DATE IN 10, 24/11 SUSPENSE ENGINEER TW , LOGGED IN 10, 24/11 TYPE TPT APP NO. 1129450898

ABOVE THIS LINE FOR DIVISION USE ONLY

#### NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



BOPCE

### ADMINISTRATIVE APPLICATION CHECKLIST 30-015-27454

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

Аррис	[DHC-Dow	ndard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  whole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  ol Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  [SWD-Saft Water Disposal] [IPI-Injection Pressure Increase]  lified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]
[1]	TYPE OF AP [A]	PLICATION - Check Those Which Apply for [A]  Location - Spacing Unit - Simultaneous Dedication  NSL NSP SD
	Check [B]	One Only for [B] or [C]  Commingling - Storage - Measurement  DHC DHC DR DHC DR DHC DR DHC DHM
	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  WFX PMX SWD IPI EOR PPR  Other: Specify  Other: Specify  Working, Royalty or Overriding Royalty Interest Owners
	[D]	Other: Specify
[2]	NOTIFICAT [A]	ION REQUIRED TO: - Check Those Which Apply, or Does Not Apply  Working, Royalty or Overriding Royalty Interest Owners  Offset Operators, Leaseholders or Surface Owner  Application is One Which Requires Published Legal Notice
	[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]		CURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE ATION INDICATED ABOVE.
	val is <b>accurate</b> a	<b>FION:</b> I hereby certify that the information submitted with this application for administrative and <b>complete</b> to the best of my knowledge. I also understand that <b>no action</b> will be taken on this quired information and notifications are submitted to the Division.
	Note:	Statement must be completed by an individual with managerial and/or supervisory capacity.
Sco Print o	H Thomas r Type Name	Signature Production Engineer 10/21/11  Title Date
		SHThomas & basspet. com

e-mail Address



## BOPCO, L.P.

### P. O. BOX 2760 MIDLAND, TEXAS 79702

RECEIVED OCD

2011 OCT 24 A 12: 41

October 18, 2011

TO:

**TERRY WARNELL** 

FROM:

**CARLOS CRUZ** 

RE:

REQUEST FOR MAXIMUM ALLOWABLE SURFACE PRESSURE INCREASE

**BIG EDDY UNIT #122** 

HACKBERRY SOUTH FIELD EDDY COUNTY, NEW MEXICO

Dear Sir:

BOPCO, L.P. would like to make a formal request to increase the maximum allowable surface injection pressure from 934 psi to 1,045, psi for the Big Eddy Unit #122.

The Big Eddy Unit #122 (API 30-015-27454) is located 1980 feet from the North line and 1980 feet from the West line, Section 4, Township 20 South, Range 31 East, Eddy County, New Mexico. On 10/18/11 the well was injecting approximately 450 bbls of water per day at a surface pressure of 450 psi.

As more of our new drills are put on production and our established wells produce more water it becomes paramount that our SWD operations are optimized. Ensuring the greatest volume of water is disposed of while still remaining under the formation fracture pressure.

Findings from the 10/18/11 Step Rate Test demonstrate that 1,095 psi is in fact the formation fracture pressure. It is therefore requested that a conservative compromise of 1,045 psi be used as the surface injection pressure. This would allow for approximately 2800 bbls of water disposed of per day as seen from the SRT data. This would greatly assist in alleviating our water disposal issues while avoiding fracturing the formation.

We appreciate your time and consideration in the above matters and hope our findings are adequate enough to warrant the requested pressure amendments.

Along with this letter please find the following attachments:

THE CONTRACTOR OF THE PROPERTY OF THE PROPERTY

- Step Rate Test
- Surface Pressure Chart
- , Up-to-date Wellbore Diagram
- ..... Copy of the disposal permit.

