NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 30 2014
RECEIVED

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. NMNM65417

1a. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator: YATES PETROLEUM CORPORATION — Contact: LAURA WATTS — E-Mail: laura@yatespetroleum.com

8. Lease Name and Well No.: MARTHA AIK FEDERAL 7H

3. Address: 105 SOUTH FOURTH STREET, ARTESIA, NM 88210

3a. Phone No. (include area code): Ph: 575-748-4272

9. API Well No.: 30-015-40051-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface: SENE 1750FNL 200FEL

At top prod interval reported below: SENE 1750FNL 200FEL

At total depth: SWNW 1751FNL 330FWL

10. Field and Pool, or Exploratory: LIVINGSTON RIDGE DELAWARE

11. Sec., T., R., M., or Block and Survey or Area: Sec 11 T22S R31E Mer NMP

12. County or Parish: EDDY

13. State: NM

14. Date Spudded: 10/29/2013

15. Date T.D. Reached: 12/03/2013

16. Date Completed: ☐ D & A ☒ Ready to Prod. 02/09/2014

17. Elevations (DF, KB, RT, GL)*: 3550 GL

18. Total Depth: MD 12560 TVD

19. Plug Back T.D.: MD 12512 TVD

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each): CBL

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
26.000	20.000		0	40				0	
17.500	13.375 H-40	48.0	0	729		650		0	
12.250	9.625 J-55	40.0	0	4406		1440		0	
8.750	7.000 J-55	26.0	0	7431	6770	965		0	
6.125	4.500 P-110	11.6	0	12560	7312	390		6034	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	7490							

25. Producing Intervals / 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) DELAWARE	8378	12508	8378 TO 12508		432	PRODUCING
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8378 TO 12508	ACIDIZED WITH 45,000 GALS 7.5 PERCENT HCL, FRAC WITH A TOTAL OF 2,712,375 LBS 20/40 AND 16/30 WHITE

ACCEPTED FOR RECORD
JUL 27 2014
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
02/10/2014	02/13/2014	24	→	30.0	0.0	455.0			ELECTRIC PUMP SUB-SURFACE

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
	200	50.0	→	30	0	455		POW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #236153 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

RECLAMATION DUE 8-9-14

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				RUSTLER	680
				TOP SALT	1010
				BASE OF SALT	4140
				BELL CANYON	4514
				CHERRY CANYON	5340
				BRUSHY CANYON	7163

32. Additional remarks (include plugging procedure):
2 logs sent to BLM-Carlsbad and 1 log sent to NMOCD-Artesia on 2/20/14.
Surveys attached

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #236153 Verified by the BLM Well Information System.
For YATES PETROLEUM CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by CATHY QUEEN on 06/16/2014 (14CQ0457SE)

Name *(please print)* LAURA WATTS Title REG REPORTING TECHNICIAN

Signature (Electronic Submission) Date 02/20/2014

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Yates Petroleum

Eddy, NM (NAD-83)
Martha AIK Federal
#7H

OH

Design: OH

Survey Report - Geographic

06 December, 2013

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Project Eddy, NM (NAD-83)

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

Site Martha AIK Federal

Site Position:		Northing:	509,750.87 usft	Latitude:	32° 23' 59.928 N
From:	Map	Easting:	724,235.17 usft	Longitude:	103° 44' 26.648 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well #7H

Well Position	+N/-S	0.0 usft	Northing:	512,854.44 usft	Latitude:	32° 24' 30.639 N
	+E/-W	0.0 usft	Easting:	724,218.35 usft	Longitude:	103° 44' 26.644 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	usft	Ground Level:	3,550.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/23/2013	7.39	60.27	48,472

