



PHOENIX
TECHNOLOGY SERVICES

May 19, 2014

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

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 10 2014

RECEIVED

Re: Bopco, LP
PLU CVX JV RR #009H
Eddy County, NM
API #30-015-42054
Job No. 1311624

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	009H	1,144	17,251	04/17/14	05/08/14	MWD

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

Best Regards,

Dana Robinson

Dana Robinson
Operations Administrator

PHOENIX TECHNOLOGY SERVICES INC. SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1311624

OPERATOR Bopco LP

WELL NAME PLU CVX JV RR #009H

COUNTY & STATE

Eddy Co. NM

API WELL NUMBER

30-015-42054

PROPOSED DIRECTION

359.98

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
1,076 ft	1,075.97 ft	1.1	44.57	1.43	-3.03	MS Survey

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
17-Apr-14	1,144 ft	1.9	52.1

SURVEY INSTRUMENT
TYPE
PHOENIX MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
8-May-14	17,251 ft	90.5	357.7

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

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
8-May-14	17,306 ft	90.5	357.7

Michael Layfield

PRINT YOUR NAME ABOVE

M = Layfield

SIGN YOUR NAME ABOVE

5-8-14

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.15
DECLINATION OR GRID	GRID

MWD SUPERVISOR 1

Mike Layfield

DIRECTIONAL DRILLER 1

Jim Tobola

MWD SUPERVISOR 2

Edward LaGarce

DIRECTIONAL DRILLER 2

Casey Hendrix

1805 Brittmore Road

Houston, Texas 77043

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

30-015-42054



Job Number: SVM0-140468
 Company: BOPCO, LP
 Lease/Well: PLU Ross Ranch 32 25 30 2H
 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: Y:\WINSER~1\2014SU~1\BOPCO\MO\PLUROS~1\3225\302H.SVY
 Date/Time: 16-Apr-14 / 16:44
 Curve Name: Surface - 1076' M.D. (Rate Gyro)

NM OIL CONSERVATION
 ARTESIA DISTRICT
 SEP 10 2014
 RECEIVED

MS Survey

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 359.98
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 1076 MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Daniel West 4/16/14
 MS Energy Services Date

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
50.00	.39	325.68	50.00	.14	-.10	.14	.17	325.68	.78
144.00	.37	21.45	144.00	.69	-.17	.69	.71	346.47	.38
239.00	.16	300.56	239.00	1.04	-.17	1.04	1.05	350.86	.40
303.00	.12	344.35	303.00	1.15	-.26	1.15	1.18	347.15	.17
428.00	.61	244.76	427.99	.99	-.90	.99	1.34	317.81	.51
522.00	.53	247.85	521.99	.62	-1.75	.62	1.86	289.32	.09
617.00	.38	252.89	616.99	.36	-2.46	.36	2.49	278.24	.16
711.00	.27	265.51	710.99	.25	-2.98	.25	2.99	274.75	.14
806.00	.19	250.01	805.98	.18	-3.35	.18	3.36	273.01	.11

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	
900.00	.36	286.35	899.98	.21	-3.78	.21	3.79	273.12	.25
995.00	.50	39.74	994.98	.61	-3.80	.61	3.85	279.10	.76
Last Survey Depth Recorded									
1076.00	1.10	44.57	1075.97	1.43	-3.03	1.44	3.35	295.32	.74



BOPCO, L P

Eddy County, NM (NAD27 NME)

Poker Lake Unit CVX JV RR

#009H

WB1/Job #1311624

Survey: Phoenix MWD Survey

Standard Survey Report

12 May, 2014



PHOENIX
TECHNOLOGY SERVICES



Phoenix Technology Services

Survey Report



Company:	BOPCO, L P	Local Co-ordinate Reference:	Well #009H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3194.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV RR	MD Reference:	KB @ 3194.00usft (Latshaw 14)
Well:	#009H	North Reference:	Grid
Wellbore:	WB1/Job #1311624	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: Poker Lake Unit CVX JV RR					
Site Position:		Northing:	393,321.20 usft	Latitude:	32° 4' 50.16089 N
From:	Map	Easting:	635,510.80 usft	Longitude:	103° 53' 44.92656 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.23 °

