

DATE IN 3/1/12 SUSPENSE ENGINEER WVJ LOGGED IN 3.1.12 TYPE SWD APP NO. 1206140384

5/31/12 Case From

# NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



BOPCO

BEU 29 Federal

SWD #1

## ADMINISTRATIVE APPLICATION CHECKLIST

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

### Application Acronyms:

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

### [1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
- ☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

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

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

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

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

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

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

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

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

Sandra J. Belt  
Print or Type Name

Sandra J. Belt  
Signature

Sr. Reg. Clerk  
Title

2-29-12  
Date

sjbelt@basspet.com  
e-mail Address

Completed 3/15/12  
of Santa Reginald (BAPIC)

2  
not yet drilled  
14035'-14800  
0807 PSE

**BOPCO, L. P.**  
6 DESTA DRIVE, SUITE 3700 (79705)  
P. O. BOX 2760  
MIDLAND, TEXAS 79702

(432) 683-2277

FAX (432) 687-0329

February 29, 2012

**Re: Notice of Application for Authorization  
to Dispose  
BEU 29 Federal SWD #1  
Eddy County, New Mexico  
File: 100-WF: BEU29FedSWD1.C108**

Oil Conservation Division  
Attention: William Jones  
1220 S. St. Francis  
Santa Fe, New Mexico 87505

Mr. Jones:

Enclosed please find BOPCO, L.P.'s Application for Authorization for Disposal for disposal purposes only into the BEU 29 Federal SWD #1, Located in Section 29, T21S, R29E, Eddy County, New Mexico. This will be a new drill and the API number has not been assigned yet. Once an API number has been assigned you will be notified.

The subject well is on Federal land and a complete copy of the application has been sent to the BLM's Carlsbad office and the OCD district office in Artesia via certified mail. I will provide copies of the signed receipt cards when they are returned.

If additional information is required, please contact Sandra J. Belt at the letterhead address, phone number or via email at [sjbelt@basspet.com](mailto:sjbelt@basspet.com).

Sincerely,



Sandra J. Belt  
Sr. Regulatory Clerk

sjb  
Attachments

CC: BLM, Carlsbad, NM  
OCD, Artesia

RECEIVED  
2012 MAR - 1

BEU 29 Federal SWD #1

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? Yes No
- II. OPERATOR: BOPCO, L.P.  
ADDRESS: P O Box 2760 Midland Tx 79702  
CONTACT PARTY: Sandra J. Belt ext. 7379 PHONE: (432)683-2277
- 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 X 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: Sandra J. Belt ext. 7379 TITLE: Sr. Regulatory Clerk  
SIGNATURE: Sandra J. Belt DATE: 02/29/2012  
E-MAIL ADDRESS: sjbelt@basspet.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

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

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

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

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

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

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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

---

**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.

### III. Well Data

A. 1) Lease name: **BEU 29 Federal SWD**  
Well #: **1** API # **N.A.**  
Section: **29**  
Township: **21S**  
Range: **29E**  
Footage: **980' FSL 450' FWL**

2) Casing Info:

Casing size	Set depth	Sacks cmt	Hole size	TOC	Method
30" 157.68# X52 PE	80	N/A	36"	NA	NA
20" 94# J-55 BTC	480	1,005	26"	Surface	Circulate
13-3/8" 68# HCK55 BTC	2,945	2,455	17-1/2"	Surface	Circulate
9-5/8" 53.5 L-80 LTC	10,500	1,705	12-1/4"	Surface	Circulate
7-5/8" 39# P-110Ultra FJ	10,200-14,050	1,000	8-1/2"	TOL	TOL

(Conductor)

3) Tubing to be used (size, lining material, setting depth):  
**4-1/2" 12.75# L-80 IPC @ 14,000'**

4) Name, model, and depth of packer to be used:  
**FA Permanent or Hornet Packer @14,000', 50' above the open-hole permitted interval.**

B. 1) Name of the injection formation and, if applicable, the field or pool name:  
**Wildcat; Devonian**

2) The injection interval and whether it is perforated or open hole:  
**Open Hole 14,035 - 14,800'**

3) State if the well was drilled for injection or, if not, the original purpose of the well:  
**Drill & complete Wildcat (Devonian) disposal well.**

4) Give the depths of any other perforated intervals and detail on the sacks of cement or BPs used to seal off such perforations:  
**N/A**

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:  
**Higher: Morrow** **Lower: None**

# **C-108 DATA**

- 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 wells type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

Well Name	No.	API	Operator	Type	Location	Surface Casing	Construction Intermediate Casing	Production Casing	Tubing	Spud Date	Comp Date	TD	Perforations	Stimulation
					C:32;21S;29E;660FNL	13-3/8" @ 401'	8-5/8" @ 3019'							
Big Eddy Unit	42	30-015-21455	Bass, Perry R	Dry	1980 FWL	w/115 sks.; Circ.	w/1150 sks.; Circ.	None		1/23/1974	3/21/1975	13,075	None	None

- VII. Attach data on the proposed operation, including:
- Proposed average and maximum daily rate and volume of fluids to be injected: **20,000 average, 30,000 maximum BWPD**
  - Whether the system is open or closed: **closed**
  - Proposed average and maximum injection pressure: **2,500 psi average, 2,807 psi maximum**
  - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water: **Water will be produced from the (Devonian) reservoir.**
  - If injection is for disposal purposes into a zone not productive of oil & gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water: **NA**

- 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 TDS 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:

**Lithologic Detail:** Carbonate  
**Geological Name:** Devonian  
**Thickness:** 765'  
**Depth:** 14,035' - 14,800'

**The Rustler Formation is a known source of fresh water throughout this geographic area. Average depth of Rustler is 226' - 494'. No sources of fresh water are known to exist below the proposed disposal zone.**

- IX. Describe the proposed stimulation program, if any:  
**Acid stimulate with approximately 38,250 gallons of 15% NEFE HCL acid.**
- X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)  
**Logs will be submitted when well is drilled with completion papers.**
- 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.

**No water wells within 1 mile of well.**

- 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 hydrology connection between the disposal zone and any underground sources of drinking water.  
**Applicant hereby affirms that he has examined the available geologic and engineering data and finds no evidence of open faults, or other hydrologic connection between the disposal zone and any underground source of drinking water.**

# EIGHT POINT DRILLING PROGRAM BOPCO, L.P.

**NAME OF WELL:** Big Eddy Unit 29 Federal SWD #1

**LEGAL DESCRIPTION - SURFACE:** ~~210' FSL, 2505' FEL~~, Section 29, T21S, R29E, Eddy County, NM.

## POINT 1: ESTIMATED FORMATION TOPS

(See No. 2 Below)

## POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3355' (estimated)

GL 3329'

<u>FORMATION/MARKER</u>	<u>ESTIMATED TOPS</u>		<u>BEARING</u>
	<u>FROM KB (FT)</u>	<u>EST SUBSEA TOP (FT)</u>	
T/Fresh Water	226	+3,129	Fresh Water
T/Salt	495	+2,860	Barren
B/Salt	2,835	+520	Barren
T/Delaware Mtn Group	2,945	+410	Oil/Gas
T/First Delaware Sand	3,070	+285	Oil/Gas
T/Bone Spring Lime	6,695	-3,340	Oil/Gas
T/Wolfcamp	10,010	-6,655	Oil/Gas
T/Strawn	11,255	-7,900	Oil/Gas
T/Atoka	11,495	-8,140	Oil/Gas
T/Morrow	12,170	-8,815	Oil/Gas
T/Mid Morrow	12,430	-9,075	Oil/Gas
T/Lwr Morrow	12,745	-9,390	Oil/Gas
T/Devonian	14,035	-10,680	Brine Water
PTD	14,800	-11,445	

## POINT 3: CASING PROGRAM

<u>TYPE</u>	<u>INTERVALS (MD)</u>	<u>HOLE SIZE</u>	<u>PURPOSE</u>	<u>CONDITION</u>
30", 157.68#, X52, PE	0'-80'	36"	Conductor	Unspecified
20", 94#, J-55, BTC	0'-480'	26"	Surface	New
13-3/8", 68#, HCK55, BTC	0'-2,945'	17-1/2"	Intermediate	New
9-5/8", 53.50#, L-80, LTC	0'-10,500'	12-1/4"	Prot/Production	New
7-5/8", 39#, P-110, Ultra FJ	10,200'-14,050'	8-1/2"	Production Liner	New
Open hole	14,050'-14,800'	6-1/2"	NA	NA

## CASING DESIGN SAFETY FACTORS:

<u>TYPE</u>	<u>TENSION</u>	<u>COLLAPSE</u>	<u>BURST</u>
30", 157.68#, X52, PE	238.8	3.30	19.0
20", 94#, J-55, BTC	473.86	2.55	5.28
13-3/8", 68#, HCK55, BTC	8.68	1.73	1.08
9-5/8", 53.50#, L-80, LT&C	2.10	1.16	1.32
7-5/8", 39#, P-110, Ultra FJ	5.82	1.14	1.46
4-1/2", 12.75#, L80, RTS-8			

Big Eddy Unit #29 Federal #1 SWD  
 980' FSL & 450' FWL  
 Sec. 29 T21S R29E  
 Eddy County, New Mexico

**Conductor Casing (0'-80')**

30" 157.68# X52 PE  
 36" Hole

**Surface Casing (0'-480')**

20" 94# J55 BTC  
 26" Hole  
 Cement: 0'-480'

**Intermediate Casing (0'-2,945')**

13-3/8" 68# HCK55 BTC  
 17-1/2" Hole  
 Cement: 0'-2,945'

**Prot/Production Casing (0'-10,500')**

9-5/8" 53.5# L80 LTC  
 12-1/4" Hole  
 Cement #1: 6,000-10,500'  
 DV Tool @ 6,000'  
 Cement #2: 2500'-6000'

