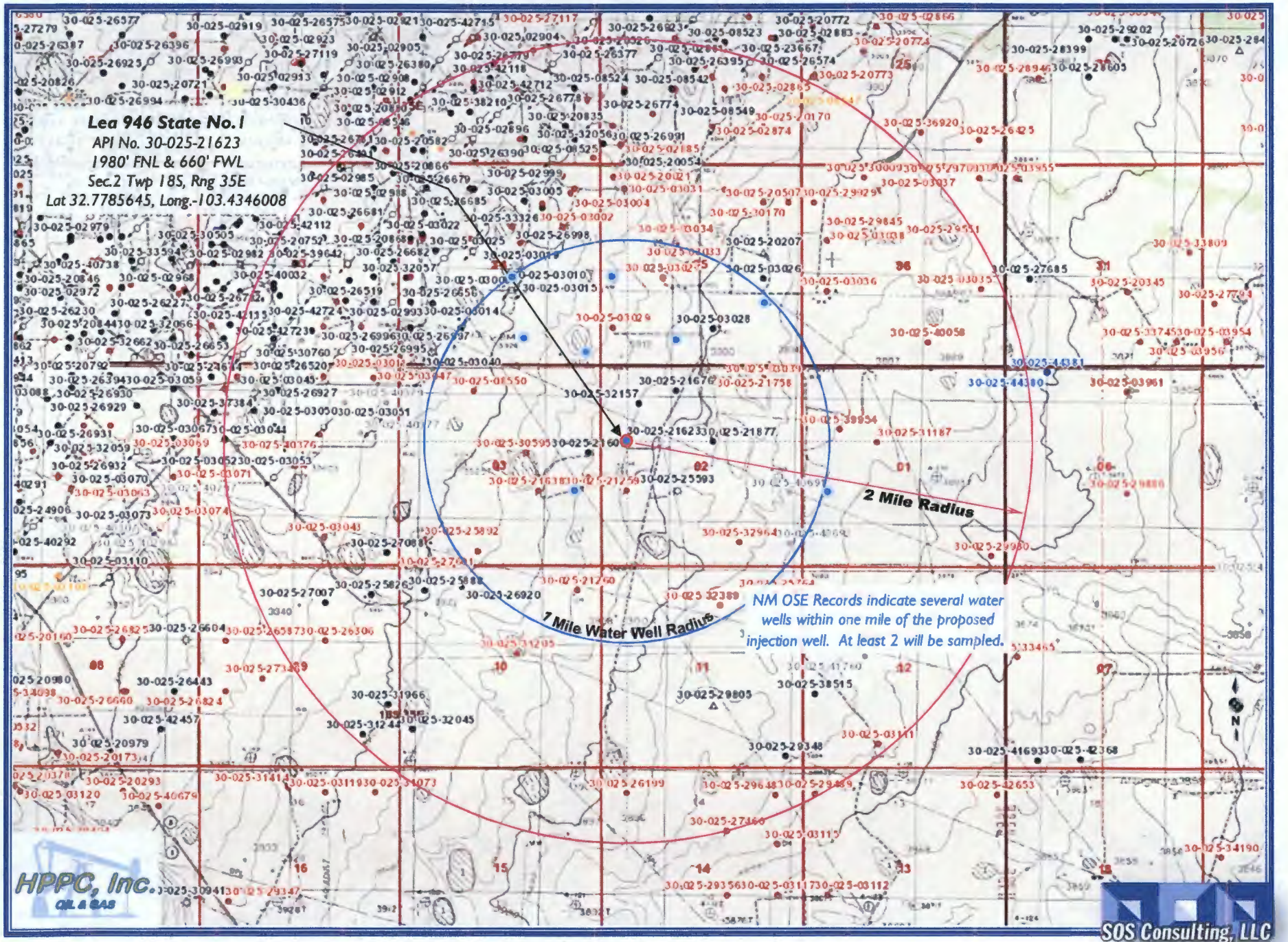
Lea 946 State No.1- Project Area (Proposed)

(Attachment to NMOCD Form C-108 - Item V)