Well:	#009H					
Well Position	+N/-S	0.00 usft	Northing:	393,321.20 usft	Latitude:	32° 4' 50.16089 N
	+E/-W	0.00 usft	Easting:	635,510.80 usft	Longitude:	103° 53' 44.92656 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,172.00 usft

Wellbore WB1/Job #1311624					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010_14	04/07/14	7.38	59.93	48,216

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	359.98	

Survey Program		Date	05/12/14		
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
50.00	1,076.00	MS Gyro Survey (WB1/Job #1311624)	CB-GYRO-MS	Camera based gyro multishot	
1,144.00	17,306.00	Phoenix MWD Survey (WB1/Job #1311624)	MWD	MWD - Standard	

Survey	Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
	Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
	(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
	1,076.00	1.10	44.57	1,075.97	1.43	-3.03	1.44	0.00	0.00	0.00
	Tie-on to MS Gyro Survey									
	1,144.00	1.90	52.10	1,143.95	2.59	-1.68	2.59	1.21	1.18	11.07
	First Phoenix MWD Survey									
	1,333.00	0.20	98.10	1,332.91	4.47	1.11	4.47	0.93	-0.90	24.34
	1,523.00	0.60	95.10	1,522.91	4.34	2.43	4.33	0.21	0.21	-1.58
	1,712.00	0.30	54.40	1,711.90	4.54	3.82	4.53	0.22	-0.16	-21.53
	1,902.00	1.00	77.00	1,901.89	5.20	5.84	5.20	0.39	0.37	11.89
	2,092.00	0.80	61.00	2,091.87	6.21	8.62	6.21	0.17	-0.11	-8.42



Phoenix Technology Services

Survey Report



Company: BORCO, L.P.
Project: Eddy County, NM (NAD27 NME)
Site: Poker Lake Unit CVX JV RR
Well: #009H
Wellbore: WB1/Job #1311624
Design: Surveys (Latshaw 14)

