



**PHOENIX
TECHNOLOGY SERVICES**

January 23, 2014

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

Re: Bopco, LP
PLU Big Sinks 12-25-30 USA #1H
Eddy County, NM
API #30-015-41598
Job No. 1310258

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	1H	1,075	14,447	12/30/13	01/15/14	MWD

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

Best Regards,

Dolly Bush

Dolly Bush
Operations Administrator



PHOENIX
TECHNOLOGY SERVICES

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 12-25-30 USA #1H
Eddy County, NM
API #30-015-41598
Job No. 1310258

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	1H	1,075	14,447	12/30/13	01/15/14	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 2917

PHOENIX TECHNOLOGY SERVICES INC. SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1310258

OPERATOR Bopco, LP

WELL NAME PLU Big Sinks 12-25-30 USA #1H

COUNTY & STATE

Eddy County, NM

API WELL NUMBER	30-015-41598
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PROPOSED DIRECTION	185.19
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TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
941 ft	940.91 ft	0.87	275.66	-8.42	-7.72	Vaughn Energy Services

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
30-Dec-13	1,075 ft	0.7	294.4

SURVEY INSTRUMENT TYPE
Phoenix P360 MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
15-Jan-14	14,447 ft	90.8	184.7

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
15-Jan-14	14,500 ft	90.8	184.7

Mike Layfield

PRINT YOUR NAME ABOVE

Mike Layfield

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.13
DECLINATION OR GRID	Grid

1/15/2014

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)



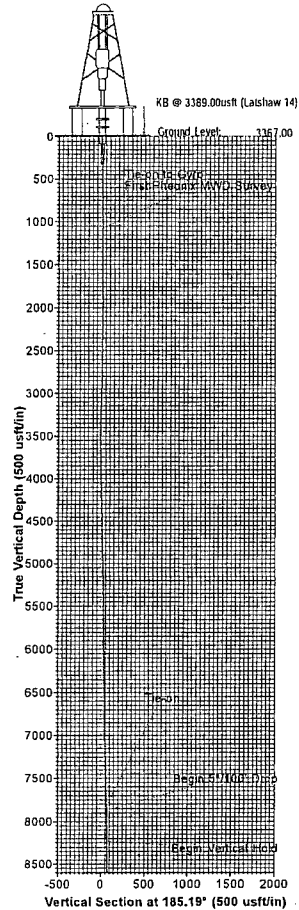
Project: Eddy County, NM (NAD27 NME)
Site: PLU Big Sinks 12-25-30 USA
Well: #1H
Wellbore: WB1/Job #1310258
Design: Plan #5 01-04-14
Rig: Latshaw 14



PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.26°
Magnetic North: 7.13°
Magnetic Field
Strength: 48291.95nT
Dip Angle: 60.01°
Date: 12/26/2013
Model: IGRF2010_14



WELL DETAILS											
+N/-S		+E/-W		Northing	Ground Level	3367.00	Latitude	Longitude			
0.00		0.00		419647.40	Easting	653050.70	32° 9' 9.94025 N	103° 50' 19.65822 W			

