

PO Box 1370
Artesia, NM 88211-1370
(505) 748-1288

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 25 2014

RECEIVED

May 22, 2014

30-015-42252

Yates Petroleum Corporation
105 S. 4th
Artesia, NM 88211-1395

RE: Roy AET Com #9H
990' FNL & 15' FWL
Sec. 17, T19S, R25E
Eddy County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

Very truly yours,

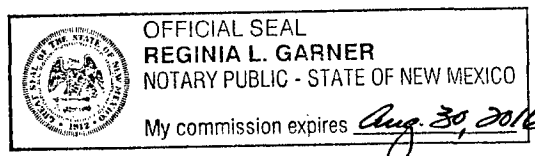
A handwritten signature in cursive script, appearing to read "Chris Graham".

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 22nd day of May, 2014.

A handwritten signature in cursive script, appearing to read "Regina L. Garner".

Notary Public

ROY "AET" COM #9H

Date	Depth	Deviation	Direction	TVD	500' test
5/7/2014	135	0.30	130.80	135.00	
5/7/2014	193	0.40	155.90	193.00	58
5/7/2014	290	0.70	157.00	0.00	97
5/7/2014	377	0.80	171.00	0.00	87
5/7/2014	470	0.50	162.00	0.00	93
5/7/2014	564	0.20	262.00	0.00	94
5/7/2014	658	0.60	274.80	0.00	94
5/7/2014	751	0.50	261.90	0.00	93
5/8/2014	844	0.50	316.90	843.90	93
5/8/2014	938	0.40	358.20	937.90	94
5/8/2014	1032	0.60	337.40	1031.96	94
5/8/2014	1125	0.40	309.90	1124.96	93
5/8/2014	1219	0.50	318.90	1218.96	94
5/8/2014	1312	0.60	316.30	0.00	93
5/8/2014	1348	0.10	356.60	0.00	36
5/10/2014	1486	0.20	348.10	0.00	138
5/10/2014	1580	0.20	333.60	0.00	94
5/11/2014	1673	0.20	2.00	1672.95	93
5/11/2014	1767	0.20	356.40	1766.95	94
5/11/2014	1860	0.10	327.70	1859.95	93
5/11/2014	1954	0.20	15.50	1953.95	94
5/11/2014	1984	0.20	24.30	1983.85	30
5/11/2014	2048	0.60	6.40	2047.95	64
5/11/2014	2080	3.50	280.50	2076.93	32
5/11/2014	2111	9.30	268.60	2110.72	31
5/11/2014	2142	14.90	267.40	2141.02	31
5/11/2014	2174	19.90	268.30	2171.00	32
5/11/2014	2205	23.60	268.90	0.00	31
5/11/2014	2267	30.20	269.40	2255.00	62
5/11/2014	2298	33.00	270.40	2282.00	31
5/11/2014	2329	36.30	270.40	2307.00	31
5/11/2014	2336	26.80	269.10	2228.00	7
5/12/2014	2454	47.80	273.80	2400.34	118
5/12/2014	2486	50.30	273.70	2421.31	32
5/12/2014	2517	54.60	272.30	2440.20	31
5/12/2014	2548	58.20	271.50	2457.35	31
5/12/2014	2579	61.60	270.20	2472.89	31
5/12/2014	2610	64.00	269.60	2487.06	31
5/12/2014	2766	83.10	271.10	2531.10	156
5/12/2014	2798	86.90	270.80	2533.89	32
5/12/2014	2829	90.40	271.10	2534.62	31
5/12/2014	2922	91.80	271.60	2532.83	93
5/12/2014	3016	92.00	271.50	2529.72	94
5/12/2014	3109	92.50	270.90	2526.07	93

