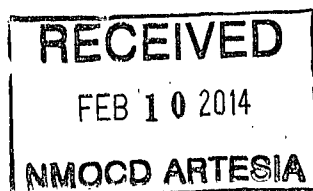




January 23, 2014

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210



Dear District 2 – Artesia

Re: Bopco, LP
PLU Big Sinks 2-25-30 State #3H
Eddy County, NM
API #30-015-41392
Job No. 1310510

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced well by Phoenix Technology Services, Inc. (P-5 No. 606018). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Mike Layfield	3H	1,265	15,530	11/25/13	12/12/13	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Dolly Bush

Dolly Bush
Operations Administrator

Certified mail receipt number: 7012 3050 0001 3227 2962

RECEIVED

FEB 10 2014

PHOENIX TECHNOLOGY SERVICES INC. TESIA

SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1310510

OPERATOR BOPCO, LP

WELL NAME PLU Big Sinks 2-25-30 State #3H

COUNTY & STATE

Eddy County, NM

API WELL NUMBER 30-015-41392

PROPOSED DIRECTION 0.24

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
1,219 ft	1,218.59 ft	1.55	236.34	-24.28	-2.21	Multi Shot Survey

FIRST SURVEY DATE	FIRST SURVEY DEPTH		
		INCLIN	AZIMUTH
25-Nov-13	1,265 ft	1.5	221.8

SURVEY INSTRUMENT
TYPE

Phoenix QDT/P360

LAST SURVEY DATE	LAST SURVEY DEPTH		
		INCLIN	AZIMUTH
12-Dec-13	15,530 ft	91.8	357.2

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH		
		INCLIN	AZIMUTH
12-Dec-13	15,583 ft	91.8	357.2

Mike Layfield

PRINT YOUR NAME ABOVE

Mike Layfield

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.18'
DECLINATION OR GRID	Grid

12/12/2013

TODAY'S DATE

MWD SUPERVISOR 1

Mike Layfield

DIRECTIONAL DRILLER 1

Casey Hendrix

MWD SUPERVISOR 2

Justin Amari

DIRECTIONAL DRILLER 2

Jim Tobola

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)



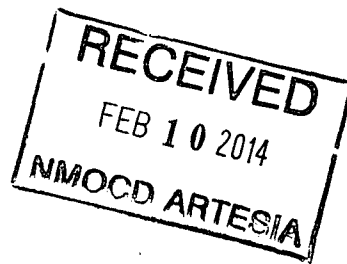
BOPCO, L P

Eddy County, NM (NAD27 NME)

PLU Big Sinks 2-25-30 State

#3H

WB1/Job #1310510



Survey: Phoenix MWD Survey

Phoenix Final Survey Report

13 December, 2013





Phoenix Technology Services
Phoenix Final Survey Report



Company:	BOPCO, L.P.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3383.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3383.00usft (Latshaw 14)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1310510	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Project:	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		PLU Big Sinks 2-25-30 State			
Site Position:		Northing:	397,909.00 usft	Latitude:	32° 5' 35.51818 N
From:	Map	Easting:	636,627.00 usft	Longitude:	103° 53' 31.73492 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.23 °

Well	#3H					
Well Position	+N/-S	0.00 usft	Northing:	419,524.00 usft	Latitude:	32° 9' 8.92114 N
	+E/-W	0.00 usft	Easting:	648,538.90 usft	Longitude:	103° 51' 12.14593 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,361.00 usft

Wellbore		WB1/Job #1310510			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/18/13	7.41	60.01	48,300

Design: Surveys (Latshaw 14)				
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.24

Survey Program		Date	12/12/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
101.00	1,219.00	MS Gyro Survey (WB1/Job #1310510)	CB-GYRO-MS	Camera based gyro multishot	
1,219.00	15,442.00	Phoenix MWD Survey (WB1/Job #131051)	MWD	MWD - Standard	

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)
	1,219.00	1.55	236.34	1,218.59	-24.28	-2.21	-24.29	0.00
Tie-on to Gyro	1,265.00	1.50	221.80	1,264.57	-25.07	-3.13	-25.09	0.85
First Phoenix MWD Survey	1,328.00	1.30	231.90	1,327.56	-26.13	-4.24	-26.15	0.50
	1,517.00	1.70	278.10	1,516.50	-27.06	-8.70	-27.09	0.65
	1,707.00	2.60	296.30	1,706.36	-24.75	-15.36	-24.81	0.59
	1,897.00	1.90	280.90	1,896.22	-22.25	-22.31	-22.34	0.48
	2,087.00	1.10	264.60	2,086.15	-21.82	-27.22	-21.94	0.47
	2,277.00	2.50	295.50	2,276.06	-20.21	-32.78	-20.35	0.87
	2,467.00	1.70	292.90	2,465.93	-17.33	-39.12	-17.49	0.42