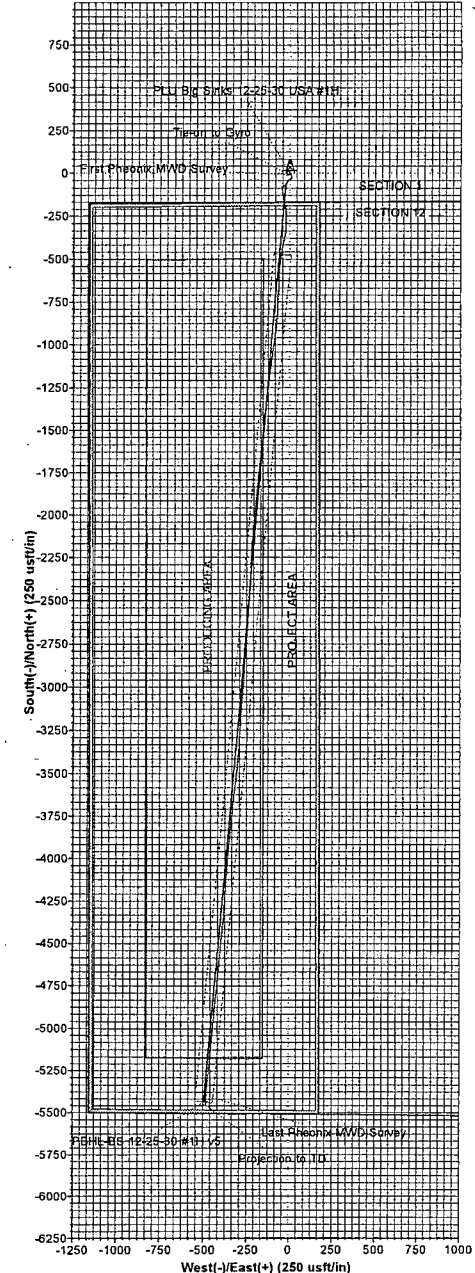
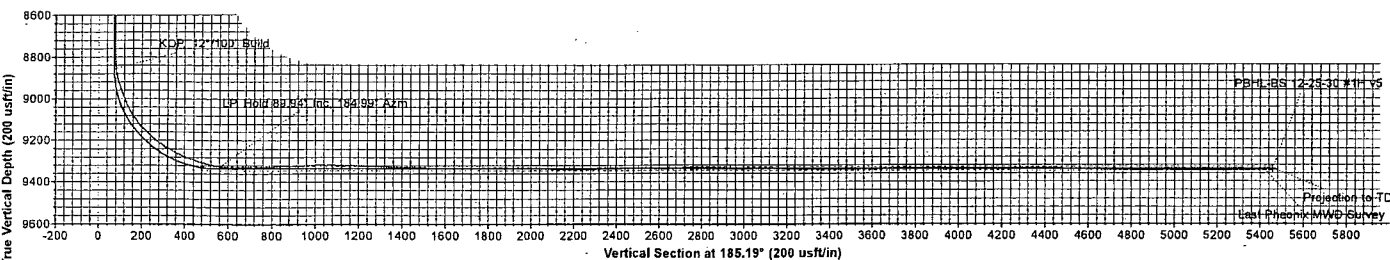
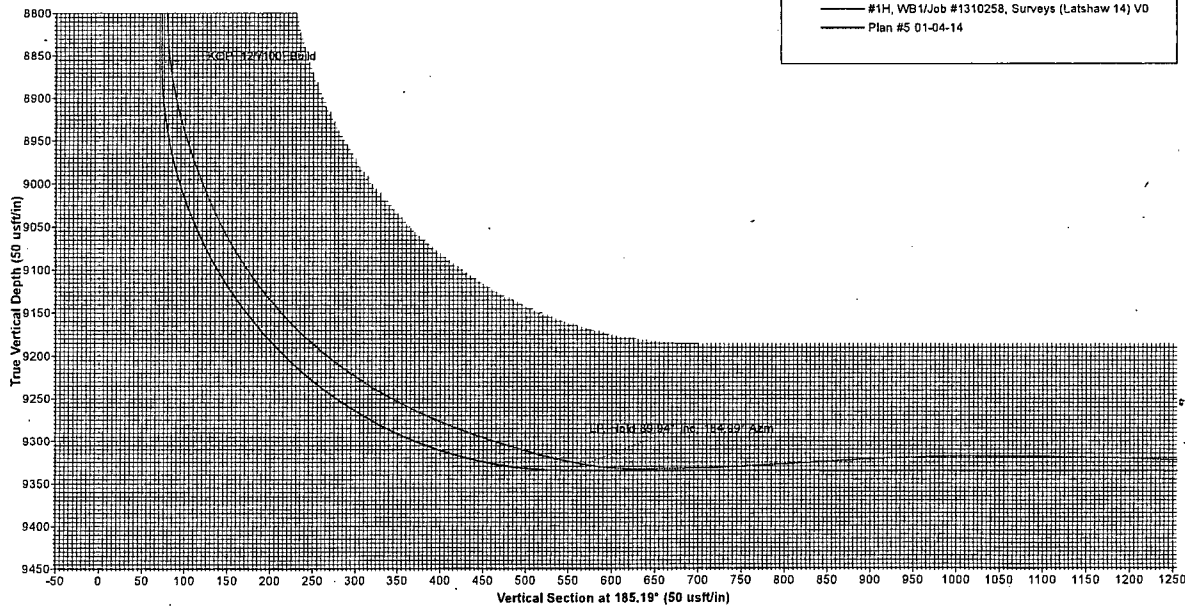
SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	7824.00	1.80	206.20	7822.20	-63.84	-22.10	0.00	0.00	65.58		Tie-on
2	7872.00	1.80	206.20	7870.18	-65.20	-22.77	0.00	0.00	66.99		Begin 5"/100' Drop
3	8232.00	0.00	0.00	8230.12	-70.27	-25.27	0.50	180.00	72.27		Begin Vertical Hold
4	8859.50	0.00	0.00	8857.62	-70.27	-25.27	0.00	0.00	72.27		KOP, 12"/100' Build
5	9608.87	89.94	184.99	9334.99	-545.35	-66.75	12.00	184.99	549.15		LP, Hold 89.94° Inc, 184.99° Azm
6	14516.22	89.94	184.99	9340.00	-5434.10	-493.60	0.00	0.00	5456.47	PBHL-BS 12-25-30 #1H v5	TD at 14516.23