**Production Liner (10,200'-14,050')**

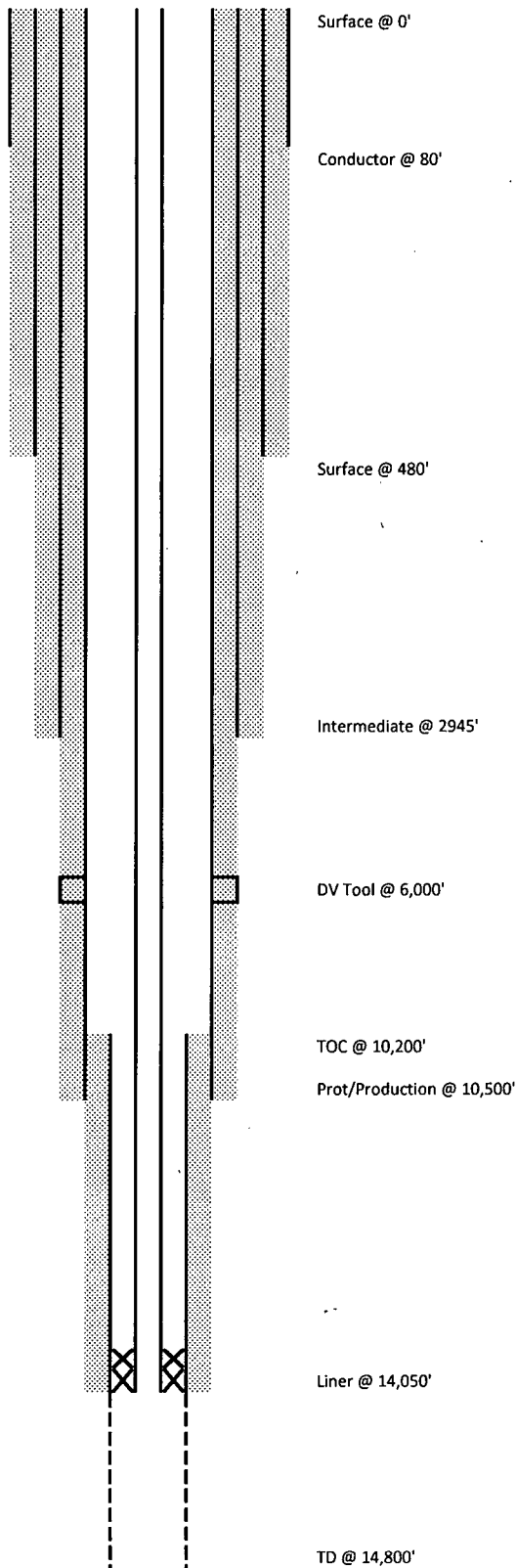
7-5/8" 39# P-110 Ultra FJ  
 8-1/2" Hole  
 Cement: 10,200'-14,050'

**Open Hole (14,050'-14,800')**

6-1/2" Hole

**Tubing (0'-14,050')**

4-1/2" 12.75# L80 RTS-8  
 Packer @ 14,050'





**Belt, Sandra J.**

---

**From:** McBroom, John  
**Sent:** Wednesday, February 08, 2012 10:04 AM  
**To:** Belt, Sandra J.  
**Subject:** RE: Hackberry 34 SWD  
**Attachments:** BEU 29 Fed #1 SWD WI Owners Plat.pdf

Sandra,

Attached you will find a plat of the BEU #29 Federal #1 SWD. According to our records, it appears Bass owns a 100% working interest within the ½ mile radius and the surface location is located on Federal lands. Please let me know if you need any further information. Hope you have a great rest of the day!

Thanks,

John P. McBroom  
BOPCO, L.P.  
A Bass Legacy Company  
201 Main St., Suite 2900  
Fort Worth, Texas 76102  
(817) 339-7185 Office  
(817) 339-7102 Fax  
[jmcroom@basspet.com](mailto:jmcroom@basspet.com)

---

**From:** Belt, Sandra J.  
**Sent:** Wednesday, February 08, 2012 7:59 AM  
**To:** McBroom, John  
**Cc:** Cruz, Carlos  
**Subject:** FW: Hackberry 34 SWD

Good morning John – just checking on the status of the BEU 29. Have a nice day.

---

**From:** McBroom, John  
**Sent:** Friday, January 27, 2012 8:53 AM  
**To:** Belt, Sandra J.  
**Subject:** RE: Hackberry 34 SWD

Sandra,

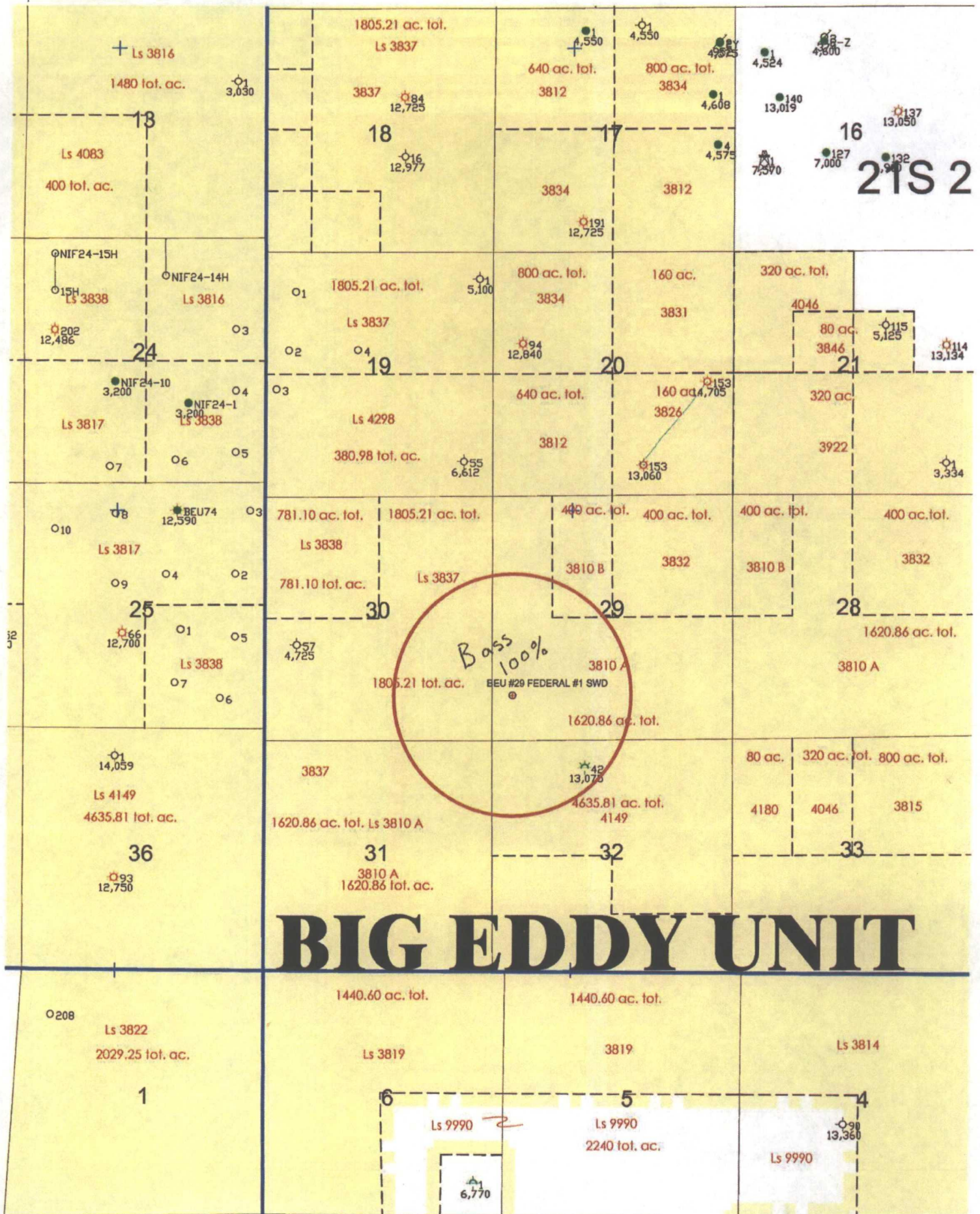
Sorry I am just now getting back to you. Our records indicate the BLM owns the surface for both the Hackberry 34 SWD and BEU 29 SWD. The WI ownership within the ½ mile radius of BEU 29 is still under review. I will send you another plat ASAP once it is available. Thanks!

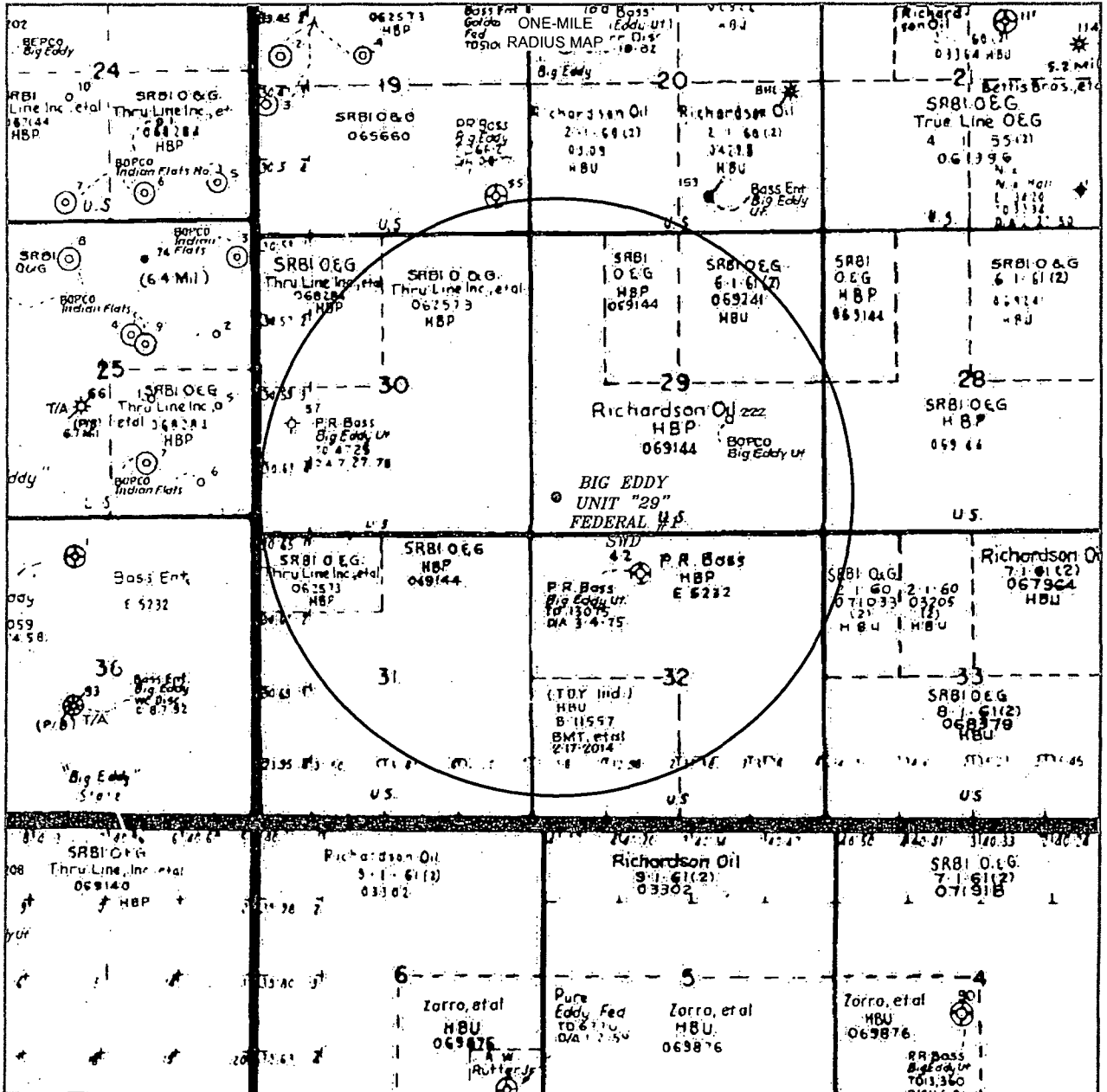
John P. McBroom  
BOPCO, L.P.  
A Bass Legacy Company  
201 Main St., Suite 2900  
Fort Worth, Texas 76102  
(817) 339-7185 Office  
(817) 339-7102 Fax  
[jmcroom@basspet.com](mailto:jmcroom@basspet.com)

