



January 30, 2014

Bopco, LP
Attention: Regulatory Department
PO Box 2760
Midland, TX 79702

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

Dear Regulatory Department,

Phoenix Technology Services, Inc. has filed the survey certification, surveys, and lease plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 2 via certified mail. A copy of the filing is attached for your records.

Name 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

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

Dolly Bush

Dolly Bush
Operations Administrator

PHOENIX TECHNOLOGY SERVICES INC. 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 DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA 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)

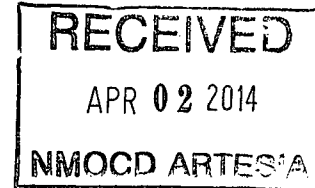


3335 Pollok Drive
Conroe, Texas 77303

936.442.2500 (office)
936.442.2599 (fax)
www.msenergyservices.com

Surveyor Certification Form

Survey Company: MS ENERGY SERVICES
Surveyors Name: JOSH ARIAS
Survey Job Type: RATE GYRO
Customer: BOPCO, LP
Well: PLU BIG SINKS 2-25-30 STATE 3H
API: 41392
Surveyed from: SURFACE TO A DEPTH OF 1219' MD
Survey Run Date: 11-20-13 to 11-21-13
Surface Location: EDDY COUNTY, NM



I certify that the data is true, correct, and complete and within the limitations of the tool set forth by MS Energy Services; that I am authorized and qualified to make this report; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by MS Energy Services.

JOSH ARIAS
Digitally signed by JOSH ARIAS
DN: cn=JOSH ARIAS, o, ou=MS ENERGY
SERVICES, email=JARIAS@MSENERGYSERVICES.
COM, c=US
Date: 2013.08.27 17:00:58 -05'00'



Job Number: SVMO-131006
 Company: BOPCO, LP
 Lease/Well: PLU Big Sinks 2-25-30 State 3H
 Location: Eddy County, NM
 Rig Name: Latshaw #14
 RKB: 22'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.16°
 Grid: East To Grid North
 File name: S:\2013SU-1\BOPCO\MO\PLUBIG-1\2-25-3-1\3H.SVY
 Date/Time: 25-Nov-13 / 15:17
 Curve Name: Surface - 1219' M.D. (Rate Gyro)

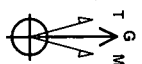
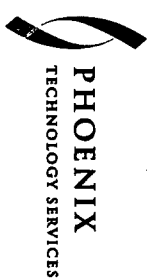
WINSERVE SURVEY CALCULATIONS.
 Minimum Curvature Method
 Vertical Section Plane .24
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
101.00	.62	122.28	101.00	-.29	.46	-.29	.55	122.28	.61
196.00	.51	157.47	195.99	-.96	1.06	-.95	1.43	132.11	.38
291.00	.39	149.67	290.99	-1.63	1.38	-1.62	2.14	139.61	.14
386.00	.52	150.62	385.99	-2.28	1.76	-2.27	2.88	142.37	.14
481.00	.57	172.50	480.98	-3.13	2.03	-3.12	3.73	146.97	.22
576.00	1.22	177.80	575.97	-4.60	2.13	-4.60	5.07	155.15	.69
671.00	2.09	170.68	670.93	-7.32	2.45	-7.31	7.72	161.49	.94
766.00	2.53	173.76	765.85	-11.12	2.96	-11.11	11.51	165.09	.48
861.00	2.22	182.38	860.77	-15.04	3.11	-15.03	15.36	168.31	.50

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
955.00	2.05	193.82	954.71	-18.49	2.63	-18.48	18.68	171.89	.49
1049.00	1.80	219.71	1048.66	-21.26	1.29	-21.26	21.30	176.53	.95
1144.00	1.45	232.37	1143.62	-23.14	-.62	-23.15	23.15	181.52	.53
Last Survey Depth Recorded									
1219.00	1.55	236.34	1218.59	-24.28	-2.21	-24.29	24.38	185.20	.19



Project: Eddy County, NM (NAD27 NME)
Site: PLU Big Sinks 2-25-30 State
Well: #3H
Wellbore: WB1/Job #310510
Design: Plan #3 11-07-13
Rig: Lashaw 14



Azimuth to Grid North
Magnetic North: 7.16°
Magnetic Field
Strength: 48300.35 nT
Dip Angle: 60.01°
Model: IGRF2010_14