DESIGN TARGET DETAILS											
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape			
PBHL-BS 12-25-30 #1H v5@9340.00	-5434.10	-493.60	414213.30	652557.10	32° 8' 16.18604 N	103° 50' 25.68909 W	Rectangle (Sides: L200.00 W100.00)				
- plan hits target center											

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well #1H, Grid North
Latitude: 32° 9' 9.94025 N
Longitude: 103° 50' 19.65822 W
Grid East: 653050.70
Grid North: 419647.40
Scale Factor: 1.000
Geomagnetic Model: IGRF2010_14
Sample Date: 26-Dec-13
Magnetic Declination: 7.39°
Dip Angle from Horizontal: 60.01°
Magnetic Field Strength: 48292
To convert a Magnetic Direction to a Grid Direction, Add 7.13°
To convert a Magnetic Direction to a True Direction, Add 7.39° East
To convert a True Direction to a Grid Direction, Subtract 0.26°

LEGEND

- #1H, WB1/Job #1310258, Surveys (Latshaw 14) V0
- Plan #5 01-04-14



BOPCO, L P

Eddy County, NM (NAD27 NME)

PLU Big Sinks 12-25-30 USA

#1H

WB1/Job #1310258

Survey: Pheonix MWD Survey

Standard Survey Report

15 January, 2014

Phoenix Technology Services

Survey Report

Company:	BOPCO, LP	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3389.00usft (Latshaw 14)
Site:	PLU Big Sinks 12-25-30 USA	MD Reference:	KB @ 3389.00usft (Latshaw 14)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1310258	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 12-25-30 USA		
Site Position:		Northing:	419,647.40 usft
From:	Map	Easting:	653,050.70 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 9.94025 N
		Longitude:	103° 50' 19.65822 W
		Grid Convergence:	0.26 °

Well	#1H		
Well Position	+N-S	0.00 usft	Northing: 419,647.40 usft
	+E-W	0.00 usft	Easting: 653,050.70 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 9' 9.94025 N
		Longitude:	103° 50' 19.65822 W
		Ground Level:	3,367.00 usft

Wellbore	WB1/Job #1310258				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010_14	12/26/13	7.39	60.01	48,292

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	185.19

Survey Program	Date 01/15/14			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.76	941.00	VES Gyro Survey (WB1/Job #1310258)	ISCWSA-GYRO-3	Biaxial Semi-Cont. Gyro
941.00	14,500.00	Phoenix MWD Survey (WB1/Job #131025)	MWD	MWD - Standard

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)
941.00	0.87	275.66	940.91	-8.42	-7.72	9.08	0.00	0.00	0.00
Tie-on to Gyro									
1,075.00	0.70	294.40	1,074.90	-7.98	-9.48	8.81	0.23	-0.13	13.99
First Phoenix MWD Survey									
1,234.00	0.60	277.00	1,233.89	-7.48	-11.19	8.46	0.14	-0.06	-10.94
1,424.00	0.50	167.20	1,423.88	-8.17	-11.99	9.22	0.47	-0.05	-57.79
1,614.00	0.60	150.00	1,613.87	-9.84	-11.31	10.82	0.10	0.05	-9.05
1,804.00	1.00	239.80	1,803.86	-11.53	-12.25	12.59	0.61	0.21	47.26
1,995.00	0.90	302.30	1,994.84	-11.57	-14.96	12.87	0.52	-0.05	32.72

