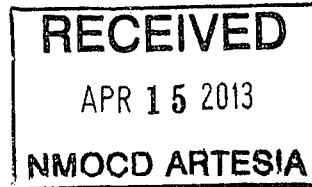




PHOENIX
TECHNOLOGY SERVICES

April 10, 2013

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 #2H
Eddy Co., NM
API #30-015-40661
Job No. 1310002

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	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Spencer Brown	2H	1357	12,213	02-25-13	03-10-13	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,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4364 9575

PHOENIX TECHNOLOGY SERVICES INC. SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1310002

OPERATOR Bopco LP

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

COUNTY & STATE

Eddy County, NM

API WELL NUMBER 30-015-40661

PROPOSED DIRECTION 0.15

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
1,284 ft	1,283.55 ft	1.6	228.26	-20.52	-17.86	GYRO

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
25-Feb-13	1,357 ft	2.1	236

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
10-Mar-13	12,213 ft	89.6	358.6

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
10-Mar-13	12,264 ft	89.6	358.6

Spencer Brown

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.26
DECLINATION OR GRID	Grid

30-Mar

TODAY'S DATE

MWD SUPERVISOR 1

Spencer Brown

DIRECTIONAL DRILLER 1

Brady Welch

MWD SUPERVISOR 2

Brent Shaw

DIRECTIONAL DRILLER 2

W. Solomon/A. Worsham

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

#2H

Wellbore #1 / Job #1310002

Survey: Phoenix MWD Surveys

Survey Report

31 March, 2013





Survey Report



Company:	Bopco L.P.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3373.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3373.00usft (Latshaw 14)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310002	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB v5000

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' 35.518179 N
		Longitude:	103° 53' 31.734916 W
		Grid Convergence:	0.23 °

Well	#2H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1 / Job #1310002		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010_14	02/22/13	(°)
			Dip Angle
			(°)
			Field Strength
			(nT)

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
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)



Survey Report



Company:	Bopco, L.P.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3373.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3373.00usft (Latshaw 14)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310002	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR:DB v5000

Survey Program		Date 03/11/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
92.20	1,284.00	Gyrodata Survey (Wellbore #1 / Job #1310002)	NS-GYRO-MS	North sensing gyrocompassing m/s
1,357.00	12,264.00	Phoenix MWD Surveys (Wellbore #1 / Job #1310002)	MWD	MWD - Standard

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
1,284.00	1.60	228.26	-2,089.45	1,283.55	-20.52	-17.86	-19.29	0.00	419,528.23	651,654.86	
Tie-on to Gyrodata											
1,357.00	2.10	236.00	-2,016.48	1,356.52	-21.95	-19.73	-20.59	0.76	419,526.80	651,652.99	
Phoenix First MWD Survey											
1,547.00	1.40	183.00	-1,826.56	1,546.44	-26.21	-22.73	-24.65	0.89	419,522.54	651,649.99	
1,738.00	0.40	93.60	-1,635.58	1,737.42	-28.59	-22.19	-27.05	0.76	419,520.16	651,650.53	
1,928.00	0.60	61.40	-1,445.59	1,927.41	-28.15	-20.66	-26.72	0.18	419,520.60	651,652.06	
2,119.00	0.70	75.60	-1,254.60	2,118.40	-27.38	-18.65	-26.09	0.10	419,521.37	651,654.07	
2,309.00	1.20	92.30	-1,064.63	2,308.37	-27.17	-15.54	-26.08	0.30	419,521.58	651,657.18	
2,500.00	1.10	36.60	-873.66	2,499.34	-25.78	-12.44	-24.90	0.56	419,522.97	651,660.28	
2,691.00	0.40	20.30	-682.68	2,690.32	-23.69	-11.12	-22.90	0.38	419,525.06	651,661.60	
2,881.00	0.90	229.30	-492.68	2,880.32	-24.04	-12.02	-23.19	0.67	419,524.71	651,660.70	
3,072.00	1.60	226.10	-301.73	3,071.27	-26.86	-15.08	-25.80	0.37	419,521.89	651,657.64	
3,262.00	0.50	174.70	-111.76	3,261.24	-29.53	-16.91	-28.34	0.71	419,519.22	651,655.81	
3,453.00	1.20	171.50	79.21	3,452.21	-32.34	-16.54	-31.17	0.37	419,516.41	651,656.18	
3,643.00	0.20	180.50	269.20	3,642.20	-34.64	-16.25	-33.48	0.53	419,514.11	651,656.47	
3,833.00	0.50	159.60	459.19	3,832.19	-35.74	-15.96	-34.61	0.17	419,513.01	651,656.76	
4,002.00	0.70	164.20	628.18	4,001.18	-37.43	-15.43	-36.32	0.12	419,511.32	651,657.29	
4,121.00	0.80	153.40	747.17	4,120.17	-38.87	-14.86	-37.80	0.15	419,509.88	651,657.86	
4,312.00	0.90	131.80	938.15	4,311.15	-41.06	-13.14	-40.10	0.17	419,507.69	651,659.58	
4,502.00	0.60	150.70	1,128.14	4,501.14	-42.93	-11.54	-42.07	0.20	419,505.82	651,661.18	
4,693.00	0.70	41.70	1,319.13	4,692.13	-42.93	-10.28	-42.15	0.55	419,505.82	651,662.44	