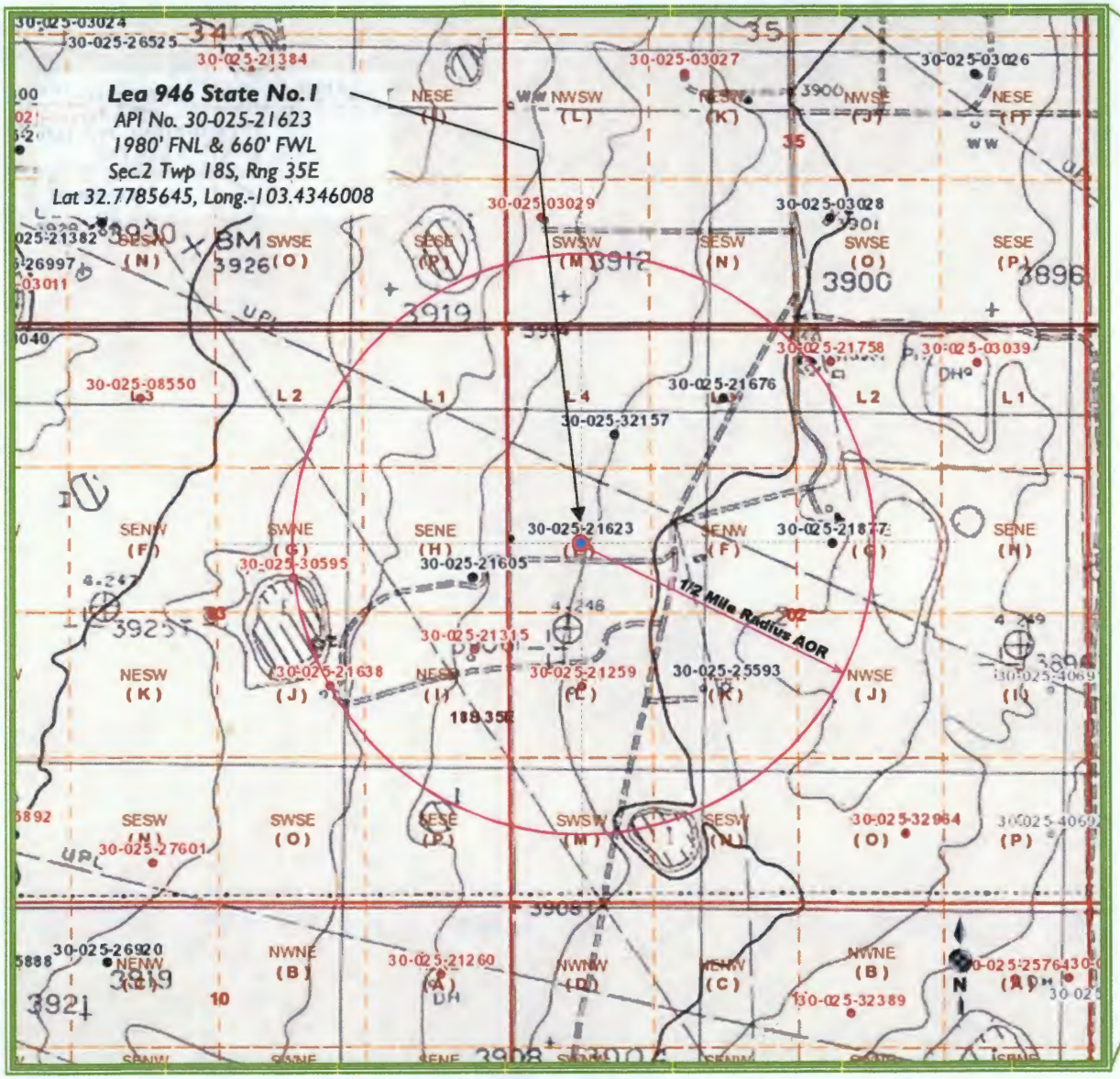
Lea 946 State No.1- Area of Review / 2 Miles

(Attachment to NMOCD Form C-108 - Item V)



Lea 946 State No.1 - Area of Review / Overview Map

(Attachment to NMOCD Form C-108 - Item V)



~4.3 miles E/SE of Buckeye, NM

Lea County, New Mexico

HPPC, Inc.
OIL & GAS

SOS Consulting, LLC

C-108 ITEM X

LOGS and AVAILABLE TEST DATA

A log strip from the subject well is attached
With annotations.

LOG STRIP FOLLOWS

Additional Exhibits will be presented at hearing.

E-2-T18S-R35E 1980FN 660FW
JETTA OPERATING COMPANY, INC.
LEA 946 STATE # 1
30-025-21623

Page 1
Header

SONIC LOG-GAMMA RAY

COMPANY	SINCLAIR OIL & GAS COMPANY
WELL	LEA 946 STATE # 1
FIELD	WILDCAT
COUNTY	LEA
STATE	NEW MEXICO
LOCATION	1980' FNL 660' FWL
Other Services:	IES, ML
Sec.	2
Twp.	18S
Rge.	35E
Permanent Datum:	GL, Elev. 3902
Log Measured From	GL, Ft. Above Perm. Datum
Drilling Measured From	GL
Elev.: K.B.	
D.F.	
G.L.	3902

