



3/25/08	ENGINEER W Jones	LOGGED IN 3/25/08	TYPE SWD	APP NO PKUR0808542936
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# NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

ABOVE THIS LINE FOR DIVISION USE ONLY

## ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

### Application Acronyms:

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]  
 [A] Location - Spacing Unit - Simultaneous Dedication  
 NSL NSP SD

COG's  
Federal B I #1

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement  
 DHC CTB PLC PC OLS OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
 WFX PMX SWD IPI EOR PPR

- [D] Other: Specify \_\_\_\_\_

- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or \_ Does Not Apply

- ☒ [A] Working, Royalty or Overriding Royalty Interest Owners  
☒ [B] Offset Operators, Leaseholders or Surface Owner  
☒ [C] Application is One Which Requires Published Legal Notice  
☒ [D] Notification and/or Concurrent Approval by BLM or SLO  
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office  
☒ [E] For all of the above, Proof of Notification or Publication is Attached, and/or,  
☐ [F] Waivers are Attached

- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

- [4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

Date

BRIAN WOOD  
(505) 466-8120  
FAX 466-9682

*B. Wood*

CONSULTANT

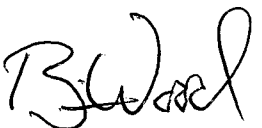
3-21-08

e-mail Address

brian@permitswest.com

COG Olety uc  
Federal BI #1  
2008 MAR 25 AM 11:58  
RECEIVED

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance YES Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? XXX Yes \_\_\_\_\_ No
- II. OPERATOR: COG OPERATING LLC  
ADDRESS: 550 WEST TEXAS AVE., SUITE 1300, MIDLAND, TX 79701  
CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: (505) 466-8120
- 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 XXX No  
If yes, give the Division order number authorizing the project:
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone 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 total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources 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 sources 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: BRIAN WOOD  TITLE: CONSULTANT  
SIGNATURE: \_\_\_\_\_ DATE: MAR. 21, 2008  
E-MAIL ADDRESS: brian@permitswest.com
- \* 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: \_\_\_\_\_

### 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 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

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.

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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.

INJECTION WELL DATA SHEET

OPERATOR: COG OPERATING LLC

WELL NAME & NUMBER: FEDERAL BI #1

WELL LOCATION: 480' FSL & 1980' FWL  
FOOTAGE LOCATION

N  
UNIT LETTER SECTION TOWNSHIP RANGE  
28 17 S 32 E

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

P&A'd FEDERAL BI #1 P&A'd  
WELL BORE DIAGRAM

LEGAL: 480' FSL & 1980' FWL, Unit N, Sec. 28, T-17-S-R-32-E, Lea County, NM, NMPM  
API#: 30-025-27068  
ELEV: 3,941' - GL  
SPUD DATE: 10/14/80  
COMPL. DATE: 03/18/81

Hole Size: 17-1/2" Casing Size: 13-3/8" 54.5# J-55

Cemented with: 700 sacks or ft<sup>3</sup>

Top of Cement: SURFACE Method Determine: VISUAL

Intermediate Casing

Hole Size: 12-1/4" Casing Size: 9-5/8" 40 & 40.5# S-95

Cemented with: 1,475 sacks or ft<sup>3</sup>

Top of Cement: SURFACE Method Determined: VISUAL

Production Casing

Hole Size: 8-1/2" Casing Size: 5-1/2" 20&23# S-95&N-80

Cemented with: 2,200 sacks or ft<sup>3</sup>

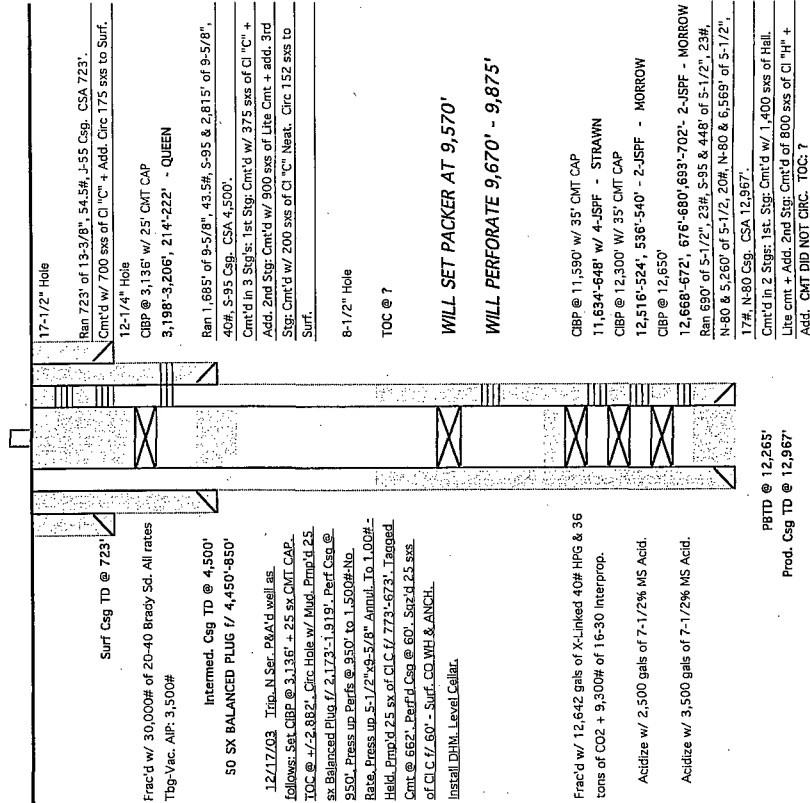
Top of Cement: 1,345' Method Determine: LOG

Total Depth: 12,967'

Injection Interval

From 9,670 feet To 9,875 feet

(Perforated or Open Hole; indicate which)



P&amp;A'd

# FEDERAL BI #1

## WELL BORE DIAGRAM

P&amp;A'd

LEGAL: 480' FSL &amp; 1980' FWL, Unit N, Sec. 28, T-17-S,R-32-E, Lea County, NM, NMPM