Date	Depth	Deviation	Direction	TVD	500' test
5/12/2014	3203	92.60	269.80	2521.88	94
5/13/2014	3297	92.50	270.50	2517.00	94
5/13/2014	3390	91.90	271.20	2514.00	93
5/13/2014	3483	91.50	270.80	2511.00	93
5/13/2014	3577	96.80	271.60	2509.00	94
5/13/2014	3670	90.90	272.60	2508.71	93
5/13/2014	3764	90.80	272.80	2506.71	94
5/13/2014	3857	90.20	272.30	2505.90	93
5/13/2014	3951	91.70	272.30	2504.34	94
5/13/2014	4045	92.10	272.80	2501.22	94
5/13/2014	4139	92.00	270.70	2497.86	94
5/13/2014	4233	91.50	270.00	2494.99	94
5/13/2014	4327	91.10	269.40	2492.86	94
5/14/2014	4420	91.60	270.00	249.00	93
5/14/2014	4514	91.80	271.00	2487.00	94
5/14/2014	4514	91.80	271.00	2487.00	0
5/14/2014	4608	92.00	272.30	2298.00	94
5/14/2014	4701	91.70	272.30	2481.00	93
5/14/2014	4794	93.00	272.10	2477.95	93
5/14/2014	4888	93.30	271.10	2472.78	94
5/14/2014	4981	93.50	270.50	2467.27	93
5/14/2014	5075	92.60	271.10	2462.26	94
5/14/2014	5168	92.80	271.60	2457.88	93
5/14/2014	5262	89.80	272.00	2456.00	94
5/14/2014	5356	89.60	271.80	2456.24	94
5/14/2014	5449	89.70	271.20	2456.81	93
5/14/2014	5543	90.20	271.30	2456.89	94
5/14/2014	5637	90.50	271.10	2456.32	94
5/15/2014	5824	92.10	270.90	2450.00	187
5/15/2014	5917	92.10	272.30	2447.19	93
5/15/2014	6011	91.70	272.30	2444.08	94
5/15/2014	6104	91.20	272.30	2441.72	93
5/15/2014	6198	92.40	271.60	2438.77	94
5/15/2014	6291	92.30	271.40	2434.96	93
5/15/2014	6385	92.00	271.40	2431.43	94
5/15/2014	6479	91.70	270.80	2428.40	94
5/15/2014	6572	92.90	270.40	2424.66	93
5/15/2014	6666	92.00	269.70	2420.65	94
5/16/2014	6760	92.80	270.80	2416.00	94
5/16/2014	6853	93.00	270.80	2412.00	93
5/16/2014	6946	92.60	272.80	2407.00	93
5/16/2014	7040	92.80	273.20	2403.00	94
5/16/2014	7133	92.70	272.30	2399.00	93
5/16/2014	7227	90.70	271.80	2397.39	94
5/16/2014	7316	90.90	271.70	2396.15	89

**Phoenix Technology Services
SURVEY DATA CERTIFICATION**



NM OIL CONSERVATION

PHOENIX JOB NUMBER 1410611

OPERATOR Yates Petroleum

ARTESIA DISTRICT

NOV 25 2014

WELL NAME Roy AET Com. #9H

COUNTY & STATE

Eddy Co., NM

RECEIVED

API WELL NUMBER 30-015-42252

PROPOSED DIRECTION 271.36

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
0 ft	.00 ft	.0 ft	.0 ft	.00 ft	.00 ft	Surface

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
7-May-14	135 ft	0.3	130.8

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
16-May-14	7,316 ft	90.9	271.7

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
16-May-14	7,390 ft	90.9	271.7

James Garber

PRINT YOUR NAME ABOVE

James Garber

SIGN YOUR NAME ABOVE

5/16/2014

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.7
DECLINATION OR GRID	GRID

MWD SUPERVISOR 1 Jim Garber

DIRECTIONAL DRILLER 1 Dan Waggoner

MWD SUPERVISOR 2 August Holt

DIRECTIONAL DRILLER 2 Daniel Scott

1805 Brittmore Road Houston, Texas 77043 (713)3370609 (Voice), (713)337-0599 (Fax)



NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 25 2014

RECEIVED

Yates Petroleum Corp.

Eddy County, NM (NAD83 NME)

Roy AET Com

#9H

WB1/Job #1410611

Survey: Phoenix MWD Surveys

Standard Survey Report

19 May, 2014



PHOENIX
TECHNOLOGY SERVICES



Phoenix Technology Services

Survey Report



Company: Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #9H
Project: Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3549.00usft (Silver Oak 11)
Site: Roy AET Com	MD Reference:	KB @ 3549.00usft (Silver Oak 11)
Well: #9H	North Reference:	Grid
Wellbore: WB1/Job #1410611	Survey Calculation Method:	Minimum Curvature
Design: Surveys (Silver Oak 11)	Database:	GCR DB

Project: Eddy County, NM (NAD83 NME)		
Map System: US State Plane 1983	System Datum: Mean Sea Level	
Geo Datum: North American Datum 1983		
Map Zone: New Mexico Eastern Zone		