Date	12-19-65		
Run No.	ONE		
Depth—Driller	8995		
Depth—Logger	8999		
Btm. Log Interval	8990		
Top Log Interval	0		
Casing—Driller	8 5/8 @ 3592	@	@
Casing—Logger	-		
Bit Size	7 7/8"		
Type Fluid in Hole	GEL, CMC, CAUSTIC SODA ASH, SPERSENE, OIL		
Dens. | Visc.	8.4 | 45		
pH | Fluid Loss	9 | 8* ml	ml	ml
Source of Sample	CIRCULATED		
R_m @ Meas. Temp.	2.51 @ 74 °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	0.70 @ 69 °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	2.65 @ 73 °F	@ °F	@ °F
Source: R_{mf} | R_{mc}	M | M		
R_m @ BHT	1.5 @ 125°F	@ °F	@ °F
Time Since Circ.	4 HOURS		
Max. Rec. Temp.	125 °F	°F	°F
Equip. | Location	3701 | HOBBS		
Recorded By	SCHAEFFER		
Witnessed By	MR. YATES & MR. FULLER		

FOLD HERE

REMARKS

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

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down Hole

Equipment Data

Run No.	Tool Type	Pad Type	Tool Pos.	Other

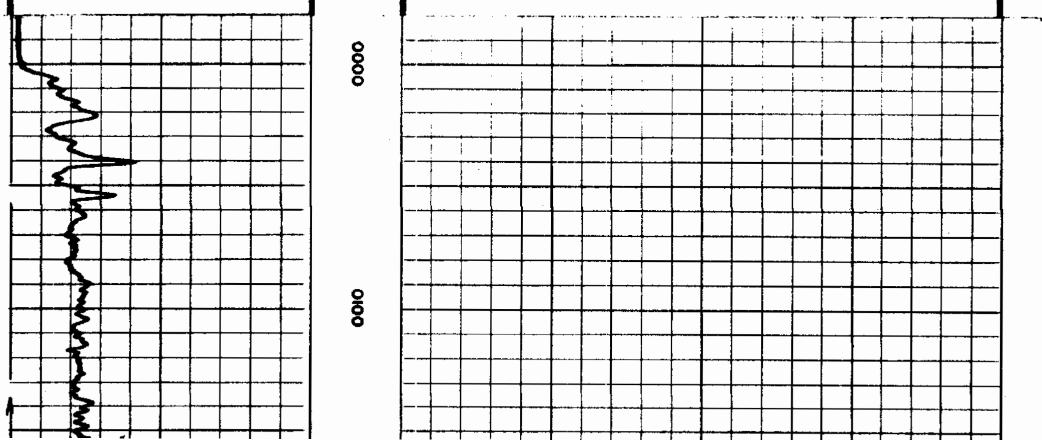
C.D.: USED S.O.: CME-H & CALIPER
Equip. Used: CART. No. X4
PANEL No. X4
SONDE No. X1

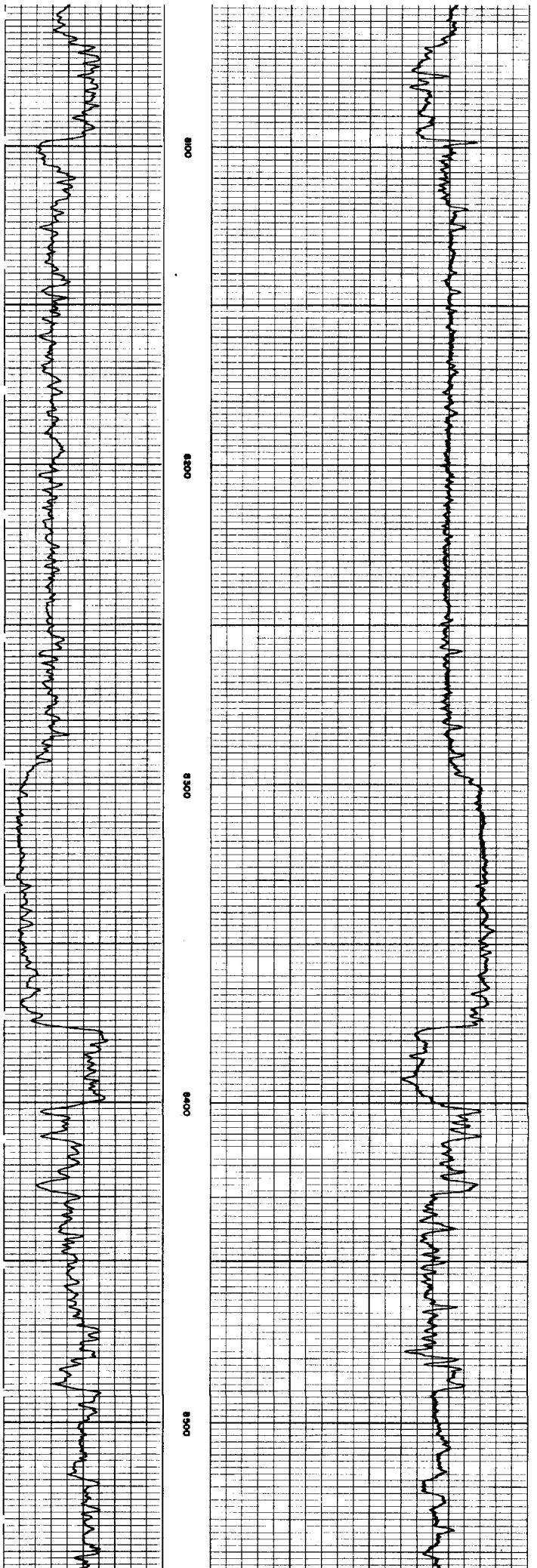
CALIBRATION:	BACKGND. CPS.	SOURCE CPS.	GALV. INCR. DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (FT./MIN.)
GAMMA RAY:	50	430	82.5	800	400	1	40/80