Design OH

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	42.15

Survey Program Date 12/6/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,425.0	Gyro Surveys (OH)	Good_gyro	Good Gyro
7,494.0	12,560.8	Crescent MWD Surveys (OH)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	512,854.44	724,218.35	32° 24' 30.639 N	103° 44' 26.644 W
100.0	0.25	160.44	100.0	-0.2	0.1	512,854.23	724,218.42	32° 24' 30.637 N	103° 44' 26.643 W
200.0	0.24	168.03	200.0	-0.6	0.2	512,853.82	724,218.54	32° 24' 30.633 N	103° 44' 26.642 W
300.0	0.26	147.10	300.0	-1.0	0.4	512,853.42	724,218.70	32° 24' 30.629 N	103° 44' 26.640 W
400.0	0.16	118.71	400.0	-1.3	0.6	512,853.17	724,218.95	32° 24' 30.627 N	103° 44' 26.637 W
500.0	0.21	105.18	500.0	-1.4	0.9	512,853.05	724,219.25	32° 24' 30.625 N	103° 44' 26.633 W
600.0	0.11	84.93	600.0	-1.4	1.2	512,853.01	724,219.52	32° 24' 30.625 N	103° 44' 26.630 W
700.0	0.09	75.44	700.0	-1.4	1.3	512,853.04	724,219.69	32° 24' 30.625 N	103° 44' 26.628 W
800.0	0.14	145.74	800.0	-1.5	1.5	512,852.96	724,219.84	32° 24' 30.624 N	103° 44' 26.627 W
900.0	0.25	136.09	900.0	-1.7	1.7	512,852.70	724,220.06	32° 24' 30.622 N	103° 44' 26.624 W
1,000.0	0.24	125.70	1,000.0	-2.0	2.0	512,852.42	724,220.38	32° 24' 30.619 N	103° 44' 26.620 W