Site: Roy AET Com					
Site Position:	Map	Northing:	607,439.10 usft	Latitude:	32° 40' 11.23170 N
From:		Easting:	490,431.50 usft	Longitude:	104° 29' 55.55890 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.09 °

Well: #9H						
Well Position	+N-S	0.00 usft	Northing:	605,918.30 usft	Latitude:	32° 39' 56.18486 N
	+E-W	0.00 usft	Easting:	490,559.50 usft	Longitude:	104° 29' 54.03375 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,531.00 usft

Wellbore: WB1/Job #1410611					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	04/08/14	7.70	60.37	48,497

Design: Surveys (Silver Oak 11)					
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	271.36	

Survey Program: Date 05/19/14					
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
135.00	7,390.00	Phoenix MWD Surveys (WB1/Job #14106)	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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135.00	0.30	130.80	135.00	-0.23	0.27	-0.27	0.22	0.22	0.00	
First Phoenix MWD Survey										
193.00	0.40	155.90	193.00	-0.51	0.47	-0.48	0.31	0.17	43.28	
287.00	0.70	157.20	286.99	-1.34	0.82	-0.85	0.32	0.32	1.38	
377.00	0.80	171.20	376.99	-2.47	1.13	-1.19	0.23	0.11	15.56	
470.00	0.50	162.30	469.98	-3.50	1.35	-1.44	0.34	-0.32	-9.57	
564.00	0.20	262.80	563.98	-3.91	1.32	-1.41	0.61	-0.32	106.91	
658.00	0.60	274.80	657.98	-3.89	0.66	-0.75	0.43	0.43	12.77	
751.00	0.50	261.90	750.97	-3.91	-0.22	0.13	0.17	-0.11	-13.87	
844.00	0.50	316.90	843.97	-3.67	-0.90	0.82	0.50	0.00	59.14	