CARĽOS CRUZ



# \*

#### 010.Downhole Profile - Vertical Wells

Well ID: 30-015-27454

Field: Hackberry Strawn, South 29460

#### BOPCO, L.P. - West Texas Well Name: BIG EDDY UNIT #122

Sect: 4 Town: 20S Rng: 31E County: Eddy State: New Mexico

		Original Hole, 8/26/2011	8:20:38 AM		Well Inform		IVO O-4	(A) I Count Data	IO- D-d-d-	- D-I- In	IDTO (AII) (AIXI)	
	TVD				3,50	(ft) Gr Elev (ft) 03.00 3,	486.00 KB-Grd	(ft) Spud Date 17.00 6/24/1993	On Production		BTD (All) (ftKB) Original Hole - 6,	948.0
Incl (°)	(ftK B)	Vertical so	hematic (actu	sal)	Wellbore Na	me: Original Hole			Kick Off	Depth (ftK)	8)-	
			П		Trembere Ha	Size (in)		Act Top (ftKB)		Dopur (itro	Act Btm (ftK	
			1				14 3/4		17.0 869.0			869. 4,194.
	unu	monumentanumuning paint		MARININANIARA MANIARA			7 7/8		4,194.0			11,600.
		₩.	11.8		Schamatic	Annotations	4 3/4		11,600.0			12,850
		- W					epth (ftKB)	THE RESERVE OF THE PARTY OF THE	Annota	ation		
		8	88		Casing Str	inge						
1 1		8	1 8		Cs	g Des	Wellbor	e OD (in)	Wt (lb/ft)	Grade	Top Thread	Set @ (ftKB
			8		Surface Intermediate		Original Hole Original Hole	11 3/4 8 5/8	42.00 H-4 24.00 K-5			869. 4,194.
		Description:Surface	9888	Item number:1; Description:Surface;	Production		Original Hole	5 1/2	17.00 K-5	5		11,600.
		Casing Cement; Depth (MD):17.0-	1 8	OD:11 3/4 in; -ID:11.084 in; Depth	Liner Perforation		Original Hole	3 1/2	9.30 L-8	0		12,850.
		869.0 ftKB; Date:6/25/1993		(MD):20.4-869.0 ftKB; Length:848.63	Perf Date	Top (ftKB)		Zone	STATE OF THE		Current Sta	tus
				ft	6/27/2011 3/18/2010	6,620.0 6,875.0		Delaware, Original Hole Lwr Brushy Canyon Y, Orig	inal Hole	Active P&A (6.87	5.0 - 6,892.0)	
		Description:Cement			3/4/2010	10,378.0	10,398.0	Wolfcamp, Original Hole		P&A (10,3	78.0 - 10,398.0)	
		; Depth (MD):2,560.0-			8/5/1993 8/23/1993	11,368.0		Morrow, Original Hole Strawn, Original Hole		P&A (11,3 P&A	68.0 - 11,412.0)	
		2,872.0 ftKB; Date:7/2/1993			8/23/1993	12,714.0		Morrow, Original Hole	120100	P&A		Parent In
					Tubing Str Tubing Descr		Run Date	String	Length (ft)		Set Depth (ftKB	1
					Tubing	<b>*</b>	7	7/27/2011		6,561.69	State 5	6,578
				****	No. 5-1 2-7/8	8° 6.5 ppf L-80 8R	D Tubing ( IPC		Jts 203	OD (in) \	6.50 L-80	le Top (ftKB) 16.
					5-2 5-1/2	2" x 2-7/8" Baker L			1	27/8	3200	6,573.
		Description:Interme	88	Item number:2; Description:Interme		nhole Equipme	ent		1	2 7/8		6,577.
		diate Casing Cement; Depth	9 8	diate; OD:8 5/8 in; -ID:8.017 in; Depth	Run Date		De	S S S S S S S S S S S S S S S S S S S	OD (in)	Тор	(ftKB)	Btm (ftKB)
	7	(MD):2,872.0- 4,194.0 ftKB;	99	(MD):19.4-4,194.0 ftKB:	6/24/2011 3/16/2010	Bridge Plug - I Bridge Plug - I		Marie State and the control of	No. of the last		6,860.0 10,368.0	6,861. 10,369.
	1	Date:7/2/1993	1 8	Length:4,174.57 ft	7/25/2007	Bridge Plug - I	Permanent	Market State of the State of th			11,190.0	11,191.
		8	- B		7/16/1997 4/8/1997	Blanking Plug Bridge Plug - I			1/	3	12,619.8 12,650.0	12,620. 12,651.
			1 8		4/2/1997	Bit cone		Martin Commence	DATE OF STREET		12,784.6	12,785.
			1 8		Rod String Rod Descripti		Run Date	I String I	Length (ft)		Set Depth (ftKB	1
		N N	1 8		Rod			4/6/2010		6,779.00		6,775.
			OH		Item#	shed Rod w/ 1-1/2	x 16' liner	Des	Jts	OD (in) 1	Wt (lb/ft) Grad	le Top (ftKB) -4.
	1					D Sucker Rod			81	7/8	2.22 D	22.
	1	Description:Cement Plug; Depth	3			D Sucker Rod D Sucker Rod			178	3/4 7/8	1.63 D 2.22 D	2,047.1 6,497.1
		(MD):6,825.0-	<b>2</b>			Centralizer			1	3/4		6,747.
		Date:6/25/2011	N.			Insert Pump x 20' dip tube.			1	3/4	Marin Spirit	6,751. 6,775.
1		Description:Cement ; Depth	5			d screen 1" x 3"	rda isia		100	1		6,775.
	1	(MD):3,000.0- 7,009.0 ftKB;	××× 8		Cement Surface Ca	sing Cement,	6/25/1993				Marine and Allegain	
		Date:7/29/1993 Description:Cement			String: Surfa	ice, 869.0ftKB		Cement Evaluation I				
		Plug; Depth (MD):6,948.0-	<b>8</b>		Stage Number	or Stage Top (ftk	(B) Stage 8	Bottom (ftKB) Vol Cement F 869.0	Ret (bbl) 18.0	Top Measur	rement Method	
		7,088.0 ftKB; Date:3/16/2010	3		Lead	Fluid		Amount (sacks)	Class	Dens (lb	/gal) Y	ield (ft³/sack)
			200		Tail	terischer de		200 C			14.80	1.3
		Description:Cement	N. A.			te Casing Cen						
		Plug; Depth (MD):9,999.0-	<b>8</b>			mediate, 4,194.0fth er Stage Top (ftk	(B) Stage B	Cement Evaluation I Bottom (ftKB)   Vol Cement F	Ret (bbl)	Top Measur	rement Method	
		10,368.0 ftKB; Date:3/16/2010				Chala	2,872.0	4,194.0	Close	Dens (lb)	(nal) V	iold (fl³/pack)
1		18	Q.		Lead	Fluid		Amount (sacks)	Cidoo	Della (ID)	13.00	1.9
		Description:Cement	8		Stage Number	er   Stage Top (ftk	(B) IStage F	250 C Bottom (ftKB) Vol Cement F	Ret (bbl)	Top Measur	14.80 rement Method	1.3
		Plug; Depth (MD):11,147.0-	<b>8</b>		orage Hambe	2	2,560.0	2,872.0		Volume Cal	culations	
		11,190.0 ftKB; Date:7/25/2007			Tail	Fluid		Amount (sacks)	Class	Dens (lb.	(gal) Y	ield (ft³/sack) 1.3
		No.	9696			Casing Ceme						
		8	100		String: Produ	er Stage Top (ftk	(B) Stage 8	Cement Evaluation I Bottom (ftKB) Vol Cement F	Ret (bbl)		rement Method	
	1	Description:Cement Plug; Depth				1 Fluid	7,009.0	11,600.0 Amount (sacks)		Tagged Dens (lb		ield (ft³/sack)
-		(MD):11,245.0-1 11.345.0 ftKB:			Lead	T HOLD		350		- une (its	12.70	1.8
			Contract Sections		Tail Stage Number	er   Stage Top (ftk	(B) IStage	525   Bottom (ftKB)   Vol Cement F	Ret (bbl)	Top Measur	15.60 rement Method	1.2
		Date:7/18/2007				2	3,000.0	7,009.0				iold (filter 1)
		Date:7/18/2007 Description:Cement Squeeze; Depth	200					Amount (sacks)	Class	Dens (Ib	/gal) Y	ield (ft³/sack) 1.8
		Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,368.0- 11,412.0 ftKB;			Lead	Fluid		625			12.70	
		Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,368.0-			Tail					2100	14.80	1.3
		Date:7/18/2007 Description:Cernent Squeeze; Depth (MD):11,368.0- 11,412.0 RKB; Date:2/5/1997		Item number:3;	Tail Cement Sq	jueeze , 2/5/19		625	Results:			1.3
	c	Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,368.0- 11,412.0 flkB; Date:2/5/1997  Description:Producti on Casing Cement;	6	Description:Producti on; OD:5 1/2 in;	Cement Sq String: Produ	uceze , 2/5/19 uction, 11,600.0ftk or Stage Top (ftk	(B) Stage (	625 50 Cement Evaluation I Bottom (ftKB) Vol Cement F	Ret (bbl)		14.80 rement Method	1.3
	c	Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,386.0- 11,412.0 ftKB; Date:2/5/1997  Description:Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB;	989	Description:Producti on; OD:5 1/2 in; –ID:4.892 in; Depth (MD):15.6-11,600.0	Tail  Cement Sq String: Produ Stage Number	uceze , 2/5/19 uction, 11,600.0ftk or Stage Top (ftk 1 1 1 1	B	625 50 Cement Evaluation 1 Bottom (ftKB) Vol Cement F 11,412.0 Amount (sacks)	Ret (bbl)	Top Measur Volume Cal Dens (Ib	rement Method culations	ield (ft³/sack)
