



**PHOENIX
TECHNOLOGY SERVICES**

January 20, 2016

Oil Conservation Division
State of New Mexico
811 S. First St.
District 2- Artesia
Artesia, New Mexico 88210

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 17 2016

Attention: Regulatory Department

RECEIVED

Re: Yates Petroleum
Nickson BM #5H
Eddy County, NM
API #30-015- 41725
Job No. 1410470

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. 664171). 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	
James Garber	5H	1,056	6,974	04/06/14	04/11/14	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,

Claudia Carreon

Claudia Carreon
Operations Administrator
Certified mail receipt number: 7015 0640 0000 9907 5241

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1410470

OPERATOR Yates Petroleum

WELL NAME Nickson BM #5H COUNTY & STATE Eddy, New Mexico

API WELL NUMBER 30-015-41725

PROPOSED DIRECTION 272.09

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
1,000 ft	999.99 ft	0.79	29.88	1.91 ft	-.08 ft	GYRO

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
6-Apr-14	1,056 ft	0.8	54.2

SURVEY INSTRUMENT
TYPE
Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
11-Apr-14	6,974 ft	90.3	271.1

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
11-Apr-14	7,055 ft	90.3	271.1

James Garber

PRINT YOUR NAME ABOVE

James Garber

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.72
DECLINATION OR GRID	GRID

4/11/2014

TODAY'S DATE

MWD SUPERVISOR 1 Jim Garber
MWD SUPERVISOR 2 David Puente

DIRECTIONAL DRILLER 1 Dan Waggoner
DIRECTIONAL DRILLER 2 Daniel Scott

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



Yates Petroleum Corp.

**Eddy County, NM (NAD83 NME)
Nickson "BM"
#5H**

WB1/Job #1410470

Survey: Phoenix MWD Surveys

Standard Survey Report

20 January, 2016

**NM OIL CONSERVATION
ARTESIA DISTRICT**

FEB 17 2016

RECEIVED





Phoenix Technology Services LP

Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3458.00usft (Silver Oak 11)
Site:	Nickson "BM"	MD Reference:	KB @ 3458.00usft (Silver Oak 11)
Well:	#5H	North Reference:	Grid
Wellbore:	WB1/Job #1410470	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 GCR

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	Nickson "BM"		
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Site Position:		Northing:	627,342.30 usft	Latitude:	32° 43' 28.48044 N
From:	Map	Easting:	516,671.20 usft	Longitude:	104° 24' 48.75218 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.04 °

Well	#5H					
Well Position	+N/-S	0.00 usft	Northing:	627,342.30 usft	Latitude:	32° 43' 28.48044 N
	+E/-W	0.00 usft	Easting:	516,671.20 usft	Longitude:	104° 24' 48.75218 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,440.00 usft

Wellbore	WB1/Job #1410470				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	3/17/2014	7.67	60.44	48,549

Design	Surveys (Silver Oak 11)				
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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	272.09

Survey Program	Date 1/20/2016				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	1,000.00	MS Gyro Surveys (WB1/Job #1410470)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,056.00	7,055.00	Phoenix MWD Surveys (WB1/Job #14104)	MWD	MWD - Standard	

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)
	1,000.00	0.79	29.88	999.99	1.91	-0.08	0.15	0.00	0.00	0.00
Tie In to MS Gyro Surveys										
	1,056.00	0.80	54.20	1,055.98	2.47	0.43	-0.33	0.60	0.02	43.43
First Phoenix MWD Survey										
	1,150.00	0.80	55.20	1,149.97	3.23	1.50	-1.38	0.01	0.00	1.06
	1,243.00	0.80	81.20	1,242.96	3.70	2.67	-2.53	0.39	0.00	27.96
	1,337.00	0.60	75.80	1,336.95	3.92	3.80	-3.65	0.22	-0.21	-5.74
	1,430.00	0.60	82.10	1,429.95	4.10	4.75	-4.60	0.07	0.00	6.77
	1,524.00	0.60	82.30	1,523.94	4.24	5.73	-5.57	0.00	0.00	0.21



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Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3458.00usft (Silver Oak 11)
Site:	Nickson "BM"	MD Reference:	KB @ 3458.00usft (Silver Oak 11)
Well:	#5H	North Reference:	Grid
Wellbore:	WB1/Job #1410470	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 GCR

