



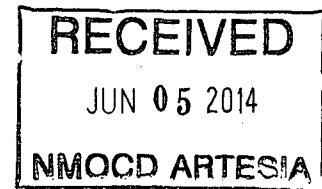
PHOENIX
TECHNOLOGY SERVICES

June 2, 2014

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

Attention: Regulatory Department

Re: Yates Petroleum
Southland Royalty APM State #4H
Eddy County, NM
API #30-015 39859
Job No. 1410459



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	4H	10,877	12,478	03/15/14	03/17/14	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,

Dana Robinson

Dana Robinson
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4365 2025

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1410459

OPERATOR Yates Petroleum

WELL NAME Southland Royalty APM State #4H

COUNTY & STATE Eddy, New Mexico

API WELL NUMBER 30-015-39859

PROPOSED DIRECTION 358.74

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
10,694 ft	8,139.20 ft	91.5 ft	357.3 ft	2,785.07 ft	-61.74 ft	Surface

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
15-Mar-14	10,877 ft	92.0	356.9

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
17-Mar-14	12,478 ft	90.8	359.8

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
18-Mar-14	12,762 ft	90.8	359.8

James D Garber

PRINT YOUR NAME ABOVE

James D. Garber

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.49
DECLINATION OR GRID	GRID

3/18/2014

TODAY'S DATE

MWD SUPERVISOR 1 James Garber

DIRECTIONAL DRILLER 1 Jeremy Tolbert

MWD SUPERVISOR 2 0

DIRECTIONAL DRILLER 2 Larry Sledge

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

nothing will printout below this line

DISTRICT I
1025 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

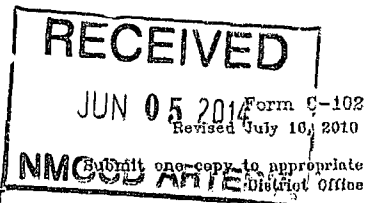
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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



WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-39859	Pool Code 60660	Pool Name TURKEY TRACK Wildcat; Bone Spring
Property Code 17564	Property Name SOUTHLAND ROYALTY "APM" STATE	Well Number 4H
GRID No. 025575	Operator Name YATES PETROLEUM CORP.	Elevation 3352'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	24	19 S	29 E		200	SOUTH	2080	WEST	EDDY

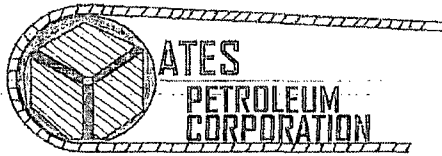
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	24	19 S	29 E		330	NORTH	1980	WEST	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°39'08.54" Long - W 104°01'49.50" NMSPC- N 601196.619 E 634542.058 (NAD-83) PENETRATION POINT 677' FSL & 2069' FWL SURFACE LOCATION Lat - N 32°38'21.52" Long - W 104°01'49.58" NMSPC- N 596445.192 E 634651.308 (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. <i>Monti Sanders</i> 13/11 Signature Date Monti Sanders Printed Name montis@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. JULY 18, 2011 Date Surveyed Signature & Seal of Professional Surveyor W.O. No. 24887 Certificate No. Gary L. Jones 7977 BASIN SURVEYS 24887
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Yates Petroleum Corp.

Eddy County, NM (NAD83 NME)

Southland Royalty APM State

#4H

WB1/Job #1410459

Design: Surveys (McVay 8)

Standard Survey Report

04 April, 2014



PHOENIX
TECHNOLOGY SERVICES



Phoenix Technology Services

Survey Report



Company: Yates Petroleum Corp.
Project: Eddy County, NM (NAD83 NME)
Site: Southland Royalty APM State
Well: #4H
Wellbore: WB1/Job #1410459
Design: Surveys (McVay 8)

Local Co-ordinate Reference: Site Southland Royalty APM State
TVD Reference: KB @ 3370.50usft (McVay 8)
MD Reference: KB @ 3370.50usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB

Project: Eddy County, NM (NAD83 NME)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

Site: Southland Royalty APM State

Site Position: Northing: 596,440.56 usft Latitude: 32° 38' 21.43223 N
From: Map Easting: 636,047.25 usft Longitude: 104° 1' 32.35058 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.17 °