---

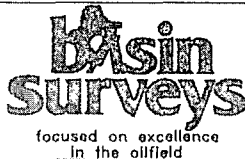
**From:** Belt, Sandra J.  
**Sent:** Wednesday, January 25, 2012 2:26 PM  
**To:** McBroom, John  
**Subject:** RE: Hackberry 34 SWD

Good afternoon John - could u please let me know who the surface owner(s) are for these two wells we are drilling for disposal wells. You have already given me the WI owners. Thanks John





BIG EDDY UNIT "29" FEDERAL #1 SWD  
Located 980' FSL and 450' FWL  
Section 29, Township 21 South, Range 29 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 25470

Scale: None

YELLOW TINT - USA LAND  
BLUE TINT - STATE LAND  
NATURAL COLOR - FEE LAND

BOPCO, L.P.

Sheet 5 of 6 Sheets

[illegible]

## DRY & ABANDONED

CONTR McVay OPR'S ELEV 3314' GL, 3331' KB<sup>PD</sup> 13,500' RT

F.R. 1-13-75  
(Morrow)

1-27-75 Drlg 2447' anhy & salt  
Lost Circ @ 190'

2-3-75 Drlg 5895' 1m & sd

2-10-75 Drlg 8901' 1m & sh

2-18-75 Drlg 10,472' 1m, sh & sd

2-25-75 Drlg 11,812' 1m & sh

3-4-75 Drlg 12,620' 1m, sh & cht  
SAMPLE: Atoka Lime 11,870' (-8539')

3-10-75 TD 13,075'; Rng Logs

3-17-75 TD 13,075'; PBD 11,900'; Circ  
Sidewall Cored @ 3141', 3144', 3188', 3190'

4-3-4 NM

Document from Midland Oil Scouts.

EDDY  
BASS, PERRY R.

Wildcat  
4<sup>1</sup>/<sub>2</sub> #32 Big Eddy Unit  
Sec 32, T21S, R29E

NM  
Page #2

3-17-75 3197', 3239', 3244', 3418', 3433', 3652',  
(Cont.) 3664', 3671', 3850', 3935', 3994', 4003',  
4016', 4024', 4026', 4028', 4043', 4047',  
4049', 4063', 4074', 4229', 4231', 4236',  
4238'  
DST 12,796-13,075', open 8 hrs 30 mins,  
(2000' WB) G&WTS in 2 mins, Flwd 1111 MCFGPD  
+ 18 $\frac{1}{2}$  BWPH thru 20/64" chk; SFP 1200#, incr  
1257 MCFGPD + 20 BWPH, SFP 1000#, rev out 35  
BW +  $\frac{1}{2}$  B Cond, 1 hr 15 min ISIP 4086#, FP  
3071-2864#, 8 hr FSIP 4064#, HP 6725#  
SP-DST Atoka @ 11,706'; Pkr Failed  
SP-DST 12,788-868', open 3 hrs (1973' WB),

4-3-4 NM

3-17-75 rec WB + 2487' GCM, 1 hr 30 min ISIP 6702#,  
(Cont.) FP 1249-2169#, 5 hr FSIP 6702#  
(Pressure Inconclusive)  
3-25-75 TD 13,075'; D&A (Hold for Tops)  
PB to 10,820'  
DST 11,750-820', open 2 hrs 30 mins, rec  
3250' GCM, 1 hr 30 min ISIP 5859#, FP 78-194#,  
3 hr FSIP 6099#, HP 6092-6099#  
4-14-75 TD 13,075'; Dry & Abandoned  
LOG TOPS: Delaware Sand 3064', Cherry Canyon  
4528', Brushy Canyon 5404', Bone Spring 6688',  
Wolfcamp 10,005', Strawn 11,329', Lusk 11,498',  
Atoka 11,616', Atoka Lime 11,872', Morrow  
12,203'  
4-19-75 COMPLETION ISSUED

4-3-4 NM



# INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1165.

## INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

### Southeastern New Mexico

### Northwestern New Mexico

T. Anhy _____	T. Canyon _____	T. Ojo Alamo _____	T. Penn. "B" _____
T. Salt _____	T. Strawn _____ 11,329	T. Kirtland-Fruitland _____	T. Penn. "C" _____
B. Salt _____	T. Atoka _____ 11,616	T. Pictured Cliffs _____	T. Penn. "D" _____
T. Yates _____	T. Miss _____	T. Cliff House _____	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____	T. Menefee _____	T. Madison _____
T. Queen _____	T. Silurian _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup _____	T. Ignacio Qtzite _____
T. Glorieta _____	T. McKee _____	Perm. Greenhorn _____	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____	T. _____
T. Blinberry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____	T. Granite _____	T. Todillo _____	T. _____
T. Drinkard _____	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo _____	T. Bone Springs _____ 6,608	T. Wingate _____	T. _____
T. Wolfcamp _____	T. Lusk _____ 11,498	T. Chinle _____	T. _____
T. Penn. _____	T. Morrow _____ 12,203	T. Permian _____	T. _____
T. Cisco (Rough C) _____	B. Sand _____ 12,979	T. Penn. "A" _____	T. _____

## FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	600	600	Sand & Shale				
600	3000	2400	Salt & Anhydrite				
3000	3080	80	Lime				
3080	6700	3620	Sand				
6700	7730	1030	Lime				
7730	7990	260	Sand & Shale				
7990	8350	360	Lime				
8350	9270	920	Lime & Sand				
9270	9620	350	Lime				
9620	10100	480	Sand				
10100	11500	1400	Lime & Shale				
11500	11720	220	Lime				
11720	11800	80	Sand & Shale				
11800	12570	770	Lime & Shale				
12570	13020	450	Sand & Shale				
13020	13075	TD 55	Lime				
				Drill stem tests reported separately.			

NO. OF COPIES RECEIVED	
DISTRIBUTION	
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 1-1-55

APR 22 1975

5a. Indicate Type of Lease State <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
5. State Oil & Gas Lease No. E 5232
7. Unit Agreement Name Big Eddy Unit
8. Form of Lease Name Big Eddy Unit
9. Well No. 42
10. Field and Foot, or Without Wildcat
12. County Eddy

**SUNDY 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 - I" (FORM C-101) FOR SUCH PROPOSALS.)

B. L. C. ARTESIA, OFFICE

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER: Dry Hole.
2. Name of Operator Perry R. Bass
3. Address of Operator Box 2760, Midland, Texas 79701
4. Location of Well UNIT LETTER C, 660 FEET FROM THE North LINE AND 1980 FEET FROM THE West LINE, SECTION 32 TOWNSHIP 21S RANGE 29E NMPM.
15. Elevation (Show whether DF, RT, CR, etc.) 3314' GL

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.

4-16-75: Spotted 10 sack plug 20' back to surface - installed marker. Final cleanup not yet made.

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

SIGNED <u>H. R. Murty, Jr.</u>	TITLE <u>Division Production Clerk</u>	DATE <u>April 21, 1975</u>
APPROVED BY <u>[Signature]</u>	TITLE <u>OIL AND GAS INSPECTOR</u>	DATE <u>OCT 22 1975</u>
CONDITIONS OF APPROVAL, IF ANY:		

NO. OF COPIES RECEIVED	
DISTRIBUTION	
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 1-1-65

APR 3 1975

5a. Indicate Type of Lease State <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
5. State Oil & Gas Lease No. E 5232
7. Unit Agreement Name Big Eddy Unit
8. Name of Lease Mine Big Eddy Unit
9. Well No. 42
10. Field and Pool, or Wildcat Wildcat
12. County Eddy

SUNDY NOTICES AND REPORTS ON WELLS

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEPTH OR PLUG BACK TO A DIFFERENT RESERVOIR. USE APPLICATION FOR PERMIT (FORM C-101) FOR SUCH PROPOSALS.

1. OIL <input type="checkbox"/> GAS <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Dry Hole
2. Name of Operator Perry R. Bass
3. Address of Operator Box 2760, Midland, Texas 79701
4. Location of Well UNIT LETTER C 660 FEET FROM THE North LINE AND 1980 FEET FROM THE West LINE, SECTION 32 TOWNSHIP 21S RANGE 29E N.M.P.M.
15. Elevation (Show whether DF, RT, GR, etc.) 3314' GL

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 OPERATIONS <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.

Reached total depth of 13,075' at 10:15 AM, March 8, 1975. Ran logs and cut sidewall cores. Attempted 75 cores: 29 recoveries - 46 misfires.

Ran DST #1 - 12,796' - 13,075' on 3-11-75.  
Ran DST #2 - Packer set at 11,706' on 3-15-75.  
Ran DST #3 - Packers 12,782' to 12,785' on 3-17-75.  
Ran 100 sks Class H cement plug from 13,000' to 12,700'.  
Ran 75 sks Class H cement plug from 12,100' to 11,900'.  
Ran DST #4 - 11,750' - 11,820' on 3-19-75.  
Ran 40 sk Class H cement plug from 11,530' to 11,630'.  
Ran 45 sk Class H cement plug from 10,960' to 11,060'.  
Ran 50 sk Class H cement plug from 9,970' to 10,070'.  
Ran 50 sk plain cement plug from 8,450' to 8,550'.  
Ran 40 sk plain cement plug from 6,638' to 6,738'.  
Ran 40 sk plain cement plug from 2,970' to 3,070'.

Intervals between plugs filled with 10.1#/gal. salt-gel mud and back to surface. Released rig at 8:00 AM, 3-21-75. Will spot surface plug and marker when rig is moved.

Csg. depth hole 13 7/8" - 401 - 525' on 3 7/8" - 3019 - 1150 SX

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

George A. J. Ho Staff Petroleum Engineer DATE April 7, 1975

APPROVED BY: [Signature] OIL AND GAS INSPECTOR DATE OCT 22 1975



NO. OF COPIES RECEIVED	5
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

# NEW MEXICO OIL CONSERVATION COMMISSION

APR 9 1975

Form C-103  
Supersedes Old  
C-102 and C-103  
Effective 1-1-75

O.C.C.