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #009H
KB @ 3194.00usft (Latshaw 14).
KB @ 3194.00usft (Latshaw 14)
Grid
Minimum Curvature
GCR DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N/S (usft)	E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,282.00	0.50	129.10	2,281.86	6.33	10.42	6.33	0.40	-0.16	35.84
2,472.00	0.40	60.80	2,471.85	6.13	11.64	6.13	0.27	-0.05	-35.95
2,662.00	0.80	74.40	2,661.84	6.82	13.50	6.81	0.22	0.21	7.16
2,853.00	1.00	164.40	2,852.82	5.57	15.23	5.56	0.67	0.10	47.12
3,043.00	2.60	124.40	3,042.73	1.54	19.23	1.53	1.02	0.84	-21.05
3,233.00	2.50	128.90	3,232.54	-3.50	26.01	-3.51	0.12	-0.05	2.37
3,423.00	3.40	124.40	3,422.29	-9.29	33.89	-9.30	0.49	0.47	-2.37
3,593.00	2.60	126.40	3,592.05	-14.42	41.15	-14.44	0.47	-0.47	1.18
3,684.00	2.60	123.30	3,682.96	-16.78	44.54	-16.80	0.15	0.00	-3.41
3,811.00	0.70	188.10	3,809.91	-19.13	46.84	-19.15	1.88	-1.50	51.02
4,001.00	0.50	178.50	3,999.90	-21.11	46.69	-21.12	0.12	-0.11	-5.05
4,191.00	0.60	205.50	4,189.89	-22.83	46.29	-22.85	0.14	0.05	14.21
4,381.00	0.30	247.30	4,379.88	-23.92	45.40	-23.94	0.22	-0.16	22.00
4,572.00	0.40	229.70	4,570.88	-24.55	44.43	-24.56	0.08	0.05	-9.21
4,761.00	0.60	239.60	4,759.87	-25.48	43.07	-25.49	0.11	0.11	5.24
4,952.00	0.50	224.90	4,950.86	-26.57	41.62	-26.59	0.09	-0.05	-7.70
5,142.00	0.70	247.70	5,140.85	-27.60	39.96	-27.61	0.16	0.11	12.00
5,331.00	0.90	242.10	5,329.84	-28.73	37.58	-28.75	0.11	0.11	-2.96
5,521.00	1.00	273.00	5,519.81	-29.34	34.61	-29.36	0.27	0.05	16.26
5,711.00	1.10	260.70	5,709.78	-29.55	31.15	-29.56	0.13	0.05	-6.47
5,901.00	1.50	304.60	5,899.73	-28.43	27.31	-28.44	0.55	0.21	23.11
6,091.00	1.50	283.80	6,089.67	-26.43	22.85	-26.44	0.28	0.00	-10.95
6,281.00	1.40	263.60	6,279.61	-26.09	18.12	-26.10	0.27	-0.05	-10.63
6,472.00	0.80	297.80	6,470.58	-25.73	14.63	-25.74	0.45	-0.31	17.91
6,661.00	0.70	274.00	6,659.56	-25.04	12.31	-25.04	0.17	-0.05	-12.59
6,851.00	0.50	293.80	6,849.55	-24.62	10.39	-24.63	0.15	-0.11	10.42
7,042.00	0.30	246.60	7,040.55	-24.48	9.17	-24.49	0.19	-0.10	-24.71
7,232.00	0.80	176.60	7,230.54	-26.01	8.79	-26.01	0.40	0.26	-36.84
7,422.00	0.60	258.80	7,420.53	-27.52	7.89	-27.53	0.49	-0.11	43.26
7,612.00	2.30	177.20	7,610.47	-31.52	7.10	-31.53	1.21	0.89	-42.95
7,802.00	1.50	300.40	7,800.42	-34.07	5.15	-34.08	1.77	-0.42	64.84
7,992.00	1.20	305.40	7,990.36	-31.66	1.38	-31.66	0.17	-0.16	2.63
8,182.00	0.40	281.90	8,180.35	-30.37	-0.89	-30.37	0.45	-0.42	-12.37
8,372.00	0.50	338.10	8,370.34	-29.47	-1.85	-29.47	0.23	0.05	29.58
8,589.00	0.90	355.20	8,587.32	-26.89	-2.35	-26.89	0.21	0.18	7.88
8,779.00	0.80	325.30	8,777.30	-24.31	-3.23	-24.31	0.24	-0.05	-15.74
8,969.00	0.80	302.50	8,967.29	-22.51	-5.10	-22.51	0.17	0.00	-12.00
9,158.00	1.00	249.40	9,156.27	-22.38	-7.76	-22.38	0.44	0.11	-28.10
9,348.00	1.00	216.80	9,346.24	-24.29	-10.30	-24.29	0.30	0.00	-17.16
9,538.00	7.60	358.90	9,535.73	-13.04	-11.54	-13.04	4.43	3.47	74.79
9,569.00	11.90	352.90	9,566.28	-7.82	-11.97	-7.81	14.23	13.87	-19.35
9,601.00	16.00	352.50	9,597.32	-0.17	-12.96	-0.16	12.82	12.81	-1.25
9,633.00	19.90	353.50	9,627.76	9.62	-14.15	9.63	12.23	12.19	3.13