WELL DETAILS

Ground Level	3361.00	Latitude	32° 9' 8.8211" N	Longitude	103° 51' 12.1633" W
Easting	648538.50	U-T	32° 9' 8.8211" N	U-T	103° 51' 12.1633" W

SECTION DETAILS

Sec	MO	Inc	Asi	TVD	N-S	E-W	Dip	True	Vec	Target	Annotation
1	MO	Inc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP Start DLS 12.00 TFO 0.24
2	MO	Inc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	LP Start 4760.04 Hold at 10763.24 MD
3	MO	Inc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	LP Start 4760.04 Hold at 10763.24 MD
4	MO	Inc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TD at 15503.29

Rig @ 3361.00 (Lashaw 14)

Ground Level 3361.00

DESIGN TARGET DETAILS

Name	PBH-SS 2-25-30 #3H	TVD	N-S	E-W	Northing	Easting	Latitude	Longitude
		10469.00	5238.70	21.60	424860.70	648560.50	32° 10' 0.7433" N	103° 51' 11.6228" W
								Point

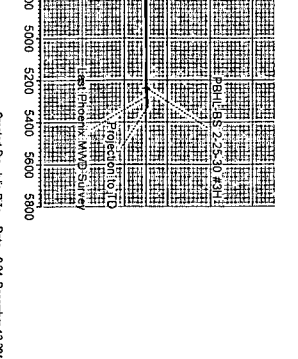
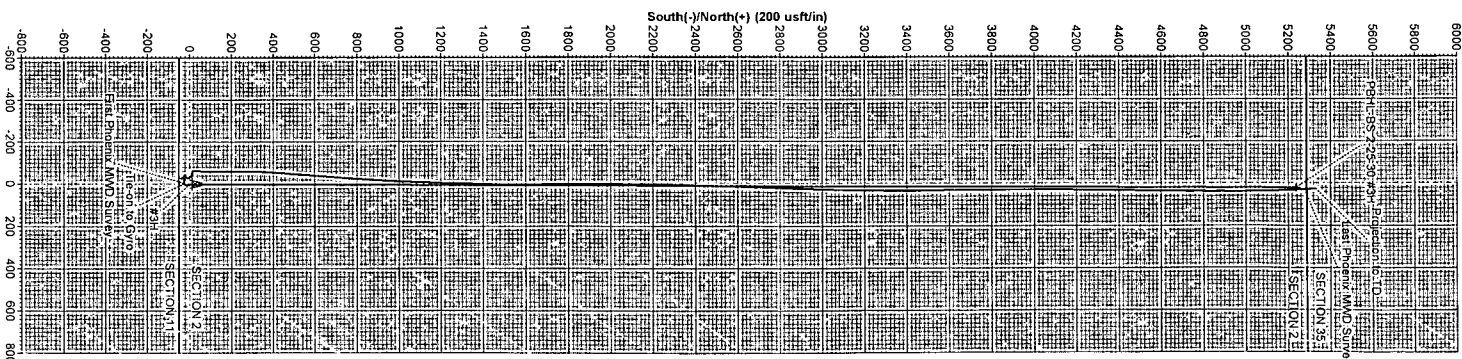
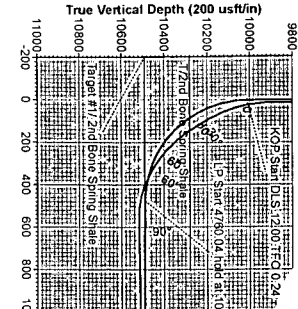
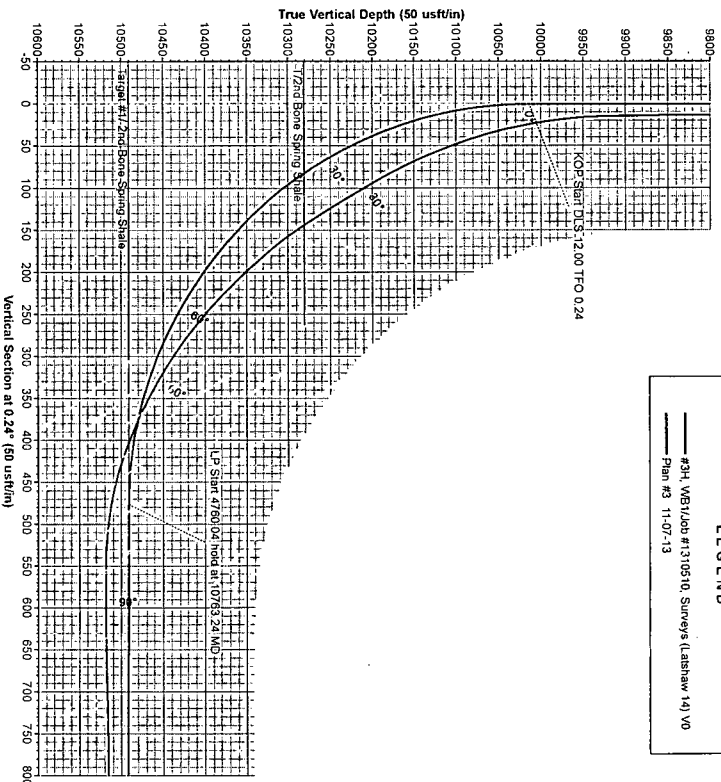
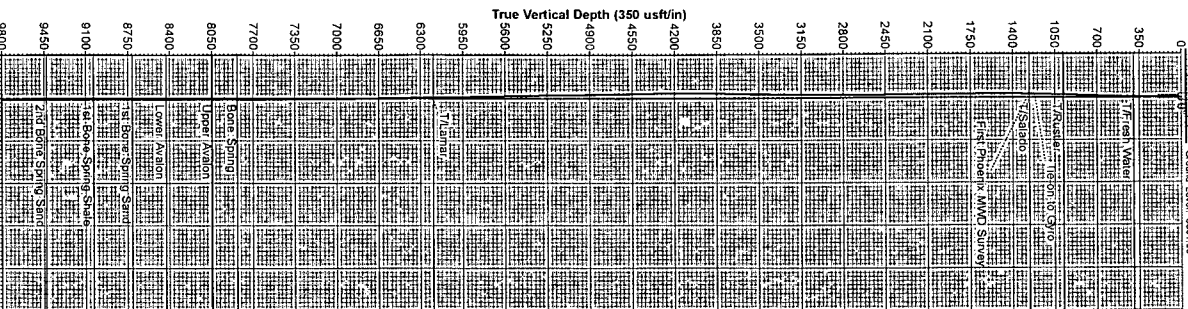
FORMATION TOP DETAILS

