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May 13, 2010

Richard Ezeanyim
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BOPCO, L.P. SWD application/Case No. 14,461

Dear Mr. Ezeanyim:

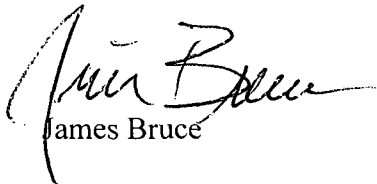
Pursuant to your request at hearing, enclosed are the following:

1. A list printed from the Division's website showing, currently, only two non-compliant wells. BOPCO is allowed five such wells, so it is in compliance, and you may consider this application.
2. A revised (and more easily readable) Form C-108, which includes (i) a wellbore sketch for the P&A'd PLU Well No. 55, (ii) an analyses of water from the PLU Well No. 213, (iii) analyses of water from several fresh water wells in the area.
3. Well test comparisons BOPCO performed to see how much production the Avalon zone was contributing. BOPCO tested four wells that have production from the Delaware and Avalon. The wells were tested for a few days each, then a RBP was set over the Avalon to isolate that zone. The wells were tested again to see the difference in production. In order to make a good comparison Mr. Cruz took the average oil production before and after the plug was set, feeling this was the best way to eliminate any mechanical or power issues from the comparisons. Most of the production is coming from the Delaware zones. As he mentioned at the hearing, BOPCO will monitor the offset wells closely to see the effects of the injected water, and will probably set plugs above the Avalon zones in these wells due to the test results. BOPCOP will also be looking for positive effects, *i.e.* an increase in oil production from offset wells. BOPCO will not be plugging the Avalon in these four wells unless it sees negative effects.

4. Comparisons of PW. These attachments include analyses from all zones (Avalon and Delaware), the Delaware only (plug set above Avalon), and from the Avalon only. The PW from all zones including the Avalon is commingled in BOPCO's batteries. This is the water that BOPCO will be injecting into the Avalon zone in the PLU 213. There are some differences in the analyzes. However, BOPCO does not see anything that would create issues with any offset wells. BOPCO will monitor the offset wells and, depending on what it sees, if negative effects set a plug above the Avalon, or if positive effects (an increase in oil production) leave the Avalon open.

Please contact me if you need additional information.

Very truly yours,

A handwritten signature in black ink, appearing to read "James Bruce", written over a printed name.

James Bruce

Attorney for BOPCO, L.P.

cc: David K. Brooks
Gail MacQuesten

Inactive Well List

Total Well Count: 381 Inactive Well Count: 2 Since: 2/17/2009

Printed On: Thursday, May 13 2010

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	TA Exp Date
2	30-015-20940	BIG EDDY UNIT #038	C-34-21S-29E	C	260737	BOPCO, L.P.	F	G	07/2006		T	12/31/2009
2	30-015-27454	BIG EDDY UNIT #122	F-4 -20S-31E	F	260737	BOPCO, L.P.	F	O	03/2002	STRAWN	T	11/26/2008

WHERE Ogrid:260737, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15, Excludes Wells Under ACOI, Excludes Wells in Approved TA Period

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE : _____ Secondary Recovery _____ Pressure Maintenance ☒ 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. 149 PHONE : (432)683-2277

III. WELL DATA: Complete the data required on the reverse side of this form for each well processed 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 geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such 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 source of drinking water.

XIII. Applicants must complete the 'Proof of Notice' section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Sandra J. Belt ext. 149 TITLE: Regulatory Clerk

SIGNATURE: Sandra J. Belt DATE: 04/16/2010

E-MAIL ADDRESS: sjbelt@basspet.com

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

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

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III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
- (1) Lease name; Well No.; Location by Section, Township, and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.
 - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.
- Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.
- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
- (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 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: Poker Lake Unit
Well #: 213
Section: 18
Township: 24S
Range: 30E
Footage: 860' FSL & 660' FEL

2) Casing Info:

Casing size	Set depth	Sacks cmt	Hole size	TOC	Method
8-5/8" 32# J-55 ST-C	454	860	12-1/4"	Surface	Circulated
5-1/2" 15.5# & 15# N80/L80	7,596	845	7-7/8"	Surface	Circulated

- 3) Tubing to be used (size, lining material, setting depth):
2-7/8" 6.5# J-55 Seal Tite IPC tbg set @ 7150'.
- 4) Name, model, and depth of packer to be used:
5-1/2" Lokset Nickel Plated EXT/INT PC Pkr set @ 7150'.

B. 1) Name of the injection formation and, if applicable, the field or pool name:
Nash Draw (Delaware/BS/Avalon Sand)

TX

2) The injection interval and whether it is perforated or open hole:
The wellbore will be perforated from 7,038 - 7,460'

3) State if the well was drilled for injection or, if not, the original purpose of the well:
Drill & complete Delaware development 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:
NA

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: None
Lower: Bone Spring @ 7450'