Survey Report



Company:	Bopco L.P.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD27/NME)	TVD Reference:	KB @ 3373.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3373.00usft (Latshaw 14)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310002	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB v5000

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
4,884.00	0.70	52.80	1,510.12	4,883.12	-41.35	-8.57	-40.69	0.07	419,507.40	651,664.15	
5,074.00	0.40	30.50	1,700.11	5,073.11	-40.08	-7.31	-39.50	0.19	419,508.67	651,665.41	
5,264.00	0.40	40.60	1,890.10	5,263.10	-39.00	-6.54	-38.48	0.04	419,509.75	651,666.18	
5,454.00	0.60	58.30	2,080.10	5,453.10	-37.98	-5.26	-37.54	0.13	419,510.77	651,667.46	
5,644.00	0.60	46.80	2,270.09	5,643.09	-36.77	-3.69	-36.45	0.06	419,511.98	651,669.03	
5,834.00	0.60	49.30	2,460.08	5,833.08	-35.44	-2.21	-35.22	0.01	419,513.31	651,670.51	
6,024.00	0.40	88.20	2,650.07	6,023.07	-34.77	-0.80	-34.64	0.20	419,513.98	651,671.92	
6,214.00	0.30	131.40	2,840.07	6,213.07	-35.08	0.24	-35.02	0.14	419,513.67	651,672.96	
6,404.00	0.40	197.10	3,030.06	6,403.06	-36.04	0.42	-35.99	0.20	419,512.71	651,673.14	
6,594.00	0.70	252.40	3,220.05	6,593.05	-37.03	-0.88	-36.89	0.30	419,511.72	651,671.84	
6,784.00	1.00	252.80	3,410.03	6,783.03	-37.87	-3.57	-37.55	0.16	419,510.88	651,669.15	
6,974.00	0.50	276.10	3,600.02	6,973.02	-38.27	-5.98	-37.79	0.30	419,510.48	651,666.74	
7,165.00	0.50	261.00	3,791.01	7,164.01	-38.31	-7.63	-37.72	0.07	419,510.44	651,665.09	
7,355.00	0.60	218.50	3,981.00	7,354.00	-39.22	-9.07	-38.53	0.22	419,509.53	651,663.65	
7,546.00	0.80	179.30	4,171.99	7,544.99	-41.34	-9.68	-40.61	0.26	419,507.41	651,663.04	
7,738.00	1.10	189.00	4,363.96	7,736.96	-44.50	-9.95	-43.74	0.18	419,504.25	651,662.77	
7,928.00	0.50	288.10	4,553.95	7,926.95	-46.04	-11.02	-45.21	0.67	419,502.71	651,661.70	
8,118.00	0.80	323.90	4,743.94	8,116.94	-44.71	-12.59	-43.78	0.26	419,504.04	651,660.13	
8,308.00	1.40	357.90	4,933.90	8,306.90	-41.32	-13.46	-40.34	0.45	419,507.43	651,659.26	
8,498.00	1.50	296.60	5,123.85	8,496.85	-37.89	-15.77	-36.76	0.78	419,510.86	651,656.95	
8,699.00	1.40	322.90	5,324.79	8,697.79	-34.75	-19.60	-33.38	0.33	419,514.00	651,653.12	
8,731.00	5.10	334.50	5,356.73	8,729.73	-33.16	-20.45	-31.73	11.68	419,515.59	651,652.27	
8,762.00	8.70	339.40	5,387.50	8,760.50	-29.72	-21.87	-28.20	11.76	419,519.03	651,650.85	
8,794.00	12.70	341.30	5,418.94	8,791.94	-24.12	-23.85	-22.48	12.55	419,524.63	651,648.87	
8,826.00	17.10	342.40	5,449.86	8,822.86	-16.30	-26.40	-14.51	13.78	419,532.45	651,646.32	
8,858.00	22.50	344.90	5,479.96	8,852.96	-5.89	-29.42	-3.93	17.08	419,542.86	651,643.30	
8,887.00	25.70	348.10	5,506.43	8,879.43	5.62	-32.16	7.74	11.92	419,554.37	651,640.56	