* W.L. MEASURED 7.2 ML

$$\text{Velocity (feet per second)} = \frac{1{,}000{,}000}{\text{Interval Transit Time (microseconds per foot)}}$$

GAMMA RAY API UNITS	DEPTHS	INTERVAL TRANSIT TIME MICROSECONDS PER FOOT
0 — 100		T 3 R₁ 1 R₂ — 100 — 70 — 40
100 — 200		160 — 130 — 100

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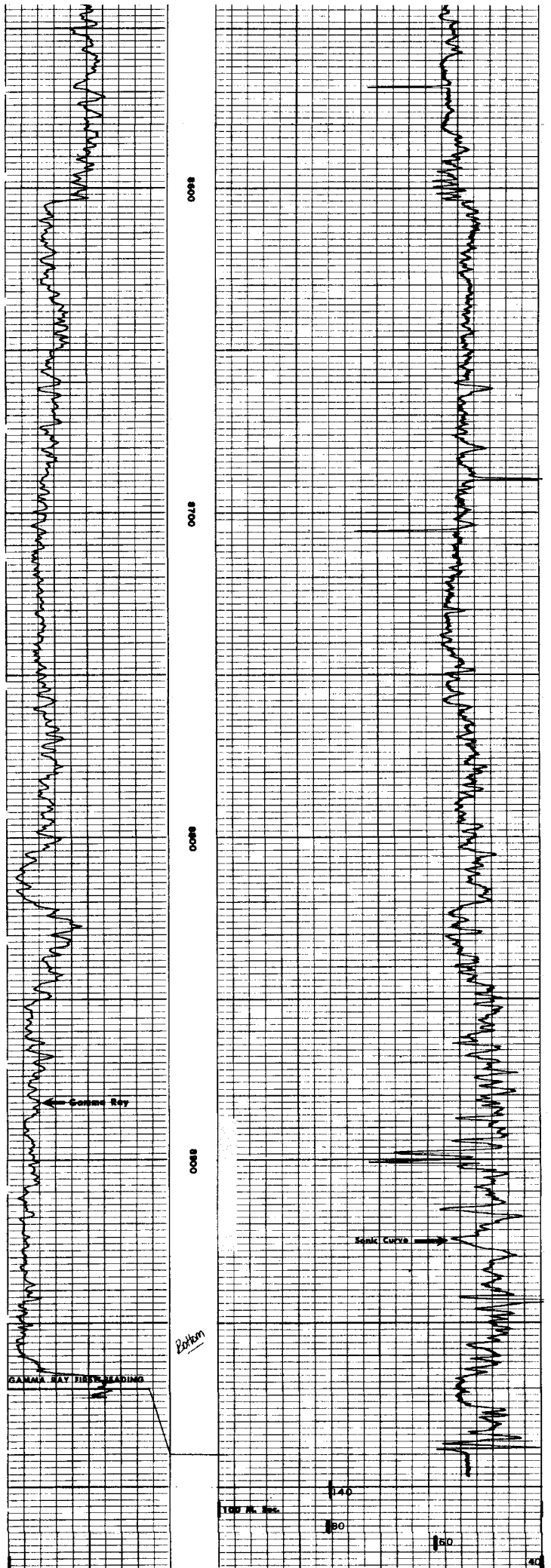
8400
8500



Injection Interval
8887'-8928'

C-108 ITEM VII

Proposed Operation

Lea 946 State No.1

Pressure Maintenance Project (Initial)

PROPOSED OPERATION

The injection system will be closed. A new pump will be installed capable of achieving 200 percent of the maximum requirement for the proposed rate and pressure.

