

## APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage  
Application qualifies for administrative approval? ☐ Yes ☒ No
- II. OPERATOR: Sundown Energy, LP (OGRID-232611)  
ADDRESS: 13455 Noel Road, Suite 2000 Dallas, Texas 75240  
CONTACT PARTY: Ross Pearson PHONE: (214) 368-6100
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ Yes ☒ No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate 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: Ross Pearson TITLE: Area Production Manager  
SIGNATURE: *Ross Pearson* DATE: 4/2/2013  
E-MAIL ADDRESS: rpearson@sundownenergy.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, please show the date and circumstances of the earlier submittal: \_\_\_\_\_
- NMOCD CASE NO. 14982

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

NMOCD CASE NO. 14982  
NMOCD CASE NO. 14983  
May 16, 2013  
Exhibit No. 9

### 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.

C-108 Application  
Sundown Energy, LP

State of New Mexico W No. 2  
API No. 30-025-26605  
660' FNL & 660' FWL (Unit D)  
Section 28, T-18S, R-36E

Bobbi No. 4  
API No. 30-025-27586  
1650' FSL & 990' FWL (Unit L)  
Section 20, T-18S, R-36E

Lea County, New Mexico

- I. The purpose of the application is to request authorization to inject into the San Andres formation within the State of New Mexico W No. 2 and the Bobbi No. 4 for the purpose of instituting a waterflood project within the proposed Bobbi State Unit, which will initially comprise all of Section 20, the N/2 of Section 29 and the NW/4 of Section 28, all in Township 18 South, Range 36 East, NMPM, Lea County, New Mexico.
- II. Sundown Energy, LP ("Sundown")  
13455 Noel Road  
Suite 2000  
Dallas, Texas 75240  
Contact Party: Ross Pearson (214) 368-6100
- III. Injection well data sheets and wellbore schematic diagrams showing the current and proposed wellbore configurations are attached.
- IV. This is not an expansion of an existing project.
- V. Attached is a map that identifies all wells/leases within a 2-mile radius of the proposed injection wells and a map that identifies the ½ mile "Area of Review" ("AOR") for both injection wells.
- VI. AOR well data is attached. Well construction data is included for all existing wells within the AOR. Also included are wellbore diagrams for each PA'd well within the AOR. An examination of the well completion and plugging data indicates that all AOR wells are adequately cased, cemented and/or plugged and abandoned in order to preclude the movement of fluid from the injection zone into any fresh water aquifers.
- VII.
  1. The average injection rate is anticipated to be approximately 500 BWPD. The maximum rate will be approximately 1,500 BWPD. If the average or maximum rates increase in the future, the Division will be notified.
  2. This will be a closed system.

3. Sundown will initially inject water into the subject wells at a surface pressure that is in compliance with the Division's limit of 0.2 psi/ft., or approximately 1,057 psi. The maximum surface injection pressure is anticipated to be approximately 2,500 psi. If a surface injection pressure above 1,057 psi is necessary, Sundown will conduct step rate injection tests to determine the fracture pressure of the San Andres formation in this area.
4. Produced water from the San Andres formation originating from Sundown operated wells in this area will be injected into the subject wells. If necessary, Sundown will also utilize Delaware produced water as make-up water. Attached are San Andres water analysis from Sundown's State of New Mexico Wells No. 1 & 2 and Bobby Well No. 5. Also attached is a Delaware produced water analysis from RKI Exploration & Production, LLC's TORO 22 Well No. 1. Also attached is a compatibility test indicating that slight scaling may result from combining San Andres and Delaware produced waters.
5. Injection is to occur into a formation that is oil productive.

- VIII.   Geologic Series:           Guadalupean  
          Geologic Formation:   San Andres  
          Thickness:           626 Feet  
          Lithology:           Sandstone  
          USDW's:           Ogallala is present at a maximum depth of approximately 160 feet according to attached data obtained from the New Mexico State Engineer's Office. The average depth to water in this area is approximately 54 feet.
- IX.     No stimulation of the wells is planned
- X.      Logs were filed at the time of drilling.
- XI.     Attached is a water analysis from a fresh water well located within one mile of the proposed injection wells.
- XII.    Affirmative statement is enclosed.
- XIII.   Proof of Notice is enclosed.

## INJECTION WELL DATA SHEET

OPERATOR: Sundown Energy, LP

WELL NAME & NUMBER: State of New Mexico W No. 2 (API No. 30-025-26605)

WELL LOCATION: 660' FNL & 660' FWL D 28 18 South 36 East  
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

### WELLBORE SCHEMATIC

*See Attached Wellbore Schematic*

### WELL CONSTRUCTION DATA

#### Surface Casing

Hole Size: 12 1/4" Casing Size: 8 5/8" @ 1,876'

Cemented with: 925 Sx. or                      ft<sup>3</sup>

Top of Cement: Surface Method Determined: Circulated

#### Intermediate Casing

Hole Size:                      Casing Size:                     

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

Top of Cement:                      Method Determined:                     

#### Production Casing

Hole Size: 7 7/8" Casing Size: 4 1/2" @ 5,670'

Cement with: 275 Sx. or                      ft<sup>3</sup>

Top of Cement: 4,670' Method Determined: Calculated

Total Depth: 5,670'

#### Injection Interval

Perforated Interval -5,320'-5,584'

## INJECTION WELL DATA SHEET

Tubing Size: 2 3/8" 4.7# J-55 Lining Material: Internally Plastic Coated

Type of Packer: Baker AD-1 Injection Packer

Packer Setting Depth: 5,270' or within 100' of the uppermost injection perforations

Other Type of Tubing/Casing Seal (if applicable): None

### Additional Data

1. Is this a new well drilled for injection:                      Yes       X       No

If no, for what purpose was the well originally drilled: Well was drilled in 1979 as a producing well in the San Andres formation.

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): West Arkansas Junction-San Andres Pool (Oil-2503)

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.

None

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

Within the proposed waterflood project area in Sections 19, 20, 28 & 29, T-18S, R-36E: Arkansas Junction-Penn Pool (10,000'-11,000'); Arkansas Junction-Devonian Pool (12,000'-13,000')

# Current Wellbore Configuration

Adown Energy, LP  
State of New Mexico W No. 2  
API No. 30-025-26605  
660' FNL & 660' FWL, Unit D  
Section 28, T-18S, R-36E

**Drilled: 12/1979**

12 1/4" Hole; Set 8 5/8" 24# csg. @ 1876'  
Cemented w/925 sx.  
Cement circulated to surface

TOC @ 4,670' by calc.

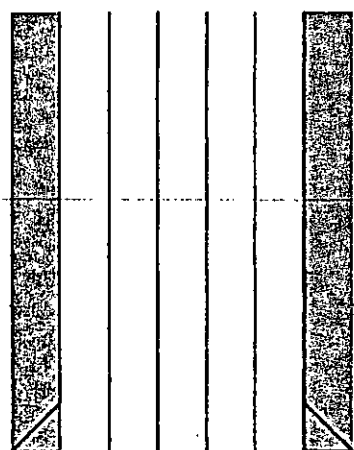
San Andres Perforations: 5,320'-5,584'

7 7/8" Hole; Set 4 1/2" 9.5# csg. @ 5,670'  
Cemented w/275 Sx.  
Calculated TOC @ 4,670'

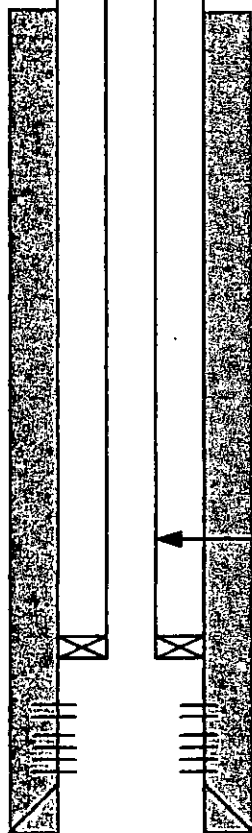
**T.D. 5,670'**

# Proposed Wellbore Configuration

Adown Energy, LP  
State of New Mexico W No. 2  
API No. 30-025-26605  
660' FNL & 660' FWL, Unit D  
Section 28, T-18S, R-36E



12 1/4" Hole; Set 8 5/8" 24# csg. @ 1876'  
Cemented w/925 sx.  
Cement circulated to surface



TOC @ 4,670' by calc.

2 3/8" 4.7# IPC J-55 Tubing set in a  
Baker Model AD-1 Packer @ 5,270'

San Andres Perforations: 5,320'-5,584'

7 7/8" Hole; Set 4 1/2" 9.5# csg. @ 5,670'  
Cemented w/275 Sx.  
Calculated TOC @ 4,670'

T.D. 5,670'



## INJECTION WELL DATA SHEET

OPERATOR: Sundown Energy, LP

WELL NAME & NUMBER: Bobbi No. 4 (API No. 30-025-27586)

WELL LOCATION:	1650' FSL & 990' FWL	L	20	18 South	36 East
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

### WELLBORE SCHEMATIC

***See Attached Wellbore Schematics***

### WELL CONSTRUCTION DATA:

## Surface Casing

Hole Size: 11" Casing Size: 8 5/8" @ 1,901'

Cemented with: 700 Sx. or            ft<sup>3</sup>

Top of Cement: Surface Method Determined: Circulated

### Intermediate Casing

Hole Size: \_\_\_\_\_ Casing Size: \_\_\_\_\_

Cemented with: \_\_\_\_\_ or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: \_\_\_\_\_ Method Determined: \_\_\_\_\_

### Production Casing

Hole Size: 7 7/8" Casing Size: 4 1/2" @ 5,600'

Cement with: 125 Sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: 5,100' Method Determined: Calculated

Total Depth: 5,600'

### Injection Interval

Perforated Interval -5,286'-5,572'

## INJECTION WELL DATA SHEET

Tubing Size: 2 3/8" 4.7# J-55

Lining Material: Internally Plastic Coated

Type of Packer: Baker AD-1 Injection Packer

Packer Setting Depth: 5,236' or within 100' of the uppermost injection perforations

Other Type of Tubing/Casing Seal (if applicable): None

### Additional Data

1. Is this a new well drilled for injection:                      Yes       X       No

If no, for what purpose was the well originally drilled: Well was drilled in 1981 as a producing well in the San Andres formation. Well was plugged and abandoned in 2009.

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): West Arkansas Junction-San Andres Pool (Oil-2503)

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.

None

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

Within the proposed waterflood project area in Sections 19, 20, 28 & 29, T-18S, R-36E: Arkansas Junction-Penn Pool (10,000'-11,000'); Arkansas Junction-Devonian Pool (12,000'-13,000')

# Current Wellbore Configuration

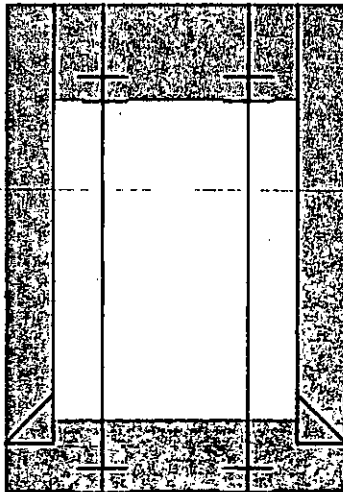
Adown Energy, LP

Bobbi No. 4

API No. 30-025-27586

1650' FSL & 990' FWL, Unit L

Section 20, T-18S, R-36E



Perforate 4 1/2" csg.  
@ 400' & cement to  
surface w/110 sx.

**Drilled: 10/1981**

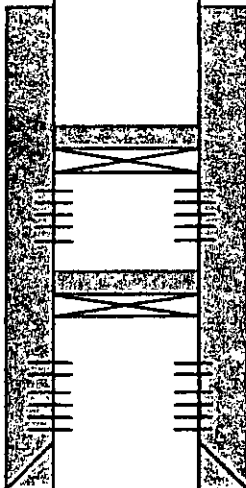
**Plugged: 10/2009**

11" Hole; Set 8 5/8" 24# csg. @ 1901'  
Cemented w/700 sx.  
Cement circulated to surface

Perforate 4 1/2" csg. @ 1,951' & cement w/40 sx.  
from 1,755'-1,951 (Tagged)



Perforate 4 1/2" csg @ 3,186 & cement w/40 sx.  
from 2,987'-3,186' (Tagged)



TOC @ 5,100' (Calc.)

Set CIBP @ 5,234' w/cement 5,200'-5,234'

San Andres Perforations: 5,286'-5,389'

Set CIBP @ 5,462' w/cement 5,450'-5,462'

San Andres Perforations: 5,504'-5,572'

7 7/8" Hole; Set 4 1/2" 10.5# csg. @ 5,600'  
Cemented w/125 Sx.