Phoenix Technology Services
Phoenix Final Survey Report



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Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3383.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3383.00usft (Latshaw 14)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1310510	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V-Sec (usft)	DLog (%/100usft)	
2,657.00	0.70	208.40	2,655.89	-17.25	-42.26	-17.43	0.93	
2,847.00	1.00	221.20	2,845.87	-19.52	-43.91	-19.70	0.19	
3,037.00	0.40	196.70	3,035.86	-21.40	-45.19	-21.59	0.35	
3,227.00	1.20	115.10	3,225.84	-22.88	-43.58	-23.07	0.64	
3,417.00	2.60	106.80	3,415.73	-24.97	-37.65	-25.13	0.75	
3,608.00	1.80	125.70	3,606.59	-27.98	-31.07	-28.11	0.56	
3,798.00	2.20	167.10	3,796.49	-33.27	-27.83	-33.39	0.77	
3,962.00	1.10	195.40	3,960.42	-37.86	-27.55	-37.97	0.82	
4,085.00	0.90	215.50	4,083.40	-39.78	-28.42	-39.90	0.33	
4,180.00	0.90	355.00	4,178.40	-39.65	-28.92	-39.77	1.78	
4,371.00	1.10	359.00	4,369.37	-36.32	-29.08	-36.44	0.11	
4,561.00	0.90	359.40	4,559.34	-33.00	-29.13	-33.13	0.11	
4,751.00	1.10	345.80	4,749.31	-29.74	-29.59	-29.87	0.16	
4,942.00	0.90	331.10	4,940.28	-26.65	-30.77	-26.78	0.17	
5,132.00	1.00	315.10	5,130.25	-24.17	-32.66	-24.31	0.15	
5,227.00	1.10	359.40	5,225.24	-22.67	-33.25	-22.81	0.84	
5,417.00	1.30	356.00	5,415.20	-18.70	-33.42	-18.84	0.11	
5,512.00	1.60	30.00	5,510.17	-16.48	-32.83	-16.61	0.94	
5,703.00	1.20	13.10	5,701.11	-12.22	-31.05	-12.35	0.30	
5,893.00	0.90	21.00	5,891.08	-8.89	-30.06	-9.01	0.17	
6,083.00	0.80	0.30	6,081.06	-6.17	-29.52	-6.29	0.17	
6,274.00	0.80	351.70	6,272.04	-3.52	-29.71	-3.64	0.06	
6,464.00	0.90	337.10	6,462.02	-0.83	-30.48	-0.96	0.13	
6,654.00	0.80	314.80	6,652.00	1.48	-32.00	1.35	0.18	
6,844.00	0.60	311.60	6,841.99	3.08	-33.69	2.93	0.11	
7,034.00	0.80	281.00	7,031.97	3.99	-35.73	3.84	0.22	
7,130.00	1.00	300.70	7,127.96	4.54	-37.11	4.39	0.38	
7,225.00	1.00	324.10	7,222.95	5.64	-38.31	5.48	0.43	
7,415.00	1.10	11.40	7,412.92	8.77	-38.92	8.61	0.45	
7,605.00	0.50	32.50	7,602.90	11.26	-38.11	11.10	0.35	
7,795.00	0.10	308.40	7,792.90	12.06	-37.80	11.90	0.26	
7,986.00	0.70	297.70	7,983.89	12.71	-38.96	12.54	0.32	
8,176.00	0.70	340.00	8,173.88	14.34	-40.39	14.17	0.27	
8,366.00	0.90	231.60	8,363.87	14.50	-41.95	14.32	0.69	
8,461.00	1.10	278.00	8,458.85	14.16	-43.44	13.98	0.85	
8,651.00	0.40	298.70	8,648.84	14.74	-45.83	14.54	0.39	
8,841.00	0.60	211.30	8,838.83	14.20	-46.93	14.01	0.37	
9,031.00	1.10	186.20	9,028.81	11.54	-47.64	11.34	0.32	
9,221.00	0.60	352.90	9,218.80	10.71	-47.96	10.51	0.89	
9,270.00	0.70	350.80	9,267.80	11.26	-48.04	11.06	0.21	
9,460.00	1.10	284.30	9,457.78	12.86	-49.99	12.65	0.55	
9,650.00	1.40	275.50	9,647.73	13.53	-54.07	13.31	0.19	
9,840.00	1.80	265.60	9,837.66	13.53	-59.36	13.28	0.26	
9,935.00	2.60	323.80	9,932.60	15.15	-62.12	14.89	2.37	