Proposed Average Daily Rate: 250 BWPD and Maximum Daily Rate: 500 BWPD

Proposed Average Surface Injection Pressure: 1250 psi and Maximum: 1777 psi.

The injection well and producing wells will be monitored for performance analysis. If performance data warrants, the well may be step-rate tested to determine the fracture gradient and a pressure increase may be applied for based on these data. Until then, maximum injection pressure will be based on the standard 0.2 psi/ft gradient.

The source of injection water will be reinjected produced water the Lea 946 State Well Nos.2 and 5. Potential make-up water from the Glorieta, Paddock or other compatible formations may be obtained from other wells in the area. This will be supplied from various Vacuum injection systems with operator agreement. Water analyses of the subject produced waters indicate it is compatible and is included in that section of the C-108 information. If other make-up waters are needed, an analysis of whatever source water will be provided.

STIMULATION PLAN

The injection well is a cased hole completion and selectively perforated. The proposed stimulation program will initially be a medium-sized acid job using 15% HCL. As the project matures additional stimulation with larger acid treatments may be utilized.

C-108 ITEM VII – PRODUCED WATER ANAYLSES

Item VII.4 – Water Analysis of Source Zone Water

Abo

Item VII.5 – Water Analysis of Potential Make-Up Water

Glorieta

Water Analyses follow this page.

C-108 Item VII.5 - Produced Water Data

HPPC, Inc. - Lea 946 State Pressure Maintenance Project

SUBJECT ZONE

ABO

Lab ID

API No 3002503050 **Sample ID** 5070

Well Name VACUUM ABO UNIT 012 Sample No

Location ULSTR 04 18 S 35 E **Lat / Long** 32.77898 -103.46024

1650 N 1980 E **County** Lea

Operator (when sampled)

Field VACUUM Unit G

Sample Date Analysis Date

Sample Source UNKNOWN Depth (if known)

Water Typ

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	61592	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	30420	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	1407
iron_mgL		sulfate_mgL	6877
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 Item VII.5 - Produced Water Data

HPPC, Inc. - Lea 946 State Pressure Maintenance Project

SUBJECT ZONE

ABO

Lab ID

Sample ID 5495

API No 3002503040

Sample No

Well Name VACUUM ABO UNIT 009

Location ULSTR 03 18 S 35 E **Lat / Long** 32.78259 -103.45168

330 N 660 W **County** Lea

Operator (when sampled)

Field VACUUM Unit 4

Sample Date Analysis Date

Sample Source WELLHEAD Depth (if known)

Water Typ

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	56805	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	31800	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	1720
iron_mgL		sulfate_mgL	2100
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 Item VII.5 - Produced Water Data

HPPC, Inc. - Lea 946 State Pressure Maintenance Project

POTENTIAL MAKE-UP WATER ZONE

GLO

Lab ID

Sample ID 2483

API No 3002520944

Sample No

Well Name NEW MEXICO N STATE 008

Location ULSTR 30 17 S 35 E **Lat / Long** 32.81128 -103.50348

550 N 500 W **County** Lea

Operator (when sampled)

Field VACUUM Unit 1

Sample Date Analysis Date

Sample Source WELLHEAD Depth (if known)

Water Typ

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	42982	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	23690	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	754
iron_mgL		sulfate_mgL	2812
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 Item VII.5 - Produced Water Data

HPPC, Inc. - Lea 946 State Pressure Maintenance Project

POTENTIAL MAKE-UP WATER ZONE

GLO

Lab ID

Sample ID 2365

Sample No

API No 3002520944

Well Name NEW MEXICO N STATE 008

Location ULSTR 30 17 S 35 E **Lat / Long** 32.81128 -103.50348

550 N 500 W **County** Lea

Operator (when sampled)

Field VACUUM Unit 1

Sample Date Analysis Date

Sample Source WELLHEAD Depth (if known)

Water Typ

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	53760	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	29000	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	3730
iron_mgL		sulfate_mgL	2560
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 – Item VIII

Geologic Information

The Abo formation is a microcrystalline dolomite deposited in a back-reef environment. The structure is a southeasterly dipping stratagraphic trap with permeability pinchouts in all directions. The Abo is in the Paleozoic era, Permian System, Leonard Age. The top of the Abo is found at approximately 8300' and is approximately 1000 feet thick.

The Abo is overlain by the Drinkard, Tubb, Paddock and Glorieta; collectively the group is 1500 feet thick. It is underlain by the Wolfcamp. The top of the Wolfcamp is approximately 9300' and is approximately 800 feet thick.