Phoenix Technology Services

Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3549.00usft (Silver Oak 11)
Site:	Roy/AET Com	MD Reference:	KB @ 3549.00usft (Silver Oak 11)
Well:	#9H	North Reference:	Grid
Wellbore:	WB1/Job #1410611	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	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)
938.00	0.40	358.20	937.97	-3.04	-1.19	1.12	0.35	-0.11	43.94
1,032.00	0.60	337.40	1,031.96	-2.26	-1.39	1.34	0.28	0.21	-22.13
1,125.00	0.40	309.90	1,124.96	-1.60	-1.83	1.79	0.33	-0.22	-29.57
1,219.00	0.50	318.90	1,218.96	-1.08	-2.35	2.32	0.13	0.11	9.57
1,312.00	0.30	316.30	1,311.95	-0.60	-2.79	2.77	0.22	-0.22	-2.80
1,348.00	0.10	256.60	1,347.95	-0.54	-2.88	2.87	0.73	-0.56	-165.83
1,486.00	0.20	348.10	1,485.95	-0.33	-3.05	3.04	0.16	-0.07	66.30
1,580.00	0.20	333.60	1,579.95	-0.02	-3.16	3.15	0.05	0.00	-15.43
1,673.00	0.20	2.00	1,672.95	0.28	-3.22	3.23	0.11	0.00	30.54
1,767.00	0.20	356.40	1,766.95	0.61	-3.23	3.24	0.02	0.00	-5.96
1,860.00	0.10	327.70	1,859.95	0.84	-3.28	3.30	0.13	-0.11	-30.86
1,954.00	0.20	15.50	1,953.95	1.07	-3.28	3.30	0.16	0.11	50.85
1,984.00	0.20	24.30	1,983.95	1.17	-3.24	3.27	0.10	0.00	29.33
2,048.00	0.60	6.40	2,047.95	1.60	-3.16	3.20	0.65	0.63	-27.97
2,080.00	3.50	280.50	2,079.93	1.95	-4.10	4.15	10.96	9.06	-268.44
2,111.00	9.30	268.60	2,110.72	2.06	-7.54	7.59	19.09	18.71	-38.39
2,142.00	14.90	267.40	2,141.02	1.82	-14.03	14.07	18.08	18.06	-3.87
2,174.00	19.90	268.20	2,171.55	1.46	-23.59	23.62	15.64	15.63	2.50
2,205.00	23.60	268.90	2,200.34	1.17	-35.07	35.09	11.96	11.94	2.26
2,236.00	26.80	269.10	2,228.38	0.95	-48.27	48.28	10.33	10.32	0.65
2,267.00	30.20	269.40	2,255.62	0.75	-63.06	63.06	10.98	10.97	0.97
2,298.00	33.00	270.40	2,282.02	0.73	-79.30	79.29	9.19	9.03	3.23
2,329.00	36.30	272.10	2,307.52	1.13	-96.91	96.91	11.09	10.65	5.48
2,361.00	39.30	272.30	2,332.80	1.88	-116.51	116.52	9.38	9.38	0.63
2,392.00	42.00	273.20	2,356.32	2.85	-136.68	136.71	8.91	8.71	2.90
2,423.00	44.60	273.80	2,378.88	4.15	-157.90	157.95	8.49	8.39	1.94
2,454.00	47.80	273.80	2,400.34	5.64	-180.22	180.30	10.32	10.32	0.00
2,486.00	50.30	273.70	2,421.31	7.22	-204.34	204.45	7.82	7.81	-0.31
2,517.00	54.60	272.30	2,440.20	8.49	-228.87	229.01	14.33	13.87	-4.52
2,548.00	58.20	271.50	2,457.35	9.35	-254.68	254.83	11.81	11.61	-2.58
2,579.00	61.60	270.20	2,472.89	9.74	-281.49	281.64	11.55	10.97	-4.19
2,610.00	64.00	269.60	2,487.06	9.69	-309.06	309.20	7.93	7.74	-1.94
2,616.59	64.83	269.56	2,489.91	9.65	-315.00	315.14	12.59	12.58	-0.66
2616.59' MD, 330' Heel Crossing Point									
2,641.00	67.90	269.40	2,499.69	9.44	-337.36	337.49	12.59	12.58	-0.64
2,673.00	71.60	269.50	2,510.77	9.15	-367.38	367.49	11.57	11.56	0.31
2,704.00	75.50	269.80	2,519.54	8.97	-397.10	397.20	12.61	12.58	0.97
2,735.00	79.20	270.60	2,526.33	9.08	-427.34	427.44	12.20	11.94	2.58
2,766.00	83.10	271.10	2,531.10	9.54	-457.96	458.06	12.68	12.58	1.61
2,798.00	86.90	270.80	2,533.89	10.06	-489.83	489.93	11.91	11.88	-0.94
2,829.00	90.40	271.10	2,534.62	10.58	-520.81	520.92	11.33	11.29	0.97
2,922.00	91.80	271.60	2,532.83	12.77	-613.77	613.90	1.60	1.51	0.54
3,016.00	92.00	271.50	2,529.72	15.31	-707.68	707.85	0.24	0.21	-0.11