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,100.0	0.24	91.70	1,100.0	-2.1	2.4	512,852.29	724,220.76	32° 24' 30.618 N	103° 44' 26.616 W
1,200.0	0.26	85.58	1,200.0	-2.1	2.8	512,852.30	724,221.19	32° 24' 30.618 N	103° 44' 26.611 W
1,300.0	0.37	65.65	1,300.0	-2.0	3.4	512,852.45	724,221.72	32° 24' 30.619 N	103° 44' 26.605 W
1,400.0	0.53	61.26	1,400.0	-1.6	4.1	512,852.81	724,222.41	32° 24' 30.623 N	103° 44' 26.597 W
1,500.0	0.58	51.36	1,500.0	-1.1	4.9	512,853.35	724,223.22	32° 24' 30.628 N	103° 44' 26.587 W
1,600.0	0.73	46.87	1,600.0	-0.3	5.7	512,854.10	724,224.08	32° 24' 30.636 N	103° 44' 26.577 W
1,700.0	0.76	51.24	1,700.0	0.5	6.7	512,854.95	724,225.06	32° 24' 30.644 N	103° 44' 26.566 W
1,800.0	0.86	54.53	1,800.0	1.4	7.8	512,855.80	724,226.19	32° 24' 30.652 N	103° 44' 26.552 W
1,900.0	0.96	52.10	1,899.9	2.3	9.1	512,856.75	724,227.46	32° 24' 30.662 N	103° 44' 26.537 W
2,000.0	1.02	52.24	1,999.9	3.4	10.5	512,857.81	724,228.82	32° 24' 30.672 N	103° 44' 26.521 W
2,100.0	1.08	55.10	2,099.9	4.5	12.0	512,858.90	724,230.30	32° 24' 30.683 N	103° 44' 26.504 W
2,200.0	1.11	53.30	2,199.9	5.6	13.5	512,860.01	724,231.85	32° 24' 30.694 N	103° 44' 26.486 W
2,300.0	1.24	57.31	2,299.9	6.7	15.2	512,861.18	724,233.54	32° 24' 30.705 N	103° 44' 26.466 W
2,400.0	1.36	56.05	2,399.8	8.0	17.1	512,862.42	724,235.43	32° 24' 30.717 N	103° 44' 26.444 W
2,500.0	1.59	47.87	2,499.8	9.6	19.1	512,864.02	724,237.44	32° 24' 30.733 N	103° 44' 26.421 W
2,600.0	1.77	39.12	2,599.8	11.7	21.1	512,866.15	724,239.45	32° 24' 30.754 N	103° 44' 26.397 W
2,700.0	1.82	31.13	2,699.7	14.3	22.9	512,868.70	724,241.24	32° 24' 30.779 N	103° 44' 26.376 W
2,800.0	1.35	24.99	2,799.7	16.7	24.2	512,871.13	724,242.56	32° 24' 30.803 N	103° 44' 26.360 W
2,900.0	1.40	23.19	2,899.7	18.9	25.2	512,873.32	724,243.54	32° 24' 30.825 N	103° 44' 26.349 W
3,000.0	1.17	41.71	2,999.6	20.8	26.4	512,875.21	724,244.70	32° 24' 30.843 N	103° 44' 26.335 W
3,100.0	1.25	52.56	3,099.6	22.2	27.9	512,876.63	724,246.25	32° 24' 30.857 N	103° 44' 26.317 W
3,200.0	2.34	53.21	3,199.6	24.1	30.4	512,878.52	724,248.75	32° 24' 30.876 N	103° 44' 26.288 W
3,300.0	2.42	55.13	3,299.5	26.5	33.8	512,880.95	724,252.11	32° 24' 30.900 N	103° 44' 26.248 W
3,400.0	1.87	83.82	3,399.4	27.9	37.1	512,882.33	724,255.47	32° 24' 30.913 N	103° 44' 26.209 W
3,500.0	1.61	79.63	3,499.4	28.3	40.1	512,882.76	724,258.47	32° 24' 30.917 N	103° 44' 26.174 W
3,600.0	1.81	78.29	3,599.3	28.9	43.1	512,883.33	724,261.40	32° 24' 30.923 N	103° 44' 26.140 W
3,700.0	2.71	77.79	3,699.2	29.7	46.9	512,884.15	724,265.26	32° 24' 30.931 N	103° 44' 26.095 W