Phoenix Technology Services

Survey Report



Company:	BOPCO, L.P.	Local Co-ordinate Reference:	Well #009H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3194.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV RR	MD Reference:	KB @ 3194.00usft (Latshaw-14)
Well:	#009H	North Reference:	Grid
Wellbore:	WB1/Job #1311624	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	N/S	E/W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(%/100usft)	(%/100usft)	(%/100usft)
9,664.00	24.30	355.50	9,656.48	21.23	-15.25	21.23	14.40	14.19	6.45
9,696.00	28.10	355.90	9,685.18	35.31	-16.30	35.32	11.89	11.88	1.25
9,728.00	31.60	358.10	9,712.94	51.22	-17.12	51.22	11.46	10.94	6.88
9,759.00	33.90	1.90	9,739.01	67.98	-17.10	67.98	9.95	7.42	12.26
9,791.00	37.60	2.40	9,764.97	86.66	-16.40	86.66	11.60	11.56	1.56
9,823.00	40.90	0.40	9,789.75	106.89	-15.92	106.90	11.04	10.31	-6.25
9,854.00	42.60	357.80	9,812.88	127.53	-16.25	127.53	7.83	5.48	-8.39
9,886.00	44.90	356.30	9,836.00	149.62	-17.39	149.63	7.88	7.19	-4.69
9,918.00	47.50	356.50	9,858.14	172.67	-18.84	172.68	8.14	8.13	0.63
9,949.00	50.10	357.30	9,878.56	195.96	-20.10	195.97	8.61	8.39	2.58
9,981.00	52.30	358.20	9,898.61	220.88	-21.08	220.89	7.22	6.88	2.81
10,013.00	53.80	359.20	9,917.85	246.44	-21.65	246.45	5.31	4.69	3.13
10,044.00	55.50	359.20	9,935.78	271.73	-22.01	271.73	5.48	5.48	0.00
10,076.00	57.90	359.70	9,953.35	298.47	-22.26	298.48	7.61	7.50	1.56
10,108.00	60.00	0.00	9,969.85	325.88	-22.33	325.89	6.61	6.56	0.94
10,139.00	62.40	0.70	9,984.79	353.04	-22.17	353.05	7.99	7.74	2.26
10,171.00	65.90	0.70	9,998.74	381.84	-21.81	381.84	10.94	10.94	0.00
10,203.00	69.80	0.30	10,010.80	411.47	-21.56	411.47	12.24	12.19	-1.25
10,235.00	71.50	359.90	10,021.40	441.66	-21.50	441.67	5.44	5.31	-1.25
10,266.00	74.60	359.70	10,030.44	471.31	-21.61	471.32	10.02	10.00	-0.65
10,298.00	77.40	1.00	10,038.18	502.35	-21.42	502.36	9.60	8.75	4.08
10,330.00	81.70	1.40	10,043.98	533.81	-20.76	533.81	13.49	13.44	1.25
10,392.00	90.00	0.60	10,048.47	595.58	-19.68	595.59	13.45	13.39	-1.29
10,487.00	89.70	0.90	10,048.71	690.57	-18.44	690.58	0.45	-0.32	0.32
10,582.00	88.80	0.40	10,049.96	785.56	-17.36	785.56	1.08	-0.95	-0.53
10,677.00	88.30	0.30	10,052.36	880.52	-16.78	880.53	0.54	-0.53	-0.11
10,772.00	87.10	359.60	10,056.17	975.45	-16.86	975.45	1.46	-1.26	-0.74
10,867.00	88.60	0.30	10,059.74	1,070.38	-16.94	1,070.38	1.74	1.58	0.74
10,962.00	90.60	0.30	10,060.40	1,165.37	-16.45	1,165.37	2.11	2.11	0.00
11,057.00	90.20	359.30	10,059.74	1,260.36	-16.78	1,260.37	1.13	-0.42	-1.05
11,151.00	92.00	359.70	10,057.93	1,354.34	-17.60	1,354.34	1.96	1.91	0.43
11,246.00	92.30	359.20	10,054.37	1,449.27	-18.51	1,449.27	0.61	0.32	-0.53
11,341.00	90.80	1.40	10,051.80	1,544.22	-18.01	1,544.23	2.80	-1.58	2.32
11,366.00	90.80	1.50	10,051.45	1,569.21	-17.38	1,569.22	0.40	0.00	0.40
11,461.00	90.60	1.30	10,050.29	1,664.18	-15.06	1,664.18	0.30	-0.21	-0.21
11,556.00	91.00	1.40	10,048.96	1,759.14	-12.82	1,759.14	0.43	0.42	0.11
11,652.00	89.30	1.20	10,048.71	1,855.11	-10.64	1,855.11	1.78	-1.77	-0.21
11,747.00	89.50	3.40	10,049.71	1,950.02	-6.83	1,950.03	2.33	0.21	2.32
11,842.00	89.50	4.00	10,050.54	2,044.82	-0.70	2,044.82	0.63	0.00	0.63
11,937.00	89.40	4.60	10,051.45	2,139.55	6.42	2,139.55	0.64	-0.11	0.63
12,031.00	89.00	3.50	10,052.76	2,233.30	13.06	2,233.30	1.25	-0.43	-1.17
12,126.00	89.80	2.20	10,053.76	2,328.18	17.78	2,328.17	1.61	0.84	-1.37
12,221.00	90.80	1.00	10,053.26	2,423.14	20.44	2,423.13	1.64	1.05	-1.26
12,316.00	90.00	0.70	10,052.59	2,518.12	21.85	2,518.12	0.90	-0.84	-0.32