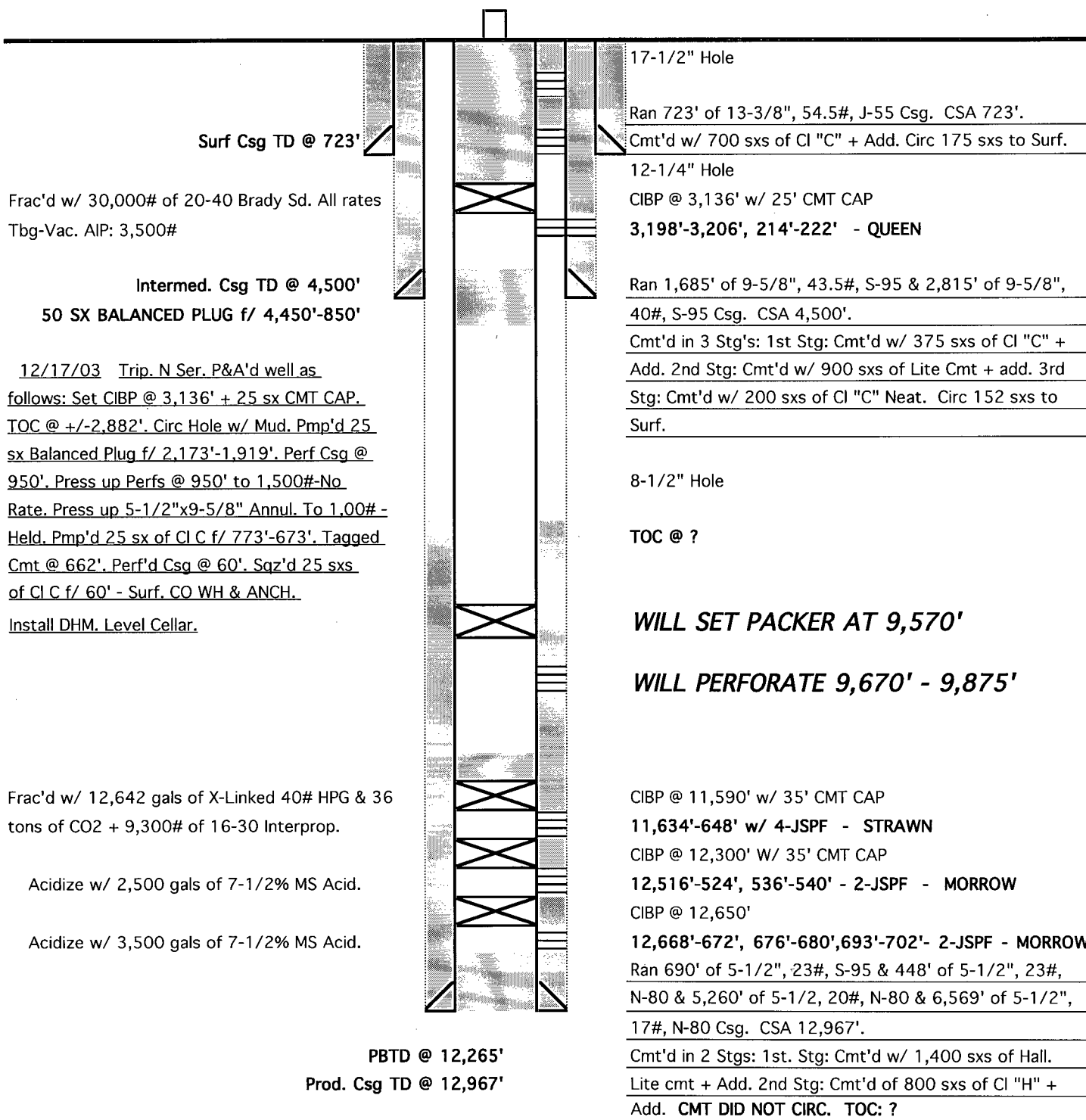
API#: 30-025-27068

FED. LSE #: LC-057210

ELEV: 3,941' - GL

SPUD DATE: 10/14/80

COMPL. DATE: 03/18/81



After

**FEDERAL BI #1  
WELL BORE DIAGRAM**

Conversion

**LEGAL:** 480' FSL & 1980' FWL, Unit N, Sec. 28, T-17-S,R-32-E, Lea County, NM, NMPM

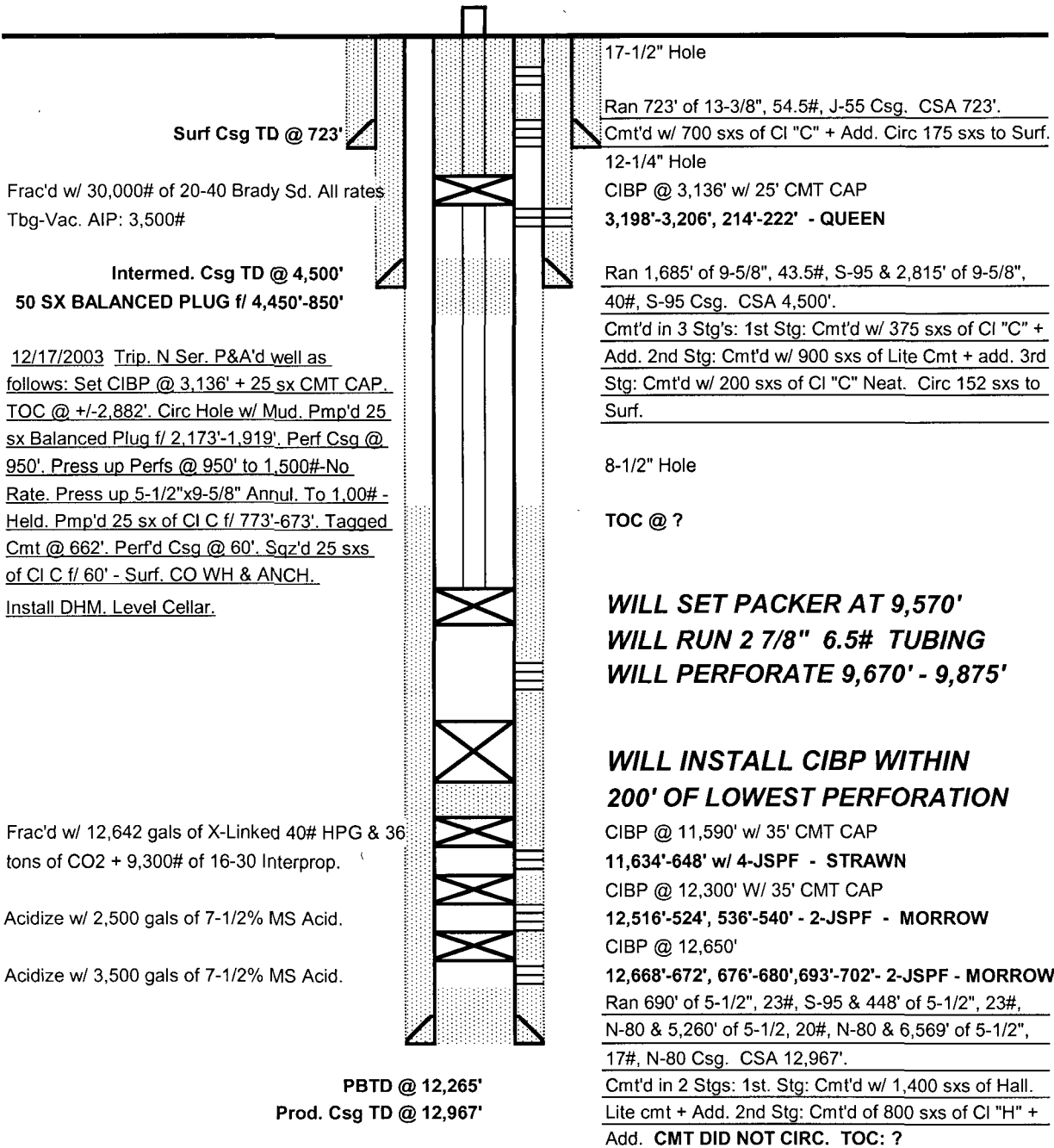
**API#:** 30-025-27068

**FED. LSE #:** LC-057210

**ELEV:** 3,941' - GL

**SPUD DATE:** 10/14/80

**COMPL. DATE:** 03/18/81



INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" 6.5# J-55      Lining Material: PLASTIC

Type of Packer: 5-1/2" NICKEL PLATED ARROW SET

Packer Setting Depth: WITHIN 100' OF THE HIGHEST PERFORATION

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

1. Is this a new well drilled for injection?      Yes XXX No

If no, for what purpose was the well originally drilled? OIL WELL

2. Name of the Injection Formation: WOLFCAMP

3. Name of Field or Pool (if applicable): SWD; WOLFCAMP

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. (see attachments)

PERFORATED: 60' Quaternary

950' Rustler

3,198 - 3,206 & 3,214' - 3,222' all Queen

11,634' - 11,648' Strawn

12,516' - 12,524' & 12,536' - 12,540' all Morrow

12,668' - 12,672'; 12,676' - 12,680'; & 12,693' 12,702' all Morrow

PLUGS: 0' - 60' 25 sx

662' - 773' 40 sx

775' - 1,023' 25 sx

1,919' - 2,173' 25 sx

2,882' - 3,136' 25 sx & CIBP @ 3,136'

4,450' - 4,850' 50 sx  
11,555' - 11,590' CIBP @ 11,590' & capped with 35' cement  
12,265' - 12,300' CIBP @ 12,300' & capped with 35' cement  
12,650' CIBP

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

OVER: QUEEN (3,150'), GRAYBURG (3,500'), & SAN ANDRES (3,900')

UNDER: STRAWN (11,453')

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P&amp;A'd

# FEDERAL BI #1

## WELL BORE DIAGRAM

P&amp;A'd

LEGAL: 480' FSL &amp; 1980' FWL, Unit N, Sec. 28, T-17-S,R-32-E, Lea County, NM, NMPM

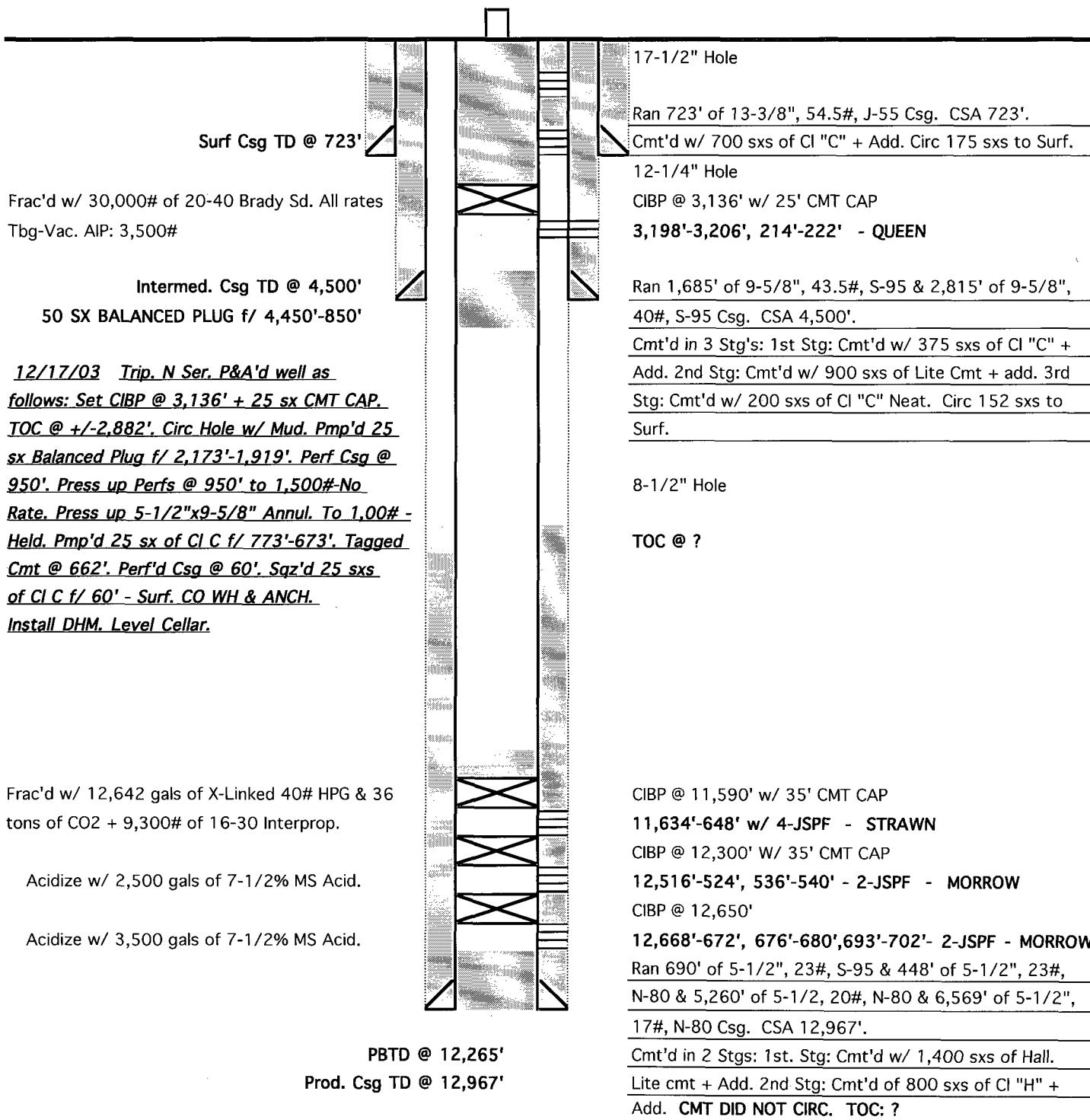
API#: 30-025-27068

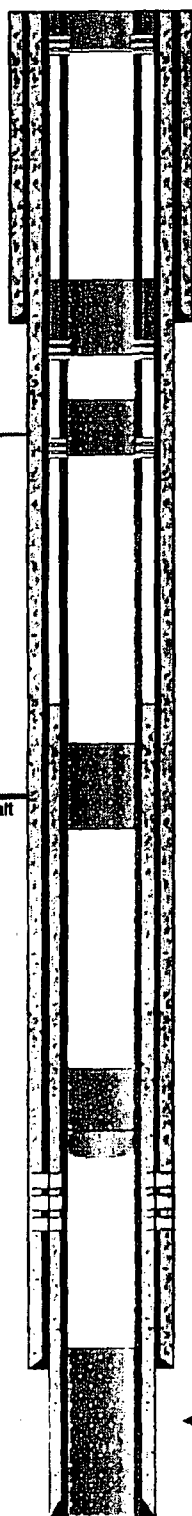
FED. LSE #: LC-057210

ELEV: 3,941' - GL

SPUD DATE: 10/14/80

COMPL. DATE: 03/18/81





← 25 sx cmt sqz'd under  
60' to surface

← 13-3/8" set at 723'

← 40 sx cmt sqz'd under  
packer 773 - 662'  
TAGGED

← 25 sx cmt plug  
1,023 - 775'

est. top of salt  
900'

est. base of salt  
2,100'

← 25 sx cmt plug  
2,173 - 1,919'

← 25 sx cmt plug  
3,136 - 2,882'

← CIBP @ 3,136'

← Queen  
3198'-3222'

← 9-5/8" set at 4,500'

← 50 sx cmt plug  
4450'-4850'

Field Name:	Pearsall Queen		
County:	Lea	Well Type:	gas
State:	New Mexico	PBTD:	4,850
RRC District:		Drilling Commenced:	October 14, 1980
Section:	28	Drilling Completed:	March 18, 1981
Block:		Date Well Plugged:	December 19, 2003
Survey:	T-17-S; R-32-E	Longitude:	
		Latitude:	
		Freshwater Depths:	
API #:	42-025-27068		
Lease or ID:	LC 057210		

Casing					
Description	Size (inches)	Depth (feet)	TOC (feet)	Cement (sacks)	Hole Size (inches)
Surface:	13-3/8"	723	Surface	700	17-1/2"
Intermediate:	9-5/8"	4,500	Surface	1475	11"
Production:	5-1/2"	12,967	1,345	2200	8-1/2"

Existing Plugs					
Description	Top (feet)	Depth (feet)	Volume (sacks)	Volume (cu ft)	
1 Cement-Class C - Balanced	4,450	4,850	50	66	
2 CIBP	3,136	3,138			
3 Cement-Class C - Balanced	2,882	3,136	25	33	
4 Cement-Class C - Balanced	1,919	2,173	25	33	
5 Cement-Class C - Balanced	775	1,023	25	33	
6 Cement-Class C - perf & sqz'd	662 (tag'd)	773	40	53	
7 Cement-Class C - perf & sqz'd	surface	60	25	33	

Perforations			
Formation	Top (feet)	Depth (feet)	
Queen	3,198	3,222	

Formations		
Name	Top of Formation	
est. top of salt	900	
est. base of salt	2,100	

Comments
Perforated at 950' for plug #5, unable to squeeze at 1,500 psi, pumped balanced plug.
Plugs #6 and #7 perforated and squeezed under packer.