No known faults cut through these formations that may act as conduits for gas, oil, or injection fluids to seep into freshwater aquifers above the injection zone within the proposed injection project. The area has historically been the subject of numerous water injection projects in and above the Abo in the Paddock-Glorieta formations (Vacuum Glorieta West Unit) and the Grayburg-San Andres (Central Vacuum Unit).

Oil production in the area may be found in the following formations:

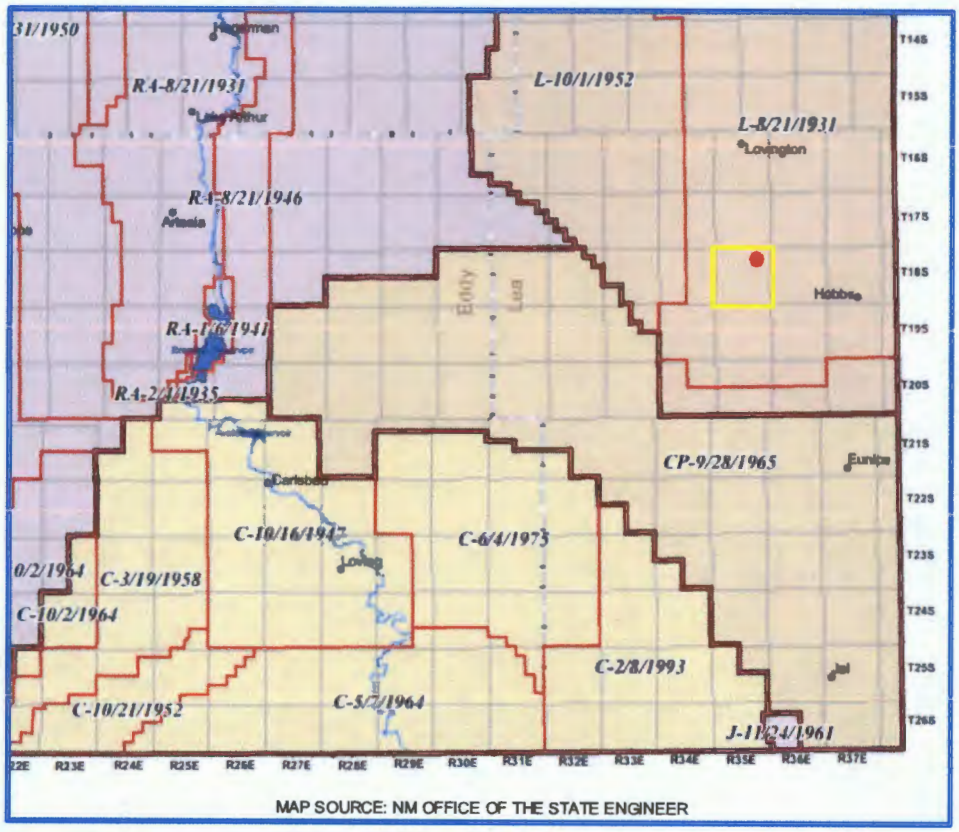
Grayburg-San Andres 4300'
Glorieta-Paddock 5900'
Blinbery 6500'
Drinkard 7450'
Abo 8300'
Wolfcamp 9300'
Penn Reef 10100'

Fresh water in the area is generally available from the Lea County Basin of Ogallala and High Plains aquifers. State Engineer's records show water wells in the area with a average depth to groundwater 57 feet. No freshwater contamination of the Ogallala through faults cutting these shallower formations mentioned above has been observed.

There are numerous water wells and/or PODs located within one mile of the proposed injection well; 2 or 3 will be sampled and analyses will be exhibited and presented at hearing.

C-108 - Item XI

Groundwater Basins - Water Column / Depth to Groundwater



MAP SOURCE: NM OFFICE OF THE STATE ENGINEER

The subject well is located within the Lea County Basin. Fresh water in the area is generally available from the Ogallala; High Plains Aquifer. State Engineer's records show water wells in 18S-35E with an average depth to water at 57 feet.

There are several water wells located within one mile of the proposed SWD. Samples are being taken on at least 2 and analyses will be forwarded as soon as available.

SOS Consulting, LLC

C-108 Item XI

Water Wells Within One Mile

Lea 946 State No.1 - Water Well Locator Map

There are numerous water wells/ PODs within a one-mile radius of the proposed injection well.

Samples will be taken from two (2) of the closest wells as available; analyses will be forwarded when received.

Data from NM Office of the State Engineer displayed in OSE-GIS System.