Handwritten signature

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 well's 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	Intermediate Casing	Construction			Spud Date	Comp Date	TD	Perforations	Stimulation
									Production Casing	Tubing						
PLU	212	30-015-33915		BOPCO, L.P.	Producer	680 FSL & 1980 FEL	8-5/8" @ 538' W/50 Sks CC TOC @ Surf.		5-1/2" @ 7528' W/750 SKS Prem TOC @ 9657' (TS)	2-7/8" @ 7397'		10/19/05	12/1/05	7630'	6020-7371'	250,484 gals PW + 20,000# 1430 LiteProp
PLU	289	30-015-35590		BOPCO, L.P.	Producer	800' FSL & 2280 FWL	W/ 300 sks Top Out to		TOC @ Surf	7325'		6/5/07	7/9/07	7372'	6956-7290'	224,256 gals Prod/W/22,000# 1430 LiteProp
PLU	211	30-015-33658		BOPCO, L.P.	Producer	1980 FSL & 1980 FEL	8-5/8" @ 485' W/ 840 SKS TOC @ SURF		5-1/2" @ 7519' W/750 SKSLTCRT TOC @ 3557' (TS)	2-7/8" @ 7409'		1/23/06	3/1/006	7520'	6037-7360'	272,215 gals PW + 21,252# 1430 LiteProp
PLU	250	30-015-34463		BOPCO, L.P.	Producer	1830 FSL & 760 FWL	8-5/8" @ 871' W/840 SKS C TOC @ Surf		5-1/2" @ 7630' W/1100 SKSLTCRT TOC @ 3918' (TS)	2-7/8" @ 7505'		4/2/06	5/19/06	7630'	7188-7500'	246,128 gals PW + 20,088# 1430 LiteProp
PLU	226	30-015-34105		BOPCO, L.P.	Producer	760 FSL & 760 FWL	8-5/8" @ 824' W/440 SKS PP TOC @ Surf		5-1/2" @ 7631' W/650 SKS PP TOC @ 5250' (TS)	2-7/8" @ 7521'		9/12/05	10/26/05	7640'	7254-7485'	248,606 gals PW + 19,938# 1430 LiteProp
PLU	231	30-015-34072		BOPCO, L.P.	Producer	330 FNL & 630 FEL	8-5/8" @ 550' W/736 SKS PBZAPP TOC @ SURF		5-1/2" @ 7560' W/650 SKS PP TOC @ 4280' (TS)	2-7/8" @ 7471'		5/20/05	6/23/05	7570'	7172-7416'	259,657 gals PW + 19,926# 1430 LiteProp
PLU	214	30-015-33860		BOPCO, L.P.	Producer	510 FNL & 1980 FEL	8-5/8" @ 410' W/ 265 SKS PP TOC @ Surf		5-1/2" @ 7515' W/ 700 SKS PP TOC @ 4818' (TS)	2-7/8" @ 7360'		7/16/05	8/12/05	7515'	7200-7364'	252,092 gals PW + 20,000# 1430 LiteProp
PLU	236	30-015-34419		BOPCO, L.P.	Producer	1555 FNL & 125 FEL	11-3/4" @ 720' W/600 SKS C TOC @ SURF		5-1/2" @ 7598' W/ 600 SKS LITE TOC @ 3258' (TS)	2-7/8" @ 7509'		1/1/06	2/14/06	7608'	7241-7480'	297,838 gals PW + 23,957# 1430 LiteProp
PLU	207	30-015-34078		BOPCO, L.P.	Producer	2500 FNL 860 FEL	8-5/8" @ 640' W/852 SKS TOC @ SURF		5-1/2" @ 7570' W/650 SKS TOC @ 3556'	2-7/8" @ 7318'		3/27/05	5/12/05	7571'	7188-7430'	132,345 gals PW + 43,183# 1430 LiteProp; 187,530# 1630 Ottawa +96,000# 1620Super
PLU	55			P&A'd 11/15/82 - Does not penetrate injection zone												

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected: **2,000 average, 2,500 maximum BWPD**
2. Whether the system is open or closed: **closed**
3. Proposed average and maximum injection pressure: **1357 psi average, 1408 psi maximum**
4. 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 same reservoir (Delaware Avalon).**
5. 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: **N/A**

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: **Sand, Shale**
Geological Name: **Delaware Mountain Group**
Thickness: **2,238**
Depth: **7038-7460**

The Rustler Formation is a known source of fresh water throughout this geographic area. Average depth of Rustler is 148-540'. No sources of fresh water are known to exist below the proposed disposal zone.

IX. Describe the proposed stimulation program, if any:

The new perfs will be perforated and acidized with approximately 50 gallons 7-1/2% NEFE HCl per foot.

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 previously submitted.

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 know fresh water wells within one mile of proposed 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.

LEASE: POKER LAKE UNIT WELL #: 213
 FIELD: NASH DRAW DELAWARE
 LOCATION: 860' FSL & 660' FEL, SECTION 18, T24S, R30E
 COUNTY: EDDY ST: NM API: 30-015-33859

* CURRENT *

KB: 3215'
 GL: 3195'
 SPUD DATE: 1/13/2005
 COMP DATE: 2/22/2005

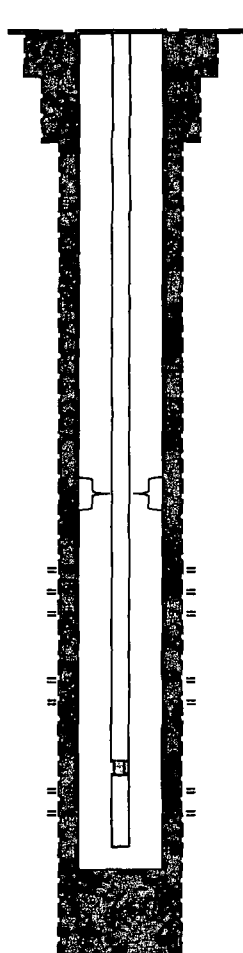
SURFACE CASING
 SIZE: 8-5/8"
 WT/GRD: 32# J-55
 CSA: 454"
 SX: 100 / 200 PBCZ / PREM+
 SX: 560 PREM+
 CIRC: Y W/O RETURNS
 TOC: SURF TOP OUT
 HOLE SIZE: 12-1/4" 0-454"