## SUNDRY NOTICES AND REPORTS ON WELLS, ARTESIA, OFFICE

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO REPER, OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER - <b>Dry Hole</b>	7. Unit Agreement Name <b>Big Eddy Unit</b>
2. Name of Operator <b>Perry R. Bass</b>	8. Form or Lease Name <b>Big Eddy</b>
3. Address of Operator <b>Box 2760, Midland, Texas 79701</b>	9. Well No. <b>42</b>
4. Location of Well UNIT LETTER <b>C</b> , <b>660</b> FEET FROM THE <b>North</b> LINE AND <b>1980</b> FEET FROM THE <b>West</b> LINE, SECTION <b>32</b> TOWNSHIP <b>21S</b> RANGE <b>29E</b> 50MPM.	10. Field and Pool, or Wildcat <b>Wildcat</b>
11. Elevation (Show whether DE, RT, GR, etc.) <b>3314' GL</b>	12. County <b>Eddy</b>

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 checked="" type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPERATIONS <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 <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 1102.

Confirming telephone conversation March 20, 1975 - Mr. Raley to Mr. Gressett.

Propose to set plugs as follows:

100 sks Class H from 13,000' - 12,700'.  
75 sks Class H from 12,100' - 11,900'.  
40 sks Class H from 11,530' - 11,630'.  
45 sks Class H from 10,960' - 11,060'.  
50 sks Class H from 9,970' - 10,070'.  
50 sks plain cement 8,450' - 8,550'.  
40 sks plain cement from 6,638' - 6,738'.  
40 sks plain cement from 2,970' - 3,070'.

Intervals between plugs to be filled with 10.1 #/gal salt-gel mud.

Surface plug and marker to be set after rig is moved.

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

SIGNED <u>George A. Lee</u>	TITLE <u>Staff Petroleum Engineer</u>	DATE <u>April 7, 1975</u>
APPROVED BY <u>W. A. Gressett</u>	TITLE <u>SUPERVISOR, DISTRICT II</u>	DATE <u>APR 10 1975</u>
CONDITIONS OF APPROVAL, IF ANY:		

NEW MEXICO OIL CONSERVATION COMMISSION

P. O. DRAWER DD

ARTESIA, NEW MEXICO 88210

RECEIVED DATE 4/10/75

Perry R. Bass OCT 14 1975

Box 2760 O. C. C.  
Midland, Texas ARTESIA, OFFICE

Gentlemen:

Re: Plugging Reports

Form C-103, Report of Plugging, for your Big Eddy Unit  
Lease

#42 C 32-21-29 cannot be approved until a Commission representa-  
tive has made an inspection of the location and found it to be cleared

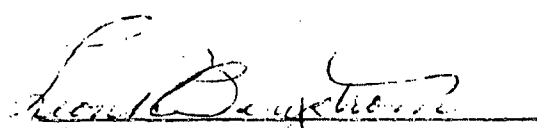
to comply with Commission Rules and Regulations. Please check each item  
in the space provided to indicate that the work has been done.

- (X) 1. All pits have been filled and leveled.
- (X) 2. Rat hole and cellar have been filled and leveled.
- (X) 3. A steel marker 4" in diameter and approximately 4' above mean  
ground level has been set in concrete. It must show the  
quarter-quarter section or unit designation, section, township  
and range numbers which have been permanently stenciled or  
welded on the marker.
- (X) 4. The location has been leveled as nearly as possible to original  
top ground contour and has been cleared of all junk and  
equipment.
- (X) 5. The dead men and tie downs have been cut and removed.
- (X) 6. If a one well lease or last remaining well on lease, the battery  
and burn pit locations have been leveled and cleared of all junk  
and equipment.

The above are minimum requirements and no plugging bond will be cancelled  
until all locations for plugged and abandoned wells have been inspected  
and Form C-103 approved.

When all of the work outlined above has been done, please notify this  
office by filling in the blank form below and returning this letter to  
us so that our representative will not have to make more than one trip  
to the location.

OIL CONSERVATION COMMISSION

  
Oil & Gas Inspector

FILE IN BELOW AND RETURN

I certify that the above work has been done and the Big Eddy Unit  
Lease

42 C 32-21-29 is ready for your inspection and approval.  
Well No. Unit S-T-R

Perry R. Bass  
Operator

H. F. Wurtz, Jr.  
Name and Title  
H. F. Wurtz, Jr. Div. Prod. Clerk  
October 10, 1975

NO. OF COPIES RECEIVED	6
DISTRIBUTION	
SANTA FE	1
FILE	1
U.S.G.S.	1
LAND OFFICE	1
OPERATOR	

Form C-105  
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

RECEIVED

APR 9 1975

O.C.C.  
ARTESIA, OFFICE

5a. Indicate Type of Lease	State <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
----------------------------	--

5. State Oil & Gas Lease No.	E 5232
------------------------------	--------

7. Unit Agreement Name	Big Eddy Unit
------------------------	---------------

8. Name of Lease Name	Big Eddy Unit
-----------------------	---------------

9. Well No.	42
-------------	----

10. Field and Pool, or Wildcat	Wildcat
--------------------------------	---------

1. TYPE OF WELL	OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
2. TYPE OF COMPLETION	NEW WELL <input type="checkbox"/> WORK OVER <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER <input type="checkbox"/>

3. Name of Operator	Perry R. Pass
4. Address of Operator	Box 2760, Midland, Texas 79701

6. Section	West	Line of Sec.	32	Twp.	21S	Rgp.	29E	North	1980
------------	------	--------------	----	------	-----	------	-----	-------	------

14. Date T.D. Reached	1-23-74	15. Date T.D. Reached	3-8-75	17. Name of Log (Reply to Prod.)	Dry Hole	18. Elevation (DF, RKB, RT, GR, etc.)	3314' GL
-----------------------	---------	-----------------------	--------	----------------------------------	----------	---------------------------------------	----------

20. Total Depth	13,075'	21. Plug Back T.D.	---	22. If Multiple Complet., How Many	---	23. Intervals Drilled By	GR to TD	24. Rotary Tools	---	25. Cable Tools	---
-----------------	---------	--------------------	-----	------------------------------------	-----	--------------------------	----------	------------------	-----	-----------------	-----

26. Int. (Interval) of this completion - Top, Bottom, Name	None	27. Was Directional Survey Made	No
--	------	---------------------------------	----

28. Type of Electric and Other Logs Run	Densilog - Neutron, Laterlog & Micro-Laterlog	29. Was Well Cored	Yes (Sidewall)
---	---	--------------------	----------------

CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48# H40 ST&C	401.17	17 1/2"	525 sks - cem. cir.	None
8 5/8"	24# K55 ST&C	3019.33	11"	1150 sks - cem. cir.	None

LINER RECORD				TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET
None					None	

31. Depth interval, bottom (interval, size and number)	None	32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.
		DEPTH INTERVAL
		AMOUNT AND KIND MATERIAL USED

33. PRODUCTION							
Date First Production		Production Method (Blowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)	
None							
Date of Test	Hours Tested	Choke Size	Production For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)	

34. Disposition of Gas (Sold, used for fuel, vented, etc.)	Test Witnessed By

35. List of Attachments	Logs: Densilog - Neutron, Laterlog & Micro-Laterlog.
-------------------------	--

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED *W. B. Murty, Jr.* TITLE Division Production Clerk DATE April 7, 1975



---

*New Mexico Office of the State Engineer*  
**Currently Active Points of Diversion**  
(with Ownership Information)

---

No PODs found.

**POD Search:**

POD Basin: Carlsbad

**PLSS Search:**

Section(s): 19, 20, 30, 29, Township: 21S Range: 29E  
31, 32



---

# *New Mexico Office of the State Engineer*

## **Currently Active Points of Diversion**

(with Ownership Information)

---

No PODs found.

**POD Search:**

POD Basin: Carlsbad

**Basin/County Search:**

Basin: Carlsbad

County: Eddy

**PLSS Search:**

Section(s): 19, 20, 30, 29,    Township: 21S    Range: 29E  
                  31, 32

**Affidavit of Publication**

State of New Mexico,  
County of Eddy, ss.

**Kathy McCarroll**, being first duly sworn,  
on oath says:

That she is the Classified Supervisor of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

March 1 2012

That the cost of publication is **\$60.07** and that payment thereof has been made and will be assessed as court costs.

*Kathy McCarroll*

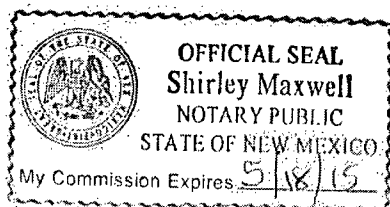
Subscribed and sworn to before me this

9th day of March 2012

*Shirley Maxwell*

My commission Expires on May 18, 2015

Notary Public



March 1, 2012

NOTICE OF APPLICATION  
FOR WATER DISPOSAL  
WELL PERMIT

BOPCO, L.P. has applied to the New Mexico Oil Conservation Division for a permit to dispose of produced water into a porous formation not productive of oil or gas.

The applicant proposes to dispose of produced water into the BEU 29 Federal SWD #1 (Devonian Formation). The maximum injection pressure will be 2,807 psi and the maximum rate will be 30,000 bbls. produced water per day. The proposed disposal well is located approximately 5 1/2 miles South of Halfway, New Mexico in Section 29, T21S, R29E, 980' FSL & 450' FWL, Eddy County, New Mexico. The produced water will be disposed at a subsurface depth of 14,035' - 14,800'.

Any questions concerning this application should be directed to Sandra J. Belt, Sr. Regulatory Clerk, BOPCO, L.P., P.O. Box 2760, Midland, Texas 79702-2760, (432) 683-2277.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days.

RECEIVED

MAR 15 2012

BOPCO WTD PRODUCTION

**Affidavit of Publication**

State of New Mexico,  
County of Eddy, ss.

**Kathy McCarroll**, being first duly sworn,  
on oath says:

That she is the Classified Supervisor of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

March 1 2012

That the cost of publication is **\$60.07** and that payment thereof has been made and will be assessed as court costs.

*Kathy McCarroll*

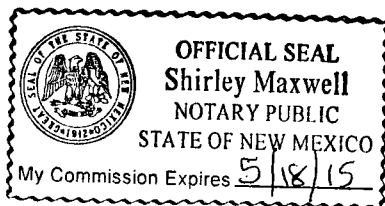
Subscribed and sworn to before me this

9th day of March, 2012

*Shirley Maxwell*

My commission Expires on May 18, 2015

Notary Public



March 1, 2012

NOTICE OF APPLICATION  
FOR WATER DISPOSAL  
WELL PERMIT

BOPCO, L.P. has applied to the New Mexico Oil Conservation Division for a permit to dispose of produced water into a porous formation not productive of oil or gas.