Phoenix Technology Services
Survey Report



Company: BOPCO, L.P.
Project: Eddy County, NM (NAD27 NME)
Site: Poker Lake Unit CVX-JV-RR
Well: #009H
Wellbore: WB1/Job #1311624
Design: Surveys (Latshaw 14)

Local Co-ordinate Reference: Well #009H
TVD Reference: KB @ 3194.00usft (Latshaw 14)
MD Reference: KB @ 3194.00usft (Latshaw 14)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB

Survey

Measured	Inclination	Azimuth	Vertical	N-S	E-W	Vertical	Dogleg	Build	Turn
Depth (usft)	(°)	(°)	Depth (usft)	(usft)	(usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
12,411.00	88.80	359.00	10,053.59	2,613.11	21.60	2,613.10	2.19	-1.26	-1.79
12,506.00	88.80	359.10	10,055.58	2,708.08	20.02	2,708.07	0.11	0.00	0.11
12,601.00	88.80	359.30	10,057.57	2,803.05	18.70	2,803.04	0.21	0.00	0.21
12,696.00	88.80	359.30	10,059.56	2,898.02	17.54	2,898.01	0.00	0.00	0.00
12,791.00	89.10	359.70	10,061.30	2,993.00	16.71	2,992.99	0.53	0.32	0.42
12,886.00	89.20	359.90	10,062.71	3,087.99	16.37	3,087.98	0.24	0.11	0.21
12,981.00	89.10	357.80	10,064.12	3,182.95	14.47	3,182.95	2.21	-0.11	-2.21
13,076.00	90.20	358.00	10,064.70	3,277.89	10.99	3,277.88	1.18	1.16	0.21
13,171.00	89.50	358.00	10,064.95	3,372.83	7.67	3,372.83	0.74	-0.74	0.00
13,267.00	89.20	357.90	10,066.04	3,468.76	4.24	3,468.76	0.33	-0.31	-0.10
13,361.00	92.00	357.60	10,065.05	3,562.67	0.55	3,562.67	3.00	2.98	-0.32
13,456.00	92.50	357.10	10,061.32	3,657.50	-3.84	3,657.50	0.74	0.53	-0.53
13,551.00	93.40	359.70	10,056.43	3,752.33	-6.49	3,752.33	2.89	0.95	2.74
13,646.00	91.70	0.60	10,052.21	3,847.23	-6.24	3,847.23	2.02	-1.79	0.95
13,741.00	91.70	1.00	10,049.39	3,942.18	-4.92	3,942.18	0.42	0.00	0.42
13,836.00	90.10	1.20	10,047.90	4,037.14	-3.09	4,037.14	1.70	-1.68	0.21
13,931.00	90.10	1.40	10,047.70	4,132.12	-0.94	4,132.12	0.21	0.00	0.21
14,026.00	88.50	0.50	10,048.89	4,227.10	0.64	4,227.09	1.93	-1.68	-0.95
14,121.00	88.00	0.50	10,051.79	4,322.05	1.47	4,322.05	0.53	-0.53	0.00
14,216.00	89.10	1.10	10,054.20	4,417.01	2.79	4,417.00	1.32	1.16	0.63
14,311.00	88.80	1.30	10,055.94	4,511.97	4.78	4,511.97	0.38	-0.32	0.21
14,406.00	89.50	1.90	10,057.35	4,606.92	7.43	4,606.92	0.97	0.74	0.63
14,501.00	90.40	0.10	10,057.43	4,701.90	9.09	4,701.90	2.12	0.95	-1.89
14,596.00	90.30	359.70	10,056.85	4,796.90	8.93	4,796.89	0.43	-0.11	-0.42
14,690.00	89.80	358.80	10,056.77	4,890.89	7.70	4,890.89	1.10	-0.53	-0.96
14,785.00	89.80	358.50	10,057.10	4,985.86	5.46	4,985.86	0.32	0.00	-0.32
14,880.00	90.00	359.10	10,057.26	5,080.84	3.47	5,080.84	0.67	0.21	0.63
14,975.00	90.00	0.90	10,057.26	5,175.84	3.47	5,175.84	1.89	0.00	1.89
15,070.00	89.00	1.90	10,058.09	5,270.80	5.79	5,270.80	1.49	-1.05	1.05
15,165.00	89.50	2.80	10,059.34	5,365.71	9.68	5,365.71	1.08	0.53	0.95
15,260.00	88.40	1.40	10,061.08	5,460.63	13.17	5,460.62	1.87	-1.16	-1.47
15,354.00	88.00	1.00	10,064.03	5,554.56	15.13	5,554.56	0.60	-0.43	-0.43
15,449.00	88.30	0.40	10,067.10	5,649.50	16.29	5,649.50	0.71	0.32	-0.63
15,544.00	88.20	359.50	10,070.00	5,744.46	16.21	5,744.45	0.95	-0.11	-0.95
15,639.00	88.50	359.50	10,072.73	5,839.42	15.38	5,839.41	0.32	0.32	0.00
15,734.00	88.10	359.10	10,075.55	5,934.37	14.22	5,934.36	0.60	-0.42	-0.42
15,829.00	90.20	358.40	10,076.96	6,029.33	12.15	6,029.32	2.33	2.21	-0.74
15,924.00	89.90	357.80	10,076.88	6,124.28	9.00	6,124.27	0.71	-0.32	-0.63
16,019.00	90.00	357.90	10,076.96	6,219.21	5.44	6,219.21	0.15	0.11	0.11
16,114.00	90.10	357.70	10,076.88	6,314.14	1.79	6,314.14	0.24	0.11	-0.21
16,208.00	89.80	357.40	10,076.96	6,408.05	-2.23	6,408.05	0.45	-0.32	-0.32
16,304.00	90.40	357.30	10,076.79	6,503.95	-6.67	6,503.95	0.63	0.63	-0.10
16,399.00	90.10	356.60	10,076.38	6,598.81	-11.72	6,598.82	0.80	-0.32	-0.74