Phoenix Technology Services

Survey Report

Company:	BOPCO LP	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County NM (NAD27 NME)	TVD Reference:	KB @ 3389.00usft (Latshaw 14)
Site:	PLU Big Sinks 12-25-30 USA	MD Reference:	KB @ 3389.00usft (Latshaw 14)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1310258	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)
2,185.00	1.30	281.80	2,184.80	-10.33	-18.33	11.95	0.29	0.21	-10.79
2,374.00	0.80	357.10	2,373.78	-8.57	-20.49	10.39	0.71	-0.26	39.84
2,564.00	1.30	8.40	2,563.75	-5.12	-20.24	6.93	0.28	0.26	5.95
2,753.00	0.70	335.70	2,752.72	-1.94	-20.41	3.78	0.43	-0.32	-17.30
2,942.00	0.70	2.70	2,941.71	0.26	-20.83	1.62	0.17	0.00	14.29
3,132.00	1.70	17.10	3,131.66	4.11	-19.94	-2.29	0.55	0.53	7.58
3,322.00	2.40	35.20	3,321.54	10.06	-16.82	-8.50	0.50	0.37	9.53
3,512.00	2.60	86.00	3,511.38	13.61	-10.23	-12.63	1.13	0.11	26.74
3,702.00	2.20	159.60	3,701.25	10.49	-4.66	-10.03	1.52	-0.21	38.74
3,893.00	2.00	151.30	3,892.13	4.13	-1.78	-3.96	0.19	-0.10	-4.35
4,000.00	1.80	138.90	3,999.07	1.23	0.22	-1.24	0.43	-0.19	-11.59
4,120.00	1.40	144.60	4,119.02	-1.39	2.31	1.17	0.36	-0.33	4.75
4,310.00	1.50	160.00	4,308.96	-5.61	4.51	5.18	0.21	0.05	8.11
4,500.00	1.20	167.00	4,498.91	-9.89	5.80	9.32	0.18	-0.16	3.68
4,690.00	1.40	142.20	4,688.86	-13.66	7.67	12.91	0.31	0.11	-13.05
4,880.00	1.50	169.70	4,878.80	-17.94	9.54	17.01	0.37	0.05	14.47
5,070.00	1.10	193.70	5,068.75	-22.16	9.55	21.21	0.35	-0.21	12.63
5,260.00	0.80	208.70	5,258.73	-25.10	8.49	24.23	0.20	-0.16	7.89
5,450.00	1.10	220.40	5,448.70	-27.65	6.67	26.93	0.19	0.16	6.16
5,640.00	0.90	217.50	5,638.67	-30.22	4.58	29.68	0.11	-0.11	-1.53
5,829.00	1.00	240.90	5,827.65	-32.20	2.23	31.87	0.21	0.05	12.38
6,020.00	0.80	224.70	6,018.62	-33.96	-0.16	33.84	0.17	-0.10	-8.48
6,210.00	1.20	249.70	6,208.60	-35.59	-2.96	35.72	0.31	0.21	13.16
6,400.00	1.00	220.00	6,398.56	-37.55	-5.89	37.93	0.31	-0.11	-15.63
6,494.00	1.10	226.70	6,492.55	-38.80	-7.08	39.28	0.17	0.11	7.13
6,685.00	1.10	206.70	6,683.51	-41.70	-9.24	42.36	0.20	0.00	-10.47
6,875.00	0.90	228.90	6,873.48	-44.31	-11.18	45.14	0.23	-0.11	11.68
7,064.00	1.20	225.10	7,062.45	-46.68	-13.70	47.73	0.16	0.16	-2.01
7,254.00	1.50	216.20	7,252.40	-50.09	-16.58	51.38	0.19	0.16	-4.68
7,444.00	1.40	207.00	7,442.34	-54.17	-19.10	55.67	0.13	-0.05	-4.84
7,634.00	1.50	187.30	7,632.28	-58.70	-20.47	60.31	0.27	0.05	-10.37
7,824.00	1.80	205.20	7,822.20	-63.87	-22.06	65.60	0.31	0.16	9.42
7,918.00	0.90	254.50	7,916.18	-65.40	-23.40	67.25	1.48	-0.96	52.45
8,108.00	1.20	238.90	8,106.15	-66.83	-26.54	68.95	0.22	0.16	-8.21
8,298.00	2.00	210.80	8,296.07	-70.70	-29.94	73.12	0.58	0.42	-14.79
8,393.00	1.70	243.80	8,391.03	-72.75	-32.05	75.35	1.15	-0.32	34.74
8,583.00	2.50	265.40	8,580.90	-74.32	-38.71	77.52	0.59	0.42	11.37
8,695.00	3.10	270.00	8,692.77	-74.52	-44.18	78.21	0.57	0.54	4.11
8,790.00	2.40	275.20	8,787.66	-74.34	-48.73	78.44	0.78	-0.74	5.47
8,821.00	2.70	182.90	8,818.64	-75.01	-49.41	79.17	11.88	0.97	-297.74
8,853.00	6.30	163.80	8,850.53	-77.45	-48.96	81.56	12.03	11.25	-59.69
8,885.00	10.10	163.00	8,882.20	-81.82	-47.65	85.80	11.88	11.88	-2.50
8,917.00	14.90	166.80	8,913.43	-88.51	-45.89	92.30	15.21	15.00	11.88