Calculated TOC @ 5,100'

**T.D. 5,600'**

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103

June 19, 2008

**RECEIVED**

OCT 13 2009

**HOBBSOCD**

## CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-025-27586

5. Indicate Type of Lease

STATE ☒FEE ☐

6. State Oil &amp; Gas Lease No.

7. Lease Name or Unit Agreement Name  
Bobbi

8. Well Number

4

9. OGRID Number

147179

10. Pool name or Wildcat

Arkansas Junction; San Andres, West

## 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.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐2. Name of Operator  
Chesapeake Operating, Inc.3. Address of Operator P.O. Box 18496  
Oklahoma City, OK 73154-0496

4. Well Location

Unit Letter L : 1650' feet from the South line and 990' feet from the West line

Section 20

Township 18S

Range 36E

NMPM

County Lea

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

3838' GR

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

## NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐TEMPORARILY ABANDON ☐ CHANGE PLANS ☐PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐DOWNHOLE COMMINGLE ☐OTHER: ☐

## SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐COMMENCE DRILLING OPNS. ☐ P AND A ☒CASING/CEMENT JOB ☐OTHER: ☐

13. 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. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Please find the following work performed in the plug and abandonment of this well from 9/30/09 through 10/01/2009.

9/30/09

MIRU PU &amp; SE. NDWH &amp; NUBOP. PU &amp; RIH w/tbg. Tag PBTD @ 5200'. Circ hole w/brine &amp; mud. POOH w/tbg perf 4 1/2" csg at 3186'. RIH &amp; set pkr at 2692'. Mix &amp; pump 40 sxs class C cmt at 3186'-3086'. Shut in press @ 1600 psi.

10/01/09

RIH &amp; tag cmt plug at 2987'. POOH/RIH &amp; perf 4 1/2" csg at 1951'. Mix &amp; pump 40 sxs Class C cmt from 1951'-1851'. WOC. RIH &amp; tag 1755'. POOH. Perf csg at 400' Mix &amp; pump 110 sxs cmt to surface. NDBOP. RDPU. Turn well over to production for final clean up.

Well P&amp;A'd on 10/01/2009.

Approved for plugging of well bore only.  
Liability under bond is retained pending receipt  
of C-103 (Subsequent Report of Well Plugging)  
which may be found at OCD Web Page under  
Forms, [www.wellfrd.state.nm.us/ocd](http://www.wellfrd.state.nm.us/ocd).

Spud Date:

Rig Release Date:

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

SIGNATURE

TITLE Senior Regulatory Compl. Sp.

DATE 10/07/2009

Type or print name Bryan Arrant

E-mail address: bryan.arrant@chk.com

PHONE: (405)935-3782

For State Use Only

APPROVED BY:

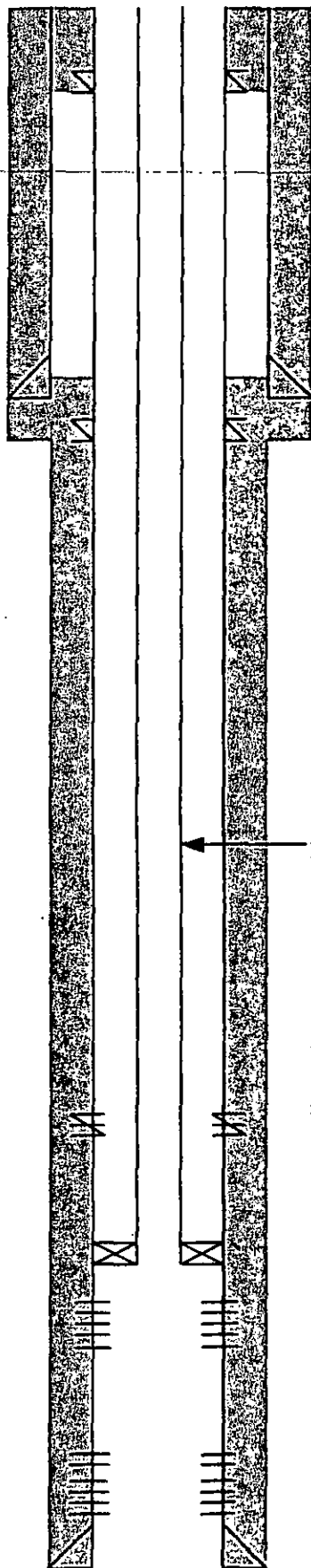
TITLE COMPLIANCE OFFICER

DATE 10/14/09

Conditions of Approval (if any):

# Proposed Wellbore Configuration

Sundown Energy, LP  
Bobbi No. 4  
API No. 30-025-27586  
1650' FSL & 990' FWL, Unit L  
Section 20, T-18S, R-36E



11" Hole; Set 8 5/8" 24# csg. @ 1901'  
Cemented w/700 sx.  
Cement circulated to surface

2 3/8" 4.7# IPC J-55 Tubing set in a  
Baker Model AD-1 Packer @ 5,236'

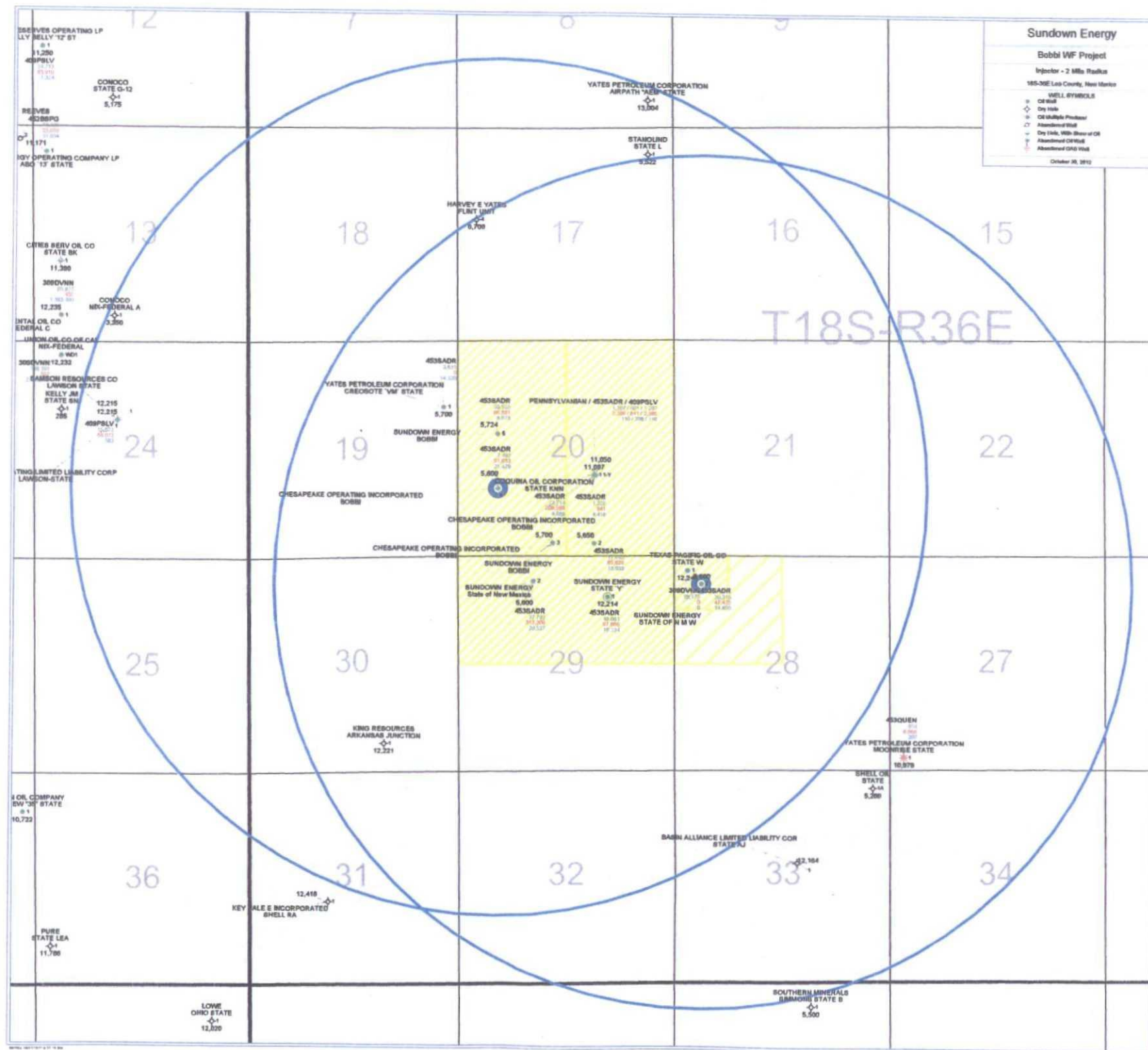
Run CBL to determine TOC. Perforate 4 1/2"  
csg. @ cement top and cement squeeze w/300  
sx. 50/50 Poz "C"

Original TOC @ 5,100' (Calc.)

San Andres Injection Perforations: 5,286'-5,572'

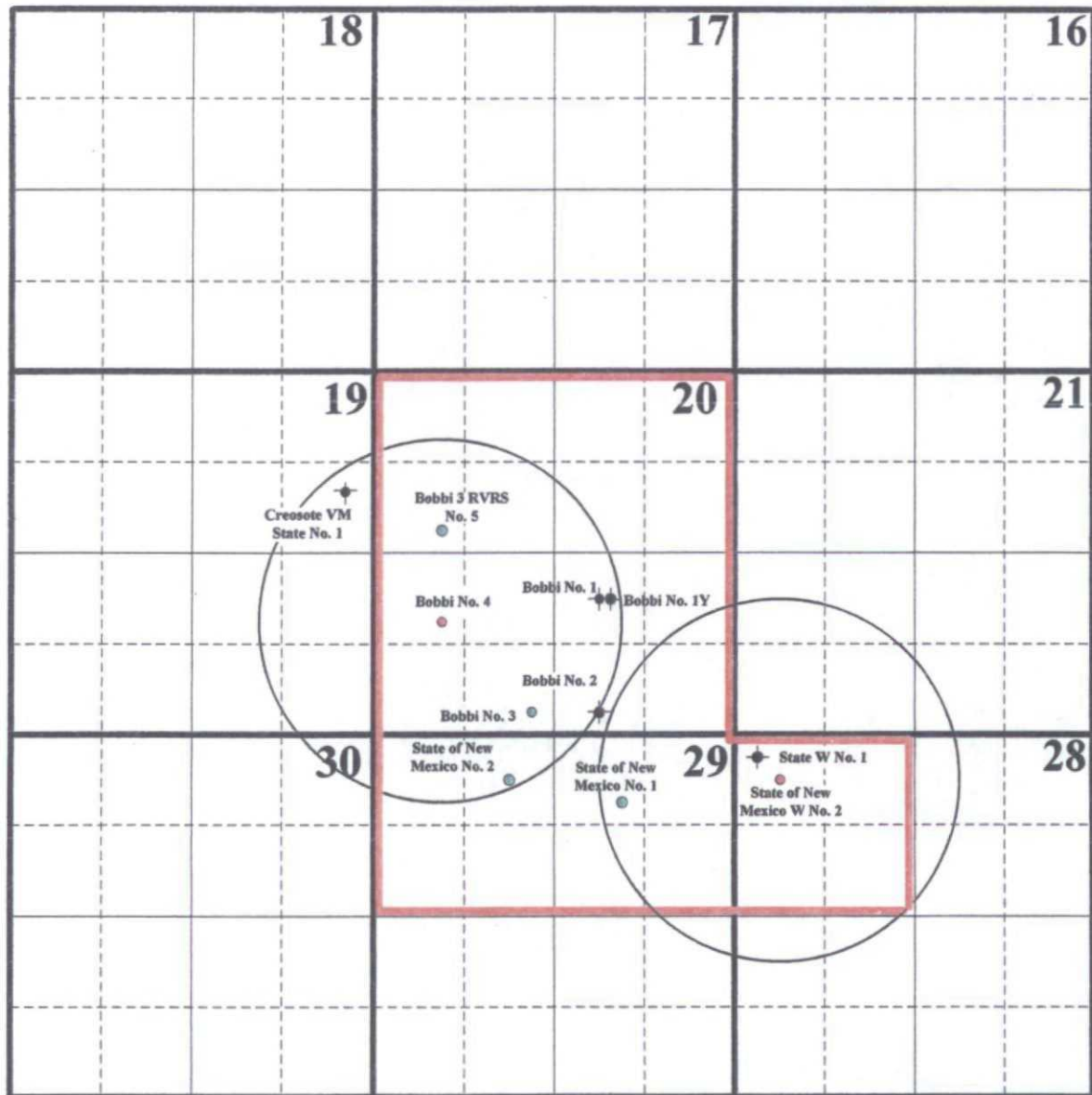
7 7/8" Hole; Set 4 1/2" 10.5# csg. @ 5,600'  
Cemented w/125 Sx.  
Calculated TOC @ 5,100'

T.D. 5,600'