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)
1,617.00	0.50	67.20	1,616.94	4.46	6.58	-6.42	0.19	-0.11	-16.24
1,711.00	0.60	75.50	1,710.94	4.74	7.44	-7.26	0.14	0.11	8.83
1,805.00	0.60	91.00	1,804.93	4.86	8.41	-8.22	0.17	0.00	16.49
1,898.00	0.80	79.10	1,897.92	4.97	9.53	-9.34	0.26	0.22	-12.80
1,992.00	0.90	75.80	1,991.91	5.28	10.89	-10.69	0.12	0.11	-3.51
2,038.00	0.90	78.10	2,037.91	5.44	11.59	-11.39	0.08	0.00	5.00
2,054.00	1.10	73.10	2,053.91	5.51	11.86	-11.66	1.36	1.25	-31.25
2,085.00	0.90	74.30	2,084.90	5.66	12.38	-12.17	0.65	-0.65	3.87
2,116.00	0.60	315.90	2,115.90	5.85	12.50	-12.28	4.19	-0.97	-381.94
2,148.00	5.60	271.10	2,147.84	6.00	10.83	-10.60	16.22	15.63	-140.00
2,179.00	11.60	269.50	2,178.48	6.00	6.19	-5.97	19.37	19.35	-5.16
2,210.00	16.80	269.60	2,208.52	5.94	-1.41	1.62	16.77	16.77	0.32
2,241.00	20.80	269.90	2,237.86	5.90	-11.40	11.60	12.91	12.90	0.97
2,272.00	24.20	269.80	2,266.50	5.87	-23.26	23.46	10.97	10.97	-0.32
2,304.00	28.30	270.10	2,295.19	5.86	-37.41	37.60	12.82	12.81	0.94
2,335.00	32.30	270.90	2,321.95	6.00	-53.04	53.23	12.97	12.90	2.58
2,366.00	36.20	271.30	2,347.57	6.34	-70.48	70.67	12.60	12.58	1.29
2,397.00	39.50	271.70	2,372.05	6.84	-89.50	89.69	10.67	10.65	1.29
2,429.00	43.10	271.60	2,396.08	7.45	-110.60	110.80	11.25	11.25	-0.31
2,461.00	45.60	271.70	2,418.97	8.09	-132.96	133.17	7.82	7.81	0.31
2,492.00	47.70	271.70	2,440.24	8.76	-155.49	155.71	6.77	6.77	0.00
2,522.00	50.20	272.00	2,459.94	9.49	-178.10	178.33	8.37	8.33	1.00
2,525.00	50.58	271.97	2,461.86	9.57	-180.41	180.64	12.60	12.58	-1.02
330' Cross Point 1									
2,553.00	54.10	271.70	2,478.96	10.28	-202.57	202.81	12.60	12.58	-0.96
2,584.00	57.10	272.30	2,496.47	11.17	-228.13	228.38	9.81	9.68	1.94
2,615.00	59.90	272.50	2,512.67	12.28	-254.53	254.81	9.05	9.03	0.65
2,647.00	62.20	272.30	2,528.16	13.45	-282.51	282.81	7.21	7.19	-0.63
2,678.00	65.50	272.90	2,541.82	14.72	-310.30	310.63	10.79	10.65	1.94
2,709.00	68.50	272.60	2,553.93	16.09	-338.80	339.16	9.72	9.68	-0.97
2,740.00	72.40	271.70	2,564.30	17.18	-367.99	368.37	12.87	12.58	-2.90
2,771.00	76.00	271.10	2,572.74	17.91	-397.80	398.19	11.76	11.61	-1.94
2,802.00	79.40	271.10	2,579.34	18.49	-428.08	428.47	10.97	10.97	0.00
2,833.00	82.10	271.40	2,584.33	19.15	-458.67	459.06	8.76	8.71	0.97
2,864.00	85.40	271.40	2,587.70	19.91	-489.47	489.87	10.65	10.65	0.00
2,888.00	88.40	271.50	2,589.00	20.51	-513.42	513.83	12.51	12.50	0.42
2,919.00	91.30	271.60	2,589.08	21.35	-544.41	544.82	9.36	9.35	0.32
2,951.00	91.30	271.40	2,588.35	22.19	-576.39	576.81	0.62	0.00	-0.63
3,044.00	90.70	272.10	2,586.73	25.03	-669.33	669.80	0.99	-0.65	0.75
3,138.00	90.40	273.00	2,585.83	29.21	-763.23	763.79	1.01	-0.32	0.96
3,231.00	90.70	271.90	2,584.94	33.19	-856.14	856.78	1.23	0.32	-1.18
3,326.00	90.50	271.80	2,583.94	36.25	-951.09	951.78	0.24	-0.21	-0.11
3,419.00	90.30	272.00	2,583.29	39.34	-1,044.03	1,044.77	0.30	-0.22	0.22
3,513.00	90.80	272.10	2,582.39	42.70	-1,137.97	1,138.77	0.54	0.53	0.11



Phoenix Technology Services LP

Survey Report



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Site:	Nickson "BM"	MD Reference:	KB @ 3458.00usft (Silver Oak 11)
Well:	#5H	North Reference:	Grid
Wellbore:	WB1/Job #1410470	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 GCR