Phoenix Technology Services

Survey Report

Company:	BOPCO L.P.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County NM (NAD27 NME)	TVD Reference:	KB @ 3389.00usft (Latshaw 14)
Site:	PLU Big Sinks 12-25-30 USA	MD Reference:	KB @ 3389.00usft (Latshaw 14)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1310258	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)
8,948.00	17.70	171.90	8,943.19	-97.06	-44.31	100.67	10.14	9.03	16.45
8,980.00	20.20	172.00	8,973.45	-107.35	-42.86	110.79	7.81	7.81	0.31
9,012.00	23.00	169.80	9,003.20	-118.98	-40.98	122.20	9.11	8.75	-6.88
9,043.00	25.90	166.90	9,031.42	-131.54	-38.37	134.47	10.12	9.35	-9.35
9,075.00	29.90	166.60	9,059.69	-146.11	-34.94	148.67	12.51	12.50	-0.94
9,107.00	33.70	168.10	9,086.88	-162.56	-31.26	164.72	12.13	11.88	4.69
9,138.00	37.50	170.20	9,112.09	-180.28	-27.88	182.06	12.88	12.26	6.77
9,170.00	40.60	174.10	9,136.94	-200.24	-25.15	201.70	12.36	9.69	12.19
9,202.00	44.50	177.10	9,160.51	-221.81	-23.51	223.03	13.74	12.19	9.38
9,232.00	48.50	180.20	9,181.16	-243.56	-23.02	244.64	15.29	13.33	10.33
9,264.00	52.00	180.80	9,201.62	-268.15	-23.23	269.16	11.03	10.94	1.88
9,296.00	56.00	180.70	9,220.42	-294.04	-23.57	294.96	12.50	12.50	-0.31
9,328.00	59.40	183.20	9,237.52	-321.06	-24.50	321.96	12.51	10.63	7.81
9,359.00	61.50	186.90	9,252.81	-347.91	-26.89	348.92	12.40	6.77	11.94
9,391.00	65.50	191.10	9,267.09	-376.18	-31.38	377.48	17.15	12.50	13.13
9,423.00	68.60	193.20	9,279.57	-404.98	-37.59	406.72	11.42	9.69	6.56
9,454.00	70.50	191.60	9,290.40	-433.35	-43.82	435.54	7.81	6.13	-5.16
9,486.00	72.10	189.40	9,300.66	-463.15	-49.34	465.71	8.21	5.00	-6.88
9,518.00	73.30	187.30	9,310.18	-493.38	-53.78	496.22	7.30	3.75	-6.56
9,549.00	75.30	185.10	9,318.57	-523.04	-57.00	526.05	9.40	6.45	-7.10
9,581.00	79.30	183.40	9,325.60	-554.17	-59.31	557.26	13.53	12.50	-5.31
9,613.00	83.60	182.90	9,330.36	-585.75	-61.04	588.87	13.53	13.44	-1.56
9,645.00	88.00	182.60	9,332.70	-617.62	-62.58	620.75	13.78	13.75	-0.94
9,740.00	93.20	182.00	9,331.71	-712.51	-66.39	715.59	5.51	5.47	-0.63
9,835.00	93.00	183.20	9,326.57	-807.27	-70.69	810.36	1.28	-0.21	1.26
9,930.00	93.80	186.70	9,320.93	-901.73	-78.87	905.17	3.77	0.84	3.68
10,025.00	89.70	188.20	9,318.03	-995.87	-91.18	1,000.03	4.60	-4.32	1.58
10,119.00	89.40	188.00	9,318.77	-1,088.92	-104.42	1,093.91	0.38	-0.32	-0.21
10,214.00	88.50	187.50	9,320.51	-1,183.04	-117.23	1,188.79	1.08	-0.95	-0.53
10,309.00	87.40	186.50	9,323.91	-1,277.27	-128.80	1,283.68	1.56	-1.16	-1.05
10,404.00	88.50	186.10	9,327.31	-1,371.63	-139.22	1,378.60	1.23	1.16	-0.42
10,499.00	86.90	185.30	9,331.12	-1,466.08	-148.65	1,473.52	1.88	-1.68	-0.84
10,594.00	89.60	186.00	9,334.02	-1,560.57	-158.00	1,568.46	2.94	2.84	0.74
10,689.00	89.80	186.60	9,334.52	-1,654.99	-168.42	1,663.44	0.67	0.21	0.63
10,784.00	90.80	186.30	9,334.02	-1,749.39	-179.09	1,758.42	1.10	1.05	-0.32
10,879.00	90.30	185.60	9,333.11	-1,843.87	-188.94	1,853.40	0.91	-0.53	-0.74
10,974.00	89.10	185.50	9,333.61	-1,938.42	-198.13	1,948.40	1.27	-1.26	-0.11
11,069.00	87.40	185.20	9,336.51	-2,032.96	-206.98	2,043.35	1.82	-1.79	-0.32
11,164.00	88.10	184.40	9,340.24	-2,127.55	-214.92	2,138.27	1.12	0.74	-0.84
11,258.00	91.30	183.00	9,340.73	-2,221.34	-220.99	2,232.23	3.72	3.40	-1.49
11,353.00	91.90	181.80	9,338.08	-2,316.22	-224.97	2,327.07	1.41	0.63	-1.26
11,448.00	90.50	183.60	9,336.09	-2,411.09	-229.44	2,421.96	2.40	-1.47	1.89
11,544.00	90.30	184.00	9,335.42	-2,506.87	-235.80	2,517.93	0.47	-0.21	0.42
11,639.00	90.50	183.40	9,334.76	-2,601.67	-241.93	2,612.89	0.67	0.21	-0.63