	c	Date:7/18/2007 Description:Cerment Squeezes, Depth (MD):11.368.0- 11.412.0 RtRs; Date:2/5/1997  Description:Producti on Casing Cerment; Depth (MD):7.009.0		Description:Producti on; OD:5 1/2 in; -ID:4.892 in; Depth	Tail  Cement Sq  String: Produ Stage Number	gueeze , 2/5/19 uction, 11,600.0ftk or Stage Top (ftk 1 1 1 Fluid	(B) Stage 8 1,368.0	Cement Evaluation I Bottom (ftKB) Vol Cement F 11,412.0	Ret (bbl)	Volume Cal	14.80 rement Method culations	ield (ft³/sack)
	C	Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,386.0- 11,412.0 ftKB; Date:2/5/1997  Description:Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB; Date:7/29/1993		Description:Producti on; OD:5 1/2 in; -ID:4.892 in; Depth (MD):15.6-11,600.0 ftKB;	Tail  Cement Sq. String: Produ Stage Number  Cement Sque Liner Cement String: Liner,	Juceze , 2/5/19 Juction, 11,600.0ftk or Stage Top (fix fluid ezze ent , 3/14/1997 112,850.0ftKB	(B) Stage 6 1,368.0	Cement Evaluation I Sottom (fixE) Vol Cement F 11,412.0 Amount (sacks) 350 H Cement Evaluation I	Ret (bbl) Class Results:	Volume Cal	rement Method culations	ield (ft³/sack)
	C	Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,388.0- 11,412.0 ftKB; Date:2/5/1997  Description:Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB; Date:7/29/1993  Description:Cement Plug: Depth		Description:Producti on; OD:5 1/2 in; -ID:4.892 in; Depth (MD):15.6-11,600.0 ftKB;	Tail  Cement Sq. String: Produ Stage Number  Cement Sque Liner Cement String: Liner,	pueeze , 2/5/19 puction, 11,600.0ftk or   Stage Top (ftk fill Fluid eze ent , 3/14/1997 12,850.0ftKB or   Stage Top (ftk	(B) Stage 6 (B) Stage 8 (B) Stage 8	625     50     Cement Evaluation     Cement Final   Vol Cement Final     11,412     Arnount (sacks)     350     Cement Evaluation     350     Cement Evaluation     350   Cement Final     350   Cement Final     350   350     350   350     350   350     350     350	Class  Results: Ret (bbl)	Volume Cal Dens (lb	rement Method culations	ield (ft³/sack)
	C	Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,388.0- 11,412.0 ftKB; Date:2/5/1997  Description:Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB; Date:7/29/1993  Description:Cement Plug; Depth (MD):12,620.0- 12,650.0 ftKB;		Description:Producti on; OD:5 1/2 in; -ID:4.892 in; Depth (MD):15.6-11,600.0 ftKB;	Cement Squ String: Produ Stage Number Cement Sque Liner Cement String: Liner, Stage Number	pueeze , 2/5/19 puction, 11,600.0ftk or   Stage Top (ftk fill Fluid eze ent , 3/14/1997 12,850.0ftKB or   Stage Top (ftk	(B) Stage 6 1,368.0	Cement Evaluation is Solton (RKB) Vol Cement F 11,412.0 Amount (sacks)  Cement Evaluation is Solton (RKB) Vol Cement F 12,850.0 Amount (sacks)	Class  Results: Ret (bbl)	Volume Cal Dens (Ib	rement Method (culations /gal) Y 15.60 Yeement Method	ield (ft³/sack) 1.1 ield (ft³/sack)
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	c	Date: 7/18/2007 Description: Cement Squeeze; Depth (MD):11,386.0- 11,412.0 ftKB; Date: 2/5/1997  Description: Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB; Date: 7/29/1993  Description: Cement Plug: Depth (MD):12,620.0- 12,650.0 ftKB; Date: 4/8/1997 Description: Auto Cement plug: Depth		Description:Producti on; OD:5 1/2 in; -ID:4.892 in; Depth (MD):15.6-11,600.0 ftKB;	Tail  Cement Sq String: Produ Stage Number  Cement Sque Liner Cement String: Liner, Stage Number  Lead  Cement Pit String: Liner,	Use   2/5/15   Use	(B) Stage (1,300.0) Stage (1,300.0)	Cement Evaluation i 3ottom (fitXB) Vol Cement F 11,412.0 Amount (sacks) 350 H  Cement Evaluation i 3ottom (fitXB) Vol Cement F 12,850.0 Amount (sacks) 150  Cement Evaluation i	Class  Results: Ret (bbl)  Class  Results:	Volume Cal Dens (Ib Top Measur Tagged Dens (Ib	rement Method (culations /gal) Y 15.60 Yearn Method /gal) Y 16.00 Y 16.00	ield (ft³/sack) 1,1
	c	Date:7/18/2007 Description:Cement Squeeze; Depth (MD):11,388.0- 11,412.0 ftKB; Date:2/5/1997  Description:Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB; Date:7/29/1993  Description:Cement Plug; Depth (MD):12,620.0- 12,650.0 ftKB; Date:4/8/1997 Description:Auto cement plug; Depth (MD):12,785.0- 12,850.0 ftKB;	• • • • • • • • • • • • • • • • • • •	Description:Producti on; OD:5 1/2 in; -ID-4.892 in; Depth (MD):15.6-11.600.0 flKB: Length:11,584.38 ft	Tail  Cement Sq String: Produ Stage Number  Cement Sque Liner Cement String: Liner, Stage Number  Lead  Cement Pit String: Liner,	Use   2/5/19   Use   U	(B) Stage (B) (B) Stage (B)	Cement Evaluation i Sottom (RKS) Vol Cement F 11,41.2 Amount (sacks)   Cement Evaluation i 350   Cement Evaluation i 150   Cement Evaluation i 350   Amount (sacks)   150   Cement Evaluation i 350   Amount (sacks)	Class  Class  Results: Ret (bbl)  Class  Results: Ret (bbl)	Top Measur Top Measur Top Measur Top Measur	rement Method culations /gal) Y 15.60 Y 16.00 Y 16.00	ield (ft³/sack) 1,1
	c	Date: 7/18/2007 Description: Cement Squeeze; Depth (MD):11,386.0- 11,412.0 ftKB; Date: 2/5/1997  Description: Producti on Casing Cement; Depth (MD):7,009.011,600.0 ftKB; Date: 7/29/1993  Description: Cement Plug: Depth (MD):12,620.0- 12,650.0 ftKB; Date: 4/8/1997  Description: Auto cement plug: Depth (MD):12,785.0- 12,850.0- 12,850.0- 12,850.0- 12,850.0- 12,850.0- 12,850.0- 12,850.0- 12,850.0- 18,850	•	Description:Production on; OD:5 1/2 lin; on; OD:5 1/2 lin; on; OD:5 1/2 lin; on; OD:5 1/2 lin; on; OD:6 1/2 lin; on; OD:6 1/2 lin; oD:6 1/2 li	Tail Cement Sq String: Produ Stage Numbe Cement Sque Liner Ceme String: Liner, Stage Numbe Lead Cement Plu String: Liner, Stage Numbe	pueeze , 2/5/19 Jucilon, 11,600.0ftkin  Stage Top (fits)  Fluid  Particle  P	(B) Stage (1,300.0) Stage (1,300.0)	Cement Evaluation i 3ottom (fitXB) Vol Cement F 11,412.0 Amount (sacks) 350 H  Cement Evaluation i 3ottom (fitXB) Vol Cement F 12,850.0 Amount (sacks) 150  Cement Evaluation i	Class  Class  Results: Ret (bbl)  Class  Results: Ret (bbl)	Volume Cal Dens (Ib Top Measur Tagged Dens (Ib	rement Method culations //gal) Y 15.60 Y 16.00	ield (ft³/sack) 1.1 ield (ft³/sack)
	c	Date: 7/18/2007  Description: Cement Squeeze; Depth (MD):11,386.0-11,412.0 ftKB: Date: 2/5/1997  Description: Producti on Casing Cement: Depth (MD):7,009.0-11,600.0 ftKB: Date: 7/29/1993  Description: Cement Plug: Depth (MD):2,620.0-12,650.0 ftKB: Description: All Cement Plug: Depth (MD):2,756.0-12,850.0 ftKB: Date: 7/758.0-12,850.0 ftKB: Date: 3/14/1997	X X	Description-Producti on; OD:5 1/2 in; —ID:4.892 in; Depth (MD):15.6-11,600.0 ft/GB; Length:11,584.38 ft	Tail Cement Sq String: Produ Stage Number Cement Sque Liner Cement String: Liner, Stage Number Lead Cement Plu String: Liner, Stage Number Cement Plu	pueeze , 2/5/19 Jucilon, 11,600.0ftkin  Stage Top (fits)  Fluid  Particle  P	(B) Stage (B) (B) Stage (B)	Cement Evaluation	Class  Class  Results: Ret (bbl)  Class  Results: Ret (bbl)	Top Measur Top Measur Tagged Dens (Ib	rement Method culations //gal) Y 15.60 Y 16.00	1.1i ield (ft³/sack) 1.1:

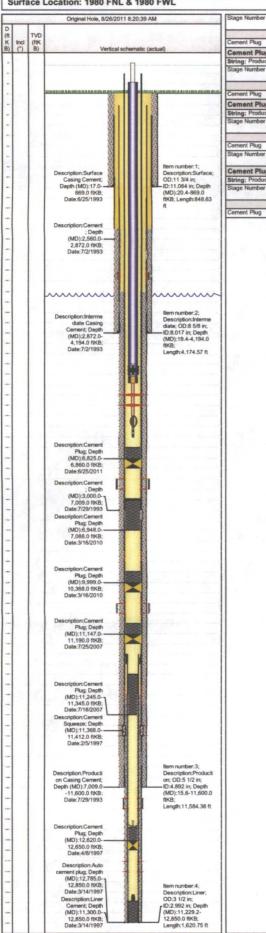
010.Downhole Profile - Vertical Wells

Well ID: 30-015-27454

Field: Hackberry Strawn, South 29460

BOPCO, L.P. - West Texas Well Name: BIG EDDY UNIT #122

Sect: 4 Town: 20S Rng: 31E County: Eddy State: New Mexico



Stage Number 1	Stage B	Bottom (ftKB) Vol Cement Ret (bbl) 11,345.0			Top Measurement Method Volume Calculations			
Fluid			Amount (sacks)		Class	Dens (lb/gal)	Yield (ft³/sack)	
Cement Plug			60 H		4	15.60	1.18	
Cement Plug	, 7/25/2007			19.7				
String: Product	ion, 11,600.0ftKB		Cement Ev	aluati	on Results:			
Stage Number 1	Stage Top (ftKB) 11,147.0		lottom (ftKB) Vol 11,190.0	Ceme	ent Ret (bbl)	Top Measurement Met Wireline Tag	hod	
	Fluid	0000	Amount (sacks)		Class	Dens (lb/gal)	Yield (ft³/sack)	
Cement Plug	Walter Carlo Barrier		The state of the s	H	1			
Cement Plug	, 3/16/2010			100				
String: Product	ion, 11,600.0ftKB		Cement Ev	aluati	on Results:			
Stage Number 1	Stage Top (ftKB) 9,999.0		lottom (ftKB) Vol 10,368.0	Ceme	ent Ret (bbl)	Top Measurement Met Volume Calculations	hod	
	Fluid		Amount (sacks)		Class	Dens (lb/gal)	Yield (ft³/sack)	
Cement Plug	100000		30		+	15.60	1.18	
Stage Number Stage Top (ftKB) Stage 6,948.0			Bottom (ftKB) Vol Cement Ret (bbl) 7,088.0			Top Measurement Method Tagged		
Cement Plug	, 6/25/2011	The same	A Charles	100				
String: Product	ion, 11,600.0ftKB		Cement Ev	aluati	on Results:			
Stage Number	Stage Top (ftKB) 6,825.0		lottom (ftKB) Vol 6,860.0	Ceme	ent Ret (bbl)	Top Measurement Met Volume Calculations	hod	
	Fluid		Amount (sacks)		Class	Dens (lb/gal)	Yield (ft³/sack)	
Cement Plug				5 (	2			