SOS Consulting, LLC

C-108 ITEM XI – WATER WELLS IN AOR

Depth to Ground Water

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced. O=orphaned. C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
L 02503	R	L	LE	2	4	1	02	18S	35E	647106	3627930*	100		
L 02628		L	LE	2	2	3	11	18S	35E	647141	3625912*	112	40	72
L 04744		L	LE	1	2	2	02	18S	35E	647704	3628341*	122	51	71
L 05235		L	LE		1	2	02	18S	35E	647402	3628238*	114	54	60
L 07872		L	LE	1	3	3	03	18S	35E	644900	3627101*	162	62	100
L 08309		L	LE	1	2	2	10	18S	35E	646122	3626711*	112	49	63
L 09726		L	LE	4	4	4	11	18S	35E	647953	3625318*	135	48	87
L 10294		L	LE		2	4	03	18S	35E	646209	3627419*	90	61	29
L 12932 POD1		L	LE	2	2	1	02	18S	35E	676000	3628886	175	95	80

Average Depth to Water: **57 feet**

Minimum Depth: **40 feet**

Maximum Depth: **95 feet**

Record Count: 9

PLSS Search:

Section(s): 2, 3, 10, 11 **Township:** 18S **Range:** 35E

***UTM location was derived from PLSS - see Help**

C-108 ITEM XII

Geologic Affirmation

We have examined available geologic and engineering data and have found no evidence of open faults or other hydrologic connection between the disposal interval and any underground sources of drinking water.

Ben Stone, Partner
SOS Consulting, LLC

Project: HPPC, Inc.
Lea 946 State No.1
Reviewed 8/20/2018

C-108 ITEM XIII – PROOF OF NOTIFICATION

IDENTIFICATION AND NOTIFICATION OF INTERESTED PARTIES

Exhibits for Section

Affected Parties Map

List of Interested Parties

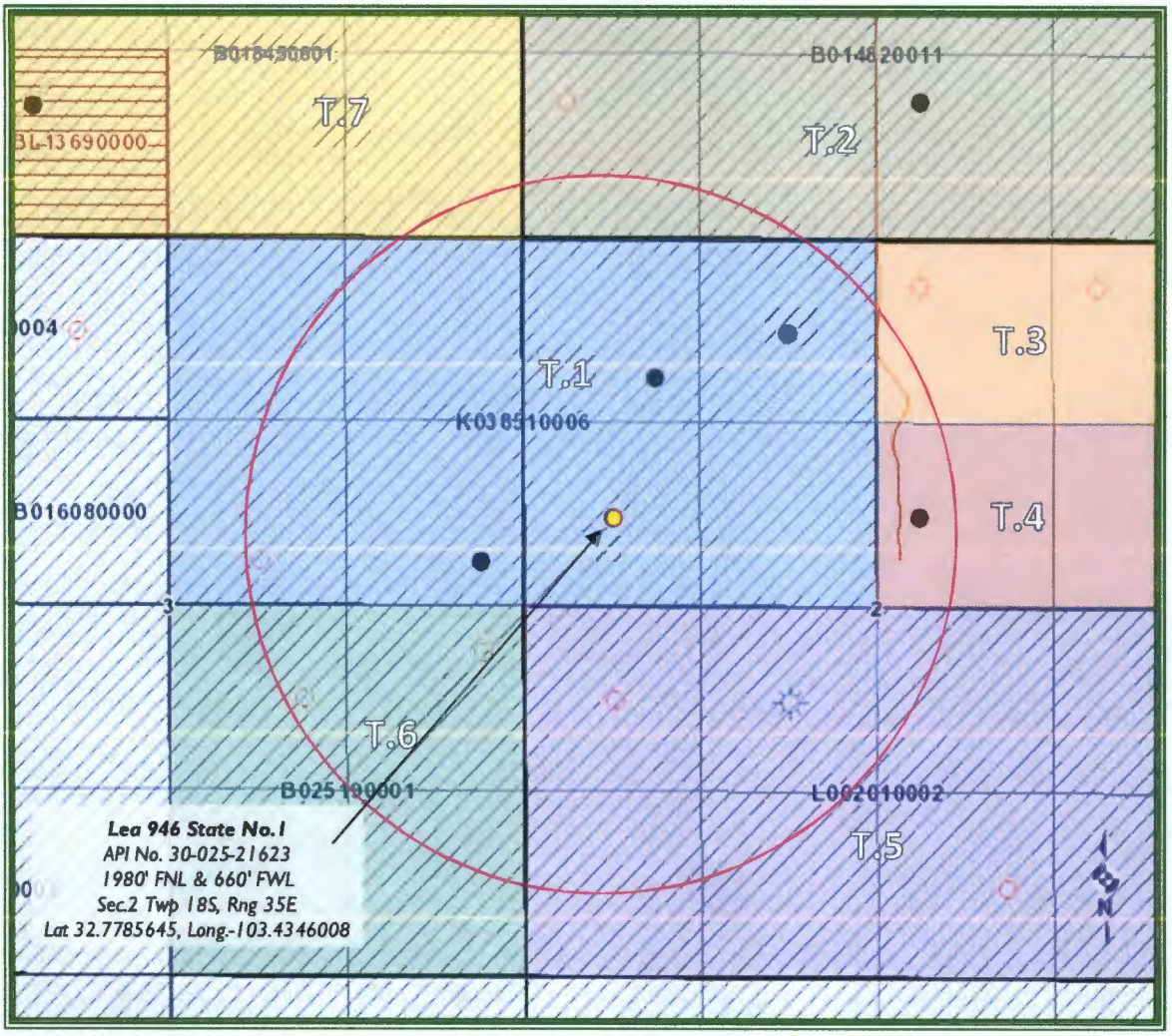
Notification Letter to Interested Parties