Survey Report



Company:	Bopco L.P.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3373.00usft (Latshaw, 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3373.00usft (Latshaw, 14)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310002	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw, 14)	Database:	GCR DB v5000

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,918.00	28.70	354.10	5,534.00	8,907.00	19.61	-34.31	21.84	13.10	419,568.36	651,638.41
8,950.00	32.60	356.50	5,561.52	8,934.52	35.86	-35.63	38.15	12.77	419,584.61	651,637.09
8,982.00	35.90	359.40	5,587.97	8,960.97	53.85	-36.26	56.14	11.50	419,602.60	651,636.46
9,013.00	38.20	1.30	5,612.71	8,985.71	72.53	-36.13	74.76	8.29	419,621.28	651,636.59
9,045.00	39.40	357.40	5,637.66	9,010.66	92.57	-36.37	94.78	8.51	419,641.32	651,636.35
9,077.00	42.00	350.60	5,661.93	9,034.93	113.29	-38.58	115.60	16.05	419,662.04	651,634.14
9,108.00	46.80	346.20	5,684.07	9,057.07	134.51	-42.97	137.07	18.39	419,683.26	651,629.75
9,140.00	50.00	345.70	5,705.32	9,078.32	157.72	-48.78	160.61	10.07	419,706.47	651,623.94
9,172.00	51.60	342.60	5,725.54	9,098.54	181.57	-55.56	184.85	9.02	419,730.32	651,617.16
9,204.00	53.90	345.70	5,744.92	9,117.92	206.07	-62.51	209.76	10.54	419,754.82	651,610.21
9,235.00	58.30	346.90	5,762.20	9,135.20	231.06	-68.59	235.10	14.55	419,779.81	651,604.13
9,267.00	62.50	347.70	5,778.00	9,151.00	258.20	-74.70	262.58	13.30	419,806.95	651,598.02
9,299.00	64.60	348.80	5,792.26	9,165.26	286.25	-80.54	290.96	7.25	419,835.00	651,592.18
9,330.00	65.60	349.40	5,805.31	9,178.31	313.86	-85.85	318.86	3.67	419,862.61	651,586.87
9,362.00	68.30	349.80	5,817.84	9,190.84	342.82	-91.17	348.11	8.52	419,891.57	651,581.55
9,393.00	72.10	350.90	5,828.34	9,201.34	371.57	-96.05	377.12	12.70	419,920.32	651,576.67
9,425.00	75.30	350.90	5,837.32	9,210.32	401.89	-100.91	407.70	10.00	419,950.64	651,571.81
9,457.00	77.30	350.60	5,844.90	9,217.90	432.58	-105.91	438.64	6.32	419,981.33	651,566.81
9,488.00	78.60	350.60	5,851.37	9,224.37	462.48	-110.86	468.81	4.19	420,011.23	651,561.86
9,520.00	83.10	351.60	5,856.45	9,229.45	493.69	-115.74	500.27	14.40	420,042.44	651,556.98
9,552.00	88.70	351.10	5,858.74	9,231.74	525.23	-120.54	532.07	17.57	420,073.98	651,552.18
9,651.00	92.10	351.90	5,858.05	9,231.05	623.13	-135.17	630.71	3.53	420,171.88	651,537.55
9,745.00	91.30	352.40	5,855.26	9,228.26	716.20	-148.00	724.44	1.00	420,264.95	651,524.72
9,840.00	90.20	353.30	5,854.02	9,227.02	810.45	-159.83	819.26	1.50	420,359.20	651,512.89
9,935.00	88.40	354.60	5,855.18	9,228.18	904.91	-169.84	914.18	2.34	420,453.66	651,502.88
10,030.00	87.30	356.60	5,858.74	9,231.74	999.56	-177.12	1,009.10	2.40	420,548.31	651,495.60
10,125.00	88.30	357.80	5,862.39	9,235.39	1,094.37	-181.76	1,104.01	1.64	420,643.12	651,490.96