PRODUCTION CASING
 SIZE: 5-1/2" (orig csg cut & replaced)
 WT/GRD: 15.5# N80 0-5050'
 WT/GRD: 15.5# L80 6150-7596'
 CSA: 7596"
 SX: 845 PREM+
 CIRC: Y
 TOC: 3337' TS FIELD EST
 HOLE SIZE: 7-7/8" 454-7600'

TUBING DATA
 (227 JTS) 2-7/8" 6.5# J55
 2-7/8" BAKER TAC @ 7056'
 (11 JTS) 2-7/8" 6.5# J55
 MSN @ 7397'
 2-7/8" PERF SUB
 (1 JT) 2-7/8" 6.5# J55 TBG W BP & COLLAR

RODS & PUMP DATA
 2000 1" TENARIS D RODS
 2750' 7/8" TENARIS D RODS
 2450' 3/4" TENARIS D RODS
 1-1/2" PUMP

PERFORATION DATA
 02/05 PERF 7420-30' AVALON LOAD CSG W/
 16 bbis 2% KCl. BD perfs w/ 870#. Pmp spot
 acid away w/ 20 bbis 2% KCl @ 4 BPM & 800#.
 ISIP 750#. F/ 154.7kg PW + 26.7k# 14/30 LITE
 PROP + 3k# 16/30 SUPER LC. FLUSH W/ 7kg
 FW. LOST TTL 320 BPW TO PERFS.
 03/05 PERF 7279-89 "Z", 7194-7204 "Y"
 F: 20.7kg PW+73kg Lightening 2500+15.9k#
 14/30 Lite Prop+185k# 16/30 Ottawa+105k#
 16/30 Super LC



0' GL
 20' KB
 40' 20" CONDUCTOR
 454' 8-5/8" 32# J55 CSG
 12-1/4" HOLE
 5050' DV tool
 6150' 5-1/2" 15.5# J-55 CSG
 6557' 5-1/2" 17# L80 MRKR JT
 7056' TAC
 7098' 5-1/2" 17# L80 MRKR JT
 7194' TOP PERF INTERVAL
 PERF 7194-7204 "Y"
 7204' 1 SPF 0° PHSG 10 SHOTS
 7279' PERF 7279-89 "Z"
 7289 1 SPF 0° PHSG 10 SHOTS
 7397' MSN
 7420' PERF 7420-30' AVALON
 2 JSPF 0° PHSG
 7430' BOTTOM PERF INTERVAL
 7433' EOT
 7505' PBTD
 7509' FC
 7596' 5-1/2" 15.5# L-80 CSG
 7600' 7-7/8" HOLE

PBTD: 7505'
 TD: 7600'

Updated: 12/30/2009
 Author: ezg
 Engr: JBB

LEASE: POKER LAKE UNIT WELL #: 213
 FIELD: NASH DRAW DELAWARE
 LOCATION: 860' FSL & 660' FEL, SECTION 18, T24S, R30E
 COUNTY: EDDY ST: NM API: 30-015-33859

PROPOSED

KB: 3215'
 GL: 3195'
 SPUD DATE: 1/13/2005
 COMP DATE: 2/22/2005

SURFACE CASING
 SIZE: 8-5/8"
 WT/GRD: 32# J-55
 CSA: 454"
 SX: 100 / 200 PBCZ / PREM+
 SX: 560 PREM+
 CIRC: Y W/O RETURNS
 TOC: SURF TOP OUT
 HOLE SIZE: 12-1/4" 0-454"

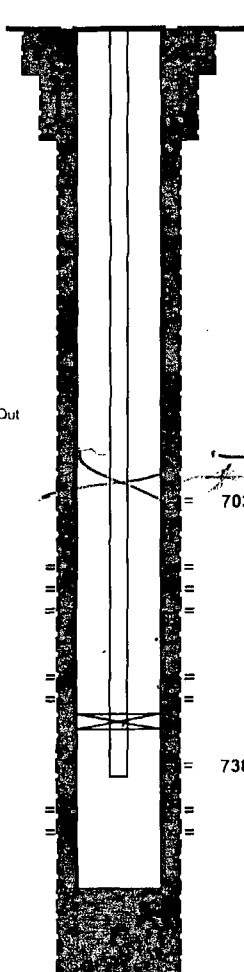
PRODUCTION CASING
 SIZE: 5-1/2" (orig csg cut & replaced 5050')
 WT/GRD: 15.5# J55 0-6150'
 WT/GRD: 15.5# L80 6150-7596'
 CSA: 7596"
 SX: 2799 sx POZ C 50 sx Class C
 CIRC: Y
 TOC: Surface 500 sx 35/65 Pozby Top Out
 HOLE SIZE: 7-7/8" 454-7600"