Prepared By: Jim Newman  
Date: December 22, 2003

**TRIPLE N**  
SERVICES INC.  
MIDLAND, TX

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Division  
1625 N. French Dr.  
Hobbs, NM 88240

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. <b>LC 057210</b>
2. Name of Operator <b>ConocoPhillips Co.</b>		6. If Indian, Allottee or Tribe Name
3a. Address <b>4001 Penbrook, Odessa, TX 79762</b>	3b. Phone No. (include area code)	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) <b>480' FSL &amp; 1980' FWL SEC. 28, T-17S, R-32E, UNIT LTR "N"</b>		8. Well Name and No. <b>Federal BI #1</b>
		9. API Well No. <b>30-025-27068</b>
		10. Field and Pool, or Exploratory Area <b>Pearsall Queen</b>
		11. County or Parish, State <b>Lea, NM</b>

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Deepen
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Alter Casing
	<input type="checkbox"/> Fracture Treat
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> New Construction
	<input checked="" type="checkbox"/> Change Plans
	<input type="checkbox"/> Plug and Abandon
	<input type="checkbox"/> Convert to Injection
	<input type="checkbox"/> Plug Back
	<input type="checkbox"/> Production (Start/Resume)
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Recomplete
	<input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Well Integrity
	<input type="checkbox"/> Other

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

12/17/03 Notified BLM, Amy. MIRU Triple rig #25 and plugging equipment. Unseated pump and laid down 35 3/4" rods. SI well, SDFN.

12/18/03 Notified BLM, Gary Gourley. Finished POOH w/ rods & pump. NU BOP. POOH w/ tubing. RIH w/ CIBP, set @ 3,136'. Circulated hole w/ mud, pumped 25 sx C cmt on CIBP 3,136 - 2,882'. Pumped 25 sx C cmt 2,173 - 1,919'. Perforated casing @ 950'. SDFN.

12/19/03 Notified BLM, Andy Cortez, on location. Pressured up on perforations @ 950' @ 1,500 psi, no rate. Pressured up on 5 1/2 x 9-5/8" annulus to 1,000 psi, held. Pumped 25 sx C cmt 1,923 - 775'. Perforated casing @ 773'. Squeezed 40 sx C cmt 773 - 673'. Tagged cmt @ 662'. Perforated at 60'. Squeezed 25 sx C cmt 60' to surface. RDMO.

Cut off wellhead, capped well, installed dry hole marker. Cut off anchors, leveled cellar.

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)		James F. Newman, P.E. Title Triple N Services, Inc. (432)-687-1995	
Signature	Date 12/23/03	APPROVED	
THIS SPACE FOR FEDERAL OR STATE OFFICE USE			
Approved by		Title	Date JAN - 7 2004
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office	GARY GOURLEY
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.			

(Instructions on reverse)

GW W

COG Operating LLC  
Federal B I #1  
480' FSL & 1980' FWL  
Sec. 28, T. 17 S., R. 32 E.  
Lea County, NM

PAGE 1

I. Purpose is water disposal into the Upper Wolfcamp zone.

II. Operator: COG Operating LLC  
Operator phone number: (432) 686-3012  
Operator address: 550 West Texas Ave., Suite 1300  
Midland, TX 79701  
Contact: Brian Wood (Permits West, Inc.)  
Phone: (505) 466-8120

III. A. (1) Lease: BLM lease NMLC-057210  
Lease Size: 1,200 acres  
Lease Area: W2, SE4, & SWNE Sec. 27  
all Sec. 28  
T. 17 S., R. 32 E.  
Closest Lease Line: 480'  
Well Name & Number: Federal B I #1 (API # 30-025-27068)  
Well Location: 480' FSL and 1980' FWL Sec. 28, T. 17 S., R. 32 E.  
(see Exhibit A)

A. (2) Surface casing (13-3/8", 54.5#, J-55) was set in 1980 at 723' in a 17-1/2" hole. Surface casing was cemented to the surface with 700 sacks Class C. Circulated 175 sacks to the surface.

Intermediate casing (1,685' of 43.5# S-95 9-5/8" and 2,815' of 40# S-95 9-5/8") was set at 4,500' in a 12-1/4" hole. Cemented 1,475 sacks in 3 stages. First stage: 375 sacks Class C. Second stage: 900 sacks light. Third stage: 200 sacks Class C Neat. Circulated 152 sacks to the surface.

Drilled to a total depth of 12,992'. Set 5-1/2" casing at 12,967' in an 8-1/2" hole. Casing consists of 690' of 23# S-95, 448' of 23# N-80, 5260' of 20# N-80, and 6569' of 17# N-80. Cemented with

1,400 sacks Halliburton light with additives and 800 sacks Class H with additives. Top of cement = 1,345' (as reported on Completion Report dated 3-20-81; no indication on how determined). Plugged back total depth = 12,265'.

See Exhibit B for a diagram of the existing well bore.

- A. (3) Tubing will be 2-7/8" 6.5# 8rd EUE plastic lined injection string. It will be set at  $\approx$ 9,570' (disposal interval will be 9,670' to 9,875').
- A. (4) A 5-1/2" x 2-7/8" nickel plated arrow set packer will be at 9,570' (which will be 100' above the top perforation of 9,670').
- B. (1) Disposal zone will be the SWD; Wolfcamp (Pool 96135). Fracture gradient is expected to be  $\approx$ 0.75 psi per foot.
- B. (2) Disposal interval will be  $\approx$ 9,670' to  $\approx$ 9,875'. It will be perforated (0.44") with two shots per foot at 180° phasing.
- B. (3) Well was drilled in 1980 as a 12,992' deep wildcat Morrow test. It produced from the Maljamar; Strawn (11,634' - 11,648' ) until a CIBP and two cement plugs were placed in 1993. The Pearsall; Queen (3,198' - 3,222') was then completed in 1994 and produced until the well was plugged and abandoned in 2003. The well will be for COG's exclusive use and for the sole purpose of water disposal from present and future COG wells. A water analysis from COG's Jenkins B Federal water station is attached. The water station is a dozen miles west in 20-17s-30e.
- B. (4) Well bore was perforated in two zones. It has not been perforated in the Wolfcamp.

In 1982 the well was perforated in the Maljamar; Strawn (11,634' - 11,648' ). In 1993 a CIBP was set at 11,590' with 35' of cement placed atop it, followed by 50 sacks of cement from 4,850' to 4,450'. The well was then temporarily abandoned for a year.

In 1994 the well was perforated in the Pearsall; Queen

(3,198' - 3,222'). In 2003 a CIBP was set at 3,136' with 25 sacks of cement placed atop it from 3,136' - 2,882. Four more cement plugs were set: 25 sacks from 2,173' to 1,919'; 25 sacks from 1,023' to 775'; 40 sacks from 773' to 662', and 25 sacks from 60' to the surface.

Closest perforation is 1,759' from the highest Strawn perforation to the lowest Wolfcamp perforation. There is a CIBP and 435' of cement in 2 plugs between that previous perforation and the proposed perforation.

- B. (5) Top of the Wolfcamp is at 9,329'. Bottom of the Wolfcamp is at 10,745'. Bottom of the closest potentially productive zone (Maljamar; Grayburg San Andres) is at  $\approx$ 4,100'. There will be a  $\approx$ 5,770' interval between the bottom of the San Andres and the highest Wolfcamp perforation. Top of the closest underlying potentially productive zone (Strawn) is at 11,453'. There will be a 1,578' interval between the lowest Wolfcamp perforation (9,875') and the top of the Strawn. Lower Wolfcamp in Section 28 has previously been approved (SWD-241) for salt water disposal. However, disposal operations never started in that well.

IV. This is not an expansion of an existing injection project. There is an overlying injection project in Section 28, but that is a different operator (ConocoPhillips), different purpose (enhanced recovery), and a different zone (Maljamar; Grayburg San Andres).

V. A map and table (Exhibit C) showing the 29 existing wells (4 injection + 10 plugged + 15 oil) within a half mile are attached. Except for the Federal B I #1 (italicized in table) which is the subject of this application, the remaining 28 wells are all Maljamar; Grayburg San Andres wells. The maximum depth of the remaining 28 wells is 4,450'. Closest (200') well is the 4,096' deep plugged MCA 209. Closest (784') active well is the 4,135' deep MCA 261 oil well.

COG Operating LLC  
Federal B I #1  
480' FSL & 1980' FWL  
Sec. 28, T. 17 S., R. 32 E.  
Lea County, NM

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<u>OPERATOR</u>	<u>WELL</u>	<u>API 30-025</u>	<u>T. 17 S., R. 32 E.</u>	<u>ZONE</u>	<u>TD</u>	<u>STATUS</u>
ConocoPhillips	MCA 284	-23744	SWNW Sec. 28	MGSA	4150	Oil
ConocoPhillips	MCA 301	-24226	NWSE Sec. 28	"	4220	Injection
Conoco	MCA 178	-00743	"	"	3925	P & A
ConocoPhillips	MCA 177	-21489	"	"	4120	Oil
ConocoPhillips	MCA 301	-24266	NWSE Sec. 28	MGSA	4220	Injection
ConocoPhillips	MCA 176	-00742	NESW Sec. 28	"	4100	Oil
ConocoPhillips	MCA 268	-23705	"	"	4155	Oil
ConocoPhillips	MCA 296	-23790	"	"	4180	Oil
ConocoPhillips	MCA 175	-00741	NWSW Sec. 28	"	4125	P & A
ConocoPhillips	MCA 324	-24235	"	"	4170	Oil
ConocoPhillips	MCA 396	-37976	"	"	4450	Oil
Conoco	MCA 210	-00749	SWSW Sec. 28	"	3980	P & A
ConocoPhillips	MCA 357	-25849	"	"	4170	Oil
Conoco	MCA 209	-00748	SESW Sec. 28	"	4096	P & A
Conoco	<i>Federal B I #1</i>	-27068	"	<i>MS &amp; PQ</i>	12992	<i>P &amp; A</i>
ConocoPhillips	MCA 261	-23559	"	MGSA	4135	Oil
ConocoPhillips	MCA 254	-23487	SWSE Sec. 28	"	4100	Oil
ConocoPhillips	MCA 332	-24349	"	"	4225	Oil
Continental	MCA 208	-00747	"	"	3847	P & A
ConocoPhillips	MCA 333	-24352	SESE Sec. 28	"	4175	Oil
Ray Westall	Hover 6	-28161	NENE Sec. 32	"	4200	Oil
ConocoPhillips	MCA 223	-00800	NWNE Sec. 33	"	4135	Injection
ConocoPhillips	MCA 222	-12785	"	"	4000	Oil
Conoco	MCA 221	-00799	NENW Sec. 33	"	3955	P & A
ConocoPhillips	MCA 300	-23984	"	"	4175	Oil
ConocoPhillips	MCA 220	-00798	NWNW Sec. 33	"	4283	Injection
Conoco	MCA 232	-00807	SENE Sec. 33	"	4330	P & A
Conoco	MCA 371	-29955	"	"	4250	P & A
Marbob	<i>Pearsall A 3</i>	-00804	"	"	3396	P & A
Conoco	MCA 230	-00809	SWNE Sec. 33	"	4010	P & A

A map (Exhibit D) showing all 404 wells (220 active + 182 plugged + 2 water) within a two mile radius is attached.