36E

18S



— Proposed Waterflood Project Area

● Proposed Injection Well

● Producing Well

● PA'd Well

**Sundown Energy, LP**  
**Proposed Bobbi State Unit Waterflood**  
**1/2 Mile AOR Map**

**SUNDOWN ENERGY, LP**  
**FORM C-108: AREA OF REVIEW WELL DATA**  
**BOBBI STATE UNIT WATERFLOOD PROJECT**

API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. NO.	N/S	FTG. E/W	UNIT	SEC.	TOWNSHIP	RANGE	DATE DRILLED	TOTAL DEPTH	HOLE SIZE	C&G. SIZE	SET AT	EX. CMT.	MTD. TOP	MTD. SIZE	C&G. SIZE	SET AT	EX. CMT.	MTD. TOP	MTD. SIZE	COMPLETION	REMARKS		
30-025-25005	Rox Alcorn	Bobbi	1	P	PA	1980'	S	1980'	E	J	20	18S	36E	Aug-75	12,299'	17 1/2"	12 3/4"	333'	400'	Surface	Calc.	11" 8 1/2"	5,010'	700'	2,900'	Well File Calc.	5,552'-5,583' Perf.	PA'd 5/76. Re-Entered & PA'd 8/79 Schematic Attached	
30-025-26356	Chesapeake Operating	Bobbi	1Y	P	PA	1980'	S	1930'	E	J	20	18S	36E	Nov-79	11,050'	17"	13 3/8"	330'	325'	Surface	Circ.	11" 8 5/8"	3,900'	1100'	1,000'	T.S. CBL	5,474'-5,480' Perf.	PA'd 2/81. Schematic Attached	
30-025-26796	Chesapeake Operating	Bobbi	2	P	PA	330'	S	1980'	E	O	20	18S	36E	May-80	5,650'	12 1/4"	8 5/8"	1,881'	839'	Surface	Circ.	7 7/8"	4 1/2"	5,650'	700'	3,161'	T.S.	5,478'-5,539' Perf.	PA'd 5/86. Schematic Attached
30-025-26954	Sundown Energy, LP	Bobbi	3	P	TA	330'	S	2310'	W	N	20	18S	36E	Jul-80	5,700'	12 1/4"	8 5/8"	1,890'	839'	Surface	Circ.	7 7/8"	4 1/2"	5,700'	340'	4,852'	CBL	5,485'-5,554' Perf.	TA'd 4/89 w/CIBP @ 5,450' w/3 ex. cmt.
30-025-27641	Sundown Energy, LP	Bobbi 3 RVRG	5	P	Active	2310'	N	960'	W	E	20	18S	36E	Nov-81	5,724'	12 1/4"	8 5/8"	1,895'	700'	Surface	Circ.	7 7/8"	4 1/2"	5,713'	175'	5,100'	Calc.	5,295'-5,307' Perf.	
30-025-03677	V. H. Westbrook	State W	1	P	PA	330'	N	330'	W	D	28	18S	36E	Jan-56	12,245'	17"	13 3/8"	312'	300'	Surface	Circ.	13" 9 5/8"	4,789'	1286'	415'	T.S.	12,140'-12,186' Perf.	PA'd 4/82. Re-Entered & PA'd 12/82 Schematic Attached	
30-025-03978	Sundown Energy, LP	State of New Mexico	1	P	Active	990'	N	1650'	E	B	29	18S	36E	Jul-56	12,214'	17"	13 3/8"	319'	350'	Surface	Circ.	13" 9 5/8"	4,759'	2086'	Surface Liner Top	Circ.	5,499'-5,509' Perf.	PBTD: 5,555'	
Well plugged 11/58: 40 Sx. @ 12,080'; 20 Sx. @ 10,430'; 50 Sx. @ 7,950'; 50 Sx. @ 6,150'; 30 Sx. @ 4,759'; 10 Sx. @ Surface. Re-entered 10/79: Circulated hole to 5,650'. Set 5 1/2" liner 4,870'-5,632' & cemented w/200 sz. PBTD: 5,555'.																													
30-025-27032	Sundown Energy, LP	State of New Mexico	2	P	Active	660'	N	1980'	W	C	29	18S	36E	Sep-80	5,800'	12 1/4"	8 5/8"	1,896'	850'	Surface	Circ.	7 7/8"	4 1/2"	5,800'	225'	4,500'	Well File	5,152'-5,516' Perf.	
30-025-28071	Yates Petroleum Corp.	Crescote VM State	1	P	PA	1650'	N	330'	E	H	19	18S	36E	Feb-83	5,700'	12 1/4"	8 5/8"	1,822'	1000'	Surface	Circ.	7 7/8"	5 1/2"	5,692'	485'	3,213'	Calc.	5,312'-5,547' Perf.	PA'd 7/83. Schematic Attached



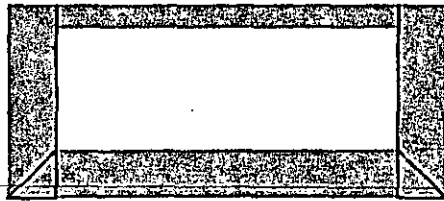
**Rex Alcorn**

**Bobbi No. 1**

**API No. 30-025-25065**

**1980' FSL & 1980' FEL (Unit J)**

**Section 20, T-18 South, R-36 East, NMPM**



10 sx. cmt @  
surface

75' cmt. plug  
@ 333'

17 1/2" Hole; Set 12 3/4" Csg @ 333'  
Cemented w/400 Sx.  
TOC @ surface by calc.

**Drilled: 8/75**

**Plugged: 5/76**

**Re-Entered &**

**Re-Plugged: 6/79**

Cut 8 5/8" csg. & pulled @ 1,159'. Spot 75'  
cmt. plug @ 1,174 after unsuccessful re-entry.

TOC @ 2,900' (Well File)

Cut 5 1/2" csg & pulled @ 4,741'. Spot 70 sx. cement stub plug @ 4,741'

TOC @ 4,750' (Estimated)

11" Hole; Set 8 1/2" Csg @ 5,010'  
Cemented w/700 sx.  
TOC @ 2,900' (Well File)

Set CIBP @ 5,420 w/30 sx. cement on top

San Andres perforations: 5,552'-5,583'

7 7/8" Hole; Set 5 1/2" Csg. @ 5,694'  
Cemented w/200 Sx.  
TOC @ 4,750' (Estimated)

Set 35 sx. cmt. plug 5,800'-5,900'

Set 35 sx. cmt. plug 6,600'-6,700'

Set 35 sx. cmt. plug 8,600'-8,700'

Set 35 sx. cmt. plug 10,400'-10,500'

Set 35 sx. cmt. plug 10,800'-10,900'

7 7/8" hole drilled to 12,266'

T.D. 12,266'

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

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

Form C-103  
Revised 10-1-78

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LAND OFFICE	
OPERATOR	

3a. Indicate Type of Lease
State <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
3. State Oil & Gas Lease No.
L-2948

SUNDRY NOTICES AND REPORTS ON WELLS

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO RE-ENTER OR PLUG BACK TO A DIFFERENT RESERVOIR.  
USE APPLICATION FOR PERMIT FROM C-101 FOR SUCH PROPOSALS.

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator Rex Alcorn	8. Farm or Lease Name Bobbi
3. Address of Operator Ingram Bldg., 100 South Kentucky, Roswell, New Mexico 88201	9. Well No. 1
4. Location of Well UNIT LETTER J 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE, SECTION 20 TOWNSHIP 18 S RANGE 36 E NMPM.	10. Field and Pool, or Wildcat New Field Wildcat
15. Elevation (Show whether DF, RT, GR, etc.) 3829 GR 3842 DF	12. County Lea

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data  
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	
		OTHER Junked & Abandoned <input type="checkbox"/>	

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.

(Re-entry attempt of former Coquina Oil Corp. No. 1 State "KHN")

Subsequent to one-week attempt to enter 8 5/8" casing as per attached daily progress report, efforts proved unsuccessful. Hole was Junked and abandoned and P&A as follows:

June 2, '79" 75 foot plug @ 1174' (8 5/8" stub)  
75 foot plug @ 333' (12 3/4" surface casing)  
10 sacks @ surface

Operator will skid 50 feet east and start new hole from surface.

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

SIGNED Rex Alcorn TITLE Operator DATE June 12, 1979

Orig. Signed By  
Jerry Sexton  
Dist. 1, Supv.

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE JUN 22 1979

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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 <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
5. State Oil & Gas Lease No. 1-2948
7. Unit Agreement Name
8. Farm or Lease Name State KNN
9. Well No. 1
10. Field and Pool, or Wildcat West Arkansas Junction (SA)
12. County Lea

**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.)

OIL WELL ☒ GAS WELL ☐ OTHER ☐

1. Name of Operator  
COQUINA OIL CORPORATION

2. Address of Operator  
P. O. Drawer 2960, Midland, Texas 79701

3. Location of Well  
UNIT LETTER J 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE, SECTION 20 TOWNSHIP 18-S RANGE 36-E NMPM.

15. Elevation (Show whether DF, RT, GR, etc.)  
3829'

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	

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.

## PLUGGED AND ABANDONED AS FOLLOWS:

Pulled 4,741.62' of 5 1/2" casing and 1159.04' of 8 5/8" casing.

1. Set CIBP at 5420' with 30 sacks on top.
2. Spotted 70 sacks reg. in and out of 5 1/2" stub at 4741'.
3. Spotted 75 sacks reg. in and out of 8 5/8" stub at 1159'.
4. 75 sacks reg at 276'.
5. 10 sacks at surface.

Mud was placed between all plugs.

Welded on dry hole marker.

May 26, 1976, operations complete.

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

SIGNED Alan Bump TITLE Engineering Assistant DATE May 27, 1976

APPROVED BY John W. Remy TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

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OPERATOR	

# NEW MEXICO OIL CONSERVATION COMMISSION

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

<p align="center"><b>SUNDRY NOTICES AND REPORTS ON WELLS</b></p> <p align="center"><small>(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.)</small></p>		<p>5a. Indicate Type of Lease State <input checked="" type="checkbox"/> Fee <input type="checkbox"/></p> <p>5. State Oil &amp; Gas Lease No.</p>
<p>1. <input checked="" type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER</p> <p>2. Name of Operator <b>Coquina Oil Corporation</b></p> <p>3. Address of Operator <b>P. O. Drawer 2960, Midland, Texas 79701</b></p> <p>4. Location of Well UNIT LITIER <b>J</b> <b>1980</b> FEET FROM THE <b>South</b> LINE AND <b>1930</b> FEET FROM THE <b>East</b> LINE, SECTION <b>20</b> TOWNSHIP <b>18S</b> RANGE <b>36E</b> NMPM.</p>		<p>7. Unit Agreement Name</p> <p>8. Name of Lease Name <b>State KNN</b></p> <p>9. Well No. <b>1</b></p> <p>10. Field and Pool, or Wildcat <b>Arkansas Junction Dev.</b></p>
<p>15. Elevation (Show whether DF, RT, CR, etc.) <b>3829 GL</b></p>		<p>12. County <b>Lea</b></p>

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <u>Drilling to Completion</u> <input checked="" type="checkbox"/>

16. 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.

Spudded at 10:00 a.m., Aug. 2, 1975. On August 4, ran 333.18' of 12 3/4" 40# 8rd STC casing in 17 1/2" hole; cmt. casing with 400 sx class C, 2% CaCl<sub>2</sub> and 1/4# Flocele. August 19, ran 5010.91' of 8 5/8" 32# J-55 STC casing and cemented with 500 sx class C with 1/4# Flocele, plus 200 sx class C with 2% CaCl<sub>2</sub> + V4 Flocele, cement top at 2900'. Sept. 22 lost circ. At 12,245' pulled 20 std. Mix 75 bbls. WIH. Circ. 2 1/4 hrs. Lost comp. ret. Pulled 15 std. Pump 300 bbls.--no return. Sept. 24, reach T.D. at 12,266'. Sept. 26, prep to set plug to PBTD & DST 10,878'-10,970'. Dress off plug to 10,970'. Check press. drop. Decide not to attempt San Andres completion. Sept. 27, set cement plug @ 10,206', cmt. w/ 150 sx class H, 6% CFRZ, 5# sd/sx. Sept. 30, PBTD to 5800'. Set plugs as follows:

10,800'-10,900'	35 SX
10,400'-10,500'	35 SX
8,600'-8,700'	35 SX
6,600'-6,700'	35 SX
5,800'-5,900'	35 SX

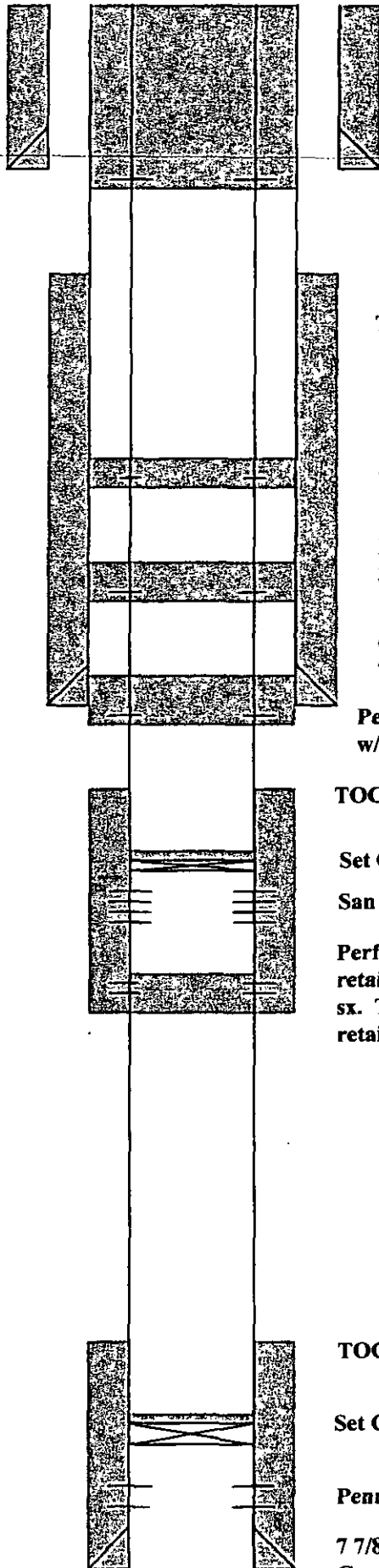
Oct. 1, ran 5 1/2" 15.5# K-55 8rd casing. Landed @ 5,694'. Oct. 2-6, WO Completion.

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

SIGNED [Signature] TITLE Eng. Asst. DATE 10-7-75

APPROVED BY [Signature] TITLE [Signature] DATE [Signature]  
CONDITIONS OF APPROVAL, IF ANY: [Signature] (Insp.)

Choke Operating, Inc.  
 Bobbi No. 1Y  
 API No. 30-025-26356  
 1980' FSL & 1930' FEL (Unit J)  
 Section 20, T-18 South, R-36 East, NMPM



17" Hole; Set 13 3/8" csg @ 330'

Cemented w/325 Sx.

Cement circulated to surface

Drilled: 1179

Plugged: 8/09

Perforate 5 1/2" csg. @ 380' & squeezed w/100  
sx. cmt. Cement circulated to surface.

TOC @ 1,000' by T.S.

Perforate 5 1/2" csg. @ 2,006' & squeezed  
w/30 sx. cmt. Tagged @ 1,800'

Perforate 5 1/2" csg. @ 3,280 & squeezed w/  
30 sx. cmt. Tagged @ 3,050'

11" Hole; Set 8 5/8" csg @ 3,800'

Cemented w/1100 sx.

TOC @ 1,000' by T.S.

Perforated 5 1/2" csg. @ 3,850' & squeezed  
w/30 sx. cmt. Tagged @ 3,695'

TOC @ 4,484' by CBL

Set CIBP @ 5,400' w/cement 5,146'-5,400'

San Andres Perforations: 5,474'-5,480'

Perforate 5 1/2" csg. @ 5,700'. Ran cmt.  
retainer & set @ 5,635'. Squeezed w/300  
sx. TOC @ 4,484' by CBL. Cmt. plug &  
retainer in csg. 5,620'-5,700'

TOC @ 10,200' by T.S.

Set CIBP @ 10,700' w/35' of cement on top

Penn perforations: 10,863'-10,933'

7 7/8" Hole. Set 5 1/2" csg. @ 11,050'

Cemented w/185 sx.

TOC @ 10,200' by T.S.

T.D. 11,050'

District I  
1625 N. French Dr., Hobbs, NM 88248  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

Energy, Minerals and Natural Resources

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OIL CONSERVATION DIVISION

AUG 25 2009 20 South St. Francis Dr.

HOBBSOCD Santa Fe, NM 87505

WELL API NO.	30-025-26356
5. Indicate Type of Lease	STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name	Bobbi
8. Well Number	1Y
9. OGRID Number	147179
10. Pool name or Wildcat	Arkansas Junction; San Andres, West
11. Elevation (Show whether DR, RKB, RT, GR, etc.)	3832' GR

**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.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator Chesapeake Operating, Inc.

3. Address of Operator P.O. Box 18496  
Oklahoma City, OK 73154-0496

4. Well Location  
Unit Letter J : 1980' feet from the South line and 1930' feet from the East line  
Section 20 Township 18S Range 36E NMPM County Lea

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☒  
CASING/CEMENT JOB ☐

OTHER: ☐

13. 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. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Please find the following work performed in the plug and abandonment of this well from 8/13/09 through 8/19/2009.  
MIRU PU & SE. NDWH & NUBOP. POOH w/178 jts of 2 7/8" tbg. RU WL & RIH w/gauge ring to 5620' & tagged top of cement retainer. POOH w/WL. RIH w/ 5 1/2" bridge plug & set @ 5400'. POOH w/WL. RIH w/ 173 of 2 3/8" jts tbg. Circ hole w/plugging mud. Spot 25 sxs class "C" cmt from 5400' to 5146', Est top/cmt. Stood back tbg. RIH w/WL & perf csg at 3850'. POOH w/WL. RIH w/ AD1-pkr & 55 jts of 2 3/8" tbg. Set pkr at 3433'. Break circ out 8 5/8" csg. Sqzd 30 sxs class "C" cmt. Est top/cmt 3750'. WOC. Unseat pkr & POOH. RIH w/open ended tbg. Tag top/cmt 3695'. POOH w/tbg & RIH w/WL. Perf at 3280', POOH w/ WL. RIH w/AD1 pkr & 46 stds. Set at 2871'. Circ through 8 5/8". Sqzd 30 sxs class "C" cmt. WOC. POOH w/tbg & pkr. RIH open ended & tagged cmt @ 3050'. POOH w/tbg. RIH w/WL. Perf @ 2006'. POOH w/WL. RIH w/AD1-PKR & 26 stds. Pkr set @ 1622'. Circ out 8 5/8". Sqzd 30 sxs class "C" cmt. WOC. RIH w/WL & tag cmt @ 1800'. POOH w/wireline. POOH w/tbg & pkr. RIH w/ WL & prf at 380'. POOH w/ WL. RIH w/AD-1 PKR & 1 jt of tbg. Set pkr at 30'. CO 8 5/8". Sqzd 100 sxs class "C" cmt to surface. POOH w/pkr & tbg. Fill cmt to surface. Rig down all equipment. Release PU.  
Well P&A'd on 8/19/2009. Turn well over to production for final clean up.

Approved for plugging of well bore only.  
Liability under bond is retained pending receipt of C-103 (Subsequent Report of Well Plugging) which may be found on OED Web Page under forms, www.oem.state.nm.us/oed.

Spud Date:

Rig Release Date:

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

SIGNATURE Bryan Arrant TITLE Senior Regulatory Compl. Sp. DATE 08/24/2009

Type or print name Bryan Arrant E-mail address: bryan.arrant@chk.com PHONE: (405)935-3782

For State Use Only

APPROVED BY: Cheryl L. Hill TITLE DISTRICT 1 SUPERVISOR DATE SEP 01 2009

Conditions of Approval (if any)

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

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

Form C-101  
Revised 10-1-78

5a. Indicate Type of Lease  
State ☒ Fee ☐  
5. State Oil & Gas Lease No.  
L-2948

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.

1. OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator Rex Alcorn	8. From or Lease Name Bobbi
3. Address of Operator Ingram Building, 100 So. Kentucky, Roswell, New Mexico 88201	9. Well No. 1-Y
4. Location of Well UNIT LETTER J 1980 FEET FROM THE South LINE AND 1930 FEET FROM THE East LINE, SECTION 20 TOWNSHIP 18 S RANGE 36 E WMPM.	10. Field and Pool, or Wildcat W. Ark. Junct.-SA
11. Elevation (Show whether DF, RT, GR, etc.) 3832' GR 3848' KB	12. County LEA

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐  
CASING TEST AND CEMENT JOB ☐  
OTHER Plug Back to W. Ark. Junct.-SA ☒

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.

Well formerly completed as Arkansas Junction-Penn from perfs 10,863' to 10,933'. Pulled rods, pump, tubing and anchor. Ran and set 5 1/2" cast iron bridge plug at 10,700' and spotted 35' cement on top plug. Perf 4 shots at 5700', ran cement retainer and set at 5635'. Squeezed with 300 sacks Class C with 3# KCL, 3% Halad-4 and 4% CER 2. Pulled off retainer and spotted 150 gals 15% MCA acid. Ran GR with collar locator and bond log. Good bond with top cement at 4484'. Perf 2 shots per foot at 5474, 76, 78 & 80. Ran RTTS tool on tbq, tagged bottom at 5623' from KB. Set RTTS at 5357', displaced hole with 2% KCL wtr, acidized with 2000 gals 15% MCA acid and 12 ball sealers. Swabbed dry with show gas and oil. Halliburton fraced down 2 7/8" tbq. with 10,000 gals gelled 2% KCL wtr plus 10,000 gals liquid CO2 plus flush and 18,000 lbs 20/40 sand and 22,500 lbs 10/20 sand. Av trtg pressure 5050#, av inj rate 13 BPM, ISIP 2550#, 2190 in 15 mins. Flowed back portion of load. Swabbed dry with show oil and gas. Pulled tbq and RTTS. Ran 179 jts 2 7/8" tbq with seating nipple and tbq anchor. Seating nipple at 5520' from KB, bottom tagged at 5623'. Ran rods and pump and put on pump. From 12-24-80 to 2-5-81 produced average 3 BOPD plus 30-40% load water. On Feb. 5, 1981, pulled rods and pump, changed out pumping unit from size 640 to Lufkin 114. Pulled tbq, ran tracer survey which indicated treatments entered pay zone. Ran 178 jts 2 7/8" tbq with seating nipple and anchor, bull plug on bottom jt used for mud anchor. SH @ 5489' from KB. Ran 2 x 1 1/2 x 16 pump, 159 jts 3/4" & 58 jts 7/8" rods w/2' sub above pump. POP : work completed 2-9-81.

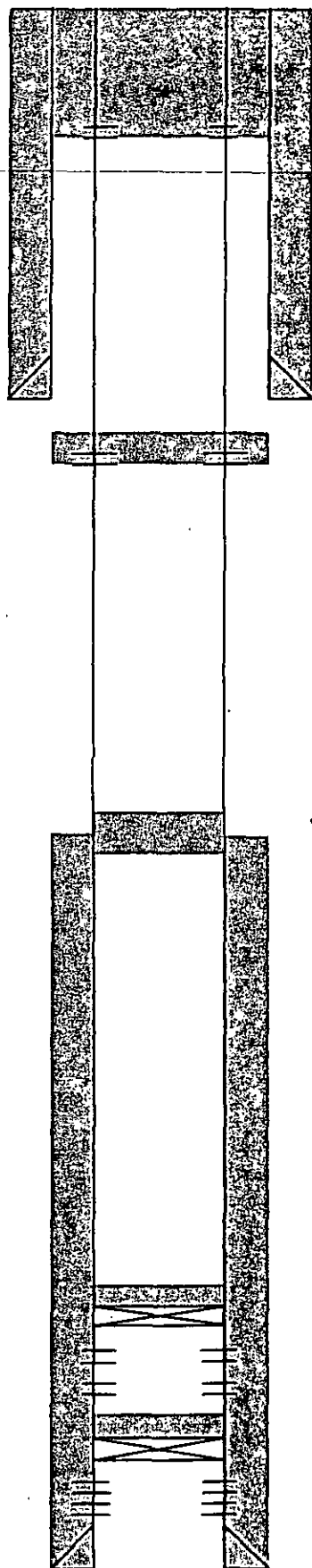
18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Rex Alcorn TITLE Operator DATE 3-4-81

APPROVED BY Orly Stone DATE MAR 6 1981  
CONDITIONS OF APPROVAL See 1103

(ask for loan)

**Chesapeake Operating, Inc.**  
**Bobbi No. 2**  
**API No. 30-025-26796**  
**330' FSL & 1980' FEL, Unit O**  
**Section 20, T-18S, R-36E**



Perforate 4 1/2" csg. @ 450'.  
Pumped 135 sx. cmt. down  
4 1/2" csg. to surface out of  
8 5/8" csg. Leave csg. full.

Drilled: 5/1980  
PA'd: 5/2008

12 1/4" Hole; Set 8 5/8" csg. @ 1881'  
Cemented w/839 sx.  
Cement circulated to surface

Perforate 4 1/2" csg. @ 1,931'. Set packer  
@ 1,512' & squeeze w/40 sx. cmt.

TOC @ 3,161' by T.S.  
Set 25 sx. cmt. plug @ 3,204'

CIBP @ 5,376' w/25 sx. cement on top

San Andres perforations: 5,476'-5,486'

CIBP @ 5,510' w/10' cement on top

San Andres perforations: 5,523'-5,535'

7 7/8" Hole; Set 4 1/2" csg. @ 5,650'  
Cemented w/700 Sx.  
TOC @ 3,161' by T.S.

**T.D. 5,650'**



890917

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 87240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-025-26796
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name: BOBBY
8. Well Number 2
9. OGRID Number 147179
10. Pool name or Wildcat Arkansas Junction: San Andres West

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

RECEIVED  
JUN 02 2008  
HOBBS OCD

1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>	2. Name of Operator CHESAPEAKE OPERATING, INC.
3. Address of Operator 2010 Rankin Hwy., Midland, TX 79701	4. Well Location Unit Letter <u>O</u> : <u>330</u> feet from the <u>SOUTH</u> line and <u>1980</u> feet from the <u>EAST</u> line Section <u>20</u> Township <u>18 S</u> Range <u>36 E</u> NMPM <u>1EA</u> County <u>NM</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3,832 GR	
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/> Pit type <u>STEEL</u> Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____ Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data			
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPLETION <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. 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. For Multiple Completions: Attach a diagram of proposed completion or recompletion.

5-21-08 Set 4 1/2" C.I.B.P. @5,376'.

5-22-08 Circulate hole with mud. Spot 25 sx. cmt. @5,376'. Spot 25 sx. cmt. @3,204'. Perf. 4 holes @1,931'. Set pkr. @1,512'. Sqr. 40 sx. cmt. Perf. 4 holes @450'.

5-23-08 Pump 135 sx. cmt. down 4 1/2" to surface out of 8 5/8". Leave 4 1/2" full of cement. Install Dryhole Marker.

Liability under bond is retained pending receipt of C-103 (Subsequent Report of Well Plugging) which may be found at OCD Web Page under Forms, www.cmrnd.state.nm.us/oed.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐

SIGNATURE [Signature] TITLE P & A SUPERV. DATE 5-27-08  
Type or print name GARY EGLESTON E-mail address: \_\_\_\_\_ Telephone No. (432) 530-0907

For State Use Only  
APPROVED BY [Signature] TITLE DISTRICT SUPERVISOR/GENERAL MANAGER DATE JUN 05 2008  
Conditions of Approval, if any:

**J. H. Westbrook**  
**State of New Mexico W No. 1**  
**API No. 30-025-03977**  
**330' FNL & 330' FWL (Unit D)**  
**Section 28, T-18 South, R-36 East, NMPM**



10' cmt plug  
@ surface

17" Hole; Set 13 3/8" csg @ 312'

Cemented w/300 Sx.

Cement circulated to surface

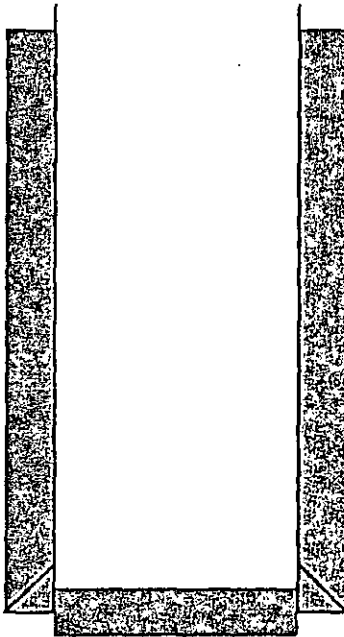
Cut 9 5/8" csg. & pulled @ 380'. Set 100' cmt.  
plug 262'-362' after unsuccessful re-entry.

**Drilled: 1/58**

**Plugged: 4/62**

**Re-Entered &**

**Re-Plugged: 12/79**



13" Hole; Set 9 5/8" csg @ 4,789'

Cemented w/1266 sx.

TOC @ 415' by T.S.

Set 25 sx. cmt. Plug 4,760'-4,820'



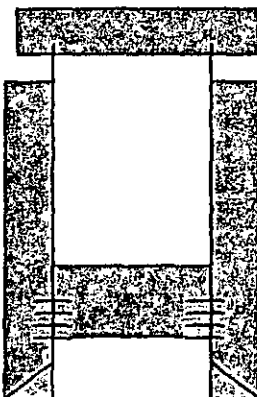
Set 25 sx. cmt. Plug 5,560'-5,600'



Set 25 sx. cmt. plug 7,800'-7,840'



Set 25 sx. cmt. plug 8,580'-8,620'



Cut & pulled 5 1/2" csg. @ 9,915'. Set 25  
sx. cmt plug 9,879'-9,949'

TOC @ 10,010 by T.S.

Set 25 sx. cmt. plug 12,005'-12,180'

Devonian perforations: 12,140'-12,186'

9 5/8" hole; Set 5 1/2" csg. @ 12,245'

Cemented w/525 sx.

TOC @ 10,010' by T.S.

T.D. 12,245'

NO. OF COPIES RECEIVED	
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SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103  
Supersedes Old  
C-102 and C-103  
Effective 1-1-85

5a. Indicate Type of Lease	
State <input checked="" type="checkbox"/>	Fee <input type="checkbox"/>
5. State Oil & Gas Lease No.	

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> <small>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.</small>		
1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER- <input checked="" type="checkbox"/> <b>Re-Entry</b>	7. Unit Agreement Name <b>L 4236</b>	
2. Name of Operator <b>V. H. Westbrook</b>	8. Form or Lease Name <b>State of NM "W"</b>	
3. Address of Operator <b>P.O. Box 2264 Hobbs, New Mexico 88240</b>	9. Well No. <b># 1</b>	
4. Location of Well UNIT LETTER <b>D</b> <b>330</b> FEET FROM THE <b>North</b> LINE AND <b>330</b> FEET FROM THE <b>West</b> LINE, SECTION <b>28</b> TOWNSHIP <b>18-S</b> RANGE <b>36-E</b> N.M.P.M.	10. Field and Pool, or Wildcat <b>W. Arkansas S.A.</b>	
15. Elevation (Show whether DF, RT, GR, etc.) <b>3823 G.L.</b>	12. County <b>Lea</b>	

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data			
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <input type="checkbox"/>

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.

12-11-79

1. Set 100' Plug 50' below 13-3/8" surface and 50' into 13-3/8" Casing  
100' plug from 362' to 302'
2. Loaded hole w/10# Gelled Brine
3. Set 10' plug @ surface in 13-3/8" surface w/4-1/2" Marker erected.

(Worked performed as directed by OCC, Mr. Les Clements)

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

SIGNED <u><i>V. H. Westbrook</i></u>	TITLE <u>Operator</u>	DATE <u>9/15/87</u>
APPROVED BY <u><i>R. A. [Signature]</i></u>	TITLE <u>OIL &amp; GAS INSPECTOR</u>	DATE <u>SEP 18 1987</u>
CONDITIONS OF APPROVAL, IF ANY:		

## NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-103  
(Rev 3-55)

## MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

Name of Company <b>Texas Pacific Coal &amp; Oil Co. &amp; The Pure Oil Co.</b>				Address <b>P. O. Box 1688, Hobbs, New Mexico</b>			
Lease <b>State of New Mexico</b>	Well No. <b>1</b>	Unit Letter <b>D</b>	Section <b>28</b>	Township <b>18-S</b>	Range <b>36-E</b>		
Date Work Performed <b>3/18 - 4/6 - 1962</b>	Pool <b>Arkansas Junction Devonian</b>			County <b>Lea</b>			

THIS IS A REPORT OF: (Check appropriate block)

- ☐ Beginning Drilling Operations    ☐ Casing Test and Cement Job    ☐ Other (Explain):  
☒ Plugging    ☐ Remedial Work

Detailed account of work done, nature and quantity of materials used, and results obtained.

The following work was performed in plugging this well.

1. Loaded hole with 9 lb./gal. salt water gel.
2. Spotted 25 sxs. cement plug from 12,005-12,180' over Devonian perforations.
3. Cut and pulled 5-1/2" csg. from 9915'.
4. Placed cement plugs as follows:
 

9879-9949'	20 sxs.	5560-5600'	25 sxs.
8580-8620'	25 sxs.	4760-4820'	40 sxs.
7800-7840'	25 sxs.		
5. Cut and pulled 9-5/8" csg. from 380'.
6. Placed 85 sxs. cement plug from 290-403'.
7. Placed 10 sx. cement plug and marker at surface.
8. Levelled pit and cleaned up location.

4410' 9-5/8" Csg. and 311' of 13-3/8" csg. left in well.

Witnessed by <b>Hollins M. Roth</b>	Position <b>Petroleum Engineer</b>	Company <b>Texas Pacific Coal &amp; Oil Company</b>
--	---------------------------------------	--

## FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

## ORIGINAL WELL DATA

D F Elev.	T D	P B T D	Producing Interval	Completion Date
Tubing Diameter	Tubing Depth	Oil String Diameter	Oil String Depth	
Perforated Interval(s)				
Open Hole Interval		Producing Formation(s)		

## RESULTS OF WORKOVER

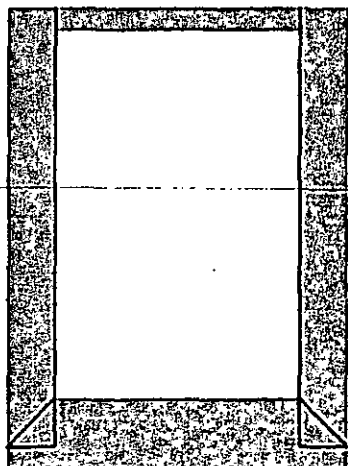
Test	Date of Test	Oil Production BPD	Gas Production MCFPD	Water Production BPD	GOR Cubic feet/Bbl	Gas Well Potential MCFPD
Before Workover						
After Workover						

## OIL CONSERVATION COMMISSION

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

Approved by <i>Leslie A. Clements</i>	Name <i>Hollins M. Roth</i>
Title <i>...</i>	Position <b>Petroleum Engineer</b>
Date <i>...</i>	Company <b>Texas Pacific Coal &amp; Oil Company</b>

Yates Petroleum Corporation  
 Creosote VM State No. 1  
 API No. 30-025-28071  
 1650' FNL & 330' FEL, Unit H  
 Section 19, T-18S, R-36E

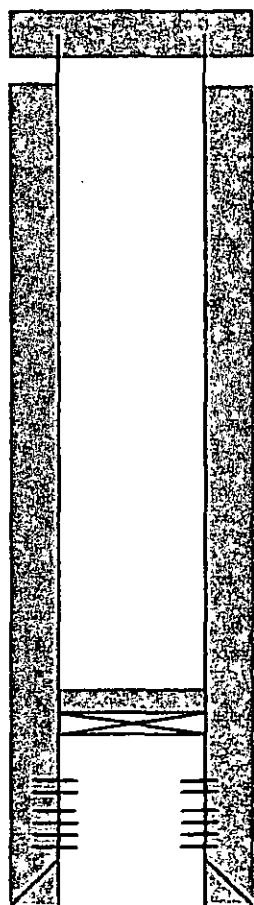


Spot 15 sx. cement  
 plug @ surface

12 1/4" Hole; Set 8 5/8" 24# csg. @ 1822'  
 Cemented w/1000 sx.  
 Cement circulated to surface

Drilled: 2/1983  
 Plugged: 7/1993

Spot 90 sx. cement shoe plug. Tagged plug @  
 1,810'. Spot 25 sx. additional cement plug &  
 tagged @ 1,729'



Cut & pulled 3,029' of 5 1/2" csg. Spot 40 sx.  
 stub plug 2,965'-3,152' (Tagged)  
 TOC @ 3,213' by calc.

Set CIBP @ 5,250' w/cement 5,215'-5,250'

San Andres Perforations: 5,312'-5,547'

7 7/8" Hole; Set 5 1/2" 15.5# csg. @ 5,692'  
 Cemented w/465 Sx.  
 Calculated TOC @ 3,213'

T.D. 5,700'

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

**STRICT I**  
O. Box 1980, Hobbs, NM 88240

**STRICT II**  
O. Drawer DD, Artesia, NM 88210

**STRICT III**  
00 Rio Brazos Rd., Aztec, NM 87410

WELL API NO. 30-025-28071
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. LG-3862
7. Lease Name or Unit Agreement Name Creosote VM State
8. Well No. 1
9. Pool name or Wildcat Arkansas Junction SA West

**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.)

Type of Well:  
OIL WELL ☐ GAS WELL ☐ OTHER ☐ P & A Well

Name of Operator  
YATES PETROLEUM CORPORATION

Address of Operator  
105 South 4th St., Artesia, NM 88210

Well Location  
Unit Letter H : 1650 Feet From The North Line and 330 Feet From The East Line

Section 19 Township 18S Range 36E NMPM Lea County  
10. Elevation (Show whether DF, RKB, RT, GR, etc.)  
3847' GR

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

**NOTICE OF INTENTION TO:**

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
WELL OR ALTER CASING ☐  
OTHER: ☐

**SUBSEQUENT REPORT OF:**

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☒  
CASING TEST AND CEMENT JOB ☐  
OTHER: ☐

2. 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.

Moved in and rigged up pulling unit. POOH w/rods, pump, anchor and tubing. WIH w/5-1/2" CIBP and set at 5250'. POOH. Ran tubing in hole to top of plug. Loaded hole with mud. Spotted 35' of cement on top of CIBP. POOH w/tubing. Dug out cellar. Cut plate around casing. Stretch casing for free point. Showed to be free at 3100'. WIH w/casing cutter and cut casing at 3029'. Pulled and laid down 5-1/2" casing. RIH w/tubing to 3152'. Spotted 40 sacks of cement across 5-1/2" stub. Pulled 25 stands tubing. WOC. RIH and tagged cement top at 2965'. Pulled and laid down tubing to 2075'. Spotted 90 sacks of cement across 8-5/8" shoot. WOC. RIH w/tubing and tagged cement at 1810'. Cement plug was too low. Re-spotted a 25 sack cement plug. WOC. RIH and tagged plug at 1729'. Pulled and laid down tubing. Spotted a 15 sack surface plug. Installed regulation abandonment marker. PLUGGED AND ABANDONED - FINAL REPORT.

Plugging completed July 31, 1993.

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

SIGNATURE Rusty Klein TITLE Production Clerk DATE Sept. 4, 1993  
TYPE OR PRINT NAME Rusty Klein TELEPHONE NO. 505/748-1471

(This space for State Use)

APPROVED BY [Signature] OIL & GAS INSPECTOR DATE MAR 24 1995  
CONDITIONS OF APPROVAL, IF ANY:

*Handwritten signature/initials*

## Location of Water Well Analysis

T18S, R36E, Lea County, New Mexico

Cunningham Well # 2: located in Center of Section 21

Cunningham Well # 13: located in Center of Section 29

Cunningham Well # 14: located in Center of Section 20



Chemistry Resources  
Amarillo Testing Laboratory  
7201 N Lakeside Rd, Amarillo TX, 79108



Certificate # T104704351-08A-TX

Login Batch 12080482	Login Date 08/30/2012	Project Mgr: Gale Henslee
Collected by RICK WILLIAMS	Logged In by GC	Copies to: Terry Dennis
	Report Date 12/17/2012	Scott Brake

Project Name CUNNINGHAM ANNUAL WATER

Labworks ID EH30411	Sample Location WELL 2	Collection date 8/29/12
Sample ID	Chain of Custody # 220979	Collection time 13:40

Parameter	Results	Units	Qualifier	Detection Limit (MDL)	Reporting Limit (RL)	Analyst	Analysis date / time	Method
Total Hardness	160	ppmCaCO3		1	1	RM	10/9/12 10:34	2340B
Calcium	51	ppm		2	2	RM	10/9/12 10:34	EPA 200.7
Magnesium	8	ppm		2	2	RM	10/9/12 10:34	EPA 200.7
Sodium	32	ppm		2	2	RM	10/9/12 10:34	EPA 200.7
Potassium	<5	PPM		2	2	RM	10/9/12 10:34	EPA 200.7
M Alkalinity	178	ppmCaCO3	J	0	0	GC	9/25/12 11:00	2320B
P Alkalinity	0	ppmCaCO3	J	0	0	GC	9/25/12 11:00	2320B
Chloride	25	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Nitrate	10	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Sulfate	37	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Nitrite	<1	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Phosphate	<1	PPM		1	1	GC	8/30/12 13:50	EPA 200.7
TDS by Evap	315	mg/L		10	10	RM	9/5/12 14:30	2540 C
TDS by Analysis	NA					GC	12/17/12 10:23	
TDS Evp/Anal Ratio	NA					GC	12/17/12 10:23	
pH	7.85		F			RW	8/29/12 11:00	4500-H+B
Temperature	19.7	degrees C	F			RW	8/29/12 11:00	
Silica	36	PPM	Z	1	1	RM	10/10/12 15:50	EPA 200.7
COD	3	MG/L		.5	.5	RM	9/5/12 16:30	Hach 8000
BOD	NR	mg/L		1	1	CC	12/14/12 14:43	5210-B
Cyanide (WAD)	NR	mg/L		0.05	0.05	CC	12/14/12 14:43	4500-CN-I
Oil and Grease	NR	mg/L		5.0	5.0	CC	12/14/12 14:43	EPA 1664
Total Anions	262			80	80	GC	9/25/12 11:00	
Total Cations	233			70	70	RM	10/9/12 10:34	
Cation/Anion Balance	-5.9					RM	10/9/12 10:34	
Chromium	1.0	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Zinc	4.7	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Aluminum	15.2	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Arsenic	6.2	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Barium	97.3	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Boron	0.073	ppm		0.0005	0.0005	CC	10/19/12 09:31	EPA 200.8
Cadmium	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Copper	2.0	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Iron	84.1	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Lead	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Manganese	0.7	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Mercury	<0.2	ppb		0.5	0.5	CC	12/14/12 14:43	EPA 245.1
Nickel	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Selenium	3.0	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Silver	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Strontium	490	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Vanadium	26.7	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8

Sample comments:



Labworks ID EH30415	Sample Location WELL 13	Collection date 8/29/12
Sample ID	Chain of Custody # 220979	Collection time 11:00

Parameter	Results	Units	Qualifier	Detection Limit (MDL)	Reporting Limit (RL)	Analyst	Analysis date / time	Method
Total Hardness	163	ppmCaCO3		1	1	RM	10/9/12 10:53	2340B
Calcium	54	ppm		2	2	RM	10/9/12 10:53	EPA 200.7
Magnesium	7	ppm		2	2	RM	10/9/12 10:53	EPA 200.7
Sodium	26	ppm		2	2	RM	10/9/12 10:53	EPA 200.7
Potassium	<5	PPM		2	2	RM	10/9/12 10:53	EPA 200.7
M Alkalinity	176	ppmCaCO3	J	0	0	GC	9/25/12 11:00	2320B
P Alkalinity	0	ppmCaCO3	J	0	0	GC	9/25/12 11:00	2320B
Chloride	22	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Nitrate	11	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Sulfate	37	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Nitrite	<1	ppm		1	1	GC	8/30/12 13:50	EPA 300.0
Phosphate	<1	PPM		1	1	GC	8/30/12 13:50	EPA 200.7
TDS by Evap	314	mg/L		10	10	RM	9/5/12 14:30	2540 C
TDS by Analysis	NA					GC	12/17/12 10:23	
TDS Evp/Anal Ratio	NA					GC	12/17/12 10:23	
pH	7.72		F			RW	8/29/12 11:00	4500-H+B
Temperature	19.7	degrees C	F			RW	8/29/12 11:00	
Silica	37	PPM	Z	1	1	RM	10/10/12 15:50	EPA 200.7
COD	<3	MG/L		.5	.5	RM	9/5/12 16:30	Hach 8000
BOD	NR	mg/L		1	1	CC	12/14/12 14:43	5210-B
Cyanide (WAD)	NR	mg/L		0.05	0.05	CC	12/14/12 14:43	4500-CN-I
Oil and Grease	NR	mg/L		5.0	5.0	CC	12/14/12 14:43	EPA 1664
Total Anions	257			80	80	GC	9/25/12 11:00	
Total Cations	223			60	60	RM	10/9/12 10:53	
Cation/Anion Balance	-7.1					RM	10/9/12 10:53	
Chromium	1.3	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Zinc	7.8	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Aluminum	2.0	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Arsenic	6.8	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Barium	93.2	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Boron	0.077	ppm		0.0005	0.0005	CC	10/19/12 09:31	EPA 200.8
Cadmium	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Copper	1.4	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Iron	9.0	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Lead	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Manganese	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Mercury	<0.2	ppb		0.5	0.5	CC	12/14/12 14:43	EPA 245.1
Nickel	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Selenium	3.2	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Silver	<0.5	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Strontium	493	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8
Vanadium	28.0	ppb		0.5	0.5	CC	10/19/12 09:31	EPA 200.8

Sample comments:

Login Batch 11090016	Login Date 09/01/2011	Project Mgr: Gale Henslee
Collected by RICK WILLIAMS	Logged In by GC	Copies to: Terry Dennis
	Report Date 01/23/2013	Scott Brake

Project Name CUNNINGHAM ANNUAL WATER

Labworks ID EH04804	Sample Location WELL 14	Collection date 8/31/11
Sample ID	Chain of Custody # 031725	Collection time 13:25

Parameter	Results	Units	Qualifier	Detection Limit (MDL)	Reporting Limit (RL)	Analyst	Analysis date / time	Method
Total Hardness	215	ppmCaCO3		1	1	RM	9/23/11 12:57	2340B
Calcium	70	ppm		2	2	RM	9/23/11 12:57	EPA 200.7
Magnesium	10	ppm		2	2	RM	9/23/11 12:57	EPA 200.7
Sodium	29	ppm		2	2	RM	9/23/11 12:57	EPA 200.7
Potassium	<5	PPM		2	2	RM	9/23/11 12:57	EPA 200.7
M Alkalinity	188	ppmCaCO3		0	0	RM	9/27/11 10:00	2320B
P Alkalinity	0	ppmCaCO3		0	0	RM	9/27/11 10:00	2320B
Chloride	37	ppm		1	1	GC	9/2/11 15:27	EPA 300.0
Nitrate	9	ppm		1	1	GC	9/2/11 15:27	EPA 300.0
Sulfate	41	ppm		1	1	GC	9/2/11 15:27	EPA 300.0
Nitrite	<1	ppm		1	1	GC	9/2/11 15:27	EPA 300.0
Phosphate	<1	PPM		1	1	GC	9/2/11 15:27	EPA 200.7
TDS by Evap	345	mg/L				RM	9/7/11 16:00	2540 C
TDS by Analysis	NA			.01	.01	GC	10/26/11 09:40	
TDS Evp/Anal Ratio	NA			0.01	0.01	GC	10/26/11 09:40	
pH	7.12					RW	8/31/11 08:00	4500-H+B
Temperature	20.7	degrees C				RW	8/31/11 08:00	
Silica	48	PPM		1	1	RM	9/20/11 13:00	EPA 200.7
COD	4	MG/L		.5	.5	RM	9/7/11 16:30	Hach 8000
BOD	NR	mg/L		1	1	CC	10/17/11 10:10	5210-B
Cyanide (WAD)	NR	mg/L		0.05	0.05	CC	10/17/11 10:10	4500-CN-I
Oil and Grease	NR	mg/L		5.0	5.0	CC	10/17/11 10:10	EPA 1664
Total Anions	292			100	100	RM	9/27/11 10:00	
Total Cations	282			70	70	RM	9/23/11 12:57	
Cation/Anion Balance	-1.7					RM	9/23/11 12:57	
Chromium	3.5	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Zinc	6.0	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Aluminum	1303	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Arsenic	6.5	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Barium	101	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Boron	<0.5	ppm		0.0005	0.0005	CC	10/17/11 10:10	EPA 200.8
Cadmium	<0.5	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Copper	16.1	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Iron	726	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Lead	2.2	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Manganese	29.6	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Mercury	<0.5	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 245.1
Nickel	1.1	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Selenium	2.5	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Silver	<0.5	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Strontium	574	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8
Vanadium	31.6	ppb		0.5	0.5	CC	10/17/11 10:10	EPA 200.8

Sample comments:



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

closed) (quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Subbasin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<u>L 03757</u>	L	LE		1	1	28	18S	36E		653128	3621865*	125	45	80
<u>L 06641</u>	L	LE		4	2	1 30	18S	36E		650410	3621720*	110	42	68
<u>L 12367 POD1</u>	L	LE		1	2	4 28	18S	36E		654244	3621167	92	75	17

Average Depth to Water: **54 feet**

Minimum Depth: **42 feet**

Maximum Depth: **75 feet**

**Record Count: 3**

**PLSS Search:**

Section(s): 28-30

Township: 18S

Range: 36E

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



# 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	Subbasin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<u>L 01250</u>	L		LE	3	3	2	21	18S	36E	653812	3622986*	123	40	83
<u>L 07469</u>	L		LE	2	1	3	21	18S	36E	653213	3622770*	160	70	90

Average Depth to Water: **55 feet**

Minimum Depth: **40 feet**

Maximum Depth: **70 feet**

**Record Count: 2**

### PLSS Search:

Section(s): 19-21

Township: 18S

Range: 36E

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

December 19, 2012

KYLE PAXTON

SUNDOWN ENERGY

P. O. BOX 277

WICKETT, TX 79788

RE: WEST ARKANSAS JUNCTION WATERFLOOD UNIT

Enclosed are the results of analyses for samples received by the laboratory on 11/30/12 11:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, reading "Coley D. Keene".

Celey D. Keene

Lab Director/Quality Manager

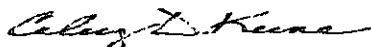
**Analytical Results For:**SUNDOWN ENERGY  
P. O. BOX 277  
WICKETT TX, 79788Project: WEST ARKANSAS JUNCTION WATE  
Project Number: NOT GIVEN  
Project Manager: KYLE PAXTON  
Fax To: NOT GIVENReported:  
19-Dec-12 16:33

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
STATE OF NM #1	H202885-03	Water	28-Nov-12 00:00	30-Nov-12 11:46
STATE OF NM #2	H202885-04	Water	28-Nov-12 00:00	30-Nov-12 11:46
COMP OF TORO 22 #1/BOEH202885-05		Water	30-Nov-12 00:00	30-Nov-12 11:46

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

SUNDOWN ENERGY  
P. O. BOX 277  
WICKETT TX, 79788

Project: WEST ARKANSAS JUNCTION WATE  
Project Number: NOT GIVEN  
Project Manager: KYLE PAXTON  
Fax To: NOT GIVEN

Reported:  
19-Dec-12 16:33

### STATE OF NM #1 H202885-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Inorganic Compounds

Alkalinity, Bicarbonate	342	5.00	mg/L	1	2110104	HM	13-Dec-12	310.1	
Alkalinity, Carbonate	ND	0.00	mg/L	1	2110104	HM	13-Dec-12	310.1	
Chloride*	122000	4.00	mg/L	1	2113003	AP	04-Dec-12	4500-Cl-B	
Conductivity*	352000	1.00	uS/cm	1	2121806	HM	18-Dec-12	120.1	
pH*	6.89	0.100	pH Units	1	2121811	HM	11-Dec-12	150.1	
Sulfate*	451	10.0	mg/L	1	2120406	AP	05-Dec-12	375.4	
TDS*	205000	5.00	mg/L	1	2113012	AP	03-Dec-12	160.1	
Alkalinity, Total*	280	4.00	mg/L	1	2110104	HM	13-Dec-12	310.1	

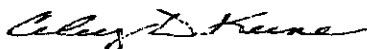
#### Dissolved Metals

Calcium	9180	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Magnesium	1900	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Potassium	1230	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Sodium	59200	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 SUNDOWN ENERGY  
 P. O. BOX 277  
 WICKETT TX, 79788

 Project: WEST ARKANSAS JUNCTION WATE  
 Project Number: NOT GIVEN  
 Project Manager: KYLE PAXTON  
 Fax To: NOT GIVEN

 Reported:  
 19-Dec-12 16:33

**STATE OF NM #2**  
**H202885-04 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Inorganic Compounds**

Alkalinity, Bicarbonate	97.6	5.00	mg/L	1	2110104	HM	13-Dec-12	310.1	
Alkalinity, Carbonate	ND	0.00	mg/L	1	2110104	HM	13-Dec-12	310.1	
Chloride*	144000	4.00	mg/L	1	2113003	AP	04-Dec-12	4500-Cl-B	
Conductivity*	414000	1.00	uS/cm	1	2121806	HM	18-Dec-12	120.1	
pH*	4.72	0.100	pH Units	1	2121811	HM	11-Dec-12	150.1	
Sulfate*	ND	10.0	mg/L	1	2120406	AP	05-Dec-12	375.4	
TDS*	234000	5.00	mg/L	1	2113012	AP	03-Dec-12	160.1	
Alkalinity, Total*	80.0	4.00	mg/L	1	2110104	HM	13-Dec-12	310.1	

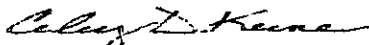
**Dissolved Metals**

Calcium	10400	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Magnesium	2390	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Potassium	1480	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Sodium	68700	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL

Cardinal Laboratories

\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 SUNDOWN ENERGY  
 P. O. BOX 277  
 WICKETT TX, 79788

 Project: WEST ARKANSAS JUNCTION WATE  
 Project Number: NOT GIVEN  
 Project Manager: KYLE PAXTON  
 Fax To: NOT GIVEN

 Reported:  
 19-Dec-12 16:33

**COMP OF TORO 22 #1/BOBBI #5**
**H202885-05 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Inorganic Compounds**

Alkalinity, Bicarbonate	244	5.00	mg/L	1	2110104	HM	13-Dec-12	310.1	
Alkalinity, Carbonate	ND	0.00	mg/L	1	2110104	HM	13-Dec-12	310.1	
Chloride*	146000	4.00	mg/L	1	2120402	HM	17-Dec-12	4500-Cl-B	
Conductivity*	486000	1.00	uS/cm	1	2121806	HM	18-Dec-12	120.1	
pH*	6.74	0.100	pH Units	1	2121810	HM	11-Dec-12	150.1	
Resistivity	0.0206		Ohms/m	1	2121908	HM	18-Dec-12	120.1	
Specific Gravity @ 60° F	1.189	0.000	[blank]	4	2121909	HM	19-Dec-12	SM 2710F	
Sulfate*	239	10.0	mg/L	1	2120406	AP	05-Dec-12	375.4	
TDS*	243000	5.00	mg/L	1	2113012	AP	05-Dec-12	160.1	
Alkalinity, Total*	200	4.00	mg/L	1	2110104	HM	13-Dec-12	310.1	

**Dissolved Metals**

Barium	ND	1.00	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Calcium	15800	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Iron	ND	5.00	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Magnesium	3400	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Potassium	1320	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL
Sodium	59600	100	mg/L	100	2121907	CK	13-Dec-12	200.7	GAL

Cardinal Laboratories

\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

### Analytical Results For:

SUNDOWN ENERGY  
P. O. BOX 277  
WICKETT TX, 79788

Project: WEST ARKANSAS JUNCTION WATE  
Project Number: NOT GIVEN  
Project Manager: KYLE PAXTON  
Fax To: NOT GIVEN

Reported:  
19-Dec-12 16:33

### Inorganic Compounds - Quality Control

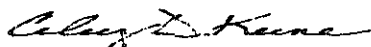
#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2110104 - General Prep - Wet Chem</b>										
<b>Blank (2110104-BLK1)</b>				Prepared & Analyzed: 31-Oct-12						
Alkalinity, Carbonate	ND	0.00	mg/L							
Alkalinity, Bicarbonate	ND	5.00	mg/L							
Alkalinity, Total	ND	4.00	mg/L							
<b>LCS (2110104-BS1)</b>				Prepared & Analyzed: 31-Oct-12						
Alkalinity, Carbonate	ND	0.00	mg/L				80-120			
Alkalinity, Bicarbonate	137	5.00	mg/L				80-120			
Alkalinity, Total	112	4.00	mg/L	100		112	80-120			
<b>LCS Dup (2110104-BSD1)</b>				Prepared & Analyzed: 31-Oct-12						
Alkalinity, Carbonate	ND	0.00	mg/L				80-120		20	
Alkalinity, Bicarbonate	137	5.00	mg/L				80-120	0.00	20	
Alkalinity, Total	112	4.00	mg/L	100		112	80-120	0.00	20	
<b>Batch 2113003 - General Prep - Wet Chem</b>										
<b>Blank (2113003-BLK1)</b>				Prepared & Analyzed: 30-Nov-12						
Chloride	ND	4.00	mg/L							
<b>LCS (2113003-BS1)</b>				Prepared & Analyzed: 30-Nov-12						
Chloride	100	4.00	mg/L	100		100	80-120			
<b>LCS Dup (2113003-BSD1)</b>				Prepared & Analyzed: 30-Nov-12						
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
<b>Batch 2113012 - Filtration</b>										
<b>Blank (2113012-BLK1)</b>				Prepared: 30-Nov-12 Analyzed: 07-Dec-12						
TDS	ND	5.00	mg/L							

Cardinal Laboratories

\*= Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 SUNDOWN ENERGY  
 P. O. BOX 277  
 WICKETT TX, 79788

 Project: WEST ARKANSAS JUNCTION WATE  
 Project Number: NOT GIVEN  
 Project Manager: KYLE PAXTON  
 Fax To: NOT GIVEN

 Reported:  
 19-Dec-12 16:33

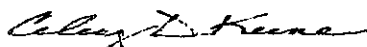
**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2113012 - Filtration</b>										
<b>LCS (2113012-BS1)</b>				Prepared: 30-Nov-12 Analyzed: 07-Dec-12						
TDS	239		mg/L	240		99.6	80-120			
<b>Duplicate (2113012-DUP1)</b>				Source: H202878-01 Prepared: 30-Nov-12 Analyzed: 07-Dec-12						
TDS	2410	5.00	mg/L		2510			4.31	20	
<b>Batch 2120402 - General Prep - Wet Chem</b>										
<b>Blank (2120402-BLK1)</b>				Prepared & Analyzed: 04-Dec-12						
Chloride	ND	4.00	mg/L							
<b>LCS (2120402-BS1)</b>				Prepared & Analyzed: 04-Dec-12						
Chloride	104	4.00	mg/L	100		104	80-120			
<b>LCS Dup (2120402-BSD1)</b>				Prepared & Analyzed: 04-Dec-12						
Chloride	100	4.00	mg/L	100		100	80-120	3.92	20	
<b>Batch 2120406 - General Prep - Wet Chem</b>										
<b>Blank (2120406-BLK1)</b>				Prepared: 04-Dec-12 Analyzed: 05-Dec-12						
Sulfate	ND	10.0	mg/L							
<b>LCS (2120406-BS1)</b>				Prepared: 04-Dec-12 Analyzed: 05-Dec-12						
Sulfate	23.5	10.0	mg/L	20.0		117	80-120			
<b>LCS Dup (2120406-BSD1)</b>				Prepared: 04-Dec-12 Analyzed: 05-Dec-12						
Sulfate	23.2	10.0	mg/L	20.0		116	80-120	1.33	20	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**SUNDOWN ENERGY  
P. O. BOX 277  
WICKETT TX, 79788Project: WEST ARKANSAS JUNCTION WATE  
Project Number: NOT GIVEN  
Project Manager: KYLE PAXTON  
Fax To: NOT GIVENReported:  
19-Dec-12 16:33**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2121806 - General Prep - Wet Chem</b>										
<b>LCS (2121806-BS1)</b>				Prepared & Analyzed: 18-Dec-12						
Conductivity	478		uS/cm	500		95.6	80-120			
<b>Duplicate (2121806-DUP1)</b>				Source: H203018-01		Prepared & Analyzed: 18-Dec-12				
Conductivity	1530	1.00	uS/cm		1530			0.00	20	
<b>Batch 2121810 - NO PREP</b>										
<b>LCS (2121810-BS1)</b>				Prepared & Analyzed: 11-Dec-12						
pH	7.08		pH Units	7.00		101	90-110			
<b>Duplicate (2121810-DUP1)</b>				Source: H202922-01		Prepared & Analyzed: 11-Dec-12				
pH	7.86	0.100	pH Units		7.82			0.510	20	
<b>Batch 2121811 - NO PREP</b>										
<b>LCS (2121811-BS1)</b>				Prepared & Analyzed: 13-Dec-12						
pH	6.99		pH Units	7.00		99.9	90-110			
<b>Duplicate (2121811-DUP1)</b>				Source: H202885-03		Prepared & Analyzed: 13-Dec-12				
pH	7.12	0.100	pH Units		6.89			3.28	20	
<b>Batch 2121909 - General Prep - Wet Chem</b>										
<b>Duplicate (2121909-DUP1)</b>				Source: H202825-03		Prepared & Analyzed: 19-Dec-12				
Specific Gravity @ 60° F	1.014	0.000	[blank]		1.016			0.216	200	

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

SUNDOWN ENERGY  
P. O. BOX 277  
WICKETT TX, 79788

Project: WEST ARKANSAS JUNCTION WATE  
Project Number: NOT GIVEN  
Project Manager: KYLE PAXTON  
Fax To: NOT GIVEN

Reported:  
19-Dec-12 16:33

### Dissolved Metals - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2121907 - Dissolved/Potentially Dissolved Metals

##### Blank (2121907-BLK1)

Prepared: 12-Dec-12 Analyzed: 13-Dec-12

Magnesium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Barium	ND	0.010	mg/L							
Calcium	ND	1.00	mg/L							
Iron	ND	0.050	mg/L							

##### LCS (2121907-BS1)

Prepared: 12-Dec-12 Analyzed: 13-Dec-12

Magnesium	26.3		mg/L	25.0		105	85-115			
Sodium	7.88		mg/L	8.10		97.3	85-115			
Calcium	4.68		mg/L	5.00		93.6	85-115			
Potassium	9.85		mg/L	10.0		98.5	85-115			
Barium	2.36		mg/L	2.50		94.4	85-115			
Iron	4.87		mg/L	5.00		97.4	85-115			

##### LCS Dup (2121907-BSD1)

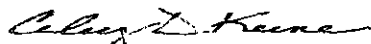
Prepared: 12-Dec-12 Analyzed: 13-Dec-12

Sodium	7.87		mg/L	8.10		97.2	85-115	0.127	20	
Iron	4.91		mg/L	5.00		98.2	85-115	0.818	20	
Calcium	4.71		mg/L	5.00		94.2	85-115	0.639	20	
Potassium	9.69		mg/L	10.0		96.9	85-115	1.64	20	
Magnesium	26.3		mg/L	25.0		105	85-115	0.00	20	
Barium	2.36		mg/L	2.50		94.4	85-115	0.00	20	