TUBING DATA

RODS & PUMP DATA

PERFORATION DATA

02/05 PERF 7420-30' AVALON LOAD CSG W/
 16 bbls 2% KCl. BD perms w/ 870#. Pmp spot
 acid away w/ 20 bbls 2% KCl @ 4 BPM & 800#.
 ISIP 750#. F/ 154.7kg PW + 26.7k# 14/30 LITE
 PROP + 3k# 16/30 SUPER LC. FLUSH W/ 7kg
 FW. LOST TTL 320 BPW TO PERFS.
 03/05 PERF 7279-89 "Z", 7194-7204 "Y"
 F: 20.7kg PW+73kg Lightening 2500+15.9k#
 14/30 Lite Prop+185k# 16/30 Ottawa+105k#
 16/30 Super LC



0' GL
 20' KB
 40' 20" CONDUCTOR
 454' 8-5/8" 32# J55 CSG
 12-1/4" HOLE

7270

5050' DV tool
 6150' 5-1/2" 15.5# J-55 CSG
 6557' 5-1/2" 17# L80 MRKR JT

7150

7038-298' OA LBC Perfs
 7098' 5-1/2" 17# L80 MRKR JT

7194' TOP PERF INTERVAL
 PERF 7194-7204 "Y"
 7204' 1 SPF 0° PHSG 10 SHOTS

7279' PERF 7279-89 "Z"
 7289 1 SPF 0° PHSG 10 SHOTS
 7370' 5-1/2" Lokset Ext/Int nickel plated pk
 w/ 2-7/8" J55 Seal Tite IPC Tbg

7370

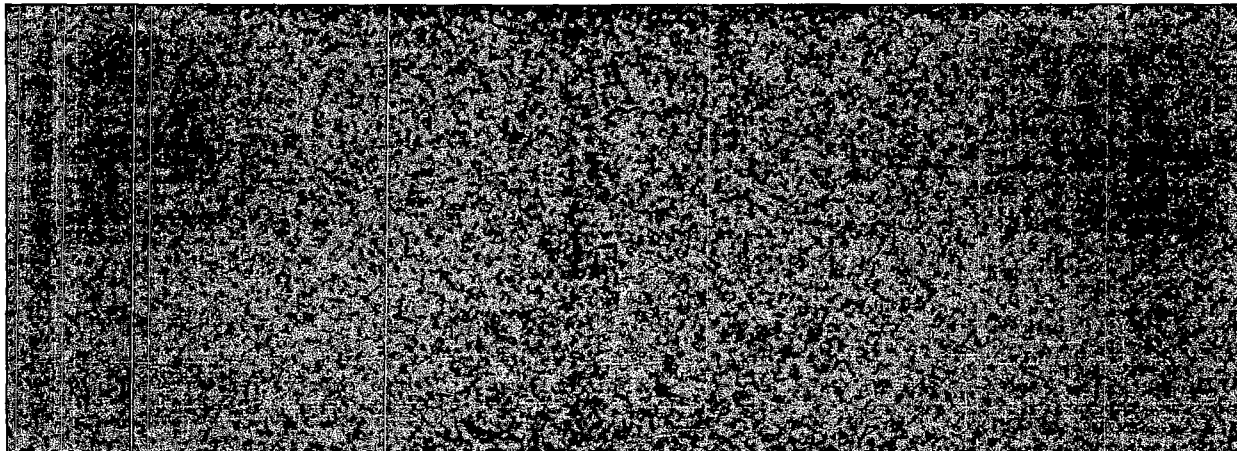
7388-460' OA Avalon Perfs

7420' PERF 7420-30' AVALON
 7430' 2 JSPF 0° PHSG
 BOTTOM PERF INTERVAL

7505' PBTD
 7509' FC
 7596' 5-1/2" 15.5# L-80 CSG
 7600' 7-7/8" HOLE

PBTD: 7505'
 TD: 7600'

Updated: 1/15/2010
 Author: ezg
 Engr: JBB



PA WELLBORE DIAGRAM

LEASE: POKER LAKE UNIT **WELL #:** 55
FIELD: WILDCAT
LOCATION: 660' FNL & 660' FEL, SECTION 19, T24S, R30E
COUNTY: EDDY **ST:** NM **API:** 30-015-24221

KB: 3193 GL: 3182 SPUD DATE: 10/31/1982 P&A DATE: 11/14/1982

SURFACE CASING

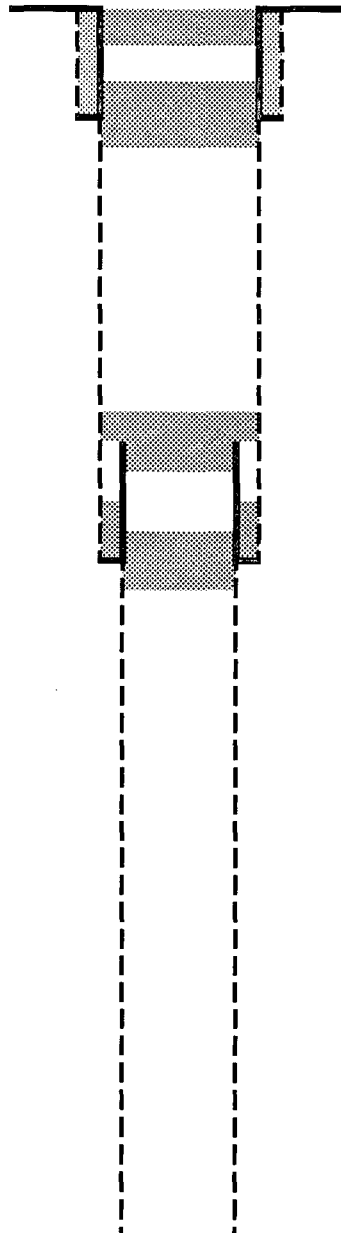
SIZE:	9-5/8"	
WT/GRD:	36#	K-55
CSA:	500	
SX:	300	C
CIRC:	Y	
TOC:	SURF	
HOLE SIZE:	12-1/4"	0-500'