COG Operating LLC  
Federal B I #1  
480' FSL & 1980' FWL  
Sec. 28, T. 17 S., R. 32 E.  
Lea County, NM

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Exhibit E shows all leases within a half mile radius and the lessees of record. Details are:

<u>AREA (T. 17 S., R. 32 E.)</u>	<u>LESSOR</u>	<u>LEASE #</u>	<u>LESSEE(S)</u>
Section 28	BLM	NMLC 057210	ConocoPhillips & Occidental
Section 29	BLM	NMLC 029410A	OXY
Section 32	State Land Office	BO-4109-0019	Hover & Westall
Section 33	BLM	NMLC 059001	Chase, COG, ConocoPhillips, & Occidental

Exhibit F shows all lessors within a two mile radius is attached. Most leases are BLM. The remainder are New Mexico State Land Office.

VI. The only well within a 1/2 mile radius which penetrates the proposed injection zone is the proposed well itself. There will be a 5,220' interval between the bottom of the next deepest (4,450') well (#396) and the highest proposed perforation (9,670').

- VII. 1. Average injection rate will be  $\approx$ 5,000 bwpd.  
Maximum injection rate will be  $\approx$ 10,000 bwpd.
2. System will be closed. COG will lay a  $\approx$ 1/4 mile long water pipeline north from its water pipeline in Section 33. Facilities will include two 500 barrel fiberglass tanks, filters at outlet side of tanks, and an electric pump.
3. Average injection pressure will be  $\approx$ 1,500 psi  
Maximum injection pressure will be  $\approx$ 2,500 psi
4. Water source will be existing and future COG wells in the Permian Basin. COG has over 1,000 producing wells in New Mexico. Water analyses from COGs' Jenkins B Federal water station (source water) and 3 analyses of Wolfcamp water (receiving water) are in Exhibit G. A summary follows.



COG Operating LLC  
Federal B I #1  
480' FSL & 1980' FWL  
Sec. 28, T. 17 S., R. 32 E.  
Lea County, NM

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Well:	Jenkins	SWD-241	SWD-484	SWD-952
Where:	20-17s-30e	28-17s-32e	24-18s-32e	21-17s-31e
What Zone:	blend	Wolfcamp	Wolfcamp	Wolfcamp
<u>Parameter</u>				
Bicarbonate	391	1220	180	261
Calcium	7164	2360	7699	257
Carbon Dioxide	54	-	120	-
Chloride	106016	50000	99977	22993
Conductivity	173400	-	-	62381
Hydrogen Sulfide	68	strong	0	-
Iron	0.9	11	5.0	-
Magnesium	1347	972	1895	-
Manganese	0.34	-	-	-
pH	7.5	7.6	7.0	7.45
Sodium	58941	52298	52740	4049
Sulfate	1700	4400	500	527
TDS	175,560	-	162993	47600

5. There has been no production from the Wolfcamp in the two wells drilled to or through it within a one mile radius. Five wells have produced from the Wolfcamp (Baish; Wolfcamp = NMOCD Pool Code 4480) with a 2 mile radius. Closest current Wolfcamp production is ConocoPhillips Baish A 12 which is 9,512' distant. Detail on all seven wells (all in T. 17 S., R. 32 E.) are:

<u>OPERATOR</u>	<u>WELL</u>	<u>API 30-025</u>	<u>Location</u>	<u>TD</u>	<u>DISTANCE</u>	<u>STATUS &amp; COMMENT</u>
ConocoPhillips	Federal B I #1	-27068	SESW Sec. 28	12,992'	0'	P & A, no Wolfcamp test
ConocoPhillips	Queen B 36	-00751	NWNW Sec. 28	10,005'	4,479'	P & A, tested - but no Wolfcamp production
COG	MC Federal 7	-20647	SWNW Sec. 22	9,958'	9,112'	TA in Wolfcamp after Wolfcamp production
ConocoPhillips	Baish A 12	-20568	NWNW Sec. 21	13,717'	9,512'	still producing from Wolfcamp
ConocoPhillips	Elvis 4	-33949	SENW Sec. 20	12,100'	9,999'	still producing from Wolfcamp
ConocoPhillips	Baish A 14	-30363	NWNW Sec. 22	10,000'	10,018'	last Wolfcamp production May, 2007
ConocoPhillips	J C Federal 4	-37656	SENW Sec. 22	10,200'	10,126'	last Wolfcamp production November, 2006

Wolfcamp water is too salty for consumption. Analyses of the Wolfcamp are summarized at the top of this page.

COG Operating LLC  
Federal B I #1  
480' FSL & 1980' FWL  
Sec. 28, T. 17 S., R. 32 E.  
Lea County, NM

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VIII. The Wolfcamp consists of Permian carbonates and shale. The Wolfcamp is 1,416' thick in this well. Top is at 9,329'. Bottom is at 10,745'. Formation tops in this well are:

Quaternary: 0'  
Rustler: 907'  
Salado: 1,000'  
Yates: 2,220'  
Seven Rivers: 2,500'  
Queen: 3,197'  
Grayburg: 3,566'  
San Andres: 3,940'  
Glorieta: 5,796'  
Paddock: 5,850'  
Bone Springs: 6,220'  
Tubb: 7,430'  
Drinkard: 7,489'  
Abo: 7,740'  
Upper Wolfcamp: 9,329'  
Lower Wolfcamp: 10,094'  
Cisco: 10,745'  
Strawn: 11,453'  
Atoka: 11,887'  
Total Depth: 12,992'

There are two water wells within a two mile radius. Likely aquifers are the Quaternary surface and Triassic Chinle Group. There is a 158' deep water well  $\approx$ 4,500' north at a gas plant in the NENW 28-17s-32e. That water (analysis attached as Exhibit H) is used for a cooling tower. There is a 133' deep water well  $\approx$ 7,400' south in SENW 4-18s-32e.

IX. The well will be stimulated with 15% NEFE HCl using balls to ball out.

COG Operating LLC  
Federal B I #1  
480' FSL & 1980' FWL  
Sec. 28, T. 17 S., R. 32 E.  
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X. Compensated neutron form density, dual laterolog Micro SFL, and compensated porosity neutron logs are on file with the NMOCD.

XI. There is one water well within a 1 mile radius. It is  $\approx 158'$  deep and is  $\approx 4,500'$  north at a gas plant in the NENW of Section 28. A water analysis from that well available is attached as Exhibit H.

XII. COG is not aware of any geologic or engineering data which may indicate the Wolfcamp is in hydrologic connection with any underground sources of water. There will be 9,512' of vertical separation between the highest perforation (9,670') in the Wolfcamp and the bottom (158') of the deepest water well within two miles. This 9,512' thick interval includes salt zones, oil zones, and a water flood.

XIII. Notice (this application) has been sent (Exhibit I) to the surface owner (BLM), operators of all wells (ConocoPhillips and Westall), and lessees, working interests, or lease operating right holders (Chase, ConocoPhillips, Hover, Mack, Occidental, OXY, and Westall), and lessors (BLM and NM State Land Office) within a half mile. Legal ad (see Exhibit J) was published on February 9, 2008.

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

All distances must be from the outer boundaries of the Section

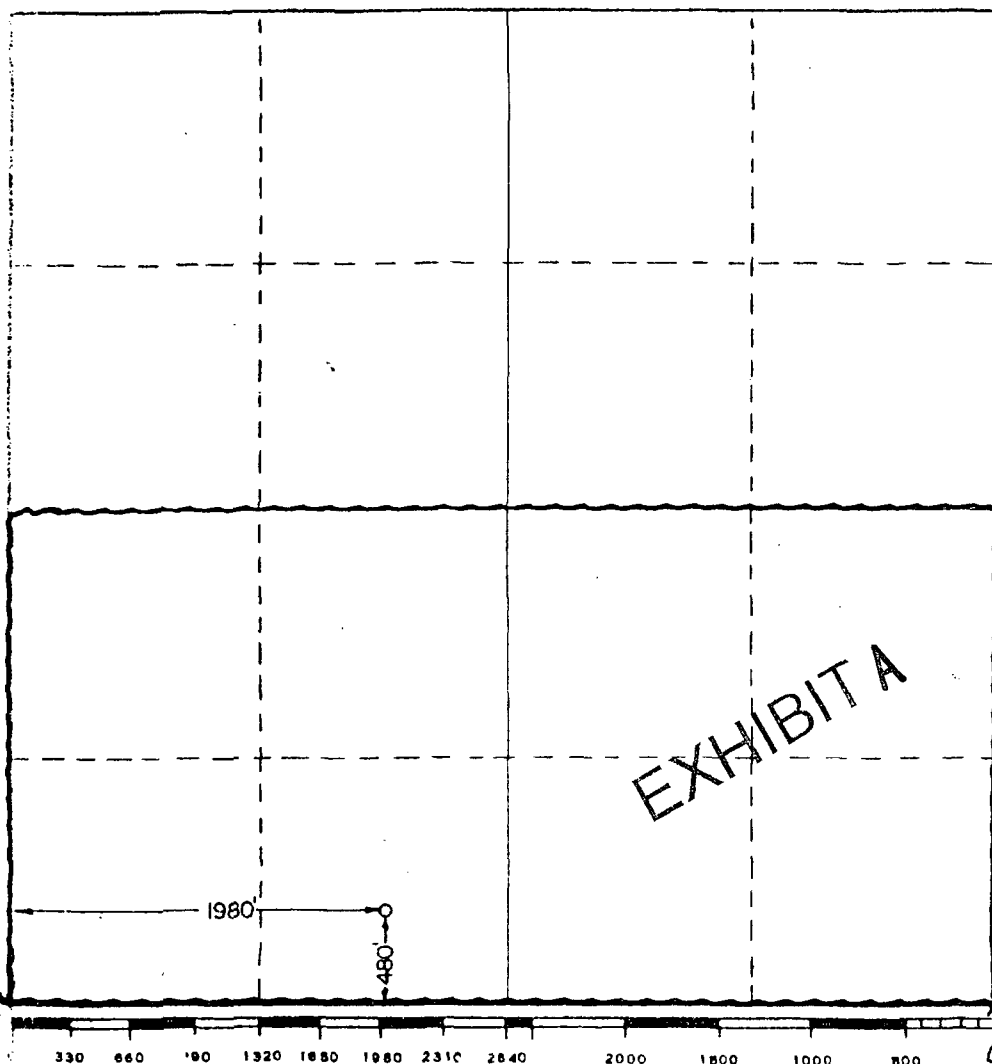
Operator <b>AMOCO Production Co.</b>			Lease <b>Federal B.</b>		Well No. <b>1</b>
Section Letter <b>N</b>	Section <b>28</b>	Township <b>17 South</b>	Range <b>32 East</b>	County <b>Lea</b>	
Footage Location of Well: <b>480</b> feet from the <b>South</b> line and <b>1980</b> feet from the <b>West</b> line					
Ground Level Elev. <b>2941.4</b>	Producing Formation <b>Morrow</b>		Pool <b>Wildcat Morrow</b>	Dedicated Acreage <b>320</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name **Bob Davis**  
Position **Admin. Analyst**  
Company **Amoco Production Company**  
Date **7-28-80**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed **July 7, 1980**  
Registered Professional Engineer and/or Land Surveyor  
**John W. West**  
Certificate No. **JOHN W. WEST 676**  
**PATRICK A. ROMERO 6863**  
**Ronald J. Eidson 3239**