Phoenix Technology Services

Survey Report

Company:	BOPCO, LP	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3389.00usft (Latshaw 14)
Site:	PLU Big Sinks 12-25-30 USA	MD Reference:	KB @ 3389.00usft (Latshaw 14)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1310258	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)
11,733.00	91.00	182.90	9,333.53	-2,695.52	-247.10	2,706.82	0.75	0.53	-0.53
11,827.00	90.00	185.50	9,332.71	-2,789.26	-253.98	2,800.80	2.96	-1.06	2.77
11,922.00	89.50	184.40	9,333.12	-2,883.90	-262.18	2,895.79	1.27	-0.53	-1.16
12,017.00	88.00	184.40	9,335.19	-2,978.59	-269.46	2,990.76	1.58	-1.58	0.00
12,112.00	90.10	185.10	9,336.77	-3,073.25	-277.33	3,085.74	2.33	2.21	0.74
12,207.00	88.10	184.30	9,338.26	-3,167.91	-285.11	3,180.72	2.27	-2.11	-0.84
12,302.00	89.50	183.70	9,340.25	-3,262.66	-291.74	3,275.67	1.60	1.47	-0.63
12,397.00	90.30	183.50	9,340.41	-3,357.47	-297.70	3,370.63	0.87	0.84	-0.21
12,493.00	90.50	184.40	9,339.74	-3,453.24	-304.32	3,466.61	0.96	0.21	0.94
12,588.00	90.20	187.00	9,339.16	-3,547.76	-313.75	3,561.59	2.75	-0.32	2.74
12,683.00	90.50	186.10	9,338.58	-3,642.14	-324.59	3,656.57	1.00	0.32	-0.95
12,778.00	91.00	185.80	9,337.34	-3,736.62	-334.43	3,751.55	0.61	0.53	-0.32
12,873.00	90.40	186.00	9,336.18	-3,831.10	-344.20	3,846.53	0.67	-0.63	0.21
12,968.00	89.50	184.80	9,336.26	-3,925.68	-353.14	3,941.53	1.58	-0.95	-1.26
13,063.00	89.30	184.70	9,337.26	-4,020.35	-361.00	4,036.52	0.24	-0.21	-0.11
13,158.00	89.10	184.10	9,338.58	-4,115.06	-368.29	4,131.50	0.67	-0.21	-0.63
13,253.00	91.60	184.40	9,338.00	-4,209.79	-375.33	4,226.48	2.65	2.63	0.32
13,348.00	89.50	182.60	9,337.09	-4,304.60	-381.13	4,321.43	2.91	-2.21	-1.89
13,443.00	90.40	185.70	9,337.17	-4,399.34	-388.00	4,416.40	3.40	0.95	3.26
13,538.00	87.60	185.30	9,338.83	-4,493.87	-397.11	4,511.37	2.98	-2.95	-0.42
13,633.00	89.40	185.70	9,341.32	-4,588.40	-406.21	4,606.33	1.94	1.89	0.42
13,728.00	88.60	185.50	9,342.98	-4,682.93	-415.48	4,701.32	0.87	-0.84	-0.21
13,823.00	89.80	185.40	9,344.30	-4,777.49	-424.50	4,796.30	1.27	1.26	-0.11
13,919.00	89.50	185.50	9,344.89	-4,873.06	-433.62	4,892.30	0.33	-0.31	0.10
14,014.00	89.50	184.80	9,345.72	-4,967.67	-442.14	4,987.30	0.74	0.00	-0.74
14,109.00	88.70	184.90	9,347.21	-5,062.32	-450.18	5,082.28	0.85	-0.84	0.11
14,204.00	91.00	185.00	9,347.46	-5,156.95	-458.37	5,177.28	2.42	2.42	0.11
14,299.00	90.50	185.50	9,346.22	-5,251.55	-467.06	5,272.27	0.74	-0.53	0.53
14,394.00	90.80	185.50	9,345.14	-5,346.10	-476.17	5,367.26	0.32	0.32	0.00
14,447.00	90.80	184.70	9,344.40	-5,398.89	-480.88	5,420.25	1.51	0.00	-1.51
Last Pheonix MWD Survey									
14,500.00	90.80	184.70	9,343.66	-5,451.70	-485.22	5,473.25	0.00	0.00	0.00
Projection to TD									