The applicant proposes to dispose of produced water into the BEU 29 Federal SWD #1 (Devonian Formation). The maximum injection pressure will be 2,807 psi and the maximum rate will be 30,000 bbls. produced water per day. The proposed disposal well is located approximately 5-1/2 miles South of Halfway, New Mexico in Section 29, T21S, R29E, 980' FSL & 450' FWL, Eddy County, New Mexico. The produced water will be disposed at a subsurface depth of 14,035' - 14,800'.

Any questions concerning this application should be directed to Sandra J. Belt, Sr. Regulatory Clerk, BOPCO, L.P., P.O. Box 2760, Midland, Texas 79702-2760, (432) 683-2277.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days.

RECEIVED

MAR 15 2012

BOPCO WTD PRODUCTION

*PTGW 1206-140384*

2012 MAR 16 A 10:22

RECEIVED OOD





DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, 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 Department

Form C-102  
Revised July 16, 2010

Submit one copy to appropriate  
District Office

OIL CONSERVATION DIVISION

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 97864	Pool Name Wildcat (Devonian)
Property Code	Property Name BIG EDDY UNIT "29" FEDERAL	Well Number 1 SWD
OGRID No. 260737	Operator Name BOPCO, L.P.	Elevation 3295'

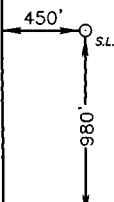
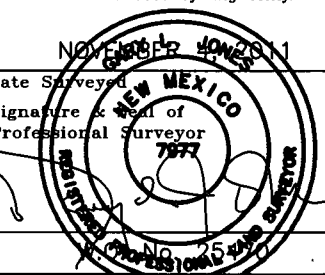
Surface Location

UL or lot No. M	Section 29	Township 21 S	Range 29 E	Lot Idn	Feet from the 980	North/South line SOUTH	Feet from the 450	East/West line WEST	County EDDY
--------------------	---------------	------------------	---------------	---------	----------------------	---------------------------	----------------------	------------------------	----------------

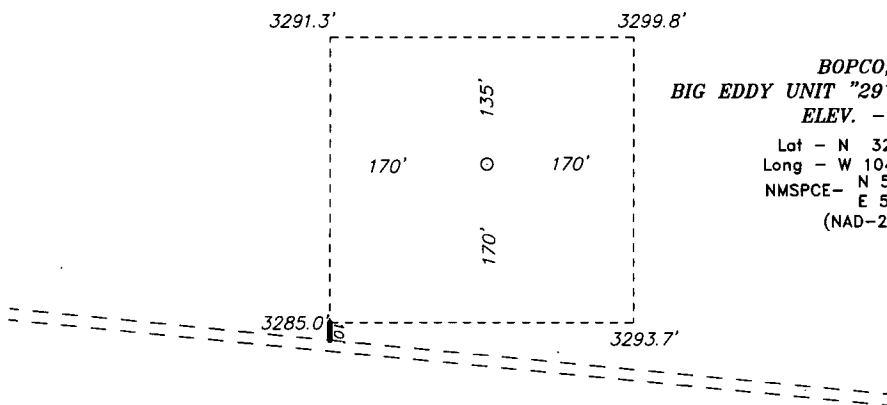
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 0	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

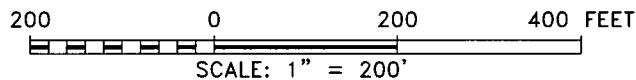
	<p><b>SURFACE LOCATION</b> Lat - N 32°26'44.58" Long - W 104°00'47.92" NMSPCE- N 526013.133 E 598722.856 (NAD-27)</p>	<p><b>OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____ William Dannels Printed Name WRDannels@basspet.com Email Address</p> <p><b>SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>NOV 16 2011 Date Surveyed Signature &amp; Seal of Professional Surveyor  Certificate No. Gary L. Jones 7977 BASIN SURVEYS 25470</p>
--	---	--

SECTION 29, TOWNSHIP 21 SOUTH, RANGE 29 EAST, N.M.P.M.,  
EDDY COUNTY, WELL PAD LAYOUT NEW MEXICO.



**BOPCO, L.P.**  
**BIG EDDY UNIT "29" FEDERAL #1 SWD**  
**ELEV. - 3295'**

Lat - N 32°26'44.58"  
Long - W 104°00'47.92"  
NMSPCE- N 526013.133  
E 598722.856  
(NAD-27)



Directions to Location:

FROM THE JUNCTION OF 62-180 AND STATE 31, GO  
SOUTH ON STATE 31 FOR 6.0 MILES TO LEASE  
ROAD, ON LEASE ROAD GO WESTERLY 5.0 MILES TO  
PROPOSED LOCATION.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 25470 Drawn By: J. SMALL

Date: 11-14-2011 Disk: JMS 25470

**BOPCO, L.P.**

REF: BIG EDDY UNIT "29" FEDERAL #1 SWD / WELL PAD TOPO

THE BIG EDDY UNIT "29" FEDERAL #1 SWD LOCATED 980'  
FROM THE SOUTH LINE AND 450' FROM THE WEST LINE OF

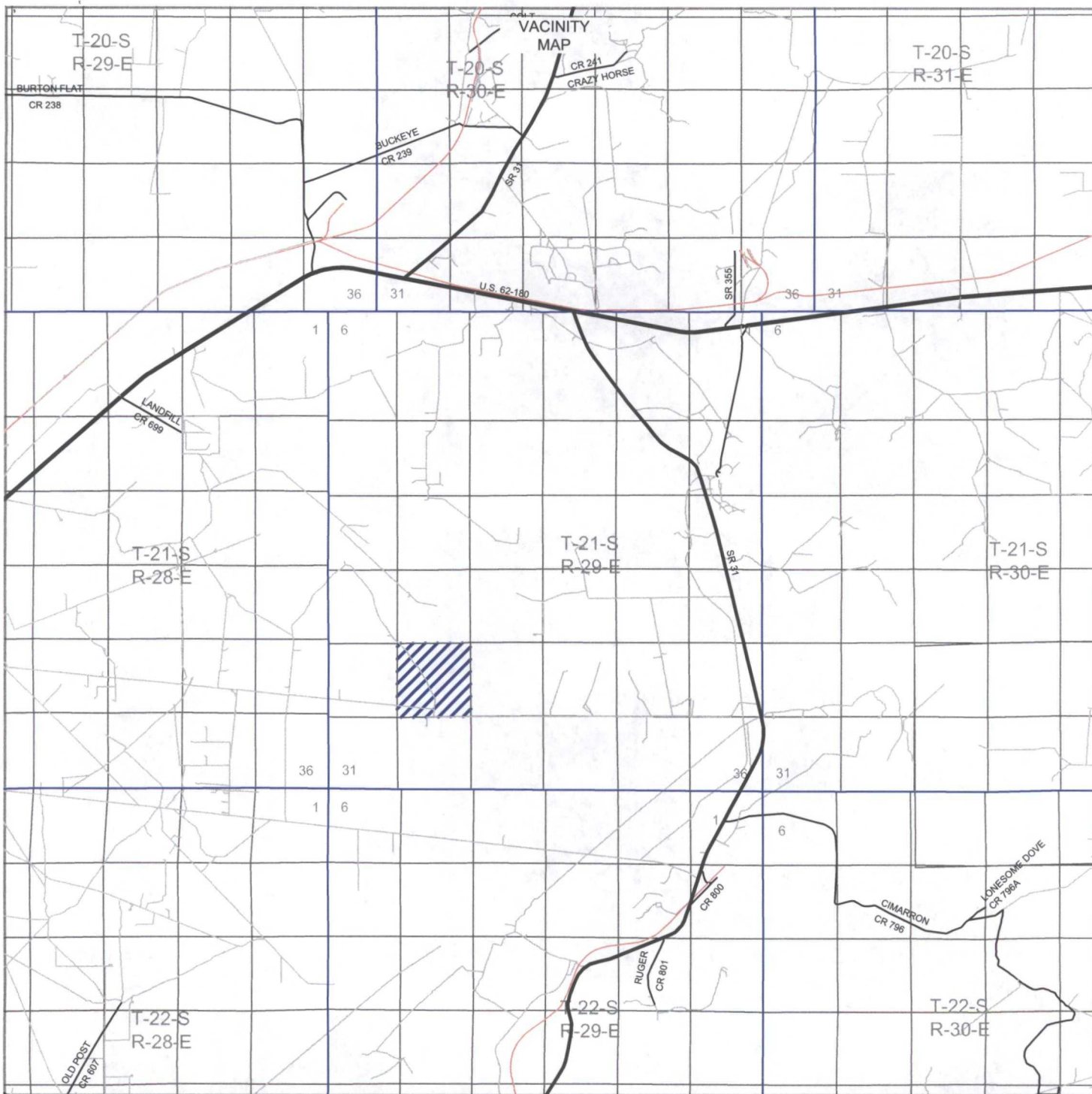
SECTION 29, TOWNSHIP 21 SOUTH, RANGE 29 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 11-04-2011 Sheet 1 of 1 Sheets







## BIG EDDY UNIT "29" FEDERAL #1 SWD

Located 980' FSL and 450' FWL

Section 29, Township 21 South, Range 29 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 25470