Survey Report



Company:	Bopco L.P.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3373.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3373.00usft (Latshaw 14)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310002	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR:DB v5000

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
10,220.00	89.00	357.80	5,864.63	9,237.63	1,189.28	-185.40	1,198.95	0.74	420,738.03	651,487.32	
10,315.00	89.00	357.50	5,866.29	9,239.29	1,284.18	-189.30	1,293.90	0.32	420,832.93	651,483.42	
10,410.00	88.00	357.00	5,868.77	9,241.77	1,379.04	-193.86	1,388.85	1.18	420,927.79	651,478.86	
10,504.00	90.10	357.60	5,870.33	9,243.33	1,472.91	-198.28	1,482.82	2.32	421,021.66	651,474.44	
10,599.00	90.30	357.10	5,870.00	9,243.00	1,567.81	-202.68	1,577.80	0.57	421,116.56	651,470.04	
10,694.00	91.60	357.10	5,868.43	9,241.43	1,662.68	-207.48	1,672.77	1.37	421,211.43	651,465.24	
10,789.00	91.40	356.60	5,865.94	9,238.94	1,757.50	-212.70	1,767.73	0.57	421,306.25	651,460.02	
10,885.00	90.60	356.50	5,864.26	9,237.26	1,853.31	-218.48	1,863.71	0.84	421,402.06	651,454.24	
10,979.00	89.80	356.50	5,863.93	9,236.93	1,947.13	-224.21	1,957.71	0.85	421,495.88	651,448.51	
11,075.00	90.90	357.20	5,863.35	9,236.35	2,042.98	-229.49	2,053.70	1.36	421,591.73	651,443.23	
11,170.00	91.40	357.00	5,861.44	9,234.44	2,137.84	-234.29	2,148.67	0.57	421,686.59	651,438.43	
11,265.00	89.40	358.50	5,860.78	9,233.78	2,232.76	-238.02	2,243.63	2.63	421,781.51	651,434.70	
11,360.00	86.70	357.70	5,864.01	9,237.01	2,327.64	-241.17	2,338.51	2.96	421,876.39	651,431.55	
11,455.00	85.70	357.30	5,870.31	9,243.31	2,422.34	-245.30	2,433.27	1.13	421,971.09	651,427.42	
11,549.00	87.00	358.00	5,876.29	9,249.29	2,516.07	-249.15	2,527.05	1.57	422,064.82	651,423.57	
11,644.00	86.50	357.90	5,881.68	9,254.68	2,610.86	-252.54	2,621.85	0.54	422,159.61	651,420.18	
11,739.00	88.60	358.50	5,885.74	9,258.74	2,705.72	-255.52	2,716.70	2.30	422,254.47	651,417.20	
11,833.00	90.60	0.40	5,886.39	9,259.39	2,799.70	-256.43	2,810.54	2.93	422,348.45	651,416.29	
11,928.00	90.70	0.50	5,885.32	9,258.32	2,894.69	-255.68	2,905.27	0.15	422,443.44	651,417.04	
12,023.00	90.30	358.90	5,884.49	9,257.49	2,989.68	-256.18	3,000.09	1.74	422,538.43	651,416.54	
12,113.00	90.96	357.76	5,883.49	9,256.49	3,079.64	-258.80	3,090.02	1.46	422,628.39	651,413.92	
Phoenix Last MWD Wellbore #1											
12,118.00	91.00	357.70	5,883.41	9,256.41	3,084.63	-259.00	3,095.02	1.46	422,633.38	651,413.72	
12,213.00	89.60	358.60	5,882.91	9,255.91	3,179.58	-262.06	3,189.96	1.75	422,728.33	651,410.66	
12,264.00	89.60	358.60	5,883.27	9,256.27	3,230.56	-263.31	3,240.91	0.00	422,779.31	651,409.41	

Projection to Bit Wellbore #1



Survey Report



Company:	Bopco L.P.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3373.00usft (Latshaw 14)
Site:	PLU Big Sinks 2-25-30 State	MD Reference:	KB @ 3373.00usft (Latshaw 14)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310002	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB v5000

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,284.00	1,283.55	-20.52	-17.86	Tie-on to Gyrodata
1,357.00	1,356.52	-21.95	-19.73	Phoenix First MWD Survey
12,113.00	9,256.49	3,079.64	-258.80	Phoenix Last MWD, Wellbore #1
12,264.00	9,256.27	3,230.56	-263.31	Projection to Bit, Wellbore #1