Survey Annotations

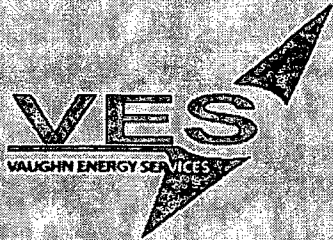
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
941.00	940.91	-8.42	-7.72	Tie-on to Gyro
1,075.00	1,074.90	-7.98	-9.48	First Pheonix MWD Survey
14,447.00	9,344.40	-5,398.89	-480.88	Last Pheonix MWD Survey
14,500.00	9,343.66	-5,451.70	-485.22	Projection to TD

Phoenix Technology Services

Survey Report

Company:	BOPCO, L.P.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County, NM (NAD27, NME)	TVD Reference:	KB @ 3389.00usft (Latshaw 14)
Site:	PLU Big Sinks 12-25-30 USA	MD Reference:	KB @ 3389.00usft (Latshaw 14)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1310258	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Latshaw 14)	Database:	GCR DB

Checked By: _____	Approved By: _____	Date: _____
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A GYRO TECHNOLOGIES INC. COMPANY

P.O. Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

January 21, 2014

BOPCO, LP
P O Box 2760
Midland, Texas 79702

Attn: Drilling Department

RE: PLU Big Sinks 12-25-30 USA No 001H

Please find enclosed a copy of the survey from 0' to 941' ran on the above referenced well.

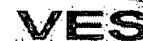
If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations


GTI
GEO TECHNOLOGIES

Company: BOPCO
Lease/Well: PLU Big Sinks 12-25-30 USA/No 001H
Location: S1 T25s R30e
Rig Name: Latshaw #14
State/County: New Mexico/Eddy
Latitude: 32.16, Longitude: -103.84
GRID North is 0.26 Degrees East of True North
VS-Azi: 0.00 Degrees


VES
VAUGHN ENERGY SERVICES

RKB : 22 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: ...25-30 usa #1h gyro survey.ut