Survey Date: 11-04-2011

Scale: 1" = 2 Miles

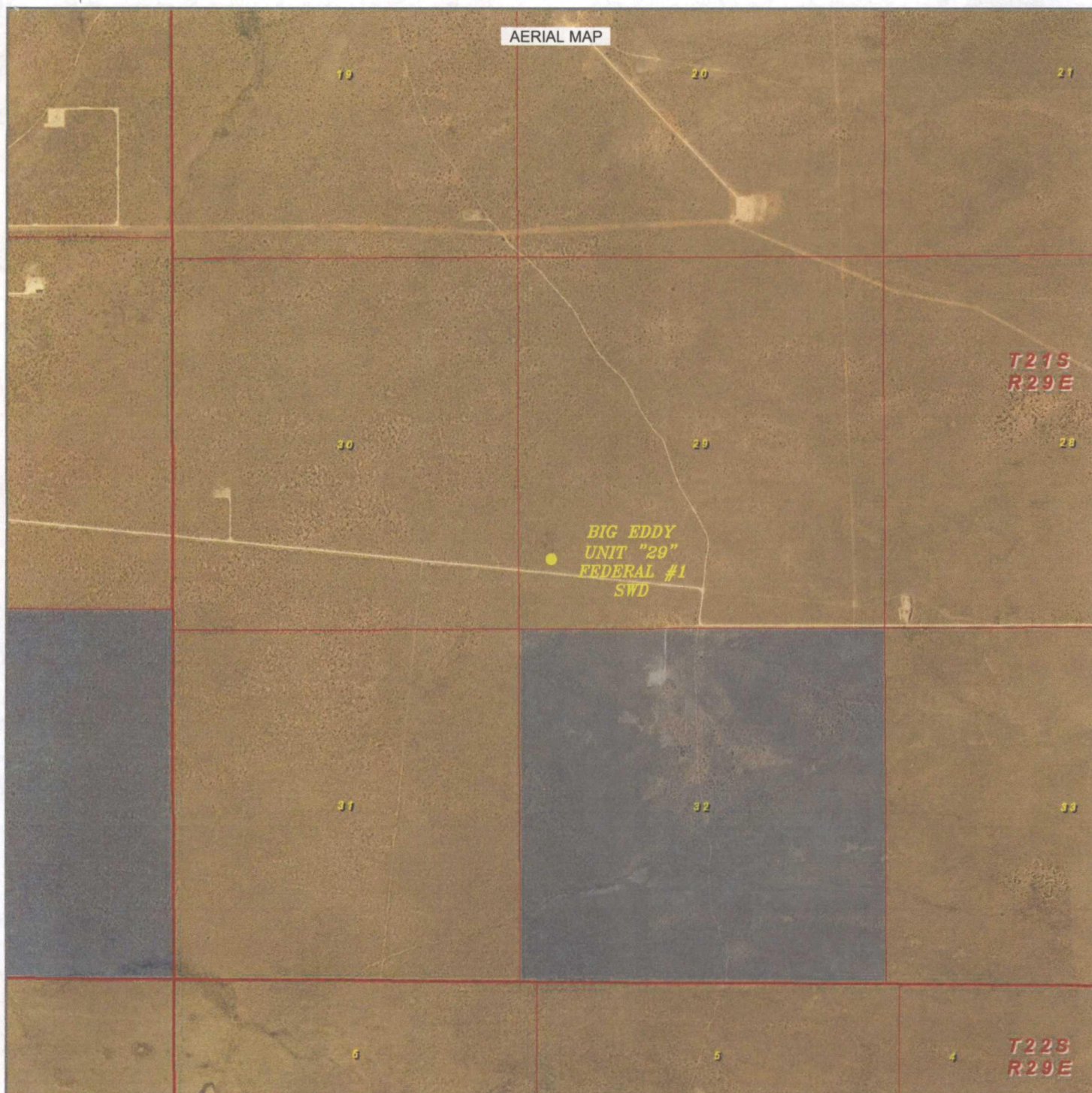
Date: 11-14-2011



*BOPCO, L.P.*

Sheet 3 of 6 Sheets





**BIG EDDY UNIT "29" FEDERAL #1 SWD**

Located 980' FSL and 450' FWL

Section 29, Township 21 South, Range 29 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 25470

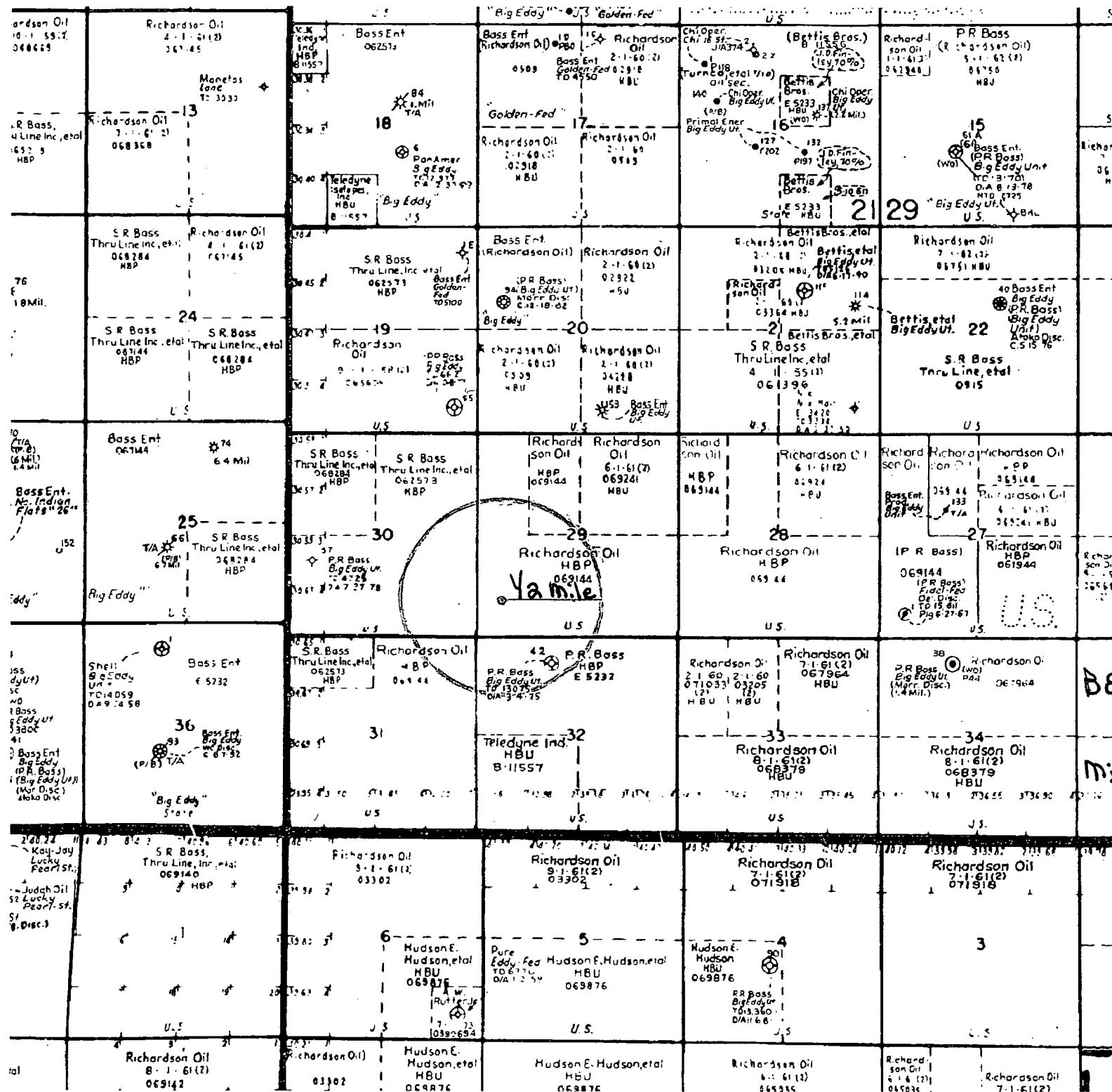
Scale: 1" = 2000'

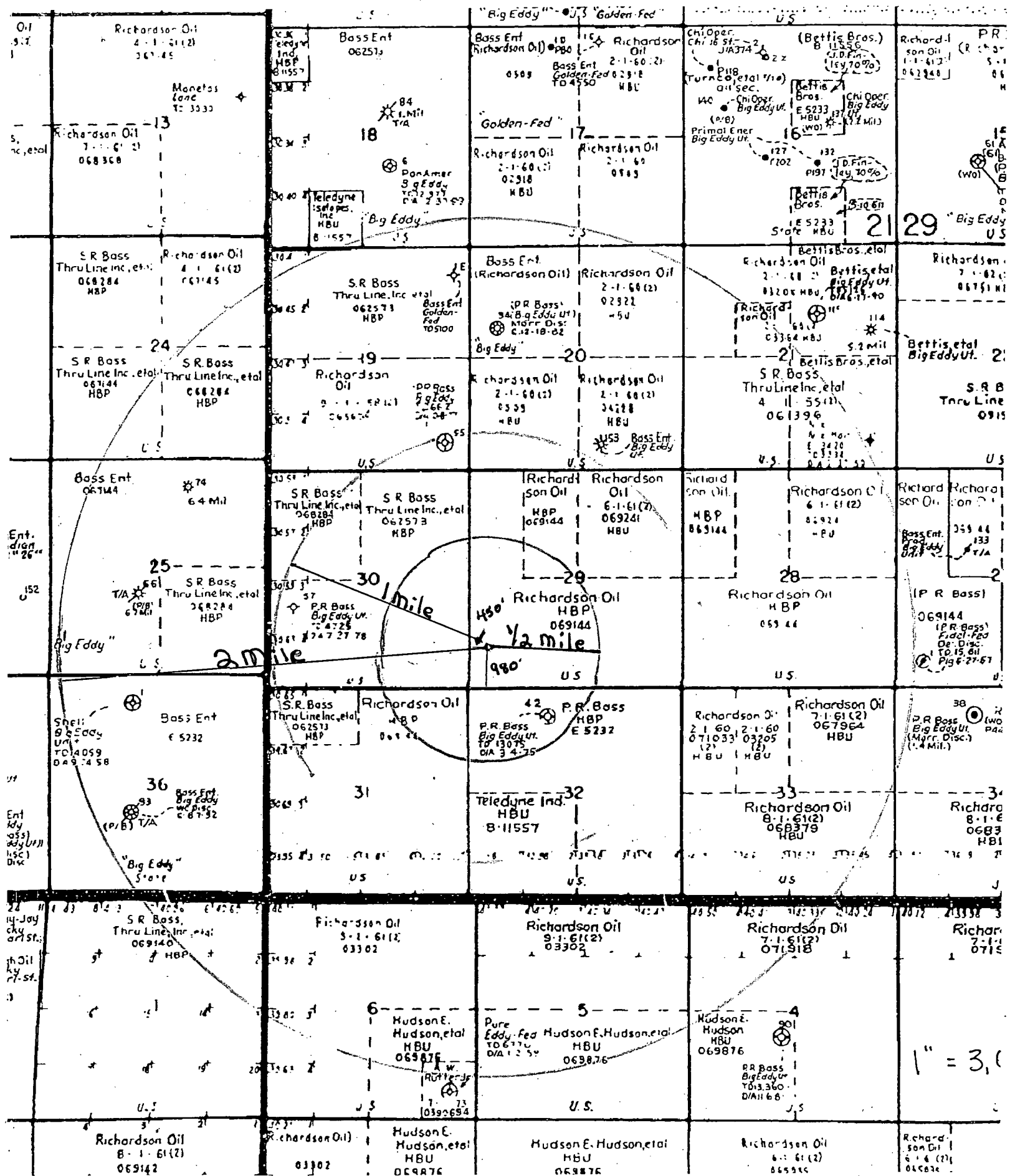
YELLOW TINT - USA LAND  
BLUE TINT - STATE LAND  
NATURAL COLOR - FEE LAND



*BOPCO, L.P.*

Sheet 4 of 6 Sheets







**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Thursday, April 05, 2012 1:26 PM  
**To:** 'Belt, Sandra J.'  
**Subject:** RE: Disposal application from BOPCO, LP: BEU 29 Fed SWD #1 30-015-NA Devonian

Hello Sandra,  
Do you know whether BOPCO is still interested in this application?