Phoenix Technology Services
Phoenix Final Survey Report



Company:	BOPCO, L.P.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3383.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3383.00usft (Latshaw 14)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1310510	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Survey:							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
9,967.00	5.90	341.30	9,964.51	17.30	-63.07	17.03	10.96
9,999.00	8.90	355.80	9,996.24	21.32	-63.78	21.06	10.97
10,031.00	11.50	3.10	10,027.73	26.98	-63.79	26.71	9.06
10,062.00	15.60	3.20	10,057.86	34.23	-63.39	33.96	13.23
10,094.00	18.90	3.80	10,088.42	43.70	-62.81	43.44	10.33
10,126.00	21.50	5.20	10,118.45	54.71	-61.93	54.45	8.26
10,158.00	24.50	7.10	10,147.90	67.14	-60.58	66.89	9.66
10,189.00	27.50	2.30	10,175.77	80.67	-59.50	80.42	11.81
10,221.00	29.90	0.40	10,203.83	96.03	-59.15	95.79	8.02
10,252.00	31.80	358.90	10,230.45	111.93	-59.25	111.68	6.61
10,284.00	31.70	359.40	10,257.66	128.77	-59.50	128.52	0.88
10,316.00	33.90	359.40	10,284.55	146.10	-59.68	145.85	6.87
10,348.00	37.90	359.80	10,310.47	164.86	-59.81	164.61	12.52
10,379.00	41.00	0.40	10,334.41	184.55	-59.77	184.30	10.08
10,411.00	43.30	0.80	10,358.13	206.02	-59.54	205.77	7.24
10,443.00	46.40	0.10	10,380.81	228.59	-59.37	228.34	9.81
10,475.00	49.80	359.90	10,402.18	252.40	-59.37	252.15	10.64
10,506.00	52.80	0.60	10,421.56	276.59	-59.26	276.34	9.84
10,538.00	56.80	0.50	10,440.00	302.74	-59.01	302.49	12.50
10,570.00	60.40	1.20	10,456.67	330.04	-58.60	329.79	11.40
10,602.00	63.50	2.70	10,471.72	358.26	-57.64	358.02	10.53
10,632.00	66.50	3.70	10,484.40	385.40	-56.12	385.17	10.45
10,664.00	70.60	3.90	10,496.10	415.12	-54.14	414.89	12.83
10,696.00	75.00	4.90	10,505.56	445.59	-51.80	445.37	14.07
10,727.00	80.40	4.80	10,512.16	475.76	-49.24	475.55	17.42
10,791.00	88.00	3.40	10,518.62	539.22	-44.69	539.03	12.07
10,886.00	92.20	5.00	10,518.45	633.94	-37.74	633.77	4.73
10,981.00	90.30	4.20	10,516.38	728.60	-30.12	728.47	2.17
11,076.00	91.30	3.80	10,515.06	823.36	-23.49	823.26	1.13
11,171.00	91.30	3.90	10,512.90	918.12	-17.12	918.04	0.11
11,266.00	89.00	2.30	10,512.65	1,012.97	-11.98	1,012.92	2.95
11,361.00	89.50	2.60	10,513.90	1,107.88	-7.92	1,107.84	0.61
11,455.00	89.40	0.90	10,514.80	1,201.83	-5.05	1,201.80	1.81
11,550.00	90.90	1.50	10,514.55	1,296.80	-3.06	1,296.78	1.70
11,645.00	90.80	1.40	10,513.14	1,391.76	-0.66	1,391.75	0.15
11,738.00	90.80	2.10	10,511.84	1,484.71	2.18	1,484.71	0.75
11,833.00	89.50	359.40	10,511.59	1,579.69	3.43	1,579.69	3.15
11,928.00	89.50	359.40	10,512.42	1,674.68	2.43	1,674.68	0.00
12,023.00	88.70	359.70	10,513.91	1,769.67	1.69	1,769.66	0.90
12,118.00	87.60	359.80	10,516.98	1,864.61	1.27	1,864.60	1.16
12,214.00	90.30	0.20	10,518.74	1,960.59	1.27	1,960.58	2.84
12,309.00	90.90	0.80	10,517.74	2,055.58	2.10	2,055.57	0.89
12,404.00	90.00	0.80	10,517.00	2,150.57	3.43	2,150.56	0.95
12,499.00	89.40	0.70	10,517.50	2,245.56	4.67	2,245.56	0.64