3,800.0	3.05	71.21	3,799.1	31.1	51.7	512,885.51	724,270.09	32° 24' 30.944 N	103° 44' 26.038 W
3,900.0	3.01	75.08	3,899.0	32.6	56.8	512,887.04	724,275.14	32° 24' 30.959 N	103° 44' 25.979 W
4,000.0	2.90	74.31	3,998.8	34.0	61.8	512,888.40	724,280.12	32° 24' 30.972 N	103° 44' 25.921 W
4,100.0	2.49	75.11	4,098.7	35.2	66.3	512,889.64	724,284.65	32° 24' 30.984 N	103° 44' 25.868 W
4,200.0	1.78	75.39	4,198.6	36.2	69.9	512,890.59	724,288.25	32° 24' 30.993 N	103° 44' 25.826 W
4,300.0	1.11	69.03	4,298.6	36.9	72.3	512,891.33	724,290.66	32° 24' 31.000 N	103° 44' 25.798 W
4,400.0	1.00	60.16	4,398.6	37.7	74.0	512,892.11	724,292.32	32° 24' 31.008 N	103° 44' 25.779 W
4,500.0	0.67	75.60	4,498.6	38.3	75.3	512,892.69	724,293.64	32° 24' 31.014 N	103° 44' 25.763 W
4,600.0	0.94	73.73	4,598.6	38.6	76.6	512,893.07	724,295.00	32° 24' 31.017 N	103° 44' 25.747 W
4,700.0	0.89	61.25	4,698.6	39.2	78.1	512,893.67	724,296.47	32° 24' 31.023 N	103° 44' 25.730 W
4,800.0	0.28	37.82	4,798.6	39.8	78.9	512,894.24	724,297.30	32° 24' 31.029 N	103° 44' 25.720 W
4,900.0	0.35	42.21	4,898.6	40.2	79.3	512,894.66	724,297.65	32° 24' 31.033 N	103° 44' 25.716 W
5,000.0	0.10	76.84	4,998.6	40.5	79.6	512,894.90	724,297.94	32° 24' 31.035 N	103° 44' 25.713 W
5,100.0	0.23	50.32	5,098.6	40.6	79.8	512,895.05	724,298.18	32° 24' 31.037 N	103° 44' 25.710 W
5,200.0	0.38	17.06	5,198.6	41.1	80.1	512,895.50	724,298.43	32° 24' 31.041 N	103° 44' 25.707 W
5,300.0	0.45	353.13	5,298.6	41.8	80.1	512,896.20	724,298.48	32° 24' 31.048 N	103° 44' 25.706 W
5,400.0	0.61	324.55	5,398.5	42.6	79.8	512,897.03	724,298.13	32° 24' 31.056 N	103° 44' 25.711 W
5,500.0	0.39	332.73	5,498.5	43.3	79.3	512,897.76	724,297.66	32° 24' 31.064 N	103° 44' 25.716 W
5,600.0	0.65	348.87	5,598.5	44.2	79.0	512,898.62	724,297.40	32° 24' 31.072 N	103° 44' 25.719 W
5,700.0	0.74	330.81	5,698.5	45.3	78.6	512,899.74	724,296.97	32° 24' 31.083 N	103° 44' 25.724 W
5,800.0	0.71	295.11	5,798.5	46.1	77.7	512,900.57	724,296.10	32° 24' 31.091 N	103° 44' 25.734 W
5,900.0	0.97	281.47	5,898.5	46.6	76.4	512,901.00	724,294.71	32° 24' 31.096 N	103° 44' 25.750 W
6,000.0	0.66	268.49	5,998.5	46.7	75.0	512,901.15	724,293.30	32° 24' 31.097 N	103° 44' 25.767 W
6,100.0	0.72	268.69	6,098.5	46.7	73.7	512,901.12	724,292.10	32° 24' 31.097 N	103° 44' 25.781 W
6,200.0	0.86	267.27	6,198.5	46.6	72.4	512,901.07	724,290.72	32° 24' 31.097 N	103° 44' 25.797 W
6,300.0	1.07	265.32	6,298.5	46.5	70.7	512,900.96	724,289.04	32° 24' 31.096 N	103° 44' 25.816 W
6,400.0	1.22	259.08	6,398.4	46.2	68.7	512,900.68	724,287.06	32° 24' 31.093 N	103° 44' 25.839 W
6,500.0	1.28	252.63	6,498.4	45.7	66.6	512,900.15	724,284.95	32° 24' 31.088 N	103° 44' 25.864 W