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)
3,606.00	90.90	272.20	2,581.01	46.19	-1,230.89	1,231.76	0.15	0.11	0.11
3,700.00	90.80	272.30	2,579.62	49.88	-1,324.81	1,325.75	0.15	-0.11	0.11
3,793.00	90.90	272.20	2,578.24	53.53	-1,417.73	1,418.74	0.15	0.11	-0.11
3,887.00	91.10	272.50	2,576.60	57.38	-1,511.63	1,512.72	0.38	0.21	0.32
3,980.00	90.90	272.30	2,574.97	61.28	-1,604.54	1,605.71	0.30	-0.22	-0.22
4,074.00	91.10	272.10	2,573.33	64.88	-1,698.45	1,699.69	0.30	0.21	-0.21
4,167.00	91.20	272.00	2,571.47	68.21	-1,791.38	1,792.67	0.15	0.11	-0.11
4,261.00	91.30	272.10	2,569.41	71.57	-1,885.29	1,886.65	0.15	0.11	0.11
4,355.00	91.10	271.90	2,567.45	74.85	-1,979.22	1,980.63	0.30	-0.21	-0.21
4,448.00	91.10	272.20	2,565.66	78.18	-2,072.14	2,073.61	0.32	0.00	0.32
4,542.00	91.00	272.40	2,563.94	81.95	-2,166.05	2,167.60	0.24	-0.11	0.21
4,635.00	90.90	272.20	2,562.40	85.68	-2,258.96	2,260.58	0.24	-0.11	-0.22
4,729.00	90.80	271.90	2,561.00	89.04	-2,352.89	2,354.57	0.34	-0.11	-0.32
4,823.00	90.40	271.70	2,560.02	92.00	-2,446.84	2,448.56	0.48	-0.43	-0.21
4,916.00	89.80	271.20	2,559.86	94.35	-2,539.81	2,541.56	0.84	-0.65	-0.54
5,010.00	90.50	271.70	2,559.61	96.73	-2,633.78	2,635.55	0.92	0.74	0.53
5,104.00	90.70	271.50	2,558.62	99.35	-2,727.73	2,729.54	0.30	0.21	-0.21
5,197.00	90.10	271.20	2,557.98	101.54	-2,820.70	2,822.53	0.72	-0.65	-0.32
5,290.00	90.80	271.20	2,557.25	103.49	-2,913.68	2,915.52	0.75	0.75	0.00
5,384.00	91.70	271.70	2,555.19	105.87	-3,007.63	3,009.49	1.10	0.96	0.53
5,477.00	91.60	271.90	2,552.52	108.79	-3,100.54	3,102.45	0.24	-0.11	0.22
5,571.00	91.20	271.30	2,550.22	111.41	-3,194.48	3,196.42	0.77	-0.43	-0.64
5,664.00	90.90	273.00	2,548.52	114.90	-3,287.39	3,289.40	1.86	-0.32	1.83
5,758.00	91.00	273.10	2,546.96	119.90	-3,381.25	3,383.37	0.15	0.11	0.11
5,851.00	91.20	272.80	2,545.17	124.69	-3,474.11	3,476.34	0.39	0.22	-0.32
5,945.00	91.00	272.40	2,543.37	128.95	-3,567.99	3,570.32	0.48	-0.21	-0.43
6,038.00	90.60	271.90	2,542.07	132.44	-3,660.92	3,663.31	0.69	-0.43	-0.54
6,132.00	91.60	272.50	2,540.26	136.05	-3,754.83	3,757.29	1.24	1.06	0.64
6,225.00	91.30	272.60	2,537.91	140.18	-3,847.71	3,850.26	0.34	-0.32	0.11
6,319.00	91.00	271.70	2,536.02	143.71	-3,941.62	3,944.24	1.01	-0.32	-0.96
6,413.00	91.00	271.50	2,534.38	146.33	-4,035.57	4,038.22	0.21	0.00	-0.21
6,506.00	91.50	271.20	2,532.36	148.52	-4,128.52	4,131.19	0.63	0.54	-0.32
6,600.00	91.50	270.90	2,529.89	150.25	-4,222.47	4,225.14	0.32	0.00	-0.32
6,693.00	91.60	270.70	2,527.38	151.54	-4,315.43	4,318.09	0.24	0.11	-0.22
6,787.00	90.90	271.90	2,525.33	153.68	-4,409.38	4,412.05	1.48	-0.74	1.28
6,881.00	90.60	271.70	2,524.10	156.63	-4,503.33	4,506.04	0.38	-0.32	-0.21
6,961.95	90.34	271.18	2,523.43	158.66	-4,584.25	4,586.98	0.72	-0.32	-0.65
330' Cross Point 2									
6,974.00	90.30	271.10	2,523.37	158.90	-4,596.30	4,599.03	0.72	-0.32	-0.65
Final Phoenix MWD Survey									
7,055.00	90.30	271.10	2,522.94	160.45	-4,677.28	4,680.02	0.00	0.00	0.00
Projection to TD									



Phoenix Technology Services LP

Survey Report



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Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3458.00usft (Silver Oak 11)
Site:	Nickson "BM"	MD Reference:	KB @ 3458.00usft (Silver Oak 11)
Well:	#5H	North Reference:	Grid
Wellbore:	WB1/Job #1410470	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 GCR

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	999.99	1.91	-0.08	Tie In to MS Gyro Surveys
1,056.00	1,055.98	2.47	0.43	First Phoenix MWD Survey
2,525.00	2,461.86	9.57	-180.41	330' Cross Point 1
6,961.95	2,523.43	158.66	-4,584.25	330' Cross Point 2
6,974.00	2,523.37	158.90	-4,596.30	Final Phoenix MWD Survey
7,055.00	2,522.94	160.45	-4,677.28	Projection to TD