PRODUCTION CASING

SIZE:	7"	
WT/GRD:	23#	K-55
CSA:	3450'	
SX:	50	C
CIRC:	N	
TOC:	3000 est	
HOLE SIZE:	8-3/4"	500' - 3450'

INTERMEDIATE CASING

SIZE:		
WT/GRD:		
CSA:		
SX:		
CIRC:		
TOC:		
HOLE SIZE:	6 1/4"	3450' - 6250'



Surface Plug - 10 sxs cmt

9 5/8" @ 500'

Plug #3 - 450' - 550', 45 sxs CI C cmt

Plug #2 - 2450' - 2550, 45 sxs CI C

Cut & Pull 7" csg @ 2500'

TOC 3000' EST

7" @ 2500' - 3450'

Plug #1 - 3400' - 3500', 40 sxs CI C

6 1/4" hole

TD: 6250'

Updated: 4/16/2010

Author: crm

Engr: CCC

070175

80 Pet. Corp. 32%
ates Drig. Co. 32%
yco Ind. Inc. 32%
ates Pet. 4%

Ls 3925

281
7380

ChisomVent. LP 25%
LMBI, LP 18.75%
SRBI, LP 18.75%
ThruLine, LP 18.75%
KystnGrp. LP 18.75%

Ls 4304

274 05912 283

BATT

0275
480 ac. tot.

Ls 4304

276

05912

13

0277

06

0200

03

07

08

01

320 ac.

Ls 4071

069005

24

Pogo Prod. Co. 92.1875%
Dominion 7.8125%

069005

24

069005

24

069005

24

069005

24

069005

24

069005

24

7470

181

7480

180

14400

192

7570

191

7544

190

7544

201

7357

203

7580

202

7580

204

068545

U.S.

1843.32 ac. tot.

205

7520

208

7520

207

7571

210

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068545

U.S.

1843.32 ac. tot.

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7800

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7640

218

7528

219

070175

Ls 3925

281
7380

273

ChisomVent. LP 25%
LMBI, LP 18.75%
SRBI, LP 18.75%
ThruLine, LP 18.75%
KystnGrp. LP 18.75%

Ls 4304

274 05912 283

BATT

0275

480 ac. tot.

Ls 4304

276

05912

13

0277

06

0200

03

07

08

01

320 ac.

Ls 4071

069005

24

Pogo Prod. Co. 92.1875%
Dominion 7.8125%

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BATT

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480 ac. tot.

Ls 4304

276

05912

Analytical Laboratory Report for:

BOPCO LP



BJ Chemical Services

Account Representative:

Mossman, Willis

Production Water Analysis

Listed below please find water analysis report from: POKER LAKE UNIT, Batt. 213

Lab Test No: 2009135202

Sample Date:

07/29/2009

Specific Gravity: 1.200

TDS: 307484

pH: 5.40

Cations:	mg/L	as:
Calcium	37320	(Ca ⁺⁺)
Magnesium	4824	(Mg ⁺⁺)
Sodium	69990	(Na ⁺)
Iron	75.22	(Fe ⁺⁺)
Potassium	1436.0	(K ⁺)
Barium	5.70	(Ba ⁺⁺)
Strontium	1810.00	(Sr ⁺⁺)
Manganese	19.40	(Mn ⁺⁺)
Anions:	mg/L	as:
Bicarbonate	244	(HCO ₃ ⁻)
Sulfate	160	(SO ₄ ⁼)
Chloride	191600	(Cl ⁻)
Gases:		
Carbon Dioxide	750	(CO ₂)
Hydrogen Sulfide	17	(H ₂ S)

BOPCO LP

Lab Test No: 2009135202

DownHole SAT™ Scale Prediction
@ 100 deg. F



Chemical Services

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO3)	0.24	-0.00
Strontianite (SrCO3)	0.00	-0.38
Anhydrite (CaSO4)	0.14	-58.53
Gypsum (CaSO4*2H2O)	0.13	-68.43
Barite (BaSO4)	0.06	-37.11
Celestite (SrSO4)	0.02	-554.69
Siderite (FeCO3)	0.09	-0.01
Halite (NaCl)	0.39	-125409.26
Iron sulfide (FeS)	0.50	-1.34

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



BJ Chemical Services

Account Representative:

Mossman, Willis

Production Water Analysis

Listed below please find water analysis report from: POKER LAKE UNIT, Fresh Water Well 42

Lab Test No: 2010120072

Sample Date:

04/22/2010

Specific Gravity: 1.002

TDS: 1687

pH: 9.20

Cations:	mg/L	as:
Calcium	126	(Ca ⁺⁺)
Magnesium	33.00	(Mg ⁺⁺)
Sodium	87	(Na ⁺)
Iron	0.11	(Fe ⁺⁺)
Potassium	6.0	(K ⁺)
Barium	0.14	(Ba ⁺⁺)
Strontium	1.56	(Sr ⁺⁺)
Manganese	0.04	(Mn ⁺⁺)
Anions:	mg/L	as:
Bicarbonate	183	(HCO ₃ ⁻)
Sulfate	1100	(SO ₄ ⁻)
Chloride	150	(Cl ⁻)
Gases:		
Carbon Dioxide	0	(CO ₂)
Hydrogen Sulfide	17	(H ₂ S)