Well: #4H

Well Position: +N-S 4.63 usft Northing: 596,445.20 usft Latitude: 32° 38' 21.51778 N
+E-W -1,395.94 usft Easting: 634,651.31 usft Longitude: 104° 1' 48.67598 W
Position Uncertainty: 0.00 usft Wellhead Elevation: usft Ground Level: 3,352.00 usft

Wellbore: WB1/Job #1410459

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	03/06/14	7.49	60.42	48,544

Design: Surveys (McVay 8)

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	4.63	-1,395.94	358.68

Survey Program: Date 04/04/14

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	5,690.00	MS Gyro Survey (WB1/Job #1410459)	CB-GYRO-MS	Camera based gyro multishot
5,749.00	10,694.00	Stryker MWD 2 Surveys (WB1/Job #14104)	MWD	MWD - Standard
10,877.00	12,762.00	Phoenix MWD 3 Surveys (WB1/Job #1410)	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)
0.00	0.00	0.00	0.00	4.63	-1,395.94	0.00	0.00	0.00	0.00
100.00	0.29	280.73	100.00	4.68	-1,396.18	0.05	0.29	0.29	0.00
200.00	0.53	243.60	200.00	4.52	-1,396.85	-0.09	0.35	0.24	-37.13
300.00	0.53	232.93	299.99	4.04	-1,397.63	-0.56	0.10	0.00	-10.67
400.00	0.35	213.86	399.99	3.50	-1,398.17	-1.08	0.23	-0.18	-19.07
500.00	0.18	233.91	499.99	3.16	-1,398.47	-1.42	0.19	-0.17	20.05
600.00	0.18	28.05	599.99	3.20	-1,398.52	-1.37	0.35	0.00	154.14
700.00	0.84	64.96	699.98	3.65	-1,397.78	-0.94	0.70	0.66	36.91
800.00	1.38	48.95	799.97	4.75	-1,396.21	0.13	0.62	0.54	-16.01



Phoenix Technology Services

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MD Reference: KB @ 3370.50usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
900.00	1.80	55.47	899.93	6.43	-1,394.01	1.76	0.46	0.42	6.52
1,000.00	1.81	62.90	999.88	8.04	-1,391.31	3.30	0.23	0.01	7.43
1,100.00	2.08	71.00	1,099.82	9.35	-1,388.19	4.54	0.38	0.27	8.10
1,200.00	2.15	87.10	1,199.75	10.04	-1,384.60	5.15	0.60	0.07	16.10
1,300.00	2.20	98.14	1,299.68	9.86	-1,380.82	4.66	0.42	0.05	11.04
1,400.00	2.17	97.44	1,399.61	9.35	-1,377.05	4.28	0.04	-0.03	-0.70
1,500.00	1.65	114.00	1,499.55	8.52	-1,373.85	3.37	0.75	-0.52	16.56
1,600.00	1.28	116.88	1,599.52	7.43	-1,371.54	2.23	0.38	-0.37	2.88
1,700.00	0.84	123.71	1,699.50	6.51	-1,369.94	1.28	0.46	-0.44	6.83
1,800.00	0.71	153.85	1,799.49	5.55	-1,369.05	0.30	0.42	-0.13	30.14
1,900.00	0.80	172.56	1,899.49	4.30	-1,368.69	-0.96	0.26	0.09	18.71
2,000.00	0.85	175.10	1,999.48	2.87	-1,368.54	-2.39	0.06	0.05	2.54
2,100.00	0.75	167.40	2,099.47	1.49	-1,368.33	-3.77	0.15	-0.10	-7.70
2,200.00	0.57	167.20	2,199.46	0.37	-1,368.08	-4.90	0.18	-0.18	-0.20
2,300.00	0.51	172.71	2,299.45	-0.56	-1,367.91	-5.83	0.08	-0.06	5.51
2,400.00	0.32	170.60	2,399.45	-1.27	-1,367.81	-6.55	0.19	-0.19	-2.11
2,500.00	0.23	192.10	2,499.45	-1.75	-1,367.77	-7.03	0.11	-0.09	11.50
2,600.00	0.08	177.73	2,599.45	-2.02	-1,367.77	-7.30	0.15	-0.15	-4.37
2,700.00	0.08	335.75	2,699.45	-2.03	-1,367.80	-7.31	0.16	0.00	158.02
2,800.00	0.08	76.97	2,799.45	-1.95	-1,367.76	-7.23	0.12	0.00	101.22
2,900.00	0.08	202.55	2,899.45	-2.00	-1,367.72	-7.28	0.14	0.00	125.58
3,000.00	0.46	289.71	2,999.45	-1.93	-1,368.12	-7.20	0.46	0.38	87.16
3,100.00	0.49	293.37	3,099.45	-1.62	-1,368.90	-6.87	0.04	0.03	3.66
3,200.00	0.47	298.23	3,199.44	-1.26	-1,369.65	-6.49	0.05	-0.02	4.86
3,300.00	0.23	302.64	3,299.44	-0.95	-1,370.18	-6.18	0.24	-0.24	4.41
3,400.00	0.32	336.12	3,399.44	-0.59	-1,370.46	-5.81	0.18	0.09	33.48
3,500.00	0.38	332.86	3,499.44	-0.04	-1,370.73	-5.25	0.06	0.06	-3.26
3,600.00	0.53	330.46	3,599.43	0.66	-1,371.11	-4.55	0.15	0.15	-2.40
3,700.00	0.41	339.55	3,699.43	1.39	-1,371.46	-3.80	0.14	-0.12	9.09
3,800.00	0.50	314.77	3,799.43	2.04	-1,371.89	-3.15	0.21	0.09	-24.78
3,900.00	0.67	328.52	3,899.42	2.84	-1,372.51	-2.33	0.22	0.17	13.75
4,000.00	0.73	317.89	3,999.41	3.81	-1,373.24	-1.34	0.14	0.06	-10.63
4,100.00	0.75	324.34	4,099.41	4.82	-1,374.05	-0.32	0.09	0.02	6.45
4,200.00	0.50	318.15	4,199.40	5.68	-1,374.72	0.55	0.26	-0.25	-6.19
4,300.00	0.55	321.16	4,299.40	6.37	-1,375.31	1.27	0.06	0.05	3.01
4,400.00	0.76	337.69	4,399.39	7.36	-1,375.87	2.27	0.28	0.21	16.53
4,500.00	0.74	342.63	4,499.38	8.59	-1,376.31	3.51	0.07	-0.02	4.94
4,600.00	0.82	349.26	4,599.37	9.91	-1,376.64	4.83	0.12	0.08	6.63
4,700.00	1.16	0.08	4,699.36	11.63	-1,376.77	6.55	0.39	0.34	10.82
4,800.00	1.62	5.94	4,799.33	14.04	-1,376.62	8.97	0.48	0.46	5.86
4,900.00	1.76	10.43	4,899.28	16.96	-1,376.20	11.87	0.19	0.14	4.49
5,000.00	2.16	15.07	4,999.23	20.29	-1,375.43	15.18	0.43	0.40	4.84
5,100.00	2.16	11.00	5,099.15	23.96	-1,374.58	18.83	0.15	0.00	-4.07



Phoenix Technology Services

Survey Report



Company: Yates Petroleum Corp.
Project: Eddy County, NM (NAD83 NME)
Site: Southland Royalty APM State
Well: #4H
Wellbore: WB1/Job #1410459
Design: Surveys (McVay 8)

Local Co-ordinate Reference: Site Southland Royalty APM State
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MD Reference: KB @ 3370.50usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
5,200.00	2.25	13.09	5,199.08	27.72	-1,373.78	22.57	0.12	0.09	2.09
5,300.00	2.53	11.87	5,298.99	31.79	-1,372.88	26.62	0.28	0.28	-1.22
5,400.00	2.77	12.84	5,398.89	36.31	-1,371.89	31.12	0.24	0.24	0.97
5,500.00	2.69	16.13	5,498.77	40.92	-1,370.70	35.70	0.18	-0.08	3.29
5,600.00	2.60	14.40	5,598.67	45.37	-1,369.46	40.12	0.12	-0.09	-1.73
5,690.00	2.38	13.25	5,688.58	49.17	-1,368.55	43.89	0.25	-0.24	-1.28
5,749.00	2.30	358.60	5,747.53	51.54	-1,368.29	46.26	1.02	-0.14	-24.83
5,843.00	1.80	325.30	5,841.48	54.64	-1,369.18	49.38	1.35	-0.53	-35.43
5,937.00	0.50	288.60	5,935.46	55.99	-1,370.41	50.75	1.52	-1.38	-39.04
6,031.00	1.30	275.20	6,029.44	56.21	-1,371.86	51.01	0.87	0.85	-14.26
6,125.00	1.30	278.40	6,123.42	56.47	-1,373.98	51.32	0.08	0.00	3.40
6,220.00	1.40	300.70	6,218.39	57.22	-1,376.04	52.11	0.56	0.11	23.47
6,314.00	1.50	309.30	6,312.36	58.58	-1,377.98	53.52	0.25	0.11	9.15
6,408.00	2.00	317.60	6,406.32	60.57	-1,380.04	55.56	0.60	0.53	8.83
6,502.00	0.90	2.80	6,500.29	62.52	-1,381.11	57.53	1.60	-1.17	48.09
6,596.00	1.10	347.10	6,594.28	64.14	-1,381.27	59.15	0.36	0.21	-16.70
6,690.00	1.50	332.20	6,688.25	66.11	-1,382.05	61.14	0.55	0.43	-15.85
6,784.00	0.70	250.40	6,782.24	67.00	-1,383.16	62.06	1.66	-0.95	-87.02
6,878.00	1.10	258.50	6,876.23	66.63	-1,384.59	61.72	0.45	0.43	8.62
6,972.00	1.10	258.20	6,970.21	66.27	-1,386.36	61.40	0.01	0.00	-0.32
7,066.00	1.60	243.40	7,064.18	65.49	-1,388.41	60.67	0.64	0.53	-15.74
7,161.00	1.50	244.30	7,159.15	64.36	-1,390.72	59.59	0.11	-0.11	0.95
7,255.00	1.80	237.40	7,253.11	63.03	-1,393.07	58.32	0.38	0.32	-7.34
7,349.00	1.80	232.50	7,347.06	61.34	-1,395.49	56.68	0.16	0.00	-5.21
7,443.00	2.10	235.90	7,441.01	59.47	-1,398.08	54.88	0.34	0.32	3.62
7,537.00	1.10	307.80	7,534.98	59.06	-1,400.22	54.51	2.18	-1.06	76.49
7,626.00	1.00	315.00	7,623.96	60.13	-1,401.45	55.61	0.19	-0.11	8.09
7,657.00	1.10	323.40	7,654.96	60.56	-1,401.82	56.05	0.59	0.32	27.10
7,688.00	3.60	338.70	7,685.93	61.71	-1,402.35	57.21	8.24	8.06	49.35
7,719.00	7.70	348.00	7,716.77	64.65	-1,403.13	60.17	13.51	13.23	30.00
7,751.00	12.30	354.00	7,748.28	70.14	-1,403.94	65.67	14.72	14.38	18.75
7,782.00	14.70	355.90	7,778.42	77.35	-1,404.56	72.89	7.87	7.74	6.13
7,814.00	17.00	355.20	7,809.20	86.06	-1,405.24	81.62	7.21	7.19	-2.19
7,845.00	20.20	355.90	7,838.58	95.92	-1,406.01	91.49	10.35	10.32	2.26
7,876.00	24.30	357.10	7,867.26	107.63	-1,406.71	103.22	13.31	13.23	3.87
7,908.00	28.10	358.60	7,895.97	121.75	-1,407.23	117.34	12.05	11.88	4.69
7,939.00	31.40	358.40	7,922.88	137.12	-1,407.63	132.72	10.65	10.65	-0.65
7,970.00	34.30	358.20	7,948.92	153.93	-1,408.13	149.54	9.36	9.35	-0.65
8,002.00	37.10	357.80	7,974.91	172.59	-1,408.79	168.21	8.78	8.75	-1.25
8,033.00	39.50	359.30	7,999.23	191.79	-1,409.27	187.42	8.30	7.74	-4.84
8,065.00	41.90	0.01	8,023.49	212.66	-1,409.39	208.28	7.64	7.50	2.20
8,096.00	45.50	0.01	8,045.90	234.07	-1,409.39	229.69	11.61	11.61	0.00
8,128.00	49.60	358.60	8,067.49	257.67	-1,409.68	253.29	13.22	12.81	-4.39



Phoenix Technology Services

Survey Report



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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)
8,159.00	53.20	359.10	8,086.83	281.89	-1,410.17	277.51	11.68	11.61	1.61
8,190.00	56.30	0.10	8,104.72	307.20	-1,410.34	302.82	10.34	10.00	3.23
8,222.00	59.40	0.50	8,121.75	334.29	-1,410.20	329.90	9.75	9.69	1.25
8,253.00	61.80	1.40	8,136.97	361.29	-1,409.75	356.89	8.14	7.74	2.90
8,285.00	65.40	1.70	8,151.19	389.94	-1,408.97	385.51	11.28	11.25	0.94
8,316.00	69.70	1.20	8,163.03	418.58	-1,408.25	414.12	13.95	13.87	-1.61
8,347.00	71.80	0.80	8,173.25	447.84	-1,407.74	443.36	6.88	6.77	-1.29
8,379.00	74.70	0.10	8,182.47	478.47	-1,407.50	473.98	9.30	9.06	-2.19
8,411.00	78.50	359.10	8,189.88	509.60	-1,407.72	505.10	12.26	11.88	-3.13
8,442.00	81.30	359.40	8,195.32	540.11	-1,408.12	535.62	9.08	9.03	0.97
8,473.00	83.50	0.50	8,199.42	570.84	-1,408.14	566.33	7.92	7.10	3.55
8,505.00	87.10	0.30	8,202.04	602.72	-1,407.92	598.21	11.27	11.25	-0.63
8,528.00	90.10	0.01	8,202.60	625.71	-1,407.86	621.19	13.11	13.04	-1.28
8,559.00	91.30	359.60	8,202.22	656.71	-1,407.97	652.18	4.09	3.87	-1.31
8,622.00	93.10	0.30	8,199.80	719.66	-1,408.02	715.12	3.07	2.86	1.11
8,685.00	93.80	0.80	8,196.01	782.54	-1,407.42	777.97	1.36	1.11	0.79
8,748.00	92.90	0.30	8,192.33	845.43	-1,406.81	840.83	1.63	-1.43	-0.79
8,811.00	91.20	0.01	8,190.06	906.35	-1,406.65	903.76	2.74	-2.70	-0.47
8,873.00	90.10	359.40	8,189.38	970.38	-1,406.97	965.75	2.02	-1.77	-0.98
8,936.00	90.70	359.10	8,188.94	1,033.37	-1,407.79	1,028.74	1.06	0.95	-0.48
8,998.00	91.80	358.90	8,187.58	1,095.35	-1,408.87	1,090.73	1.80	1.77	-0.32
9,061.00	92.80	358.70	8,185.05	1,158.28	-1,410.19	1,153.67	1.62	1.59	-0.32
9,156.00	91.70	359.10	8,181.32	1,253.19	-1,412.02	1,248.60	1.23	-1.16	0.42
9,218.00	91.30	359.40	8,179.70	1,315.17	-1,412.83	1,310.57	0.81	-0.65	0.48
9,281.00	91.10	359.40	8,178.38	1,378.15	-1,413.49	1,373.56	0.32	-0.32	0.00
9,346.00	89.80	359.40	8,177.87	1,443.14	-1,414.17	1,438.55	2.00	-2.00	0.00
9,440.00	90.40	358.90	8,177.71	1,537.13	-1,415.56	1,532.54	0.83	0.64	-0.53
9,534.00	91.20	358.70	8,176.40	1,631.10	-1,417.53	1,626.53	0.88	0.85	-0.21
9,628.00	92.20	358.90	8,173.61	1,725.04	-1,419.50	1,720.49	1.08	1.06	0.21
9,722.00	90.70	358.60	8,171.23	1,818.98	-1,421.55	1,814.46	1.63	-1.60	-0.32
9,816.00	91.50	358.20	8,169.42	1,912.93	-1,424.17	1,908.44	0.95	0.85	-0.43
9,910.00	92.30	357.70	8,166.31	2,006.81	-1,427.53	2,002.38	1.00	0.85	-0.53
10,005.00	91.20	357.50	8,163.41	2,101.68	-1,431.51	2,097.31	1.18	-1.16	-0.21
10,099.00	92.30	357.30	8,160.54	2,195.54	-1,435.77	2,191.25	1.19	1.17	-0.21
10,193.00	92.20	358.00	8,156.85	2,289.39	-1,439.62	2,285.16	0.75	-0.11	0.74
10,224.00	92.60	358.00	8,155.55	2,320.34	-1,440.70	2,316.13	1.29	1.29	0.00
10,287.00	92.10	358.00	8,152.96	2,383.25	-1,442.90	2,379.07	0.79	-0.79	0.00
10,350.00	92.00	358.00	8,150.71	2,446.17	-1,445.10	2,442.03	0.16	-0.16	0.00
10,412.00	92.90	358.20	8,148.06	2,508.08	-1,447.15	2,503.97	1.49	1.45	0.32
10,506.00	91.90	357.80	8,144.12	2,601.94	-1,450.43	2,597.87	1.15	-1.06	-0.43
10,600.00	91.30	358.00	8,141.50	2,695.84	-1,453.87	2,691.83	0.67	-0.64	0.21
10,694.00	91.50	357.30	8,139.20	2,789.73	-1,457.72	2,785.79	0.77	0.21	-0.74
Tie-on to 10694' MD									
10,877.00	92.00	356.90	8,133.61	2,972.41	-1,466.98	2,968.63	0.35	0.27	-0.22



Phoenix Technology Services

Survey Report



Company: Yates Petroleum Corp.
Project: Eddy County, NM (NAD83 NME)
Site: Southland Royalty APM State
Well: #4H
Wellbore: WB1/Job #1410459
Design: Surveys (McVay 8)

Local Co-ordinate Reference: Site Southland Royalty APM State
TVD Reference: KB @ 3370.50usft (McVay 8)
MD Reference: KB @ 3370.50usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
First Phoenix MWD Survey									
10,971.00	90.40	356.40	8,131.65	3,066.23	-1,472.47	3,062.55	1.78	-1.70	-0.53
11,065.00	88.80	356.90	8,132.30	3,160.06	-1,477.96	3,156.48	1.78	-1.70	0.53
11,159.00	87.00	356.80	8,135.75	3,253.85	-1,483.12	3,250.37	1.92	-1.91	-0.11
11,253.00	86.00	357.70	8,141.48	3,347.57	-1,487.63	3,344.16	1.43	-1.06	0.96
11,347.00	87.40	359.20	8,146.90	3,441.37	-1,490.16	3,438.00	2.18	1.49	1.60
11,441.00	94.20	4.00	8,145.58	3,535.24	-1,487.54	3,531.79	8.85	7.23	5.11
11,536.00	93.30	0.10	8,139.37	3,629.96	-1,484.16	3,626.40	4.20	-0.95	-4.11
11,630.00	91.80	358.80	8,135.19	3,723.86	-1,485.06	3,720.29	2.11	-1.60	-1.38
11,724.00	91.70	358.20	8,132.31	3,817.78	-1,487.52	3,814.25	0.65	-0.11	-0.64
11,818.00	91.50	357.50	8,129.69	3,911.68	-1,491.04	3,908.20	0.77	-0.21	-0.74
11,912.00	91.30	357.00	8,127.39	4,005.54	-1,495.55	4,002.14	0.57	-0.21	-0.53
12,007.00	90.50	357.30	8,125.90	4,100.41	-1,500.27	4,097.10	0.90	-0.84	0.32
12,101.00	90.60	359.90	8,125.00	4,194.37	-1,502.57	4,191.08	2.77	0.11	2.77
12,195.00	90.20	359.10	8,124.34	4,288.36	-1,503.39	4,285.07	0.95	-0.43	-0.85
12,289.00	90.50	0.60	8,123.77	4,382.36	-1,503.64	4,379.05	1.63	0.32	1.60
12,384.00	90.90	359.80	8,122.61	4,477.35	-1,503.31	4,474.01	0.94	0.42	-0.84
12,478.00	90.80	359.80	8,121.21	4,571.34	-1,503.63	4,567.93	0.11	-0.11	0.00
Last Phoenix MWD Survey									
12,662.35	90.80	359.80	8,118.64	4,755.67	-1,504.28	4,752.27	0.00	0.00	0.00
12662.35' MD, 330' Crossing Point									
12,762.00	90.80	359.80	8,117.25	4,855.31	-1,504.62	4,851.89	0.00	0.00	0.00
Projection to TD at 100' N & 1' E of BHL									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
10,694.00	8,139.20	2,789.73	-1,457.72	Tie-on to 10694' MD
10,877.00	8,133.61	2,972.41	-1,466.98	First Phoenix MWD Survey
12,478.00	8,121.21	4,571.34	-1,503.63	Last Phoenix MWD Survey
12,662.35	8,118.64	4,755.67	-1,504.28	12662.35' MD, 330' Crossing Point
12,762.00	8,117.25	4,855.31	-1,504.62	Projection to TD at 100' N & 1' E of BHL

Checked By: _____ Approved By: _____ Date: _____