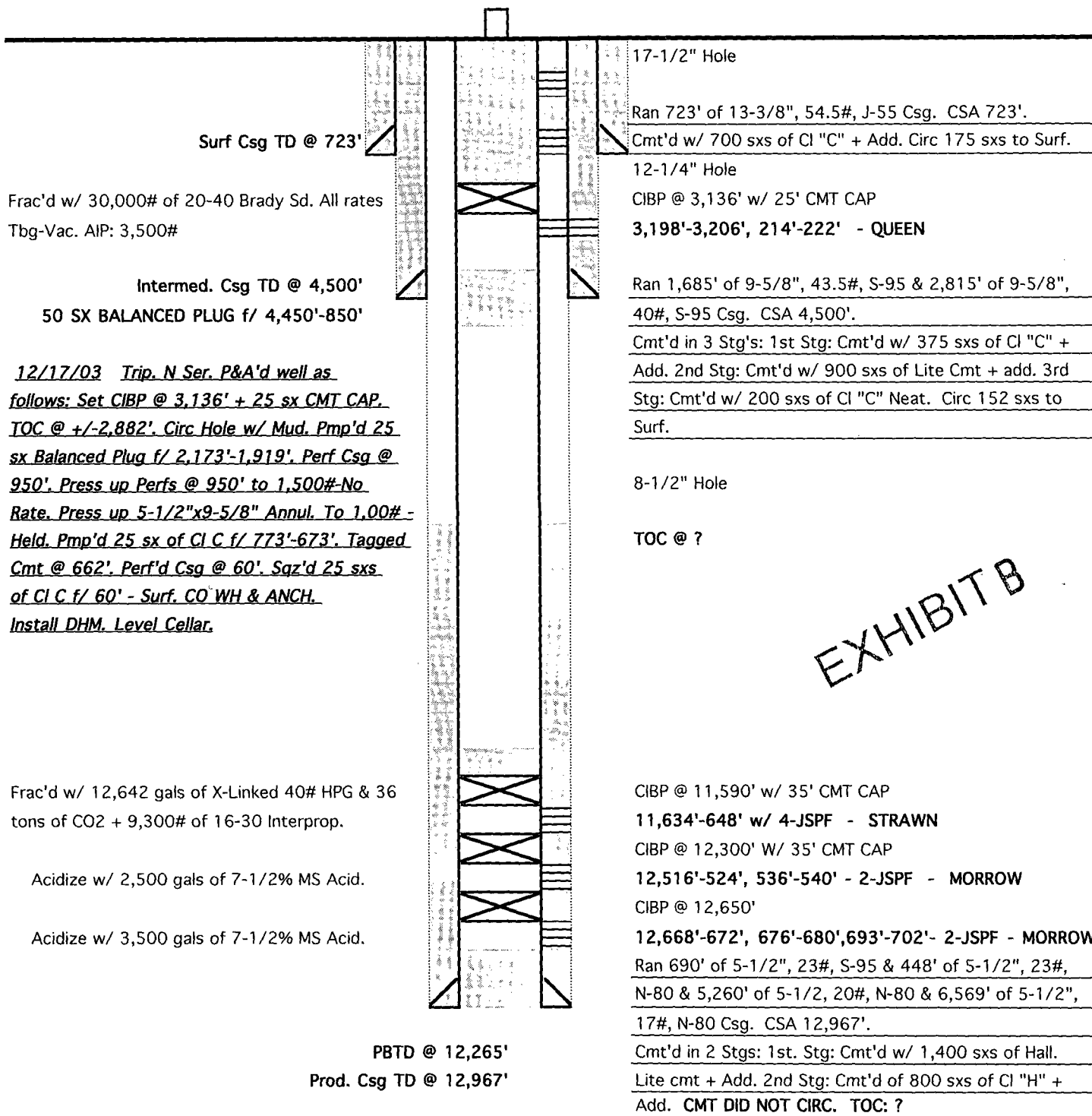
P&amp;A'd

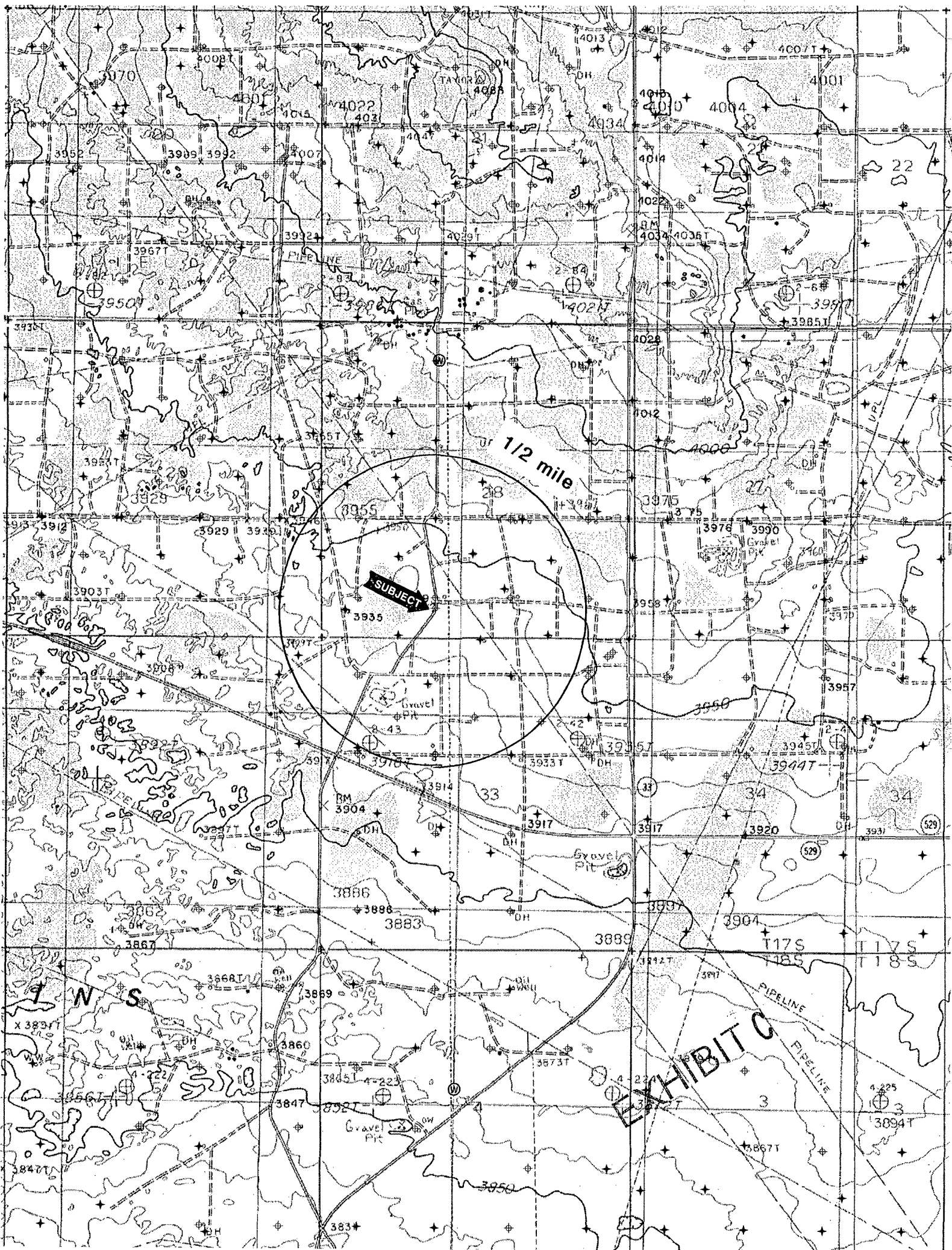
# FEDERAL BI #1 WELL BORE DIAGRAM

P&amp;A'd

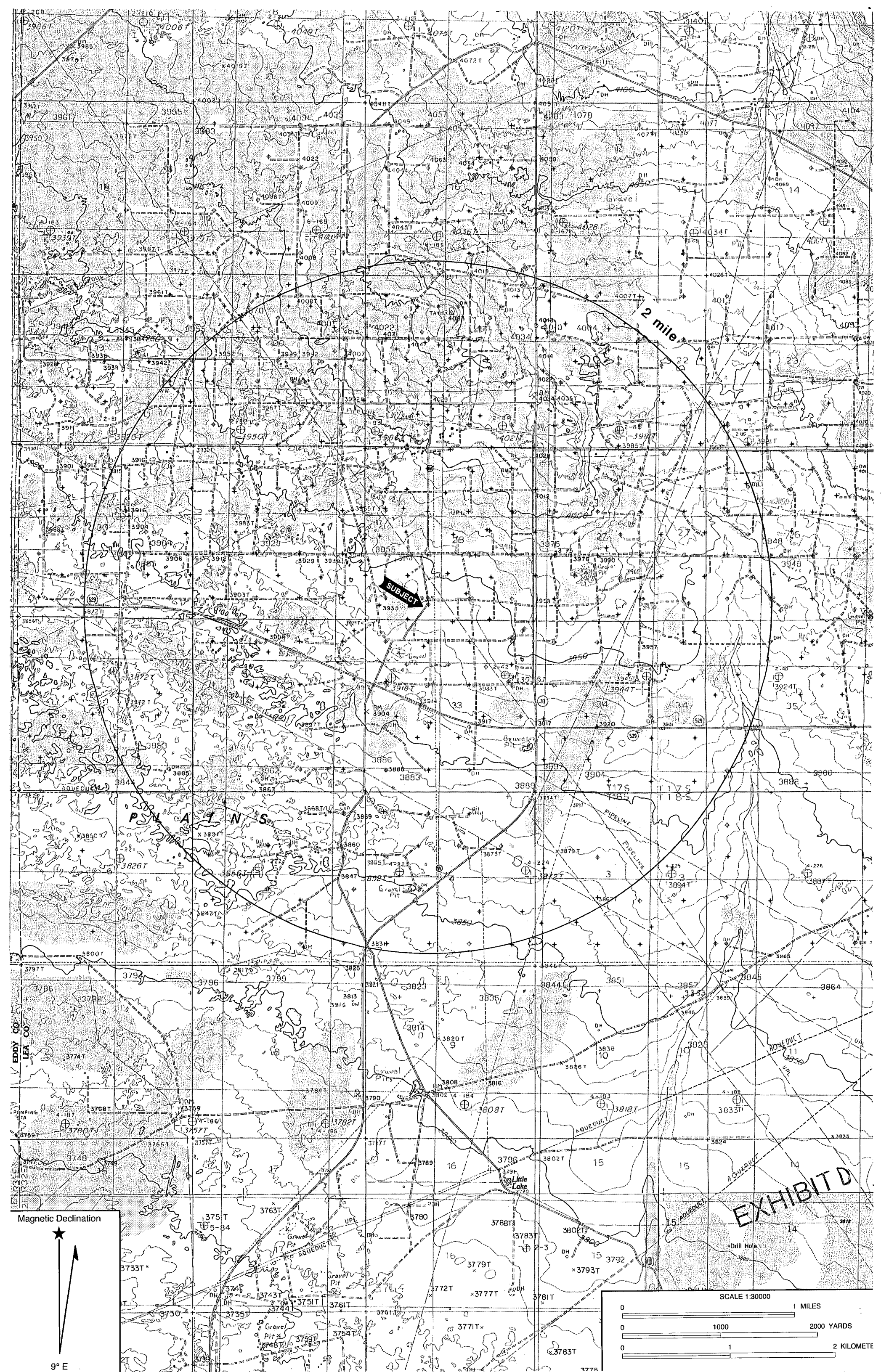
LEGAL: 480' FSL & 1980' FWL, Unit N, Sec. 28, T-17-S,R-32-E, Lea County, NM, NMPM  
 API#: 30-025-27068 FED. LSE #: LC-057210  
 ELEV: 3,941' - GL

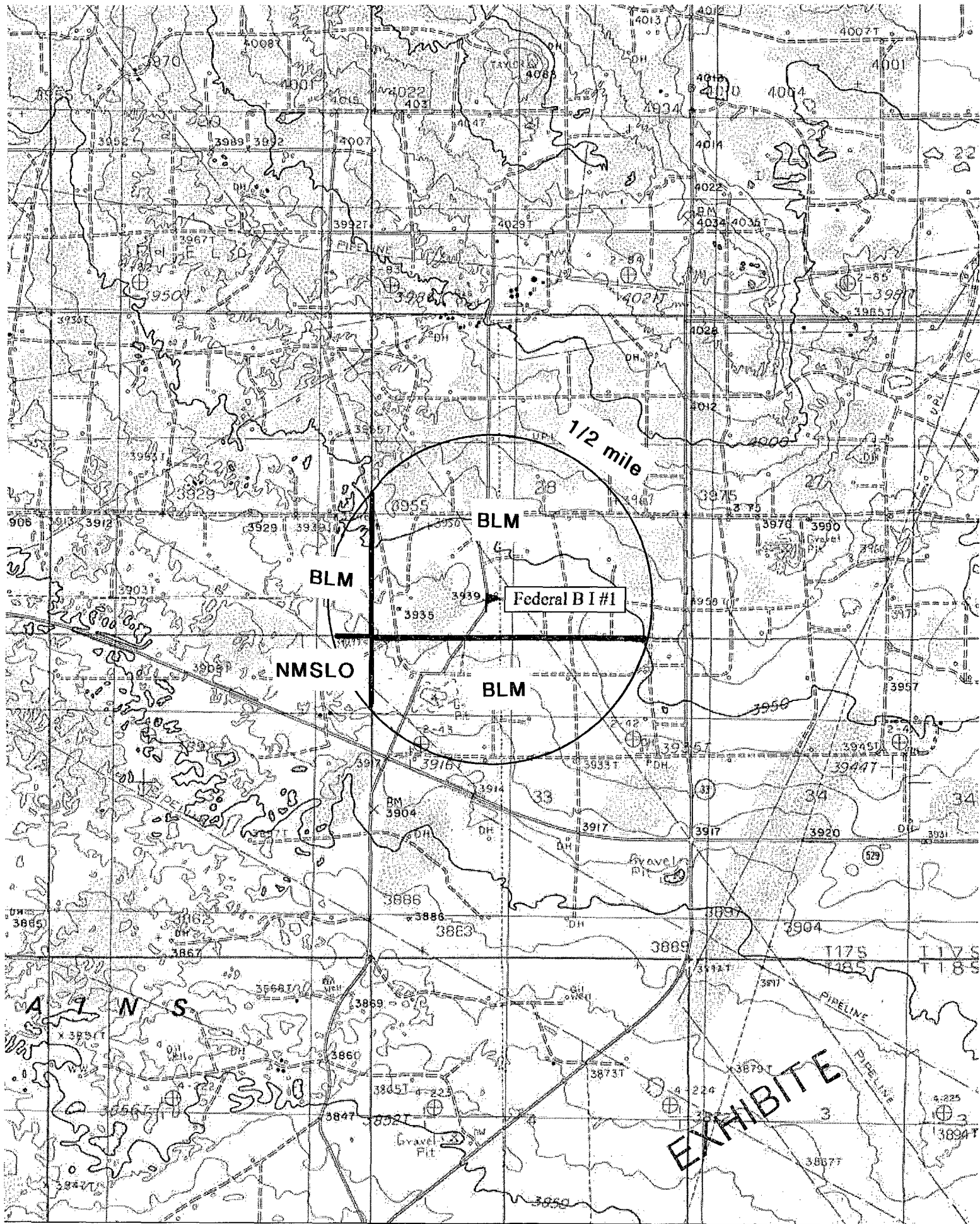
SPUD DATE: 10/14/80  
 COMPL. DATE: 03/18/81



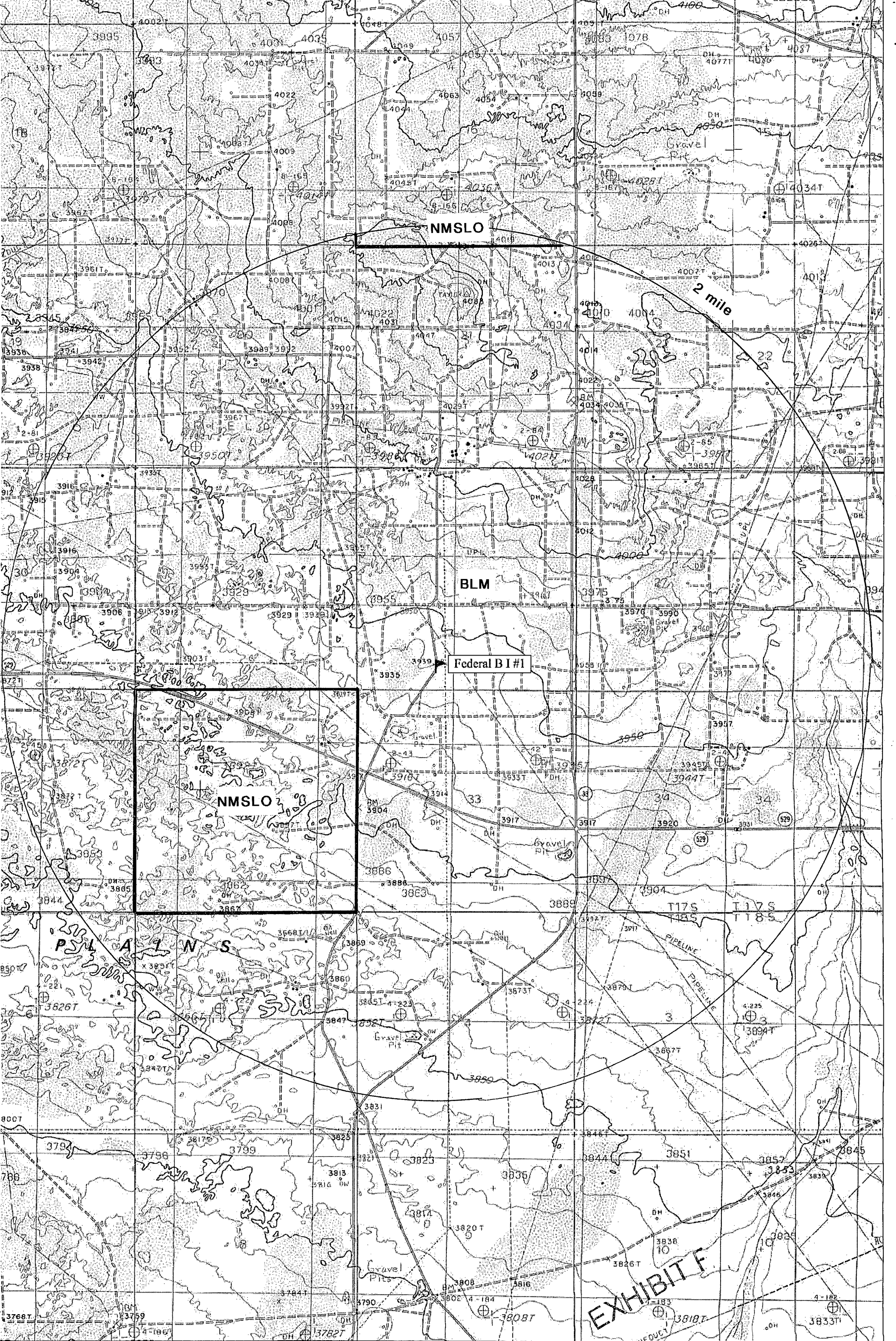














## Water Analysis Report

Company:	COG Operating LLC	Sample #:	8554
Area:	Artesia	Analysis ID #:	475
Lease:	JENKINS B FED.		
Location:	Water Station		0
Sample Point:	IPD		

		mg/l		meq/l	mg/l		meq/l
<b>Sampling Date:</b>	9/7/07	<b>Anions</b>			<b>Cations</b>		
<b>Analysis Date:</b>	9/10/07	<b>Chloride:</b>		106016.0	<b>Sodium:</b>		58941.1
<b>Analyst:</b>	Mitchell Labs	<b>Bicarbonate:</b>		391.0	<b>Magnesium:</b>		1347.0
<b>TDS (mg/l or g/m3):</b>	175560.3	<b>Carbonate:</b>			<b>Calcium:</b>		7164.0
<b>Density (g/cm3):</b>	1.122	<b>Sulfate:</b>		1700.0	<b>Strontium:</b>		
				35.39	<b>Barium:</b>		
					<b>Iron:</b>		0.9
Hydrogen Sulfide:	68				<b>Manganese:</b>		0.340
Carbon Dioxide:	54						0.03
							0.01
Comments:		pH at time of sampling:		7.5			
		pH at time of analysis:					
		pH used in Calculation:		7.5			
		Temperature @ lab conditions (F):		75	<b>Conductivity (micro-ohms/cm):</b>		173400
					<b>Resistivity (ohm meter):</b>		.0577