BOPCO LP

Lab Test No: 2010120072

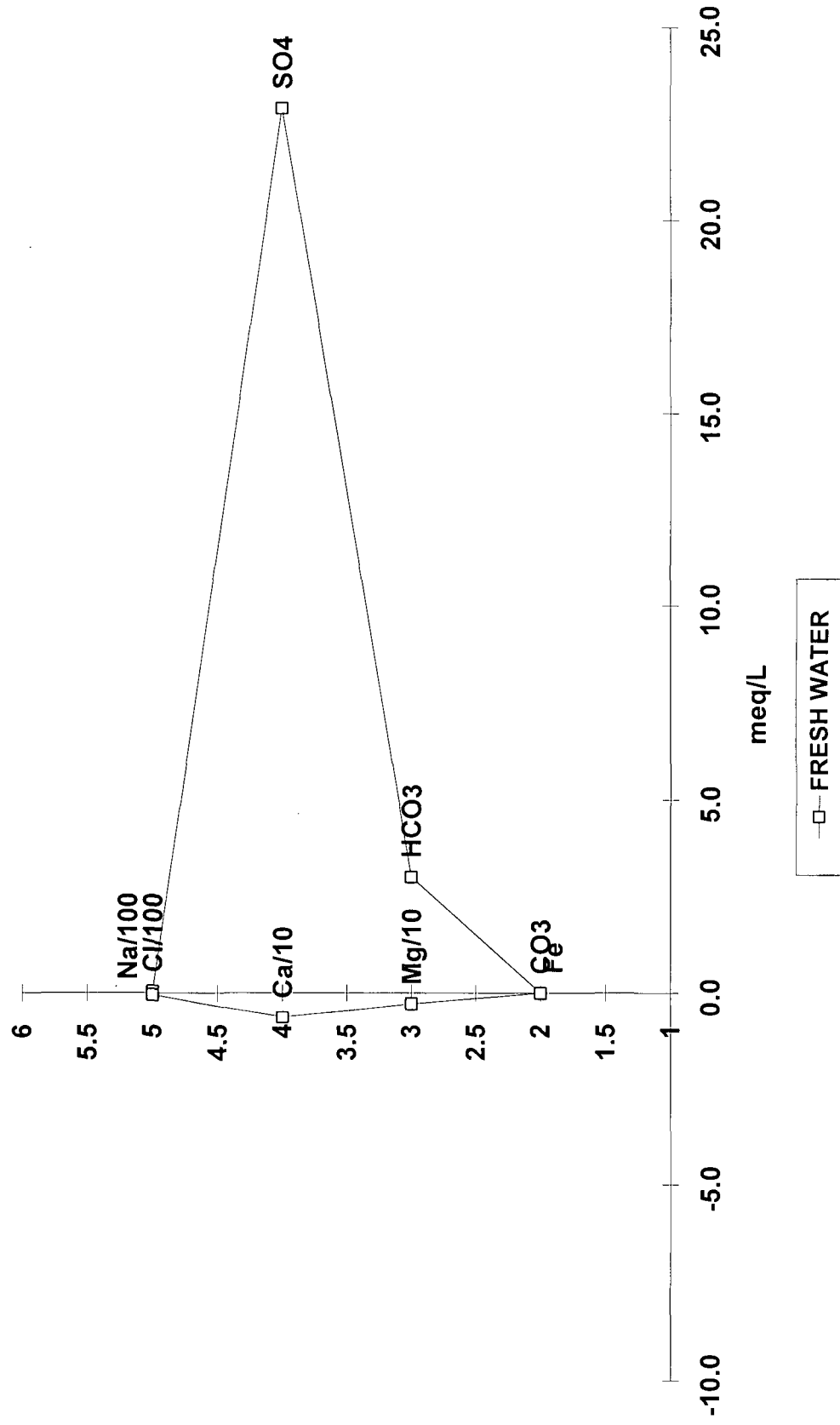
DownHole SAT™ Scale Prediction
@ 100 deg. F**Chemical Services**

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO ₃)	28.17	20.70
Strontianite (SrCO ₃)	1.37	0.67
Anhydrite (CaSO ₄)	0.12	-984.34
Gypsum (CaSO ₄ *2H ₂ O)	0.17	-816.44
Barite (BaSO ₄)	8.94	0.21
Celestite (SrSO ₄)	0.10	-29.93
Siderite (FeCO ₃)	31.24	0.08
Halite (NaCl)	0.00	-451837.41
Iron sulfide (FeS)	834.83	0.03

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.