Phoenix Technology Services

Survey Report



Company: Yates Petroleum Corp.	Local Co-ordinate Reference: Well #9H
Project: Eddy County, NM (NAD83 NME)	TVD Reference: KB @ 3549.00usft (Silver Oak 11)
Site: Roy AET Com	MD Reference: KB @ 3549.00usft (Silver Oak 11)
Well: #9H	North Reference: Grid
Wellbore: WB1/Job #1410611	Survey Calculation Method: Minimum Curvature
Design: Surveys (Silver Oak 11)	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)
3,109.00	92.50	270.90	2,526.07	17.26	-800.59	800.77	0.84	0.54	-0.65
3,203.00	92.60	269.80	2,521.88	17.83	-894.49	894.66	1.17	0.11	-1.17
3,297.00	92.50	270.50	2,517.70	18.07	-988.40	988.55	0.75	-0.11	0.74
3,390.00	91.90	271.20	2,514.13	19.45	-1,081.32	1,081.48	0.99	-0.65	0.75
3,483.00	91.50	270.80	2,511.37	21.08	-1,174.26	1,174.43	0.61	-0.43	-0.43
3,577.00	90.80	271.60	2,509.49	23.04	-1,268.22	1,268.41	1.13	-0.74	0.85
3,670.00	90.90	272.60	2,508.11	26.45	-1,361.15	1,361.39	1.08	0.11	1.08
3,764.00	90.80	272.80	2,506.71	30.88	-1,455.03	1,455.36	0.24	-0.11	0.21
3,857.00	90.20	272.30	2,505.90	35.02	-1,547.94	1,548.33	0.84	-0.65	-0.54
3,951.00	91.70	272.30	2,504.34	38.79	-1,641.85	1,642.30	1.60	1.60	0.00
4,045.00	92.10	272.80	2,501.22	42.97	-1,735.70	1,736.23	0.68	0.43	0.53
4,139.00	92.00	270.70	2,497.86	45.84	-1,829.59	1,830.16	2.24	-0.11	-2.23
4,233.00	91.50	270.00	2,494.99	46.41	-1,923.55	1,924.11	0.91	-0.53	-0.74
4,327.00	91.10	269.40	2,492.86	45.92	-2,017.52	2,018.04	0.77	-0.43	-0.64
4,420.00	91.60	270.50	2,490.67	45.84	-2,110.49	2,110.99	1.30	0.54	1.18
4,514.00	91.80	271.40	2,487.88	47.39	-2,204.44	2,204.94	0.98	0.21	0.96
4,608.00	92.00	272.30	2,484.76	50.43	-2,298.33	2,298.88	0.98	0.21	0.96
4,701.00	91.70	272.30	2,481.76	54.16	-2,391.21	2,391.82	0.32	-0.32	0.00
4,794.00	93.00	272.10	2,477.95	57.73	-2,484.06	2,484.73	1.41	1.40	-0.22
4,888.00	93.30	271.10	2,472.78	60.35	-2,577.88	2,578.59	1.11	0.32	-1.06
4,981.00	93.50	270.50	2,467.27	61.64	-2,670.71	2,671.42	0.68	0.22	-0.65
5,075.00	92.60	271.10	2,462.26	62.95	-2,764.57	2,765.28	1.15	-0.96	0.64
5,168.00	92.80	271.60	2,457.88	65.14	-2,857.44	2,858.18	0.58	0.22	0.54
5,262.00	89.80	272.00	2,455.75	68.09	-2,951.35	2,952.14	3.22	-3.19	0.43
5,356.00	89.60	271.80	2,456.24	71.21	-3,045.30	3,046.13	0.30	-0.21	-0.21
5,449.00	89.70	271.20	2,456.81	73.64	-3,138.27	3,139.13	0.65	0.11	-0.65
5,543.00	90.20	271.30	2,456.89	75.69	-3,232.25	3,233.13	0.54	0.53	0.11
5,637.00	90.50	271.10	2,456.32	77.66	-3,326.22	3,327.13	0.38	0.32	-0.21
5,730.00	92.20	271.20	2,454.13	79.53	-3,419.17	3,420.10	1.83	1.83	0.11
5,824.00	92.10	270.90	2,450.60	81.25	-3,513.09	3,514.03	0.34	-0.11	-0.32
5,917.00	92.10	272.30	2,447.19	83.85	-3,605.99	3,606.97	1.50	0.00	1.51
6,011.00	91.70	272.30	2,444.08	87.62	-3,699.86	3,700.90	0.43	-0.43	0.00
6,104.00	91.20	272.30	2,441.72	91.35	-3,792.76	3,793.86	0.54	-0.54	0.00
6,198.00	92.40	271.60	2,438.77	94.54	-3,886.66	3,887.80	1.48	1.28	-0.74
6,291.00	92.30	271.40	2,434.96	96.98	-3,979.55	3,980.73	0.24	-0.11	-0.22
6,385.00	92.00	271.40	2,431.43	99.27	-4,073.45	4,074.66	0.32	-0.32	0.00
6,479.00	91.70	270.80	2,428.40	101.07	-4,167.38	4,168.61	0.71	-0.32	-0.64
6,572.00	92.90	270.40	2,424.66	102.05	-4,260.30	4,261.52	1.36	1.29	-0.43
6,666.00	92.00	269.70	2,420.65	102.13	-4,354.22	4,355.41	1.21	-0.96	-0.74
6,760.00	92.80	270.80	2,416.71	102.54	-4,448.13	4,449.31	1.45	0.85	1.17
6,853.00	93.00	270.80	2,412.00	103.84	-4,541.00	4,542.19	0.22	0.22	0.00
6,946.00	92.60	272.80	2,407.46	106.75	-4,633.84	4,635.07	2.19	-0.43	2.15
7,040.00	92.80	273.20	2,403.03	111.67	-4,727.61	4,728.92	0.48	0.21	0.43



Phoenix Technology Services
Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3549.00usft (Silver Oak 11)
Site:	Roy AET Com	MD Reference:	KB @ 3549.00usft (Silver Oak 11)
Well:	#9H	North Reference:	Grid
Wellbore:	WB1/Job #1410611	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	GCR DB