Phoenix Technology Services

Survey Report



Company:	BOPCO, L P	Local Co-ordinate Reference:	Well #009H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3194.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV RR	MD Reference:	KB @ 3194.00usft (Latshaw 14)
Well:	#009H	North Reference:	Grid
Wellbore:	WB1/Job #1311624	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw-14)	Database:	GCR DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N-S (usft)	E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,493.00	89.30	356.80	10,076.87	6,692.65	-17.13	6,692.66	0.88	-0.85	0.21	
16,589.00	90.20	357.80	10,077.29	6,788.54	-21.66	6,788.55	1.40	0.94	1.04	
16,683.00	90.40	356.70	10,076.80	6,882.43	-26.17	6,882.44	1.19	0.21	-1.17	
16,778.00	90.90	357.80	10,075.72	6,977.32	-30.72	6,977.33	1.27	0.53	-1.16	
16,873.00	91.30	357.80	10,073.89	7,072.23	-34.37	7,072.24	0.42	0.42	0.00	
16,969.00	90.90	357.80	10,072.05	7,168.14	-38.05	7,168.15	0.42	-0.42	0.00	
17,064.00	90.40	357.70	10,070.97	7,263.06	-41.78	7,263.07	0.54	-0.53	-0.11	
17,159.00	90.60	358.10	10,070.15	7,357.99	-45.26	7,358.01	0.47	0.21	0.42	
17,251.00	90.50	357.50	10,069.26	7,449.92	-48.80	7,449.94	0.66	-0.11	-0.65	
Last Phoenix MWD Survey										
17,306.00	90.50	357.50	10,068.78	7,504.87	-51.19	7,504.88	0.00	0.00	0.00	
Projection to Bit										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		N-S (usft)	E-W (usft)		Comment
1,076.00	1,075.97	1.43	-3.03		Tie-on to MS Gyro Survey
1,144.00	1,143.95	2.59	-1.68		First Phoenix MWD Survey
17,251.00	10,069.26	7,449.92	-48.80		Last Phoenix MWD Survey
17,306.00	10,068.78	7,504.87	-51.19		Projection to Bit

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------