FRESH WATER STOCK TANK NEAR PLU 42



Analytical Laboratory Report for:

BOPCO LP



BJ Chemical Services

Account Representative:

Mossman, Willis

Production Water Analysis

Listed below please find water analysis report from: POKER LAKE UNIT, Fresh Water Well 91

Lab Test No: 2010120071

Sample Date:

04/22/2010

Specific Gravity: 1.002

TDS: 730

pH: 7.60

Cations:	mg/L	as:
Calcium	109	(Ca ⁺⁺)
Magnesium	29.00	(Mg ⁺⁺)
Sodium	78	(Na ⁺)
Iron	0.50	(Fe ⁺⁺)
Potassium	5.0	(K ⁺)
Barium	0.46	(Ba ⁺⁺)
Strontium	1.31	(Sr ⁺⁺)
Manganese	0.03	(Mn ⁺⁺)
Anions:	mg/L	as:
Bicarbonate	146	(HCO ₃ ⁻)
Sulfate	240	(SO ₄ ⁻)
Chloride	120	(Cl ⁻)
Gases:		
Carbon Dioxide	50	(CO ₂)
Hydrogen Sulfide	17	(H ₂ S)

BOPCO LP

Lab Test No: 2010120071

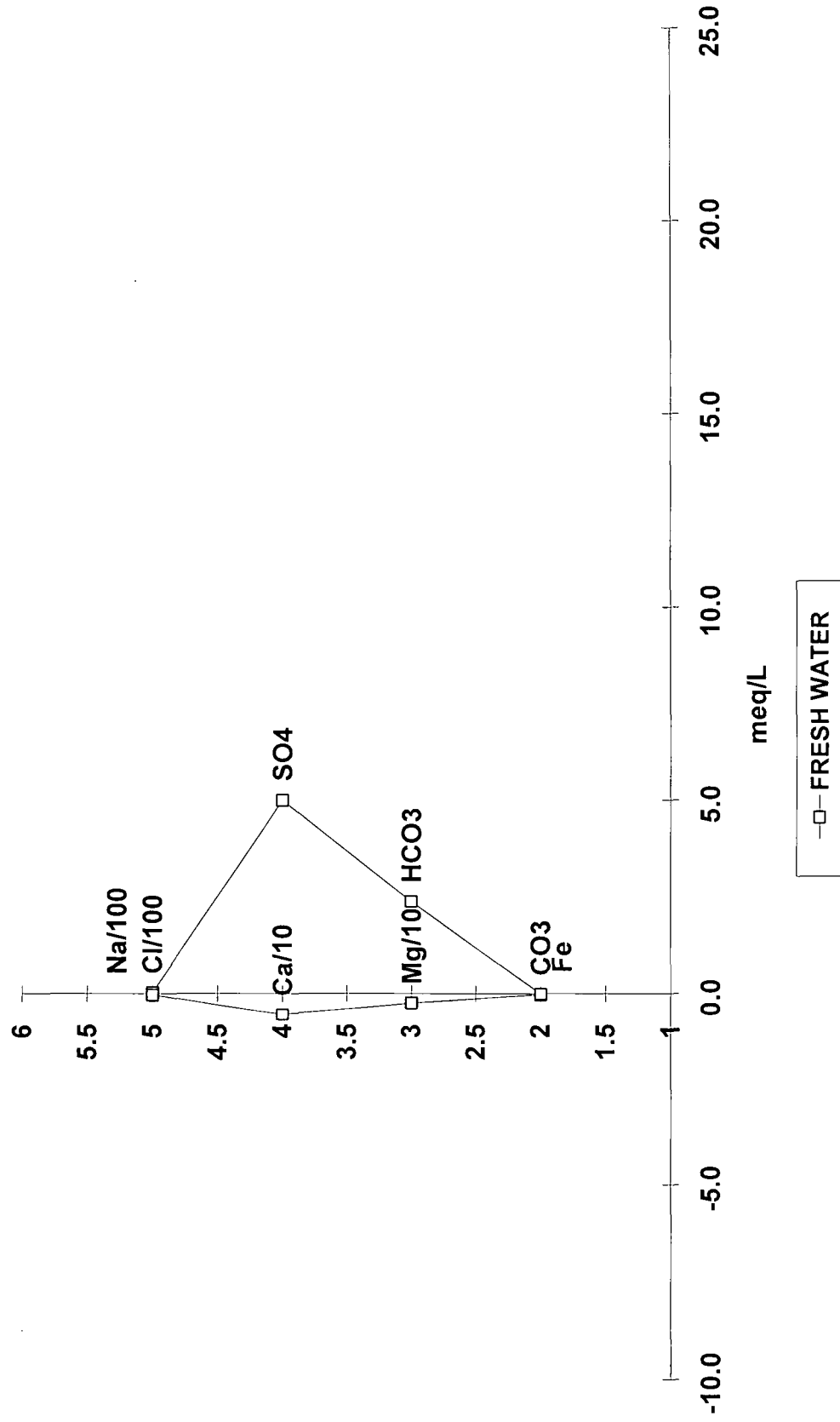
DownHole SAT™ Scale Prediction
@ 100 deg. F**Chemical Services**

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO ₃)	1.50	0.21
Strontianite (SrCO ₃)	0.05	-4.75
Anhydrite (CaSO ₄)	0.04	-1079.08
Gypsum (CaSO ₄ *2H ₂ O)	0.06	-967.16
Barite (BaSO ₄)	9.05	0.70
Celestite (SrSO ₄)	0.03	-85.60
Siderite (FeCO ₃)	14.31	0.58
Halite (NaCl)	0.00	-426942.47
Iron sulfide (FeS)	328.85	0.42

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.