Minimum Curvature Method

Report Date/Time: 1/21/2014 / 09:57

Vaughn Energy Services

(432) 563-5444

Gardendale, TX

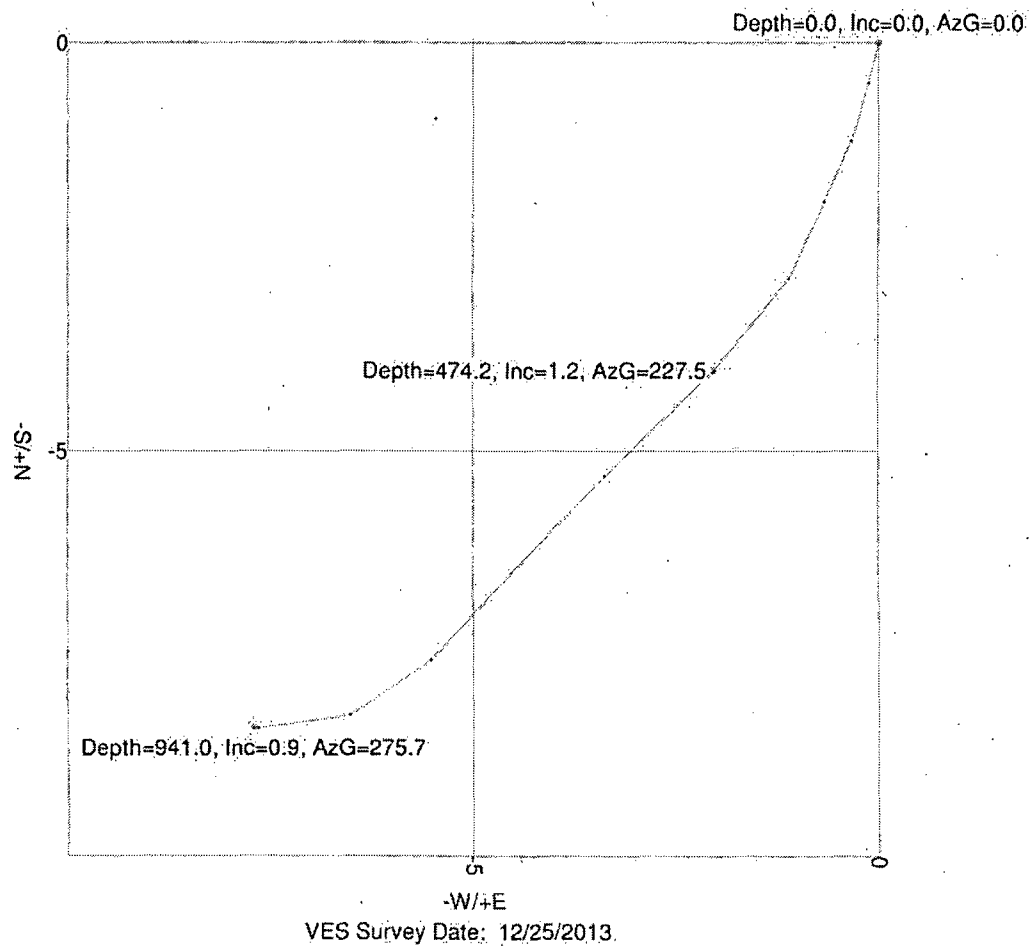
Surveyor: Dustin Wedel

PLU Big Sinks 12-25-30 USA/No 001H / API 30-015-41598

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	***
100.76	0.57	192.61	100.76	-0.49	-0.11	-0.49	0.50	192.61	0.57
194.12	0.35	204.77	194.12	-1.21	-0.33	-1.21	1.25	195.40	0.25
287.48	0.64	204.05	287.47	-1.94	-0.67	-1.94	2.05	198.90	0.30
380.84	0.63	205.22	380.83	-2.89	-1.10	-2.89	3.09	200.82	0.01
474.20	1.20	227.45	474.17	-4.01	-2.04	-4.01	4.50	206.91	0.70
567.56	1.08	224.85	567.52	-5.30	-3.38	-5.30	6.28	212.52	0.14
660.92	0.94	221.96	660.86	-6.49	-4.51	-6.49	7.91	214.79	0.16
754.28	0.88	224.10	754.21	-7.58	-5.52	-7.58	9.38	216.09	0.07
847.64	0.66	251.37	847.56	-8.26	-6.53	-8.26	10.54	218.33	0.45
937.00	0.82	270.56	936.91	-8.42	-7.66	-8.42	11.38	222.27	0.32
941.00	0.87	275.66	940.91	-8.42	-7.72	-8.42	11.42	222.50	2.37



Vaughn Energy Services
(432) 563-5444
Gardendale, TX
Surveyor: Dustin Wedel
PLU Big Sinks 12-25-30 USA No 001H / API 30-015-41598



WTD File Room
Fortis Index Information Form

Well Name: **PLU Big Sinks 12-25-30 USA #1H**

API **30-015-41598**

Description: **Survey**

☐ Previous version
exists in Fortis

File Type: WE114-007

☐ CO ☐ OSO

(A list of file types can be found in the FORTIS folder on the COMM drive)

☒ Hard Copy Only ☐ E-mail Only ☐ E-mail AND Hard Copy

Submitted By: **Leslie Barnes** Submitted For: **BAB**

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Form must be completed in order for documents to be indexed by Fortis.

WTD00000000