Will Jones  
New Mexico  
Oil Conservation Division  
[Images](#) [Contacts](#)

---

**From:** Jones, William V., EMNRD  
**Sent:** Friday, March 16, 2012 9:57 AM  
**To:** 'Belt, Sandra J.'  
**Cc:** Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; 'Wesley\_Ingram@blm.gov'  
**Subject:** Disposal application from BOPCO, LP: BEU 29 Fed SWD #1 30-015-NA Devonian

Hello Sandra,  
Reviewed your latest application.  
Just a few minor questions/requests.

- a. The depth proposed for the disposal is 14035 to 14800, but the liner is to be landed at 14050 feet. Looks like this is an open hole completion, do you plan to perf the bottom part of the liner?
- b. Do you know of any changes in the surface location for this well? I saw the drilling engineers location was different than in the application.
- c. For the waters going into this well, send a list of the likely formations this water will come from and a typical water analysis for each.
- d. Send a typical Devonian water analysis.
- e. Send a quick writeup from a geologist as to the possibility of Devonian production of oil in this area. Why was the Devonian picked for disposal, etc.
- f. This well will drill through the Potash area (R-111-P defined area). Please send a notice to the nearest Potash lessee.
- g. Send a wellbore diagram of the well as it will appear after drilling and completion, showing tubing and packer, casing(s) and cement placement.

Thank you for the application,

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505

## Jones, William V., EMNRD

---

**From:** Jones, William V., EMNRD  
**Sent:** Monday, March 19, 2012 4:39 PM  
**To:** 'McBroom, John'  
**Cc:** 'Belt, Sandra J.'  
**Subject:** RE: BEU 29 Fed SWD #1

Hey John,  
You are exactly correct – I apologize.  
Belay that request!!  
(have a large scale colored-in map that has the entire township covered - should have consulted the actual R-111-P document)

Thank You

Will Jones  
New Mexico  
Oil Conservation Division  
Images Contacts

---

**From:** McBroom, John [<mailto:JMcBroom@BassPet.Com>]  
**Sent:** Monday, March 19, 2012 2:07 PM  
**To:** Jones, William V., EMNRD  
**Subject:** BEU 29 Fed SWD #1

William,

I hope you are doing well. My name is John McBroom and I'm a Landman with BOPCO. Earlier today Sandra Belt forwarded me an email you sent her regarding questions/requests concerning the BEU 29 Fed SWD #1 well. One of the requests listed was to send a notice to the nearest Potash lessee as this well is being drilled through the R-111-P defined area.

After looking at our maps, it appears this SWD well is not within the R-111 or the SOPA boundaries. It looks to be a few sections to the west. Please advise if I am mistaken or am missing information.

Thanks for your time,

John P. McBroom  
BOPCO, L.P.  
A Bass Legacy Company  
201 Main St., Suite 2900

**Belt, Sandra J.**

---

**To:** Jones, William V., EMNRD  
**Subject:** RE: Disposal application from BOPCO, LP: (BEU 29 Fed SWD #1) 30-015-NA Devonian

Here is the information you requested Will. Please let me know if I have overlooked something.

- a. The depth proposed for the disposal is 14035 to 14800, but the liner is to be landed at 14050 feet. Looks like this is an open-hole completion, do you plan to perf the bottom part of the liner? **No, open-hole completion only.**
- b. Do you know of any changes in the surface location for this well? I saw the drilling engineer's location was different than in the application. **Yes, see attached plat.**
- c. For the waters going into this well, send a list of the likely formations this water will come from and a typical water analysis for each. **Delaware and some Morrow; analysis attached.**
- d. Send a typical Devonian water analysis. **No Devonian water production.**
- e. Send a quick write-up from a geologist as to the possibility of Devonian production of oil in this area. Why was the Devonian picked for disposal, etc? **We do not anticipate the Devonian to be oil bearing in this area. Two deep tests, bracketing the proposed application (BEU 29 Fed 1 SWD) and within a two mile radius, found the Devonian to be wet. The 1957 vintage Shell: BEU No. 1 (Sec 36-T21S-R28E) drilled 300' of Devonian section; drill stem tested water and had no oil show. The 1953 vintage Richardson and Bass: Fidel Federal No. 1 (Sec 27-T21S-R29E) drilled 170' of Devonian; drill stem tested sulfur water and had no oil show. Structurally, the proposed BEU 29 Fed No. 1 SWD lies between these two locations characterized by monoclinal dip to the SSE, no closure exists in which hydrocarbons would be trapped. The Devonian was chosen as a disposal interval due to the storage capacity of the dolomites associated with the formation.**
- f. This well will drill through the Potash area (R-111-P defined area). Please send a notice to the nearest Potash lessee. **Not in the Potash area.**
- g. Send a wellbore diagram of the well as it will appear after drilling and completion, showing tubing and packer, casing(s) and cement placement. **Attached**

Thank you for the application,

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462

---

**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]  
**Sent:** Thursday, April 05, 2012 3:18 PM  
**To:** Belt, Sandra J.  
**Subject:** RE: Disposal application from BOPCO, LP: BEU 29 Fed SWD #1 30-015-NA Devonian

No rush – I was just going through my pending applications and wanted to make sure I didn't miss anything.

Happy Easter

---

**From:** Belt, Sandra J. [mailto:SJBelt@BassPet.Com]  
**Sent:** Thursday, April 05, 2012 1:31 PM  
**To:** Jones, William V., EMNRD

2012 MAY 31 PM 2:40  
RECEIVED OGD

**Cc:** Cruz, Carlos

**Subject:** RE: Disposal application from BOPCO, LP: BEU 29 Fed SWD #1 30-015-NA Devonian

Oh yes sir. So sorry been so busy I let they slip by me. We have some of the data and I will get the rest to you within the week. Thanks for reminding me. Have a very nice Easter holiday!

---

**From:** Jones, William V., EMNRD [<mailto:William.V.Jones@state.nm.us>]

**Sent:** Thursday, April 05, 2012 2:26 PM

**To:** Belt, Sandra J.

**Subject:** RE: Disposal application from BOPCO, LP: BEU 29 Fed SWD #1 30-015-NA Devonian

Hello Sandra,

Do you know whether BOPCO is still interested in this application?

Will Jones

New Mexico

Oil Conservation Division

[Images](#) [Contacts](#)

---

**From:** Jones, William V., EMNRD

**Sent:** Friday, March 16, 2012 9:57 AM

**To:** 'Belt, Sandra J.'

**Cc:** Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD; 'Wesley\_Ingram@blm.gov'

**Subject:** Disposal application from BOPCO, LP: BEU 29 Fed SWD #1 30-015-NA Devonian

Hello Sandra,

Reviewed your latest application.

Just a few minor questions/requests.

- a. The depth proposed for the disposal is 14035 to 14800, but the liner is to be landed at 14050 feet. Looks like this is an open hole completion, do you plan to perf the bottom part of the liner?
- b. Do you know of any changes in the surface location for this well? I saw the drilling engineers location was different than in the application.
- c. For the waters going into this well, send a list of the likely formations this water will come from and a typical water analysis for each.
- d. Send a typical Devonian water analysis.
- e. Send a quick writeup from a geologist as to the possibility of Devonian production of oil in this area. Why was the Devonian picked for disposal, etc.
- f. This well will drill through the Potash area (R-111-P defined area). Please send a notice to the nearest Potash lessee.
- g. Send a wellbore diagram of the well as it will appear after drilling and completion, showing tubing and packer, casing(s) and cement placement.

Thank you for the application,

William V Jones, P.E.

Engineering, Oil Conservation Division

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

Tel 505.476.3448 ~ Fax 505.476.3462



B.  
182

**INTER-OFFICE MEMORANDUM**  
**MIDLAND OFFICE**

April 11, 2012

**TO:** FT WORTH  
**FOR:** LEE MUNCY  
**FROM:** WILLIAM R. DANNELS  
**RE:** LOCATION ON-SITE EVALUATIONS  
BEU 29 FEDERAL #1 SWD, PLU DELAWARE B 19 FEDERAL #1 SWD  
BIG EDDY UNIT AREA, POKER LAKE UNIT  
EDDY CO., NM  
FILE 100WF

On April 10, 2012 a BLM on-site meeting was held with Bill Dannels, and Cecil Watkins with BOPCO, L.P., Cody Layton with the BLM, and Robert Gomez with Basin Surveys. The locations and their status are as follows:

WELL	ORIGINAL LOCATION	REVISED LOCATION	REASON
BEU 29 Federal #1 SWD	210' FSL & 2505' FEL SEC 29, T21S, R29E	980' FSL, 450' FWL SEC 29, T21S, R29E	Pits towards sand dunes to North. V-Door East. Location was extended south to run parallel with existing lease road to accommodate trailers and premix mud tanks for bigger rig.
PLU Delaware B 19 Federal #1 SWD	790' FSL & 865' FEL SEC 24, T24S, R30E	2100' FSL & 1100' FWL SEC 19, T24S, R31E	V-Door South, new calls per Bryan Pregger

Originally, the BEU 29 Federal #1 SWD was staked and BLM on-sited at 210' FSL and 2505' FEL on September 22, 2011. Geology wanted to move to west and the well was staked at 990' FSL and 660' FWL of Section 29. During on-site meeting Nov. 3, 2011, Randy Rust with BLM moved location to 980' FSL and 450' FWL of Sec. 29. Simianne Hayden approved of location move. PLU Delaware B 19 Federal #1 SWD was moved by geology based on seismic interpretation at the Wolfcamp level.

Please contact Bill Dannels or Cecil Watkins should you have any questions.