(August 2007)	Dj	UNITED STATE EPARTMENT OF THE I EUREAU OF LAND MANA	NTERIOR TO OCD Artes	FO OM Exp	RM APPROVED IB NO 1004-0135 ires. July 31, 2010
		NOTICES AND REPO		5. Lease Scrial N NMNM0455	
	Do not use th	is form for proposals to iii. Use form 3160-3 (AP	drill or to re-enter an	6. If Indian, Alloi	tee or Tribe Name
	SUBMIT IN TR	PLICATE - Other instruc	ctions on reverse side.	7: If Unit or CA/ NMNM1001	Agreement, Name and/or No. 95
I. Type of Well Oil Well	g Gas Well □ Ot	her	ayaran ahiyyaharan Arraa aana qalifa ka aasiisa ahaayireeg	8 Well Name and BIG EDDY 12	
2. Name of Operati BOPCO LP	or	Contact: E-Mail: vitruax@b	VALERIE TRUAX	9. API Well No. 30-015-274	54-00-S2
3a Address MIDLAND, T.	X 79702		3b. Phone No. (include area code Ph.: 432-683-2277	) IO. Field and Poo S HACKBER	il, or Exploratory RRY
4 Location of Wel	(Foolage, Sec.,	T. R., M., or Survey Description	),	11. County or Par	rish, and State
Sec 4 T20S I	R31E SENW 198	30FNL 1980FWL		EDDY COU	NTY, NM
12	CHECK APP	ROPRIATE BOX(ES) TO	D INDICATE NATURE OF	NOTICE, REPORT, OR OT	HER DATA
TYPE OF SU	JBMISSION		ТҮРЕ О	F ACTION	
Notice of In	tent	Acidize Acidize	Deepen	☐ Production (Start/Resume	Water Shut-Off
Subsequent		Alter Casing	Fracture Treat	Reclamation	□ Well Integrity
-	•	Casing Repair	New Construction	Recomplete	Other
- Final Abanc	Ionment Notice	Change Plans	Plug and Abandon	Temporarily Abandon	
M. Describe Proper	ad or Complete On	Convert to injection	☐ Plug Back	□ water Disposal	
If the proposal is Attach the Bond following compl testing has been determined that	to deepen direction under which the wo etion of the involved completed. Final Althe site is ready for the site	ally or recomplete horizontally, ally or recomplete horizontally, or will be performed or provide loperations. If the operation rebandonment Notices, shall be fulling inspection.)	Plug Back  If details, including estimated starting give subsurface locations and measure the Bond No. on file with BLM/BL suits, in a multiple completion or record the Bond No. on the with BLM/BL suits, in a multiple completion or record of the BY STATE  a SWD well. (Note that the of 10, but was canceled by a su second time) to convert the Fernance of the Starting of the Startin	ng date of any proposed work and a ured and true vertical depths of all p A Required subsequent reports sha ompletion in a new interval, a Form ding reclamation, have been comple	pproximate duration interests, perturent markers and zones. If life flied within 30 days 1160 appell be filed once fied, and the operator has
***REVISED*	** ;	4 APPR	OVAL BY STATE		JUN - VER
BOPCO, L.P. SWD request 2010, to P&A SWD; ***while	respectfully wis was approved t This sundry is a canceling the a	nes to convert this well to by the BLM on Nov 10, 20 requesting permission (a approved P&A sundry.)	a SWD well. (Note that the o 10, but was canceled by a su second time) to convert the E	riginal sundry indry, approved Dec 29, BEU #122 to a	AOCD ARTESIA
BOPCO, L.P. as of July 30, conversion pr	2010 by Admini	rized to utilize this well to strative Order No. SWD-1	Inject produced water for disp 252. The following procedure 2.32.	posal puposes a outlines the SWD SPC (0	
Add Delaware	zones for SWD	w/in permitted it	VERACULED FOR DITIONS OF APPE	forated zone is (qs: \ng/fi	bing annulus

must be 14. Thereby certify that the foregoing is true and correct.

Electronic Submission #109497 verified by the BLM Well Information System
For BOPCO LP, sent to the Carlsbad

Committed to AFMSS for processing by WESLEY INGRAM on 06/02/2011 (11WW(0026SE) **AUTHORIZED REPRESENTATIVE** Name (Printed/Typed) VALERIE TRUAX Title

٠ ا Signature (Electronic Submission) 06/02/2011

Accepted for record NMOCD RI

#### THIS SPACE FOR FEDERAL OR STATE OFFICE USE

		٠.
Approved By CHRISTOPHER WALLS	THEPETROLEUM ENGINEER	Date 06/07/201
Conditions of approval, if any, are attached. Approval of this notice does not warrant or	the second of th	1
certify that the applicant holds legal or equitable title to those rights in the subject lease		•
which would entitle the applicant to conduct operations thereon.	Office Carlsbad	·

Title 18.U.S.C. Section 1001 and Title 43.U.S.C. Section 1212; make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

#### Additional data for EC transaction #109497 that would not fit on the form

#### 32. Additional remarks, continued

6,620'-6,640'. RIH w/ CIBP & set at 6,870'. Dump ball 35' cmt on top of CIBP leaving new PBTD of 6,835'. RIH w/ 2-7/8" workstring down to 6,700'. Spot 1000 gal of 7-1/2% NEFE HCI acid across perforated interval. Perf from 6,620'-6,640'. Frac down csg. as follows: 113,951 gal fluid & 10,000# LiteProp 125. RIH w/ 5-1/2" Lockset Nickel plated ext/int PC pkr on 2-7/8" J-55 IPC tog to 6,570'. Place well on injection not exceeding 934 psi.

### Warnell, Terry G, EMNRD

TII prom

To: Subject: ccruz@basspet.com IPI for Big Eddy Unit #122

BobCO 260737

Hi Carlos,

We got your paper work for the above mentioned IPI What I didn't get, yet, was the Administrative Application Checklist <a href="http://www.emnrd.state.nm.us/OCD/documents/admnapp.pdf">http://www.emnrd.state.nm.us/OCD/documents/admnapp.pdf</a>

Also your Oct 18<sup>th</sup> cover letter needs a correction on the second paragraph I think the well name is incorrect?