Proof of Certified Mailing

Published Legal Notice Affidavit

Lea 946 State No.1 – Affected Parties Plat

(Attachment to NMOCD Form C-108, Application for Authority to Inject.)



HPPC, Inc.
OIL & GAS

LEGEND

T.1 – K0-3851-0006 – HPPC, Inc. (Applicant)

T.2 – B0-1482-0011– Oxy USA WTP LTD Partnership

T.3 – Private – Lee Cattle Co. LTD; Antelope Creek R&E Srvcs, LLC

T.4 – Private – R.D. Lee, Jr.; Oxy, USA

T.5 – L0-0201-0002 – MRC Delaware Resources, LLC

T.6 – B0-2519-0001 – ConocoPhillips Company

T.7 – B0-1845-0001 – Chevron USA, Inc.

SOS Consulting, LLC

C-108 ITEM XIII – PROOF OF NOTIFICATION

AFFECTED PARTIES LIST

SOS Consulting is providing electronic delivery of C-108 applications.
ALL APPLICABLE AFFECTED PARTIES ARE PROVIDED A LINK IN THE NOTICE LETTER TO A SECURE CITRIX SHAREFILE SITE TO VIEW AND DOWNLOAD A FULL COPY OF THE SUBJECT C-108 APPLICATION IN PDF FORMAT.

SURFACE & MINERALS OWNER

STATE OF NEW MEXICO
Oil, Gas and Minerals Division
310 Old Santa Fe Trail
Santa Fe, NM 87504
Certified: 7017 2400 0000 5297 5874

OFFSET MINERALS LESSEES and OPERATORS (All Notified via USPS Certified Mail)

State Lease K0-3851-0006 (T.1 on plat.)
Lessee
HPPC, INC. (Applicant)
306 W. Wall Street
Midland, TX 79701

State Lease B0-1482-0011 (T.2 on plat.)
Operator
2 LEGACY RESERVES OPERATING, LP
P.O. Box 10848
Midland, TX 79702
Certified: 7017 2400 0000 5297 5881

Private Lease (T.3 on plat.)
Lessee
3 ANTELOPE CREEK REALTY & EXPLORATION SERVICES, LLC
12354 East Caley Ave., Ste.201
Centennial, CO 80111
Certified: 7017 2400 0000 5297 5898

Private Lease (T.4 on plat.)
Operator
4 OXY USA, INC.
6001 Deauville
Midland, TX 79706
Certified: 7017 2400 0000 5297 5904

State Lease L0-0201-0002 (T.5 on plat.)
Operator
5 MATADOR PRODUCTION COMPANY
5400 LBJ Freeway, Suite 1500
Dallas, Texas 75240
Certified: 7017 2400 0000 5297 5911

C-108 ITEM XIII – PROOF OF NOTIFICATION

AFFECTED PARTIES LIST (cont.)

State Lease B0-2519-0001 (T.6 on plat.)
Lessee

6 CONOCOPHILLIPS COMPANY
P.O. Box 7500
Bartlesville, OK 74005-7500
Certified: 7017 2400 0000 5297 5928

State Lease B0-1845-0001 (T.7 on plat.)
Lessee

7 CHEVRON USA, INC.
Attn: Linda McMurray, Permitting Team
6301 Deauville Blvd.
Midland, TX 79706
Certified: 7017 2400 0000 5297 5935

OFFSET MINERALS OWNER

STATE OF NEW MEXICO
Oil, Gas and Minerals Division
310 Old Santa Fe Trail
Santa Fe, NM 87504

REGULATORY

NEW MEXICO OIL CONSERVATION DIVISION (FedEx'ed original and copy)
1220 S. St. Francis Dr.
Santa Fe, NM 87505

NEW MEXICO OIL CONSERVATION DIVISION (FedEx'ed copy)
811 S. First St.
Artesia, NM 88210

STATE OF NEW MEXICO (FedEx'ed copy)
Oil, Gas and Minerals Division
310 Old Santa Fe Trail
Santa Fe, NM 87504