  
W. R. (Bill) Dannels

WRD/cdw

cc: J. Deans, G. Hillis, S. Hayden, A. Morrison, B. Pregger, KAA, RSD, & SFJ

## DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

## DISTRICT II

1301 W. Grand Avenue, 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 Department

Form C-102

Revised July 16, 2010

Submit one copy to appropriate  
District Office

## OIL CONSERVATION DIVISION

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

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 97864	Pool Name Wildcat (Devonian)
Property Code	Property Name BIG EDDY UNIT "29" FEDERAL	Well Number 1 SWD
OGRID No. 260737	Operator Name BOPCO, L.P.	Elevation 3295'

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	21 S	29 E		980	SOUTH	450	WEST	EDDY

## Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 0	Joint or Infill	Consolidation Code	Order No.
----------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p>	
	<p>Signature _____ Date _____</p> <p>William Dannels</p>	
	<p>Printed Name _____</p> <p>WRDannels@basspet.com</p>	
	<p>Email Address _____</p>	
<p><b>SURFACE LOCATION</b>            Lat - N 32°26'44.58"            Long - W 104°00'47.92"            NMSPCE- N 526013.133            E 598722.856            (NAD-27)</p>	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p>	
	<p>Date Surveyed _____</p>	
	<p>Signature &amp; Seal of Professional Surveyor</p>	
	<p>Certificate No. Gary L. Jones 7977</p>	
<p>BASIN SURVEYS 25470</p>		

**Belt, Sandra J.**

C 1 of 8 pages

**From:** Cruz, Carlos  
**Sent:** Wednesday, May 23, 2012 5:11 PM  
**To:** Belt, Sandra J.  
**Subject:** FW and PW analyzes from offset production to the proposed BEU 29 Devonian SWD well  
**Attachments:** BEU 38H.pdf; Indian Flats SWD 11-7-11.pdf; Juneau Windmill 11-7-11.pdf

Sandra,

The BEU 38H PW is Delaware PW. The Indian Flats PW is mainly Morrow, Atoka, and some Delaware PW. The Juneau Windmill is the only FW source around but it is ~7 miles from the BEU 29 Devonian SWD well.



Carlos Cruz  
BOPCO, L.P.  
Division Production Superintendent  
(432)683-2277 office  
(432)238-9443 cell

P.O. BOX 98  
MIDLAND, TX. 79702  
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA  
MIDLAND, TEXAS 79701  
FAX (432) 682-8819

RESULT OF WATER ANALYSES

TO: Carlos Cruz  
PO Box 2760, Midland, TX 79702

LABORATORY NO. 312-5  
SAMPLE RECEIVED 2-21-12  
RESULTS REPORTED 3-6-12

COMPANY BOPCO LEASE BEU #38H

FIELD OR POOL  
SECTION BLOCK SURVEY COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Sample taken 2-18-12.  
NO. 2 Sample taken 2-19-12.  
NO. 3 Sample taken 2-20-12.  
NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1630	1.1668	1.1665	
pH When Sampled				
pH When Received	5.60	5.50	5.60	
Bicarbonate as HCO <sub>3</sub>	110	85	85	
Supersaturation as CaCO <sub>3</sub>				
Undersaturation as CaCO <sub>3</sub>				
Total Hardness as CaCO <sub>3</sub>	68,000	74,500	73,000	
Calcium as Ca	23,000	25,600	25,400	
Magnesium as Mg	2,552	2,552	2,309	
Sodium and/or Potassium	60,962	53,354	45,753	
Sulfate as SO <sub>4</sub>	155	150	150	
Chloride as Cl	142.038	134.936	122.153	
Iron as Fe	62	47	46	
Barium as Ba	0	0	0	
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	228.816	216.677	195.849	
Temperature °F.				
Carbon Dioxide, Calculated	450	444	350	
Dissolved Oxygen				
Hydrogen Sulfide	0.0	0.0	0.0	
Resistivity, ohms/m at 77° F. - measured	0.052	0.054	0.159	
Suspended Oil	0.08%	<0.05%	0.9%	
Phosphate as mg/l Corrosiveness	Severe	Severe	Severe	
Barium Sulfate Scaling Tendency	None	None	None	
CaCO <sub>3</sub> S.I. @ 77° F. (Stiff-Davis)	0.34	0.11	-0.03	
CaCO <sub>3</sub> S.I. @ 122° F. (Stiff-Davis)	1.29	1.01	0.77	
Calcium Sulfate Scaling Tendency	None	None	None	
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
CaCO <sub>3</sub> S.I. - A positive fig. signifies a scaling potential proportionate to the magnitude of the number, and a negative fig. signifies no scaling potential.				
Please feel free to contact us for any details or discussions concerning these results.				

Form No. 3

By

Greg Ogden, B.S.



Analytical Laboratory Report for:  
**BOPCO LP**



Account Representative:  
Mossman, Willis

---

## Production Water Analysis

Listed below please find water analysis report from: Indian Flats, SWD

Lab Test Number	Sample Date
2011133299	11/07/2011

Specific Gravity:	1.070	
TDS:	107149	
pH:	6.90	
Resistivity:	.12@66F	ohms/M

Cations	mg/L
Calcium as Ca <sup>++</sup>	3453
Magnesium as Mg <sup>++</sup>	1027
Sodium as Na <sup>+</sup>	36087
Iron as Fe <sup>++</sup>	1.35
Potassium as K <sup>+</sup>	288.7
Barium as Ba <sup>++</sup>	8.29
Strontium as Sr <sup>++</sup>	199.11
Manganese as Mn <sup>++</sup>	0.00
Zinc as Zn <sup>++</sup>	69.92

Anions	mg/L
Bicarbonate as HCO <sub>3</sub> <sup>-</sup>	464
Sulfate as SO <sub>4</sub> <sup>=</sup>	1150
Chloride as Cl <sup>-</sup>	64400

Gases	mg/L
Carbon Dioxide as CO <sub>2</sub>	100
Hydrogen Sulfide as H <sub>2</sub> S	248.0

**Lab Comments:**

SURFACE TEMP=24.7 DEG/C

**Analytical Laboratory Report for:  
BOPCO LP**



**Account Representative:  
Mossman, Willis**

---

**DownHole SAT<sup>TM</sup> Scale Prediction @ 100 deg. F**

<b>Lab Test Number</b>	<b>Sample Date</b>	<b>Location</b>
2011133299	11/07/2011	SWD

<b>Mineral Scale</b>	<b>Saturation Index</b>	<b>Momentary Excess (lbs/1000 bbls)</b>
Calcite (CaCO3)	2.32	0.13
Strontianite (SrCO3)	0.16	-1.81
Anhydrite (CaSO4)	0.35	-1068.02
Gypsum (CaSO4*2H2O)	0.44	-843.11
Barite (BaSO4)	16.92	13.25
Celestite (SrSO4)	0.40	-345.52
Siderite (FeCO3)	1.10	0.02
Halite (NaCl)	0.03	-448702.63
Iron sulfide (FeS)	66.42	0.34

**Interpretation of DHSat Results:**

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) to positive (precipitating) values. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.

Analytical Laboratory Report for:  
**BOPCO LP**



Account Representative:  
Mossman, Willis

---

## Production Water Analysis

Listed below please find water analysis report from: Indian Flats, Windmill

Lab Test Number	Sample Date
2011133300	11/07/2011

*FW well*

Specific Gravity:	1.003	
TDS:	2797	
pH:	7.28	
Resistivity:	2.07@66F	ohms/M

Cations	mg/L
Calcium as Ca <sup>++</sup>	561
Magnesium as Mg <sup>++</sup>	89.31
Sodium as Na <sup>+</sup>	112
Iron as Fe <sup>++</sup>	0.46
Potassium as K <sup>+</sup>	8.6
Barium as Ba <sup>++</sup>	0.07
Strontium as Sr <sup>++</sup>	7.71
Manganese as Mn <sup>++</sup>	0.00
Zinc as Zn <sup>++</sup>	68.00

Anions	mg/L
Bicarbonate as HCO <sub>3</sub> <sup>-</sup>	183
Sulfate as SO <sub>4</sub> <sup>=</sup>	1650
Chloride as Cl <sup>-</sup>	116

Gases	mg/L
Carbon Dioxide as CO <sub>2</sub>	10
Hydrogen Sulfide as H <sub>2</sub> S	0.0

**Analytical Laboratory Report for:  
BOPCO LP**



**Account Representative:  
Mossman, Willis**

---

**DownHole SAT™ Scale Prediction @ 100 deg. F**

Lab Test Number	Sample Date	Location
2011133300	11/07/2011	Windmill

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO3)	2.80	0.33
Strontianite (SrCO3)	0.14	-3.48
Anhydrite (CaSO4)	0.55	-468.43
Gypsum (CaSO4*2H2O)	0.79	-193.45
Barite (BaSO4)	4.37	0.09
Celestite (SrSO4)	0.47	-18.10
Siderite (FeCO3)	5.08	0.35
Halite (NaCl)	0.00	-461136.69
Iron sulfide (FeS)	0.00	-0.26

**Interpretation of DHSat Results:**

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) to positive (precipitating) values. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.

## Injection Permit Checklist (11/15/2010)

WFX

PMX

SWD

1337

Permit Date

UIC Qtr

5/3/12

(A/R/J)

# Wells 1 Well Name(s): BEU 29 FED SWD #1

API Num: 30-0 15-NA Spud Date: New drill New/Old: N (UIC primacy March 7, 1982)

Footages 980 FSL/450 FWL Unit M Sec 29 Tsp 21S Rge 29E County EDDY

General Location: JUST SOUTH  $\pm$  2 mi of Reef;  $\pm$  12 mi NW of WIPP

Operator: BOPCO, L.P. Contact SANDRA J. BELT

OGRID: 260751 RULE 5.9 Compliance (Wells) 2/450 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed NONE Current Status: N-APP Yet

Planned Work to Well: Drill/Inject

Diagrams: Before Conversion After Conversion Elogs in Imaging File: New well

Well Details:	Sizes		Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
	Hole.....	Pipe				
New Existing Surface	26	20	480	-	1005 SA	CIRC
New Existing Interm	17 1/2	13 3/8	2945	-	2455 "	CIRC
New Existing LongSt	12 1/2	9 5/8	10,500	-	1705 "	CIRC
New Existing Liner	8 1/2	7 5/8	10200-11500	-	1000 SA	T.O.L.
New Existing OpenHole						

Depths/Formations: Depths, Ft. Formation Tops?

Formation(s) Above	14035	Dev	✓
Injection TOP:	14050	Dev	Max. PSI 2800 OpenHole ✓ Perfs
Injection BOTTOM:	14800	Dev	Tubing Size 4 1/2 Packer Depth 14500
Formation(s) Below			

Capitan Reef? (Flash? Noticed?) [WIPP? Noticed?] Salado Top/Bot 495-2835 Cliff House?

Fresh Water: Depths: &lt; 494' Formation Ruston Wells? NONE Analysis? Affirmative Statement ✓

Disposal Fluid Analysis? Sources:

Disposal Interval: Analysis? Production Potential/Testing:

Notice: Newspaper Date 3/1/12 Surface Owner BLM Mineral Owner(s)

RULE 26.7(A) Affected Persons: NONE - all BOPCO

AOR: Maps? Well List? Producing in Interval? NO Wellbore Diagrams?

.....Active Wells 0 Repairs? Which Wells?

.....P&amp;A Wells 0 Repairs? Which Wells?

(There was one Dry Hole 13075' Deep)

Issues:

Request Sent

Reply: