



PHOENIX
TECHNOLOGY SERVICES

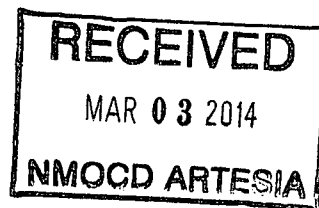
February 24, 2014

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

Dear District 2 - Artesia

Attention: Regulatory Department

Re: Yates Petroleum Corp.
Abundance AVZ #3H
Eddy, New Mexico
API #30-015-41773
Job No. 1410175



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	
Daniel Scott	3H	1,110	7,438	02/10/14	02/17/14	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,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7012 3050 0001 3227 2825

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1410175

OPERATOR Yates Petroleum Corporation

WELL NAME Abundance AVZ #3H

COUNTY & STATE

Eddy, New Mexico

API WELL NUMBER

30-015-41773

PROPOSED DIRECTION

357.47

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
100 ft	100.00 ft	.3 ft	2.0 ft	29 ft	.01 ft	GYRO

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
10-Feb-14	1,110 ft	0.6	337.1

SURVEY INSTRUMENT

TYPE

Phoenix-MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
17-Feb-14	7,438 ft	90.3	357.6

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
17-Feb-14	7,499 ft	90.3	357.6

Daniel Scott

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.77
DECLINATION OR GRID	GRID

2/18/2014

TODAY'S DATE

MWD SUPERVISOR 1

Daniel Scott

DIRECTIONAL DRILLER 1

Brian Terrell

MWD SUPERVISOR 2

James Garber

DIRECTIONAL DRILLER 2

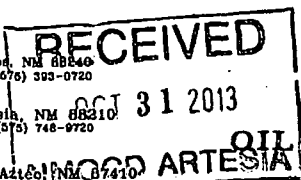
Dan Waggoner

DISTRICT I
1825 N. French Dr., Hobbs, NM 88240
Phone (505) 393-8181 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 748-1283 Fax: (505) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 354-6178 Fax: (505) 354-8170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 478-3460 Fax: (505) 478-3482



State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

176228

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-41773	Pool Code 97565	Pool Name North Seven Rivers, Glorieta-Yeso
Property Code 30036	Property Name ABUNDANCE AVZ	Well Number 3H
OGRID No. 025575	Operator Name YATES PETROLEUM CORPORATION	Elevation 3447

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/EAST line	County
B	23	19 S	25 E		275'	NORTH	1880'	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/EAST line	County
B	14	19 S	25 E		330'	NORTH	1980'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

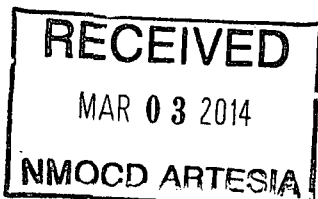
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

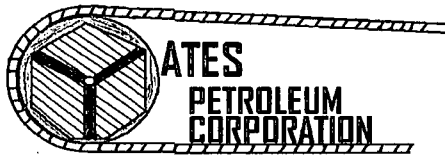
PROPOSED BOTTOM HOLE LOCATION
 Lat - N 32°40'01.11"
 Long - W 104°27'12.34"
 NMSPCE- N 606397.1
 E 504381.6
 (NAD-83)

SURFACE LOCATION
 Lat - N 32°39'10.83"
 Long - W 104°27'09.60"
 NMSPCE- N 601316.0
 E 504605.9
 (NAD-83)

OPERATOR CERTIFICATION
 I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
Cy Cowan 10/30/13
 Signature Date
 Cy Cowan
 Printed Name
 cy@yatespetroleum.com
 Email Address

SURVEYOR CERTIFICATION
 I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
 OCTOBER 12 2013
 Date Surveyed
 Signature of Professional Surveyor
 Certified Surveyor 7977
 Scale: 1" = 2000'
 WO Num.: 29446





Yates Petroleum Corp.

Eddy County, NM (NAD83 NME)

Abundance AVZ

#3H

WB1/Job #1410175

Survey: Phoenix MWD Survey

Standard Survey Report

18 February, 2014





Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3465.50usft (Silver Oak 11)
Site:	Abundance AVZ	MD Reference:	KB @ 3465.50usft (Silver Oak 11)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1410175	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 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	Abundance AVZ				
Site Position:		Northing:	601,335.80 usft	Latitude:	32° 39' 11.03890 N
From:	Map	Easting:	505,826.20 usft	Longitude:	104° 26' 55.37618 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.06 °

Well	#3H					
Well Position	+N/-S	0.00 usft	Northing:	601,316.00 usft	Latitude:	32° 39' 10.82963 N
	+E/-W	0.00 usft	Easting:	504,605.90 usft	Longitude:	104° 27' 9.64976 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,447.00 usft

Wellbore	WB1/Job #1410175				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	1/30/2014	7.70	60.37	48,514

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	357.47	

Survey Program	Date 2/18/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	900.00	MS Gyro Survey (WB1/Job #1410175)	CB-GYRO-MS	Camera based gyro multishot	
1,110.00	7,499.00	Phoenix MWD Survey (WB1/Job #141017)	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)	
900.00	0.68	351.00	899.89	12.89	-0.43	12.89	0.00	0.00	0.00	
Tie-on to Gyro										
1,110.00	0.60	337.10	1,109.88	15.13	-1.05	15.16	0.08	-0.04	-6.62	
First Phoenix MWD Survey										
1,296.00	0.70	335.80	1,295.87	17.07	-1.90	17.13	0.05	0.05	-0.70	
1,484.00	0.70	357.90	1,483.86	19.26	-2.41	19.35	0.14	0.00	11.76	
1,672.00	0.70	358.80	1,671.84	21.56	-2.48	21.64	0.01	0.00	0.48	
1,858.00	1.00	352.10	1,857.82	24.30	-2.72	24.40	0.17	0.16	-3.60	
2,045.00	0.90	345.40	2,044.79	27.34	-3.32	27.46	0.08	-0.05	-3.58	



Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3465.50usft (Silver Oak 11)
Site:	Abundance AVZ	MD Reference:	KB @ 3465.50usft (Silver Oak 11)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1410175	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 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)
2,139.00	1.10	351.40	2,138.78	28.94	-3.64	29.08	0.24	0.21	6.38
2,170.00	0.80	347.10	2,169.78	29.45	-3.73	29.58	0.99	-0.97	-13.87
2,201.00	2.30	10.50	2,200.76	30.27	-3.67	30.40	5.15	4.84	75.48
2,233.00	7.00	5.50	2,232.65	32.85	-3.36	32.96	14.73	14.69	-15.63
2,264.00	12.40	7.40	2,263.20	38.03	-2.75	38.11	17.45	17.42	6.13
2,295.00	17.50	4.80	2,293.14	45.98	-1.93	46.02	16.59	16.45	-8.39
2,326.00	21.90	3.20	2,322.32	56.40	-1.22	56.40	14.30	14.19	-5.16
2,357.00	26.10	2.80	2,350.63	68.99	-0.57	68.95	13.56	13.55	-1.29
2,388.00	29.60	1.20	2,378.03	83.46	-0.07	83.38	11.54	11.29	-5.16
2,420.00	33.00	1.00	2,405.37	100.08	0.25	99.97	10.63	10.63	-0.63
2,451.00	36.10	0.20	2,430.90	117.66	0.43	117.52	10.11	10.00	-2.58
2,482.00	39.10	359.10	2,455.46	136.57	0.30	136.42	9.92	9.68	-3.55
2,513.00	42.20	357.70	2,478.98	156.75	-0.27	156.61	10.42	10.00	-4.52
2,544.00	44.60	356.60	2,501.50	178.02	-1.33	177.91	8.12	7.74	-3.55
2,575.00	47.60	355.80	2,522.99	200.31	-2.82	200.24	9.85	9.68	-2.58
2,606.00	50.50	355.90	2,543.31	223.66	-4.51	223.64	9.36	9.35	0.32
2,637.00	54.10	356.40	2,562.26	248.13	-6.15	248.16	11.68	11.61	1.61
2,669.00	57.50	357.00	2,580.25	274.55	-7.67	274.62	10.74	10.63	1.88
2,700.00	60.70	356.70	2,596.17	301.10	-9.14	301.21	10.36	10.32	-0.97
2,731.00	63.70	356.30	2,610.62	328.47	-10.81	328.63	9.74	9.68	-1.29
2,762.00	67.00	355.90	2,623.55	356.57	-12.73	356.79	10.71	10.65	-1.29
2,793.00	69.90	356.60	2,634.94	385.34	-14.61	385.61	9.59	9.35	2.26
2,825.00	72.20	357.60	2,645.33	415.57	-16.14	415.88	7.77	7.19	3.13
2,856.00	74.30	358.00	2,654.26	445.23	-17.28	445.56	6.89	6.77	1.29
2,887.00	77.20	357.70	2,661.89	475.25	-18.41	475.60	9.40	9.35	-0.97
2,918.00	80.60	357.30	2,667.86	505.64	-19.74	506.02	11.04	10.97	-1.29
2,950.00	83.80	357.10	2,672.20	537.30	-21.28	537.71	10.02	10.00	-0.63
2,979.00	88.00	357.80	2,674.27	566.19	-22.57	566.63	14.68	14.48	2.41
3,010.00	90.50	357.40	2,674.68	597.16	-23.87	597.63	8.17	8.06	-1.29
3,104.00	90.00	358.20	2,674.27	691.09	-27.48	691.63	1.00	-0.53	0.85
3,197.00	89.10	357.50	2,675.00	784.02	-30.97	784.62	1.23	-0.97	-0.75
3,291.00	89.30	358.30	2,676.31	877.94	-34.41	878.61	0.88	0.21	0.85
3,384.00	89.30	358.80	2,677.45	970.91	-36.76	971.58	0.54	0.00	0.54
3,477.00	89.70	357.60	2,678.26	1,063.85	-39.68	1,064.57	1.36	0.43	-1.29
3,571.00	89.70	357.80	2,678.75	1,157.78	-43.46	1,158.57	0.21	0.00	0.21
3,665.00	89.80	357.90	2,679.16	1,251.71	-46.98	1,252.56	0.15	0.11	0.11
3,758.00	90.10	358.10	2,679.24	1,344.65	-50.23	1,345.56	0.39	0.32	0.22
3,852.00	89.20	356.60	2,679.82	1,438.55	-54.57	1,439.55	1.86	-0.96	-1.60
3,945.00	88.80	357.00	2,681.44	1,531.39	-59.77	1,532.53	0.61	-0.43	0.43
4,039.00	89.60	357.00	2,682.75	1,625.25	-64.68	1,626.52	0.85	0.85	0.00
4,133.00	89.60	356.60	2,683.41	1,719.10	-69.93	1,720.51	0.43	0.00	-0.43
4,227.00	89.80	357.10	2,683.90	1,812.96	-75.10	1,814.50	0.57	0.21	0.53
4,321.00	90.30	357.80	2,683.82	1,906.86	-79.28	1,908.50	0.92	0.53	0.74



Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3465.50usft (Silver Oak 11)
Site:	Abundance AVZ	MD Reference:	KB @ 3465.50usft (Silver Oak 11)
Well:	#3H	North Reference:	Grid
Wellbore:	WB1/Job #1410175	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 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)	
4,415.00	90.20	357.70	2,683.41	2,000.79	-82.97	2,002.50	0.15	-0.11	-0.11	
4,508.00	90.30	357.60	2,683.00	2,093.71	-86.78	2,095.50	0.15	0.11	-0.11	
4,602.00	90.40	358.00	2,682.43	2,187.64	-90.39	2,189.50	0.44	0.11	0.43	
4,696.00	89.70	358.00	2,682.35	2,281.58	-93.67	2,283.49	0.74	-0.74	0.00	
4,789.00	89.20	358.50	2,683.24	2,374.53	-96.51	2,376.48	0.76	-0.54	0.54	
4,883.00	89.20	357.20	2,684.55	2,468.46	-100.04	2,470.47	1.38	0.00	-1.38	
4,976.00	89.00	357.50	2,686.01	2,561.34	-104.34	2,563.45	0.39	-0.22	0.32	
5,070.00	89.50	356.10	2,687.24	2,655.19	-109.58	2,657.44	1.58	0.53	-1.49	
5,163.00	90.70	356.30	2,687.08	2,747.98	-115.75	2,750.41	1.31	1.29	0.22	
5,257.00	90.20	356.20	2,686.34	2,841.78	-121.89	2,844.39	0.54	-0.53	-0.11	
5,350.00	91.20	357.60	2,685.21	2,934.63	-126.92	2,937.37	1.85	1.08	1.51	
5,444.00	90.90	358.40	2,683.48	3,028.56	-130.20	3,031.35	0.91	-0.32	0.85	
5,537.00	90.50	358.90	2,682.35	3,121.52	-132.39	3,124.32	0.69	-0.43	0.54	
5,630.00	90.40	358.90	2,681.62	3,214.50	-134.18	3,217.29	0.11	-0.11	0.00	
5,724.00	91.30	356.30	2,680.22	3,308.40	-138.11	3,311.27	2.93	0.96	-2.77	
5,817.00	91.40	356.50	2,678.03	3,401.19	-143.95	3,404.23	0.24	0.11	0.22	
5,911.00	90.80	356.90	2,676.23	3,495.02	-149.36	3,498.20	0.77	-0.64	0.43	
6,004.00	90.50	357.70	2,675.17	3,587.91	-153.74	3,591.20	0.92	-0.32	0.86	
6,098.00	90.20	358.40	2,674.60	3,681.85	-156.94	3,685.19	0.81	-0.32	0.74	
6,192.00	89.40	356.80	2,674.93	3,775.76	-160.88	3,779.19	1.90	-0.85	-1.70	
6,286.00	88.90	357.50	2,676.32	3,869.64	-165.55	3,873.17	0.92	-0.53	0.74	
6,379.00	89.00	357.80	2,678.02	3,962.54	-169.36	3,966.16	0.34	0.11	0.32	
6,472.00	88.40	357.80	2,680.13	4,055.45	-172.93	4,059.13	0.65	-0.65	0.00	
6,566.00	89.70	357.00	2,681.69	4,149.34	-177.20	4,153.11	1.62	1.38	-0.85	
6,659.00	90.10	355.80	2,681.86	4,242.15	-183.04	4,246.10	1.36	0.43	-1.29	
6,753.00	90.00	356.10	2,681.77	4,335.92	-189.67	4,340.06	0.34	-0.11	0.32	
6,846.00	89.50	356.30	2,682.18	4,428.71	-195.84	4,433.04	0.58	-0.54	0.22	
6,940.00	90.70	356.00	2,682.01	4,522.50	-202.15	4,527.01	1.32	1.28	-0.32	
7,034.00	90.50	355.60	2,681.03	4,616.24	-209.03	4,620.97	0.48	-0.21	-0.43	
7,127.00	89.80	357.00	2,680.79	4,709.04	-215.03	4,713.94	1.68	-0.75	1.51	
7,221.00	89.30	357.40	2,681.53	4,802.93	-219.63	4,807.94	0.68	-0.53	0.43	
7,314.00	90.70	357.10	2,681.53	4,895.82	-224.09	4,900.94	1.54	1.51	-0.32	
7,408.00	90.40	357.40	2,680.62	4,989.70	-228.60	4,994.93	0.45	-0.32	0.32	
7,438.00	90.30	357.60	2,680.44	5,019.68	-229.91	5,024.93	0.75	-0.33	0.67	
Last Phoenix MWD Survey										
7,499.00	90.30	357.60	2,680.12	5,080.62	-232.46	5,085.93	0.00	0.00	0.00	
Projection to TD										



Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	KB @ 3465.50usft (Silver Oak 11)
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Wellbore:	WB1/Job #1410175	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 11)	Database:	Compass 5000 GCR DB

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
900.00	899.89	12.89	-0.43	Tie-on to Gyro
1,110.00	1,109.88	15.13	-1.05	First Phoenix MWD Survey
7,438.00	2,680.44	5,019.68	-229.91	Last Phoenix MWD Survey
7,499.00	2,680.12	5,080.62	-232.46	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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