Also if you could request 1045 psi

OCD standard is to take the SRT (1095) and subtract 50 as a safety factor

You can Fax it or just attach everything to an e-mail

Big Eddy #122

Fed

Thanks,

Terry Warnell Engineering, Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, NM 87505 Tel 505.476.3466 ~ Fax 505.476.3462

Ale 976-1



## BOPCO, L.P.

P. O. BOX 2760 MIDLAND, TEXAS 79702

F. 4-205-316 Edg-Fed.

TO:

TERRY WARNELL

FROM:

RE:

REQUEST FOR MAXIMUM ALLOWABLE SURFACE PRESSURE INCREASE
BIG EDDY UNIT #122
HACKBERRY SOUTH FIELD
EDDY COUNTY NEW YORK

Dear Sir:

BOPCO, L.P. would like to make a formal request to increase the maximum allowable surface injection pressure from 934 psi to 1,050 psi for the Big Eddy Unit #122.

Big Eddy The Poker-Lake Unit #227 (API 30-015-27454) is located 1980 feet from the North line and 1980 feet from the West line, Section 4, Township 20 South, Range 31 East, Eddy County, New Mexico. On 10/18/11 the well was injecting approximately 450 bbls of water per day at a surface pressure of 450 psi.

As more of our new drills are put on production and our established wells produce more water it becomes paramount that our SWD operations are optimized. Ensuring the greatest volume of water is disposed of while still remaining under the formation fracture pressure.

Findings from the 10/18/11 Step Rate Test demonstrate that 1095 psi is in fact the formation fracture pressure. It is therefore requested that a conservative compromise of (1050) psi be used as the surface injection pressure. This would allow for approximately 2800 bbls of water disposed of per day as seen from the SRT data. This would greatly assist in alleviating our water disposal issues while avoiding fracturing the formation.

We appreciate your time and consideration in the above matters and hope our findings are adequate enough to warrant the requested pressure amendments.

Along with this letter please find the following attachments:

- Step Rate Test
- Surface Pressure Chart
- Up-to-date Wellbore Diagram
- Copy of the disposal permit

432-683-1277

cchiza tosspet.com.

# \*

#### 010.Downhole Profile - Vertical Wells

Well ID: 30-015-27454

BOPCO, L.P. - West Texas
Well Name: BIG EDDY UNIT #122

Field: Hackberry Strawn, South 29460 Sect: 4 Town: 20S Rng: 31E County: Eddy State: New Mexico

			1980 FWL							
	TVD	Original Hole, 8/26/2011 8:	20:38 AM	Orig KB Elev (1 3,503	ft) Gr Elev (ft)		) Spud Date 7.00 6/24/1993	On Productio		) (ftKB) lole - 6,948.0
Incl (°)	(ftK B)	Vertical sche	matic (actual)	Wellbores	ne: Original Hol			Kick Off	Depth (ftKB):	
					Size (in)	14 3/4	Act Top (ftKB)	17.0		Btm (ftKB)
				La continue		11 7 7/8		869.0 4,194.0		4,19 11,60
		ини <i>пов</i> инини навили на при на по		Schematic	Annotations	4 3/4		11,600.0		12,85
				Тур		Depth (ftKB)		Annota	ition	
		· · · · · · · · · · · · · · · · · · ·	11 8	Casing Strin	ngs Des	Wellbore	OD (in)	Vt (lb/ft)	Grade Top 1	Thread   Set @ (ft)
			88	Surface Intermediate	Des	Original Hole Original Hole	11 3/4 8 5/8	42.00 H-4 24.00 K-5	0	86 4,19
		Description:Surface	Item number:1; Description:Surface;	Production Liner		Original Hole Original Hole	5 1/2 3 1/2	17.00 K-5 9.30 L-8	5	11,60
-		Casing Cement; Depth (MD):17.0- 869.0 ftKB;	OD:11 3/4 in; ID:11.084 in; Depth (MD):20.4-869.0	Perforations				8.30   1.0		
		Date:6/25/1993	ftKB; Length:848.63 ft	Perf Date 6/27/2011 3/18/2010	6,620 6,875	.0 6,640.0	Zone Delaware, Original Hole wr Brushy Canyon Y, Origi	and Mala	Active P&A (6,875.0 - 6,8	rent Status
		Description:Cement		3/4/2010 8/5/1993	10,378	.0 10,398.0	Volfcamp, Original Hole	nai noie	P&A (10,378.0 - 10 P&A (11,368.0 - 11	0,398.0)
		; Depth (MD):2,560.0- 2,872.0 ftKB;		8/23/1993 8/23/1993	12,440	.0 12,484.0	Morrow, Original Hole Strawn, Original Hole		P&A P&A	1,412.0)
		Date:7/2/1993		<b>Tubing Strin</b>			Morrow, Original Hole			4. (0.00)
				Tubing Descrip Tubing No.	otion	Run Date 7/2 Item De	7/2011	ength (ft)  Jts	6,561.69	th (ftKB) 6,5 Grade Top (ftK
			<b> </b>	5-1 2-7/8"		RD Tubing (IPC) Lok-Set (Nickel Pla		203	2 7/8 6.50 2 7/8	
		Description:Interme	Item number:2;	5-3 Wireli	ne Guide			1	2 7/8	6,57
		diate Casing Cement; Depth	Description:Interme diate; OD:8 5/8 in; ID:8.017 in; Depth	Run Date		Des		OD (in)	Top (ftKB)	Btm (ftKB)
		(MD):2,872.0- 4,194.0 ftKB; Date:7/2/1993	(MD):19.4-4,194.0 ftKB; Length:4,174.57 ft	6/24/2011 3/16/2010	Bridge Plug - Bridge Plug -	Permanent				3.0 10,36
5			Cengu.4, 174.57 It	7/25/2007 7/16/1997	Bridge Plug - Blanking Plug	g (Fish)		1/2	12,619	9.8 12,62
				4/8/1997 4/2/1997	Bridge Plug - Bit cone	Permanent			12,650	
		3 I	■ <u>8</u>	Rod Strings Rod Descriptio		Run Date		ength (ft)		th (ftKB)
			90	Rod Item#		Item De	S/2010 s	Jts		6,7 Grade Top (ftk
				1-2 7/8" 0	ed Rod w/ 1-1/2 Sucker Rod	2 x 16' liner		81	1 1/4 7/8 2.22	
		Description:Cement Plug; Depth		1-4 7/8" 0	Sucker Rod Sucker Rod			178 10	3/4 1.63 7/8 2.22	
		(MD):6,825.0- 6,860.0 ftKB; Date:6/25/2011			Centralizer nsert Pump			1	3/4	6,74
		Description:Cement ; Depth			20' dip tube. screen 1" x 3'				3/4	6,77
		(MD):3,000.0- 7,009.0 ftKB;		Cement Surface Cas	sing Cement	. 6/25/1993				
		Date:7/29/1993 Lack Description:Cement Plug; Depth		String: Surface Stage Number	e, 869.0ftKB		Cement Evaluation F ttom (ftKB)   Vol Cement R		Top Measurement N	Method
		(MD):6,948.0- 7,088.0 ftKB; Date:3/16/2010			Fluid	17.0	869.0 Amount (sacks)	Class	Dens (lb/gal)	Yield (ft³/sack)
			Š.	Lead			400 C 200 C		12.70 14.80	
		Description:Cement Plug; Depth			e Casing Cer ediate, 4,194.0ff	ment , 7/2/1993	Cement Evaluation F	esults:		
		(MD):9,999.0- 10,368.0 ftKB; Date:3/16/2010	4		Stage Top (ft		ttom (ftKB) Vol Cement R 4,194.0		Top Measurement N Circulated	11
		Date:310/2010	IN THE STATE OF TH	Lead	Fluid		Amount (sacks) 175 C	Class	Dens (lb/gal) 13.00	
		Description:Cement Plug; Depth	60	Tail Stage Number	Stage Top (ft	KB) Stage Bo	250 C ttom (ftKB) Vol Cement R	et (bbl)	Top Measurement N	Method
		(MD):11,147.0- 11,190.0 ftKB; Date:7/25/2007		Tail	Fluid	2,560.0	2,872.0 Amount (sacks)	Class	Volume Calculations Dens (lb/gal) 14.80	Yield (ft³/sack)
		81	100	Production		ent , 7/29/1993			14.60	
		Description:Cement	900		Stage Top (ft		ttom (ftKB) Vol Cement R 11,600.0	et (bbl)	Top Measurement N Tagged	lethod
		Plug; Depth (MD):11,245.0-1	80	Lead	Fluid	7,003.0	Amount (sacks)	Class	Dens (lb/gal)	Yield (ft³/sack)
		11,345.0 ftKB; Date:7/18/2007 Description:Cement		Tail	Stage Top (ft	KB) IStage Bo	525 ttom (ftKB) Vol Cement R	et (hbl)	15.60 Top Measurement N	1
		Squeeze; Depth (MD):11,368.0-	8		2 Fluid	3,000.0	7,009.0 Amount (sacks)	Class	Dens (lb/gal)	Yield (ft³/sack)
		11,412.0 ftKB; Date:2/5/1997	600	Lead Tail			625 50	Charles and the same	12.70	1
			Item number:3;		seeze , 2/5/1		Cement Evaluation F	oculte:	NAME OF STREET	
		Description:Producti on Casing Cement; Depth (MD):7,009.0	Description:Producti on; OD:5 1/2 in; ID:4.892 in; Depth		Stage Top (ft		ttom (ftKB) Vol Cement R	et (bbl)	Top Measurement N Volume Calculations	
		-11,600.0 ftKB; Date:7/29/1993	(MD):15.6-11,600.0 ftKB;	Cement Squee	Fluid		Amount (sacks) 350 H	Class	Dens (lb/gal)	Yield (ft³/sack)
			Length:11,584.38 ft	Liner Ceme	nt , 3/14/199	7		agulte:	10.00	questa en en
		Description:Cement Plug; Depth		String: Liner, 1 Stage Number	Stage Top (ft	KB) Stage Bo 11,300.0	ttom (ftKB)   Vol Cement R 12,850.0	et (bbl)	Top Measurement M Tagged	lethod
		(MD):12,620.0- 12,650.0 ftKB; Date:4/8/1997		Lead	Fluid		Amount (sacks)	Class	Dens (lb/gal) 16.00	Yield (ft³/sack)
		Description:Auto cement plug; Depth		Cement Plu				and the	10.00	
		(MD):12,785.0-1 12,850.0 ftKB;	Item number:4;	String: Liner, 1 Stage Number	Stage Top (ft	KB) Stage Bo 12,620.0	ttom (ftKB) Vol Cement R 12,650.0	et (bbl)	Top Measurement N	
1		Date:3/14/1997 Description:Liner Cement; Depth	Description:Liner; OD:3 1/2 in; FID:2.992 in; Depth	Cement Plug	Fluid		Amount (sacks)	Class	Dens (lb/gal)	Yield (ft³/sack)
		(MD):11,300.0-1	(MD):11,229.2-		g , 7/18/2007	1				Control Control

# \*

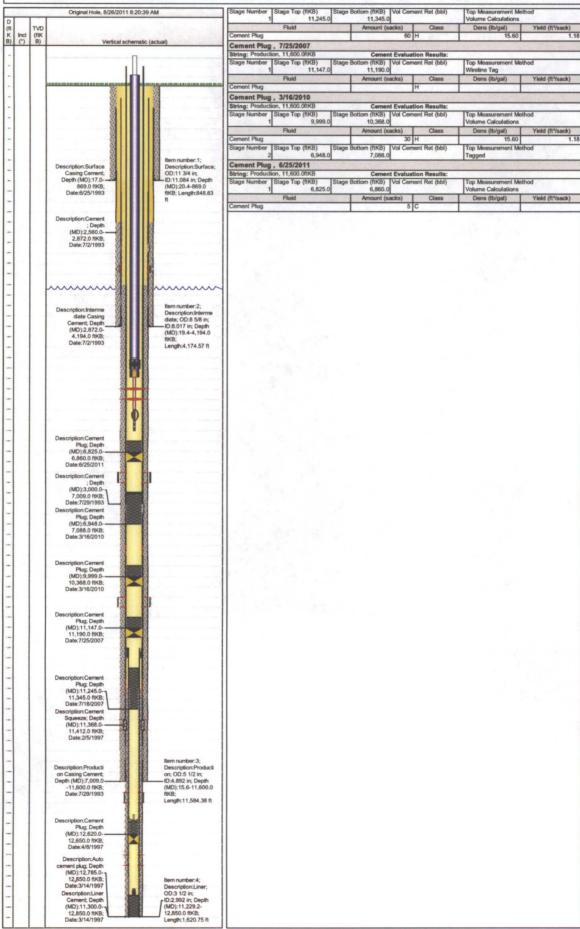
#### 010.Downhole Profile - Vertical Wells