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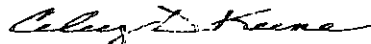
**Notes and Definitions**

GAL	Analysis subcontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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**Celey D. Keene, Lab Director/Quality Manager**



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**101 East Marland, Hobbs, NM 88240**  
**(575) 393-2326 FAX (575) 393-2476**

<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																	
Company Name: <u>Sundown Energy</u> Project Manager: <u>Kyle Pearson</u>				P.O. #:																	
Address: City: <u>Dallas</u> State: <u>TX</u> Zip: _____ Phone #: <u>214-368-6100</u> Fax #: _____				Company: <u>Sundown</u> Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____																	
Project #: _____ Project Owner: _____																					
Project Name: <u>Water Samples</u>																					
Project Location: _____																					
Sampler Name: <u>Jason Able</u>																					
FOR LAB USE ONLY																					
Lab I.D.  <u>1120785-</u>		Sample I.D.		MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: _____		PRESERV. ACID/BASE: ICE / COOL OTHER: _____		SAMPLING DATE TIME		<u>Catalina Haden</u>											
01 <u>Box 2241</u>								<u>11/20/11</u>													
02 <u>Gulfco Bldg #5</u>								<u>11/20/11</u>													
03 <u>State of NM #1</u>																					
04 <u>State of NM #2</u>																					
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 the client for the 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 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.																					
Relinquished By: <u>[Signature]</u> Date: <u>11/20/11</u> Time: _____				Received By: <u>[Signature]</u> Date: _____ Time: _____				Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No REMARKS: <u>515-766-5254</u>				Add'l Phone #: _____ Add'l Fax #: _____									
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____				Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				CHECKED BY: (Initials) <u>cdh</u>				<u>kpearson@sundownenergy.com</u>									

**CARDINAL LABORATORIES**  
**SCALE INDEX WATER ANALYSIS REPORT**

Company :	SUNDOWN ENERGY	Date Sampled :	11/30/12
Lease Name :	WEST ARKANSAS JCT. WATERFLOOD U.	Company Rep. :	KYLE PAXTON
Well Number :	COMPOSITE OF TORO 22 # 1 & BOBBI #5		
Location :	NOT GIVEN		

**ANALYSIS**

- |   |        |                                    |
|---|--------|------------------------------------|
| 1. pH   | 6.74   |                                    |
| 2. Specific Gravity @ 60/60 F.                | 1.1890 |                                    |
| 3. CaCO <sub>3</sub> Saturation Index @ 80 F. | +2.159 | 'Calcium Carbonate Scale Possible' |
| @ 140 F.                                      | +3.799 | 'Calcium Carbonate Scale Possible' |

**Dissolved Gasses**

- |                     |                |     |
|---------------------|----------------|-----|
| 4. Hydrogen Sulfide | ND             | PPM |
| 5. Carbon Dioxide   | ND             | PPM |
| 6. Dissolved Oxygen | Not Determined |     |

**Cations**

- |                     | mg/L      | / | Eq. Wt. | = | MEQ/L    |
|---------------------|-----------|---|---------|---|----------|
| 7. Calcium (Ca++)   | 15,800.00 | / | 20.1    | = | 786.07   |
| 8. Magnesium (Mg++) | 3,400.00  | / | 12.2    | = | 278.69   |
| 9. Sodium (Na+)     | 59,600    | / | 23.0    | = | 3,056.81 |
| 10. Barium (Ba++)   | 0.000     | / | 68.7    | = | 0.00     |

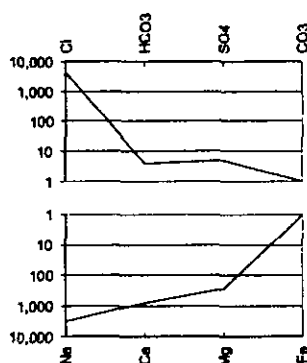
**Anions**

- |                                      |         |   |      |   |          |
|--------------------------------------|---------|---|------|---|----------|
| 11. Hydroxyl (OH-)                   | 0       | / | 17.0 | = | 0.00     |
| 12. Carbonate (CO <sub>3</sub> =)    | 0       | / | 30.0 | = | 0.00     |
| 13. Bicarbonate (HCO <sub>3</sub> -) | 244     | / | 61.1 | = | 3.99     |
| 14. Sulfate (SO <sub>4</sub> =)      | 239     | / | 48.8 | = | 4.90     |
| 15. Chloride (Cl-)                   | 146,000 | / | 35.5 | = | 4,112.68 |

**Other**

- |   |          |            |      |             |      |
|---|----------|------------|------|-------------|------|
| 16. Soluble Iron (Fe)                   | 0.000    | /          | 18.2 | =           | 0.00 |
| 17. Total Dissolved Solids              | 243,000  |            |      |             |      |
| 18. Total Hardness As CaCO <sub>3</sub> | 53,454.0 |            |      |             |      |
| 19. Calcium Sulfate Solubility @ 90 F.  | 919      |            |      |             |      |
| 20. Resistivity (Measured)              | 0.021    | Ohm/Meters | @ 77 | Degrees (F) |      |

**Logarithmic Water Pattern**



**PROBABLE MINERAL COMPOSITION**

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.04	X	3.99	=	324
CaSO <sub>4</sub>	68.07	X	4.90	=	333
CaCl <sub>2</sub>	55.50	X	777.18	=	43,133
Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.17	X	0.00	=	0
MgSO <sub>4</sub>	60.19	X	0.00	=	0
MgCl <sub>2</sub>	47.62	X	278.69	=	13,271
NaHCO <sub>3</sub>	84.00	X	0.00	=	0
NaSO <sub>4</sub>	71.03	X	0.00	=	0
NaCl	58.46	X	3,056.81	=	178,701



Form C-108  
Affirmative Statement  
Sundown Energy, LP  
Bobbi No. 4 & State of New Mexico W No. 2  
Sections 20 & 28, T-18 South, R-36 East, NMPM,  
Lea County, New Mexico

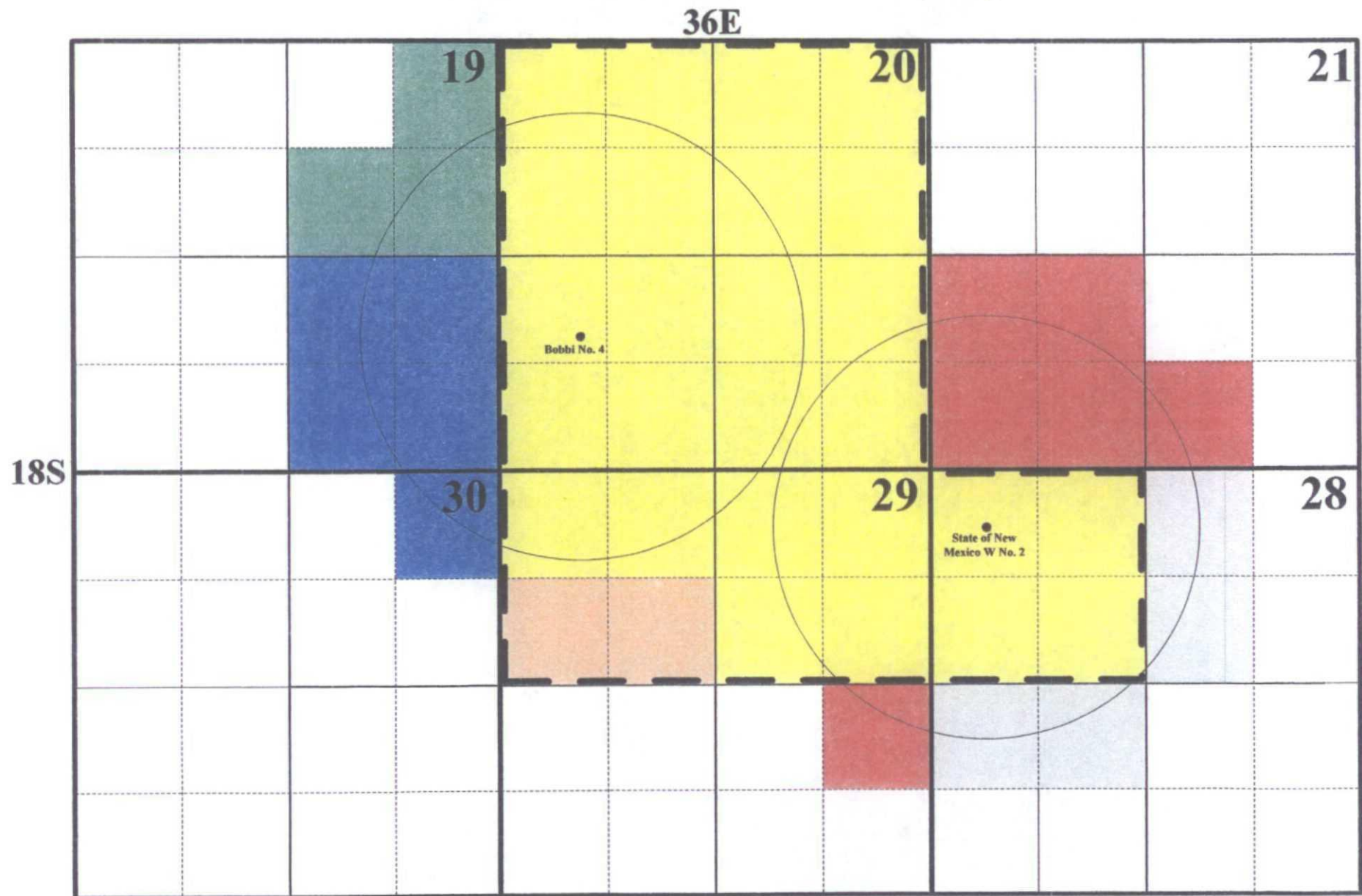
Available geologic and engineering data has been examined and no evidence of open faults or hydrological connection between the injection zone and any underground sources of drinking water has been found.



Ross Pearson  
Area Production Manager  
Sundown Energy, LP

4/2/2013  
Date

**Sundown Energy, LP  
Bobbi State Unit Waterflood Project  
Offset Leasehold Identification Map**



— — — Proposed Bobbi State Unit Waterflood Area

**Sundown Energy, LP  
Form C-108: Bobbi No. 4 & State of New Mexico W No. 2  
Sections 20 & 28, T-18 South, R-36 East, NMPM  
Lea County, New Mexico**

**Offset Operator/Leasehold Owner Identification & Notification List**

**Section 19:**

**E/2 NE/4 & SW/4 NE/4:**

Lessee: Crown Energy Partners IV, LP  
Attn: Brian Arnold  
P.O. Box 50820  
Midland, Texas 79701

**SE/4:**

Record Title Holder: Chevron USA, Inc.  
Attn: Notices-Lea County, NM  
P.O. Box 2100  
Houston, Texas 77252

**Section 20:**

**W/2:**

Record Title Holder: EOG Resources  
P.O. Box 4362  
Houston, Texas 77210-4362

Operator/Lessee: Sundown Energy, LP  
\*Fortune Natural Resources Corp.

**SE/4 & SW/4 NE/4:**

Lessee: Fortune Natural Resources Corp.

**Section 21:**

**SW/4 & SW/4 SE/4:**

Lessee: Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, New Mexico 88210

**Section 28:**

**W/2 NE/4 & N/2 SW/4:**

Lessee: Crown Energy Partners IV, LP

**NW/4:**

Operator/:Lessee: Sundown Energy, LP  
Fortune Natural Resources Corp.

**Sundown Energy, LP**  
**Form C-108: Bobbi No. 4 & State of New Mexico W No. 2**  
**Sections 20 & 28, T-18 South, R-36 East, NMPM**  
**Lea County, New Mexico**

**Offset Operator/Leasehold Owner Identification & Notification List (Cont.)**

**Section 29:**

**NE/4 & N/2 NW/4:**

Operator/Lessee: Sundown Energy, LP

**S/2 NW/4:**

Record Title Holder: Crescent Porter Hale Foundation  
655 Redwood Highway, #301  
Mill Valley, CA 94141

**NE/4 SE/4:**

Lessee: Yates Petroleum Corporation

**Section 30:**

**NE/4 NE/4:**

Lessee: Chevron USA, Inc.

**Surface Owner: Bobbi No. 4 & State of New Mexico W No. 2**

Commissioner of Public Lands  
P.O. Box 1148  
Santa Fe, New Mexico 87504-1148

**Additional Notice**

Oil Conservation Division  
1625 N. French Drive  
Hobbs, New Mexico 88240

\* Fortune Natural Resources Corporation & Sundown Energy, LP are the same entity.