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)	
7,134.00	91.70	272.30	2,399.34	116.17	-4,821.42	4,822.82	1.51	-1.17	-0.96	
7,227.00	90.70	271.80	2,397.39	119.50	-4,914.34	4,915.79	1.20	-1.08	-0.54	
7,290.69	90.84	271.73	2,396.54	121.46	-4,978.00	4,979.48	0.25	0.22	-0.11	
7290.69' MD, 330' Toe Crossing Point										
7,316.00	90.90	271.70	2,396.15	122.22	-5,003.29	5,004.78	0.25	0.22	-0.11	
Last Phoenix MWD Survey										
7,390.00	90.90	271.70	2,394.99	124.41	-5,077.25	5,078.77	0.00	0.00	0.00	
Projection to TD at 6' N & 99' W of BHL										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	-0.23	0.27	First Phoenix MWD Survey
2,616.59	2,489.91	9.65	-315.00	2616.59' MD, 330' Heel Crossing Point
7,290.69	2,396.54	121.46	-4,978.00	7290.69' MD, 330' Toe Crossing Point
7,316.00	2,396.15	122.22	-5,003.29	Last Phoenix MWD Survey
7,390.00	2,394.99	124.41	-5,077.25	Projection to TD at 6' N & 99' W of BHL

Checked By: _____ Approved By: _____ Date: _____



Project: Eddy County, NM (NAD83 NME)
 Site: Roy AET Com
 Well: #9H
 Wellbore: WB1/Job #1410611
 Design: Plan #1 04-08-14
 Rig: Silver Oak 11



Azimuths to Grid North
 True North: 0.09°
 Magnetic North: 7.79°
 Magnetic Field
 Strength: 48497.1nT
 Dip Angle: 60.37°
 Date: 04/08/2014
 Model: IGRF2010_14

WELL DETAILS							
+N-S	+E-W	Northing	Ground Level: Easting	3531.00	Latitude	Longitude	
0.00	0.00	605918.30	490559.50		32° 39' 56.18486 N	104° 29' 54.03375 W	

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Deg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2058.29	0.00	0.00	2058.29	0.00	0.00	0.00	0.00	0.00	0.00	KOP, 12"/100' Build
3	2822.70	91.73	271.36	2535.54	11.67	-491.74	12.00	271.36	491.88		LP, Hold 91.73° Inc, 271.36° Azm
4	7312.17	91.73	271.36	2400.00	118.10	-4977.90	0.00	0.00	4979.30		PBHL-Roy AET #9H
5	7412.17	91.73	271.36	2396.98	120.47	-5077.83	0.00	0.00	5079.26		TD at 7412.17' MD 100' Past Hardline

DESIGN TARGET DETAILS										
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL-Roy AET #9H	2400.00	118.10	-4977.90	606036.40	485581.60	32° 39' 57.27318 N	104° 30' 52.27055 W	Point		

plan hits target center

Map System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone Name: New Mexico Eastern Zone
 Local Origin: Well #9H, Grid North
 Latitude: 32° 39' 56.18486 N
 Longitude: 104° 29' 54.03375 W

Grid East: 490559.50
 Grid North: 605918.30
 Scale Factor: 1.000
 Geomagnetic Model: IGRF2010_14
 Sample Date: 08-Apr-14
 Magnetic Declination: 7.70°
 Dip Angle from Horizontal: 60.37°
 Magnetic Field Strength: 48497

To convert a Magnetic Direction to a Grid Direction, Add 7.79°
 To convert a Magnetic Direction to a True Direction, Add 7.70° East
 To convert a True Direction to a Grid Direction, Add 0.09°

FORMATION TOP DETAILS					
TVDPath	MDPath	Formation	DipAngle	DipDir	
680.00	680.00	San Andres	-1.73	271.36	
2139.79	2140.19	Glorieta	-1.73	271.36	
2229.05	2232.91	Yeso	-1.73	271.36	
2535.75	2803.37	Yeso Target	-1.73	271.36	

LEGEND

- #2, WB1, Inc Surveys V0
- #3, WB1, Inc Surveys V0
- #19, WB1, Inc Surveys V0
- #8H, WB1/Job #1410611, Surveys (Silver Oak 11) V0
- #14H, WB1/Job #1410510, Plan #1 03-24-14 V0
- Plan #1 04-08-14