FRESH WATER STOCK TANK NEAR PLU 91



4/22/2010

Analytical Laboratory Report for:

BOPCO LP



BJ Chemical Services

Account Representative:

Mossman, Willis

Production Water Analysis

Listed below please find water analysis report from: POKER LAKE UNIT, Fresh Water Well "A"

Lab Test No: 2010120070

Sample Date:

04/22/2010

Specific Gravity: 1.001

TDS: 353

pH: 7.70

Cations:	mg/L	as:
Calcium	66.00	(Ca ⁺⁺)
Magnesium	14.00	(Mg ⁺⁺)
Sodium	15	(Na ⁺)
Iron	0.00	(Fe ⁺⁺)
Potassium	1.4	(K ⁺)
Barium	0.45	(Ba ⁺⁺)
Strontium	0.66	(Sr ⁺⁺)
Manganese	0.01	(Mn ⁺⁺)
Anions:	mg/L	as:
Bicarbonate	134	(HCO ₃ ⁻)
Sulfate	28	(SO ₄ ⁼)
Chloride	93	(Cl ⁻)
Gases:		
Carbon Dioxide	30	(CO ₂)
Hydrogen Sulfide	17	(H ₂ S)

BOPCO LP

Lab Test No: 2010120070

DownHole SAT™ Scale Prediction
@ 100 deg. F



Chemical Services

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO ₃)	1.38	0.18
Strontianite (SrCO ₃)	0.03	-4.49
Anhydrite (CaSO ₄)	0.00	-1081.38
Gypsum (CaSO ₄ *2H ₂ O)	0.01	-1001.10
Barite (BaSO ₄)	1.40	0.22
Celestite (SrSO ₄)	0.00	-152.18
Siderite (FeCO ₃)	0.00	-0.04
Halite (NaCl)	0.00	-412507.22
Iron sulfide (FeS)	0.00	-0.00

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.

Page 1



CARDINAL LABORATORIES

PHONE (575) 383-2326 • 101 E. MARLAND • HOBBS, NM 88240

May 10, 2010

Clay Houston
Shackelford Oil Co.
3510 N. A Street, Bldg. B, Suite 100
Midland, TX 79705

687-2662

Re: Lebow #6 (Revised Report)

Enclosed are the results of analyses for sample number H19814, received by the laboratory on 05/04/10.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

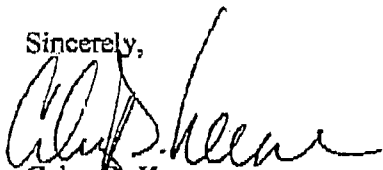
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 4 (includes Chain of Custody)

Sincerely,


Celey D. Keene
Laboratory Director

MAY-10-2010(MON) 10:20 SHACKELFORD
Rx Date/Time MAY-10-2010(MON) 10:17
05/10/2010 10:11 5753932476

(FAX) 1+432+684+5026 P. 002/004
5753932476 P. 002
CARDINAL LABS PAGE 02/04



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

ANALYTICAL RESULTS FOR
SHACKELFORD OIL
ATTN: CLAY HOUSTON
3510 N. A. ST., BLDG. B, SUITE 100
MIDLAND, TX 79705
FAX TO: (432) 684-5026

Receiving Date: 05/04/10
Reporting Date: 05/10/10*
Project Number: NOT GIVEN
Project Name: LEBOW #6 *
Project Location: SEC. 25 - T19S - 30E *

Analysis Start Date: 05/04/10 3:30 PM
Analysis End Date: 05/08/10 3:00 PM
Sampling Date: 05/04/10
Sample Type: WATER
Sample Condition: INTACT @ 39°C
Sample Received By: JH
Analyzed By: CK

<u>Laboratory No.</u>	<u>Sample ID</u>	<u>Total Coliform</u>	<u>E. coli</u>
H19814-1	WATER SAMPLE	ABSENT	ABSENT

METHODS: HACH 8364

*Revised Report


Chemist


Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for damages caused by other claims whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated theories or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



PHONE (575) 393-2328 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
 SHACKELFORD OIL
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 3510 N. A. ST., BLDG. B, SUITE 100
 MIDLAND, TX 79705
 FAX TO: (432) 684-5026

Receiving Date: 05/04/10
 Reporting Date: 05/10/10*
 Project Number: NOT GIVEN
 Project Name: LEBOW #6 *
 Project Location: SEC. 25 - T19S - 30E *

Sampling Date: 05/04/10
 Sample Type: WATER
 Sample Condition: INTACT @ 35°C
 Sample Received By: JH
 Analyzed By: HM/AB

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (μ S/cm)	T-Alkalinity (mgCaCO ₃ /L)
ANALYSIS DATE:		05/05/10	05/05/10	05/05/10	05/05/10	05/05/10	05/05/10
H19814-1	WATER SAMPLE	8,160	842	243	200	38,000	750
Quality Control		NR	48.1	51.0	2.92	1,420	NR
True Value QC		NR	60.0	50.0	3.00	1,413	NR
% Recovery		NR	96.2	102	97.3	100	NR
Relative Percent Difference		NR	8.0	4.8	3.1	0.8	NR

METHODS:	SM3500-Ca-D3500-Mg E	8049	120.1	310.1
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	Cl (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	05/05/10	05/05/10	05/05/10	05/05/10	05/05/10	05/05/10
H19814-1 WATER SAMPLE	13,000	1,960	0	915	7.09	22,600
Quality Control	500	44.4	NR	988	6.98	NR
True Value QC	500	40.0	NR	1000	7.00	NR
% Recovery	100	111	NR	98.8	100	NR
Relative Percent Difference	< 0.1	2.0	NR	<0.1	0.7	0.4

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	180.1
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*Revised Report

Chemist

Date

P. 004/004

P. 004

PAGE 04/04



ORDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2141 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7004 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