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	1.60	48.49	0.01	10.35	0.02	30.16	0.00	0.00	0.00	0.00
100	1.55	52.04	-0.06	0.00	0.02	25.72	0.00	0.00	0.00	0.00
120	1.50	55.58	-0.12	0.00	0.04	60.32	0.00	0.00	0.00	0.00
140	1.47	59.13	-0.17	0.00	0.08	124.47	0.00	0.00	0.00	0.00

EXHIBIT G

LOCATION

FIELD

Water tanks

WATER ANALYSIS

(Ca <sup>++</sup> )	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
(Mg <sup>++</sup> )	972		680		1507	124
(Na <sup>+</sup> ) Calc.	2360		2000		1723	86
(Na <sup>+</sup> ) Calc.	52298		34704		20655	898
(CO <sub>3</sub> <sup>=</sup> )	0		0		0	
(HCO <sub>3</sub> <sup>=</sup> )	1220		481		915	15
(SO <sub>4</sub> <sup>=</sup> )	4400		3900		1050	21.8
(Cl <sup>-</sup> )	50000		33000		38000	1071
H <sub>2</sub> S	STRONG		STR		1190	69.8
IRON (Free)	11		14		3.8	
PH @ °F	7.6		7.4		6.25	
Sp. Gr. @ °F					1.04	
O <sub>2</sub> (Free)	4				9.3	
CaCO <sub>3</sub> S.I.	1.4		.9		-1.6	
CaSO <sub>4</sub> S.I.	neg		neg		-1.9	
BY.... DATED	Champion 5-1-81	Champion 5-1-81	CRD	10-19-81		
	Baish A	Baish B	MCA Bm 2			

WOLF CAMP WATER  
SAMPLE - ZONE  
TO BE DISPOSED  
INTO

MCA UNIT (G-SA)  
WATER TO BE  
INJECTED

EXHIBIT G

From OCD SWP-241

from OCD SWD-484

EXHIBIT -A-  
AQUANESA  
WATER ANALYSIS REPORT

Lab ID No. : Analysis Date: June 9, 1992

Company : B.T.A Oil Production  
Field : Corbin, Wolfcamp, South  
Lease/Unit : French  
Well ID. : 1  
Sample Loc.: Well Head  
Sampled By : Pro - Kem  
Sample Date: 5/28/92  
Salesperson: Curtis Baze  
Formation : Wolfcamp  
Location : SE/SE, Sec 24, T18S, R32E

CATIONS	MG/L	MEQ/L	ANIONS	MG/L	MEQ/L
Calcium as Ca++	7,699	385	Hydroxyl as OH-	0	0
Magnesium as Mg++	1,895	155	Carbonate as CO3=	0	0
Sodium as Na+ (Calc)	52,740	2,293	Bicarbonate as HCO3-	180	3
Barium as Ba++	Not Determined		Sulfate as SO4=	500	10
Oil Content	0		Chloride as Cl-	99,977	2,820

Total Dissolved Solids, Calculated: 162,993 mg/L.

Calculated Resistivity: 0.062 ohm-meters  
mg/L. Hydrogen Sulfide: 0  
mg/L. Carbon Dioxide: 120  
mg/L. Dissolved Oxygen: Not Determined  
pH: 7.000  
Specific Gravity 60/60 F.: 1.118  
Saturation Index @ 80 F.: +0.435  
@ 140 F.: +1.340

Total Hardness: 27,000 mg/L. as CaCO3  
Total Iron: 5.00 mg/L. as Fe++

PROBABLE MINERAL COMPOSITION		
COMPOUND	MG/L	MEQ/L
Ca(HCO3)2	240	3.0
CaSO4	709	10.4
CaCl2	20,623	371.6
Mg(HCO3)2	0	0.0
MgSO4	0	0.0
MgCl2	7,398	155.4
NaHCO3	0	0.0
Na2SO4	0	0.0
NaCl	134,052	2,293.1

Calcium Sulfate Scaling Potential  
Not Present

Estimated Temperature of Calcium  
Carbonate Instability is  
61 F.

*Craig S. Smith*  
Analyst 01:54 PM

EXHIBIT G

from OCD SWD-952



**ARDINAL  
LABORATORIES**

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
CHEVRON TEXACO  
ATTN: DENISE WANN  
15 SMITH RD.  
MIDLAND, TX 79705  
FAX TO: (432) 687-7871

*Injection zone water  
Analyses*

Receiving Date: 10/07/04  
Reporting Date: 10/08/04  
Project Number: NOT GIVEN  
Project Name: NOT GIVEN  
Project Location: SKELLY UNIT #952

Sampling Date: NOT GIVEN  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: AH

*also ~ 3 BWPD as produced water*

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
------------	-----------	--------------	--------------	--------------	-------------	-------------------------	--

ANALYSIS DATE:	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04
H9215-1	4049	257	87	18256	62381	214
Quality Control	NR	40	52	4.87	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	80.0	104	97.4	93.6	NR
Relative Percent Difference	NR	2.0	6.0	5.8	0.8	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
----------	-------------	-----------	------	-------	-------

	Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
--	---------------------------	---------------------------	---------------------------	----------------------------	--------------	---------------

ANALYSIS DATE:	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	10/08/04
H9215-1	22993	527	0	261	7.45	47600
Quality Control	1050	50.98	NR	976	6.95	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	105	102	NR	97.6	99.3	NR
Relative Percent Difference	2.9	1.2	NR	2.2	0.1	1.4

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
----------	-------------	-------	-------	-------	-------	-------

*Amy Hill*  
Chemist

*10/8/04*  
Date

**EXHIBIT G**

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



## Water Analysis Report

Company:	COG Operating LLC	Sample #:	9701
Area:	Artesia	Analysis ID #:	752
Lease:	FRESH WATER SOURCE		
Location:	Section 28 17S		0
Sample Point:	Wellhead		

		Anions		Cations	
		mg/l	meq/l	mg/l	meq/l
Sampling Date:	3/10/08	Chloride:	44048.4	Sodium:	23103.8
Analysis Date:	3/11/08	Bicarbonate:	146.6	Magnesium:	1141.9
Analyst:	Mitchell Labs	Carbonate:		Calcium:	3417.0
TDS (mg/l or g/m3):	73069.6	Sulfate:	1200.0	Strontium:	
Density (g/cm3):	1.051			Barium:	
Hydrogen Sulfide:				Iron:	10.8
Carbon Dioxide:				Manganese:	1.060
Comments:		pH at time of sampling:	6.64		
		pH at time of analysis:			
		pH used in Calculation:	6.64		
		Temperature @ lab conditions (F):	75	Conductivity (micro-ohms/cm):	73000
				Resistivity (ohm meter):	.1370

### Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> *2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>			
	°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index		Amount
80		0.00	0.00	-0.27	0.00	-0.31	0.00	0.00	0.00	0.00	0.00	
100		0.11	2.28	-0.31	0.00	-0.28	0.00	0.00	0.00	0.00	0.00	
120		0.21	4.57	-0.34	0.00	-0.23	0.00	0.00	0.00	0.00	0.00	
140		0.32	7.50	-0.35	0.00	-0.15	0.00	0.00	0.00	0.00	0.00	

EXHIBIT H

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

March 21, 2008

Les Babyak  
BLM  
620 East Greene St.  
Carlsbad, NM 88220

Dear Les,

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Federal B I #1

Proposed Disposal Zone: Wolfcamp (from 9,670' to 9,875')

Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,

Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

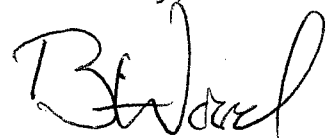
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

7007 1490 0003 6189 5541

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CARLSBAD NM 88220	
Postage	\$ 1.48
Certified Fee	\$2.65
Return Receipt Fee (Endorsement Required)	\$2.15
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.28

0991

10 895-50518 POST OFFICE EXPRESS  
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MAR 21 2008  
03/21/2008

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or PO Box No.

City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

EXHIBIT I



# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508

(505) 466-8120

March 21, 2008

Chase Oil Corp.  
P. O. Box 1767  
Artesia, NM 88211

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Federal B I #1

Proposed Disposal Zone: Wolfcamp (from 9,670' to 9,875')

Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,  
Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

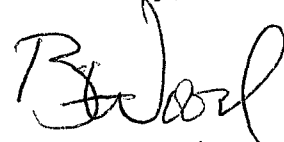
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

  
Brian Wood

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ARTESIA NM 88211

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Restricted Delivery Fee (Endorsement Required)	\$0.00
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or PO Box No.

City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

EXHIBIT 1



**PERMITS WEST, INC.**  
PROVIDING PERMITS for LAND USERS  
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

March 21, 2008

ConocoPhillips  
P. O. Box 7500  
Bartlesville, OK 74005

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Federal B I #1

Proposed Disposal Zone: Wolfcamp (from 9,670' to 9,875')

Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,  
Lea County, NM on BLM lease NMLC-057210

Approximate Location: ≈4 miles south of Maljamar, NM

Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

  
Brian Wood

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BARTLESVILLE OK 74005

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Certified Fee	\$2.65
Return Receipt Fee (Endorsement Required)	\$2.15
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.28

03/21/2008

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PS Form 3800, August 2006 See Reverse for Instructions

EXHIBIT I

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508

(505) 466-8120

March 21, 2008

Aron Hover  
P. O. Box 1248  
Fredericksburg, TX 78264

Dear Mr. Hover:

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Federal B I #1

Proposed Disposal Zone: Wolfcamp (from 9,670' to 9,875')

Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,

Lea County, NM on BLM lease NMLC-057210

Approximate Location: ≈4 miles south of Maljamar, NM

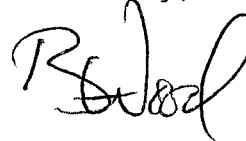
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

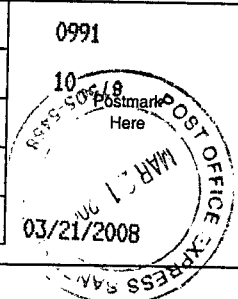


Brian Wood

7007 1490 0003 6189 5572

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SAN ANTONIO TX 78264	

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Total Postage & Fees	\$ 6.28



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City, State, ZIP+4	

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EXHIBIT 1

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

March 21, 2008

Mack Energy Corporation  
P. O. Drawer 227  
Artesia, NM 88211

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,  
Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

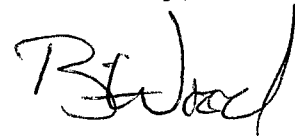
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

2007 1490 0003 6189 5596

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ARTESIA NM 88211	
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Certified Fee	\$2.65
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Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.28

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875-90528  
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EXPRESS  
AN

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or PO Box No.