TI/Depth	MD/Inc	Formation	Depth	Dip
400.00	400.00	Trenet Water	0.08	0.24
979.00	979.00	Trenet Water	0.08	0.24
1282.00	1282.00	Trenet Water	0.08	0.24
6196.00	6196.00	Trenet Water	0.08	0.24
7824.00	7824.00	Bone Spring	0.08	0.24
8430.00	8430.00	Bone Spring	0.08	0.24
8713.00	8713.00	Lower Anson	0.08	0.24
9028.00	9028.00	1st Bone Spring Sand	0.08	0.24
9433.00	9433.00	2nd Bone Spring Sand	0.08	0.24
10281.11	10281.11	17th Bone Spring Sand	0.08	0.24
10433.77	10433.77	Target #1/ 2nd Bone Spring Sand	0.08	0.24

Map Source: US State Plane 1987 (East edition)
Datum: NAD 1983 (NADCON CONUS)
Zone Name: New Mexico East 3001
Local Origin: Well #3H, Grid North
Latitude: 32° 9' 8.82114" N
Longitude: 103° 51' 12.16333" W
Grid East: 648538.90
Grid North: 4195224.00
Scale Factor: 1.000
Sample Date: 18-Nov-13
Geographic Model: IGRF2010_14
Magnetic Declination: 7.41°
Dip Angle from Horizontal: 60.01°
Magnetic Field Strength: 48300
To convert a Magnetic Direction to a Grid Direction, Add 7.41°
To convert a Magnetic Direction to a True Direction, Add 7.41° East
To convert a True Direction to a Grid Direction, Subtract 0.26°

LEGEND

— #3H WB1/Job #310510, Surveys (Lashaw 14) V0
— Plan #3 11-07-13





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
From:	Map	Easting:	636,627.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 5' 35.51818 N
		Longitude:	103° 53' 31.73492 W
		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)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	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



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

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/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 DBs

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



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

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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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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