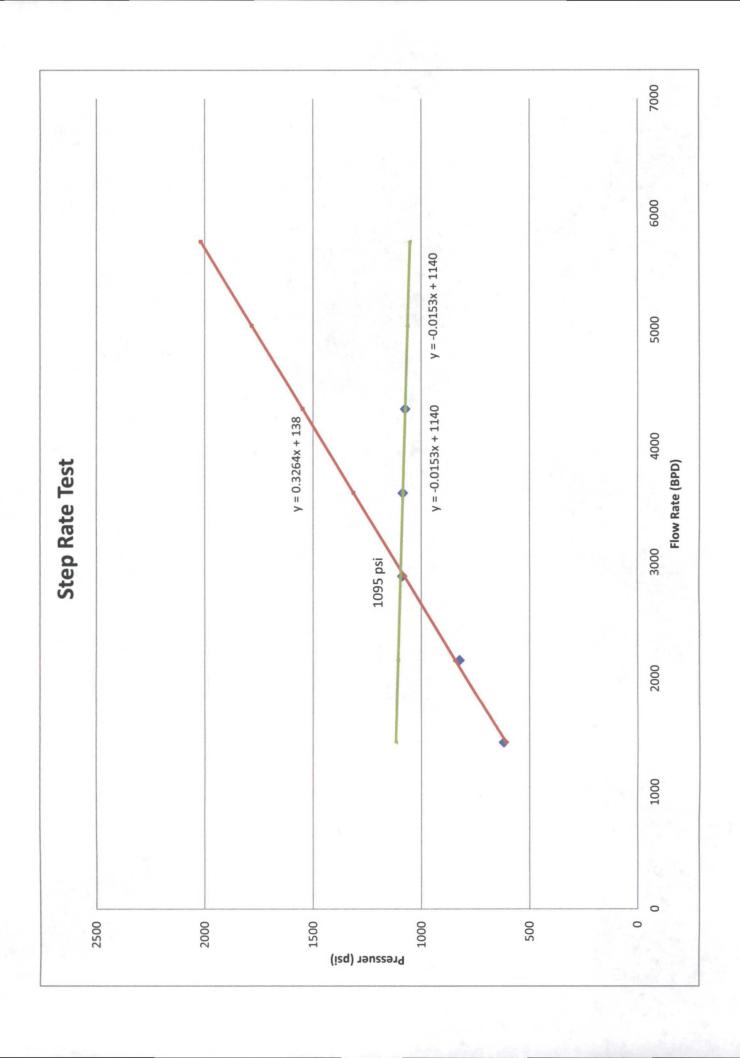
Well ID: 30-015-27454

Field: Hackberry Strawn, South 29460

BOPCO, L.P. - West Texas
Well Name: BIG EDDY UNIT #122

Sect: 4 Town: 20S Rng: 31E County: Eddy State: New Mexico





	UNITED STATES EPARTMENT OF THE IN UREAU OF LAND MANAC	ITERIOR OCD Artes		M APPROVED 3 NO 1004-0135 cs: July 31, 2010		
	NOTICES AND REPOR		5. Lease Scrial No NMNM04557			
Do not use th abandoned we	is form for proposals to d ii. Use form 3160-3 (APD	drill or to re-enter an )) for such proposals.	6. If Indian, Allotte	e or Tribe Name		
SUBMIT IN TRI	PLICATE - Other instruct	ions on reverse side.	7. If Unit of CA/A NMNM10019	greement, Name and/or No.		
I Type of Well Gas Well Oth	ner		8 Well-Name and BIG EDDY 122			
2. Name of Operator BOPCO LP	Contact; \ E-Mall: vitruax@bas	/ALERIE TRUAX	9. API Wall No. 30-015-2745	4-00-S2		
3a Address MIDLAND, TX 79702		3b. Phone No. (include area code) Ph: 432-683-2277		10. Field and Pool, or Exploratory S HACKBERRY		
4. Location of Well (Footage, Sec., )	R., M., or Survey Description)		BIL County or Pari	sh, and State		
Sec 4 T20S R31E SENW 198	0FNL 1980FWL	4	EDDY COUN	ITY, NM		
12. CHECK APPI	ROPRIATE BOX(ES) TO	INDICATE NATURE OF N	OTICE, REPORT, OR OTI	IER DATA		
TYPE OF SUBMISSION		TYPE OF	ACTION			
Notice of Intent	Acidize	Deepen	☐ Production (Start/Resume)	<del></del>		
Subsequent Report	Alter Casing	Fracture Treat	Reclamation .	☐ Well Integrity		
	Casing Repair	New Construction	Recomplete	□ Other		
Final Abandonment Notice	Change Plans Convert to Injection	Plug and Abandon Plug Back	☐ Temporarily Abandon ☐ Water Disposal			
13. Describe Proposed or Completed Ope If the proposal is to deepen directions Attach the Bond under which the wo following completion of the involved testing has been completed. Final Al- determined that the site is ready for fi	ally or recomplete horizontally, g ik will be performed or provide the	ive subsurface locations and measur he Bond No. on file with BLM/BIA	ed and true vertical depths of all pe Required subsequent reports shall impletion in a new interval, a Form ing reclamation, have been complete	ritient markers and zones. Je filed within 30 days J60235 bell be filed once d, and the operator has		
following completion of the involved testing has been completed. Final At determined that the site is ready for figure 1. The subject of the	requesting permission (a s	SWD well. (Note that the ori 0, but was canceled by a sun econd time) to convert the Bi	ginal sundry dry, approved Dec 29, EU #122 to a	OCD ARTESIA		
BOPCO, L.P. has been author as of July 30, 2010 by Adminis conversion process:	strative Order No. SWD 12	52: The following procedure.	SEC C	oAs		
Add Delaware zones for SWD	w/in permitted i 多段 森 COND	TAGENTIANS OF APPR	rated zone is (qs: ng/ful	annulus		
14. Thereby certify that the foregoing is		9497 verified by the BLM Well				
Com	For BO	PCO LP, sent to the Carlsbad sing by WESLEY INGRAM on 0	<b>↑</b>			
Name (Printed/Typed) VALERIE	•		RIZED REPRESENTATIVE			
Signature (Electronic S	ubmission)	Date 06/02/20	* 7 14	MOCD RD 6/15		
	THIS SPACE FOR	R FEDERAL OR STATE O	FFICE USE			

Approved By CHRISTOPHER WALLS TitlePETROLEUM ENGINEER

Date 06/07/2011

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Carlsbad

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#### 32. Additional remarks, continued

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