City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

EXHIBIT 1

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508

(505) 466-8120

March 21, 2008

Joe Mraz  
NM State Land Office  
P. O. Box 1148  
Santa Fe, NM 87504

Dear Joe,

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Federal B I #1

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Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,

Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

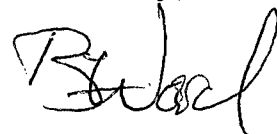
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

7007 1490 0003 6189 5626

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SANTA FE NM 87504	
Postage	\$ 1.48
Certified Fee	\$ 2.15
Return Receipt Fee (Endorsement Required)	\$ 2.15
Restricted Delivery Fee (Endorsement Required)	\$ 0.00
Total Postage & Fees	\$ 6.28
03/21/2008	
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EXHIBIT I

**PERMITS WEST, INC.**  
PROVIDING PERMITS for LAND USERS  
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

March 21, 2008

Occidental Permian LP  
5 East Greenway Plaza, #110  
Houston, TX 77046

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Proposed Disposal Zone: Wolfcamp (from 9,670' to 9,875')

Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,

Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

*Brian Wood*  
Brian Wood

7007 1490 0003 6189 5619

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HOUSTON TX 77046	
OFFICIAL USE	
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Certified Fee	\$ 2.65
Return Receipt Fee (Endorsement Required)	\$ 2.15
Restricted Delivery Fee (Endorsement Required)	\$ 0.00
Total Postage & Fees	\$ 6.28

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10-8575-909/8

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MAR 21 2008

POST OFFICE

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Occidental

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City, State, ZIP+4

PS Form 3800, August 2006

EXHIBIT I

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508

(505) 466-8120

March 21, 2008

OXY USA, WTP LP  
6 Desta Dr., #6000  
Midland, TX 79705

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

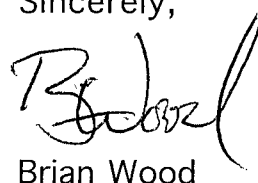
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

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Please call me if you have any questions.

Sincerely,

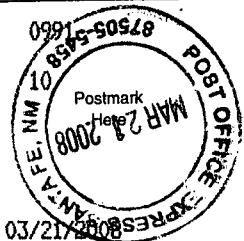
  
Brian Wood

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MIDLAND-TX-79705

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Return Receipt Fee (Endorsement Required)	\$ 2.15
Restricted Delivery Fee (Endorsement Required)	\$ 0.00
Total Postage & Fees	\$ 6.28



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EXHIBIT I

**PERMITS WEST, INC.**  
PROVIDING PERMITS for LAND USERS  
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

March 21, 2008

Westall Oil & Gas LLC  
P. O. Box 4  
Loco Hills, NM 88255

COG Operating LLC is applying (see attached application) to reenter and convert a plugged and abandoned well to a water disposal well as described below. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Federal B I #1

Proposed Disposal Zone: Wolfcamp (from 9,670' to 9,875')

Location: 480' FSL & 1980' FWL Sec. 28, T. 17., R. 32 E.,

Lea County, NM on BLM lease NMLC-057210

Approximate Location: ~4 miles south of Maljamar, NM

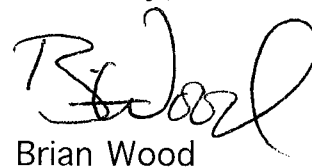
Applicant Name: COG Operating LLC (432) 685-4340

Applicant's Address: 550 West Texas, Suite 1300, Midland, TX 79701

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

  
Brian Wood

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LOCO HILLS NM 88255

Postage	\$ 1.48	0991
Certified Fee	\$ 2.65	10
Return Receipt Fee (Endorsement Required)	\$ 2.15	
Restricted Delivery Fee (Endorsement Required)	\$ 0.00	
Total Postage & Fees	\$ 6.28	

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MAR 21 2008  
505-5458

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Westall

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EXHIBIT 1

AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

PUBLISHER

of the Hobbs News-Sun, a  
newspaper published at  
Hobbs, New Mexico, do solemnly  
swear that the clipping attached  
hereto was published once a  
week in the regular and entire  
issue of said paper, and not a  
supplement thereof for a period.

of 1  
\_\_\_\_\_ weeks.

Beginning with the issue dated

February 9 2008  
and ending with the issue dated

February 9 2008

*Kathi Bearden*

PUBLISHER

Sworn and subscribed to before

me this 11th day of

February 2008  
*[Signature]*  
Notary Public.

My Commission expires  
February 07, 2009  
(Seal)



OFFICIAL SEAL  
DORA MONTZ  
NOTARY PUBLIC  
STATE OF NEW MEXICO

My Commission Expires: \_\_\_\_\_

This newspaper is duly qualified  
to publish legal notices or adver-  
tisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for  
said publication has been made.

LEGAL NOTICE  
February 9, 2008

COG Operating LLC is applying to reenter the plugged and abandoned Federal B I #1 and convert it to a water disposal well. The Federal B I #1 is located at 480' FSL & 1980' FWL, Sec. 28, T. 17 S., R. 32 E., Lea County, NM. The well will dispose of water produced from oil and gas wells into the Wolfcamp zone at a depth of 9,670' to 9,875' at a maximum rate of 10,000 barrels of water per day and at a maximum pressure of 2,500 psi. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.

#23833

02108485000 02598303

PERMITS WEST  
37 VERANO LOOP  
SANTA FE, NM 87508

EXHIBIT J



# Inactive Well List

**Total Well Count: 1177 Inactive Well Count: 10 Since: 1/28/2007**

**Printed On: Tuesday, April 22 2008**

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	TA Exp Date
2	30-015-04234	BRIGHAM H #002	12-21-17S-30E		229137	COG OPERATING LLC	F	S	10/2005	ABO		
2	30-015-05906	DAVIS FEDERAL #012	D-15-16S-29E	D	229137	COG OPERATING LLC	F	O	05/2006			
2	30-015-31110	GR 30 STATE #003	2-30-23S-30E	E	229137	COG OPERATING LLC	S	O	02/2006	SW FORTY NINER RIDGE DELAWARE		
1	30-025-34973	MC FEDERAL #005	N-21-17S-32E	N	229137	COG OPERATING LLC	F	O	07/2003	PADDOCK / INTENT TO PERF YESO	T	10/27/2006
2	30-015-04178	RANDEL STATE #002	D-16-17S-30E	D	229137	COG OPERATING LLC	S	O	12/1989		T	2/11/2003
1	30-025-37491	RED RAIDER STATE #002	G-19-20S-36E	G	229137	COG OPERATING LLC	S	O	08/2006	Bone Spring		
2	30-015-03142	RJ UNIT #121	P-27-17S-29E	P	229137	COG OPERATING LLC	F	O	12/2006			
2	30-015-03775	RJ UNIT #131	J-35-17S-29E	J	229137	COG OPERATING LLC	F	O	11/2006			
2	30-015-03789	TYLER FEDERAL #002	O-35-17S-29E	O	229137	COG OPERATING LLC	F	O	11/2006			
2	30-015-03795	WESTALL B STATE #004	E-36-17S-29E	E	229137	COG OPERATING LLC	S	O	11/2006			

WHERE Ogrid:229137, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15, Excludes Wells Under ACOI, Excludes Wells in Approved TA Period

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Tuesday, April 22, 2008 11:26 AM  
**To:** 'brian wood'  
**Cc:** Ezeanyim, Richard, EMNRD; Kautz, Paul, EMNRD  
**Subject:** SWD Application on behalf of COG Operating, LLC: Federal BI #1 30-025-27068 proposed upper Wolfcamp injection

Hello Brian:

Thank you for the wonderful job on this application. You should see some of these that come in here.

The only thing I could not find is an "AFTER CONVERSION" wellbore diagram showing the injection tubing and packer, etc. This diagram should show a new CIBP/plug which will be required within 200 feet below the bottom of the injection interval.

Please send this asap - I am drafting this order to go out today if possible.

Thanks again,

William V. Jones PE  
New Mexico Oil Conservation Division  
1220 South St. Francis  
Santa Fe, NM 87505  
505-476-3448

4/22/2008

**Injection Permit Checklist 2/8/07**

**SWD Order Number** 1093 **Dates:** Division Approved \_\_\_\_\_ District Approved \_\_\_\_\_

**Well Name/Num:** FEDERAL BI #1 **Date Spudded:** 10/14/80

**API Num:** (30-) 025-27068 **County:** Lea

**UNIT N / Footages** 1980 FWL / 480 FSL **Sec** 28 **Tsp** 17S **Rge** 32E

**Operator Name:** COG OPERATING, LLC **Contact** Brian Wood

**Operator Address:** 550 WEST TEXAS AVE, SUITE 1300, MIDLAND, TX, 79701

**Current Status of Well:** PEAKED 2003 **Planned Work:** \_\_\_\_\_ **Inj. Tubing Size:** 2 7/8

	Hole/Pipe Sizes	Depths	Cement	Top/Method
Surface	17 1/2 13 3/8	723'	700	CIRC
Intermediate	12 1/4 9 5/8	4500	1475	CIRC
Production	8 1/2 5 1/2	12,967'	2200	1345 Reported
Last DV Tool			(1400 / 800)	
Open Hole/Liner				
Plug Back Depth				

**Diagrams Included (Y/N):** Before Conversion ☒ After Conversion ☐

**Checks (Y/N):** Well File Reviewed ☒ ELogs in Imaging ☒

Intervals:	Depths	Formation	Producing (Yes/No)
Salt/Potash			
Capitan Reef			
Cliff House, Etc.			
Formation Above	6220	B.S. -	
Top Inj Interval	9670	UPPER WC	
Bottom Inj Interval	9875	UPPER WC	
Formation Below	11,453' TP	STRAWN	1/2

*Memorized  
Was Performed in STRAWN  
in Queen*

*See SWD 244  
Maljion GSA is above THIS  
Reported BY CONOCO PHIL.*

1934 PSI Max. WHIP

☒ NO Open Hole (Y/N)

☒ NO Deviated Hole (Y/N)

**Fresh Water:** Depths: 0 - 158 Wells (Y/N) Y-22 Analysis Included (Y/N): Yes Affirmative Statement ☒

**Salt Water Analysis:** Injection Zone (Y/N/NA) \_\_\_\_\_ Disp Waters (Y/N/NA) \_\_\_\_\_ Types: COG USE / analysis attached

**Notice:** Newspaper (Y/N) ☒ Surface Owner BLM Mineral Owner(s) BLM / SLO

**Other Affected Parties:** OTI / Comm Phil / Haver? / Watail / CHone / SLO

**AOR/Repairs:** NumActiveWells 0 Repairs? \_\_\_\_\_ Producing in Injection Interval in AOR NO

**AOR Num of P&A Wells** 0 Repairs? \_\_\_\_\_ Diagrams Included? \_\_\_\_\_ RBDMS Updated (Y/N) \_\_\_\_\_

**Well Table Adequate (Y/N)** Yes **AOR STRs:** Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ UIC Form Completed (Y/N) \_\_\_\_\_

**New AOR Table Filename** \_\_\_\_\_ Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ This Form completed \_\_\_\_\_

**Conditions of Approval:** Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ Data Request Sent \_\_\_\_\_

*note: WC Prod ± 1 mile South ± 1 mile NW*

*— Perf E SWAB test.*

*— Set CIBP at 200 below bottoming perf*

**AOR Required Work:** \_\_\_\_\_

*— no change of operator for yet for Comm PHILIPS*

**Required Work to this Well:** \_\_\_\_\_

229137 OG RID  
OK  
10/11/77 Release

Check CIBP  
1 mile away