Phoenix Technology Services
Phoenix Final Survey Report



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Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3383.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3383.00usft (Latshaw 14)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1310510	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
12,594.00	89.40	1.60	10,518.49	2,340.53	6.58	2,340.54	0.95
12,688.00	91.10	2.00	10,518.08	2,434.48	9.53	2,434.50	1.86
12,783.00	89.60	1.30	10,517.50	2,529.44	12.27	2,529.46	1.74
12,878.00	88.60	1.80	10,518.99	2,624.39	14.83	2,624.43	1.18
12,973.00	89.10	2.20	10,520.90	2,719.31	18.15	2,719.36	0.67
13,068.00	90.10	1.70	10,521.56	2,814.25	21.38	2,814.32	1.18
13,163.00	92.00	1.50	10,519.82	2,909.19	24.03	2,909.27	2.01
13,258.00	92.30	2.20	10,516.26	3,004.08	27.10	3,004.16	0.80
13,353.00	91.90	1.10	10,512.78	3,098.97	29.83	3,099.07	1.23
13,449.00	91.00	0.90	10,510.35	3,194.93	31.51	3,195.03	0.96
13,543.00	89.40	0.60	10,510.02	3,288.91	32.74	3,289.02	1.73
13,639.00	91.00	0.20	10,509.68	3,384.91	33.41	3,385.02	1.72
13,734.00	88.10	359.20	10,510.43	3,479.89	32.91	3,480.00	3.23
13,829.00	90.20	359.40	10,511.84	3,574.87	31.75	3,574.97	2.22
13,924.00	90.20	359.10	10,511.51	3,669.86	30.51	3,669.96	0.32
14,019.00	91.10	0.50	10,510.43	3,764.85	30.17	3,764.94	1.75
14,114.00	89.50	359.50	10,509.93	3,859.84	30.17	3,859.94	1.99
14,209.00	89.90	359.20	10,510.43	3,954.84	29.10	3,954.92	0.53
14,304.00	91.60	0.50	10,509.19	4,049.82	28.85	4,049.91	2.25
14,399.00	89.70	0.50	10,508.11	4,144.81	29.68	4,144.90	2.00
14,494.00	90.50	0.90	10,507.94	4,239.80	30.84	4,239.89	0.94
14,588.00	89.90	0.80	10,507.61	4,333.79	32.23	4,333.89	0.65
14,683.00	90.30	0.80	10,507.45	4,428.78	33.56	4,428.88	0.42
14,778.00	89.90	0.20	10,507.28	4,523.77	34.39	4,523.88	0.76
14,873.00	90.30	0.70	10,507.12	4,618.77	35.13	4,618.88	0.67
14,968.00	90.60	0.50	10,506.37	4,713.76	36.13	4,713.87	0.38
15,063.00	91.40	0.80	10,504.71	4,808.74	37.21	4,808.86	0.90
15,157.00	92.30	1.00	10,501.68	4,902.68	38.68	4,902.80	0.98
15,252.00	90.90	358.50	10,499.03	4,997.63	38.27	4,997.75	3.02
15,347.00	91.30	358.20	10,497.20	5,092.57	35.53	5,092.68	0.53
15,442.00	91.30	357.50	10,495.05	5,187.48	31.97	5,187.57	0.74
15,530.00	91.80	357.20	10,492.67	5,275.36	27.90	5,275.43	0.66
Last Phoenix MWD Survey							
15,583.00	91.80	357.20	10,491.00	5,328.27	25.31	5,328.33	0.00
Projection to TD							



Phoenix Technology Services
Phoenix Final Survey Report



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Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3383.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3383.00usft (Latshaw 14)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1310510	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,219.00	1,218.59	-24.28	-2.21	Tie-on to Gyro
1,265.00	1,264.57	-25.07	-3.13	First Phoenix MWD Survey
15,530.00	10,492.67	5,275.36	27.90	Last Phoenix MWD Survey
15,583.00	10,491.00	5,328.27	25.31	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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