Survey Report - Geographic

Company:	Yates Petroleum	**Local Co-ordinate Reference:**	Well #7H
Project:	Eddy, NM (NAD-83)	**TVD Reference:**	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	**MD Reference:**	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,600.0	1.29	251.26	6,598.4	45.0	64.5	512,899.45	724,282.82	32° 24' 31.081 N	103° 44' 25.889 W
6,700.0	0.92	263.12	6,698.4	44.6	62.6	512,899.00	724,280.96	32° 24' 31.077 N	103° 44' 25.911 W
6,800.0	0.60	234.57	6,798.4	44.2	61.4	512,898.60	724,279.73	32° 24' 31.073 N	103° 44' 25.925 W
6,900.0	0.87	231.99	6,898.4	43.4	60.4	512,897.83	724,278.71	32° 24' 31.065 N	103° 44' 25.937 W
7,000.0	0.57	220.21	6,998.4	42.5	59.4	512,896.98	724,277.79	32° 24' 31.057 N	103° 44' 25.948 W
7,100.0	0.57	218.26	7,098.4	41.8	58.8	512,896.21	724,277.16	32° 24' 31.049 N	103° 44' 25.955 W
7,200.0	0.66	204.82	7,198.3	40.9	58.3	512,895.29	724,276.61	32° 24' 31.040 N	103° 44' 25.962 W
7,300.0	0.66	223.86	7,298.3	39.9	57.6	512,894.36	724,275.97	32° 24' 31.031 N	103° 44' 25.969 W
7,400.0	0.48	222.54	7,398.3	39.2	56.9	512,893.63	724,275.29	32° 24' 31.024 N	103° 44' 25.977 W
7,425.0	0.48	216.36	7,423.3	39.0	56.8	512,893.47	724,275.16	32° 24' 31.022 N	103° 44' 25.979 W
7,494.0	0.90	240.00	7,492.3	38.5	56.2	512,892.97	724,274.51	32° 24' 31.017 N	103° 44' 25.986 W
7,526.0	5.80	260.40	7,524.3	38.1	54.4	512,892.57	724,272.70	32° 24' 31.014 N	103° 44' 26.007 W
7,557.0	11.80	261.20	7,554.9	37.4	49.7	512,891.83	724,268.02	32° 24' 31.006 N	103° 44' 26.062 W
7,589.0	17.10	262.00	7,585.9	36.2	41.8	512,890.67	724,260.12	32° 24' 30.995 N	103° 44' 26.154 W
7,620.0	22.00	262.10	7,615.1	34.8	31.5	512,889.24	724,249.85	32° 24' 30.982 N	103° 44' 26.274 W
7,651.0	24.60	263.70	7,643.5	33.3	19.3	512,887.73	724,237.68	32° 24' 30.968 N	103° 44' 26.416 W
7,683.0	27.10	265.80	7,672.3	32.0	5.4	512,886.46	724,223.79	32° 24' 30.956 N	103° 44' 26.578 W
7,714.0	30.30	268.30	7,699.5	31.3	-9.4	512,885.72	724,208.93	32° 24' 30.949 N	103° 44' 26.752 W
7,746.0	33.60	269.50	7,726.7	31.0	-26.3	512,885.40	724,192.00	32° 24' 30.947 N	103° 44' 26.949 W
7,777.0	37.00	270.20	7,752.0	30.9	-44.3	512,885.36	724,174.09	32° 24' 30.948 N	103° 44' 27.158 W
7,809.0	40.50	269.50	7,776.9	30.9	-64.3	512,885.30	724,154.07	32° 24' 30.948 N	103° 44' 27.392 W
7,840.0	42.90	268.50	7,800.1	30.5	-84.9	512,884.93	724,133.45	32° 24' 30.946 N	103° 44' 27.632 W
7,872.0	45.00	267.60	7,823.1	29.7	-107.1	512,884.18	724,111.25	32° 24' 30.939 N	103° 44' 27.891 W
7,903.0	47.30	266.30	7,844.6	28.5	-129.4	512,882.98	724,088.93	32° 24' 30.929 N	103° 44' 28.152 W
7,910.0	48.14	266.06	7,849.3	28.2	-134.6	512,882.64	724,083.75	32° 24' 30.926 N	103° 44' 28.212 W
330' Hardline Crossed: 7910' MD / 7849' TVD									
7,934.0	51.00	265.30	7,864.8	26.8	-152.8	512,881.26	724,065.55	32° 24' 30.913 N	103° 44' 28.425 W
7,966.0	54.40	264.60	7,884.2	24.6	-178.1	512,879.01	724,040.20	32° 24' 30.892 N	103° 44' 28.720 W
7,997.0	58.60	265.10	7,901.3	22.3	-203.9	512,876.70	724,014.46	32° 24' 30.871 N	103° 44' 29.021 W
8,029.0	62.10	266.30	7,917.2	20.2	-231.6	512,874.62	723,986.73	32° 24' 30.852 N	103° 44' 29.344 W
8,060.0	64.20	266.90	7,931.2	18.5	-259.2	512,872.98	723,959.12	32° 24' 30.837 N	103° 44' 29.666 W
8,092.0	67.20	267.10	7,944.3	17.0	-288.3	512,871.45	723,930.00	32° 24' 30.823 N	103° 44' 30.006 W
8,123.0	70.90	267.40	7,955.4	15.6	-317.3	512,870.07	723,901.09	32° 24' 30.811 N	103° 44' 30.344 W
8,155.0	74.10	268.30	7,965.0	14.5	-347.8	512,868.92	723,870.60	32° 24' 30.802 N	103° 44' 30.699 W
8,186.0	77.80	269.50	7,972.6	13.9	-377.8	512,868.35	723,840.54	32° 24' 30.798 N	103° 44' 31.050 W
8,217.0	80.20	269.70	7,978.5	13.7	-408.2	512,868.14	723,810.11	32° 24' 30.797 N	103° 44' 31.405 W
8,249.0	82.30	269.50	7,983.3	13.5	-439.9	512,867.92	723,778.48	32° 24' 30.797 N	103° 44' 31.774 W
8,278.0	84.10	270.60	7,986.8	13.5	-468.7	512,867.94	723,749.69	32° 24' 30.798 N	103° 44' 32.110 W
8,309.0	84.50	270.40	7,989.9	13.8	-499.5	512,868.21	723,718.84	32° 24' 30.803 N	103° 44' 32.470 W
8,340.0	84.80	270.00	7,992.8	13.9	-530.4	512,868.32	723,687.98	32° 24' 30.806 N	103° 44' 32.830 W
8,372.0	85.90	269.90	7,995.3	13.9	-562.3	512,868.29	723,656.09	32° 24' 30.807 N	103° 44' 33.202 W
8,403.0	86.90	268.80	7,997.3	13.5	-593.2	512,867.94	723,625.15	32° 24' 30.805 N	103° 44' 33.563 W
8,466.0	92.00	268.30	7,997.9	11.9	-656.2	512,866.35	723,562.19	32° 24' 30.793 N	103° 44' 34.297 W
8,561.0	88.30	266.00	7,997.6	7.2	-751.0	512,861.62	723,467.34	32° 24' 30.751 N	103° 44' 35.404 W
8,655.0	91.10	267.80	7,998.1	2.1	-844.9	512,856.54	723,373.49	32° 24' 30.706 N	103° 44' 36.499 W
8,749.0	89.90	267.10	7,997.3	-2.1	-938.8	512,852.36	723,279.59	32° 24' 30.670 N	103° 44' 37.594 W
8,844.0	90.30	266.90	7,997.2	-7.0	-1,033.6	512,847.39	723,184.72	32° 24' 30.626 N	103° 44' 38.701 W
8,938.0	91.50	268.60	7,995.7	-10.7	-1,127.5	512,843.70	723,090.81	32° 24' 30.595 N	103° 44' 39.797 W
9,032.0	91.70	269.00	7,993.1	-12.7	-1,221.5	512,841.73	722,996.86	32° 24' 30.580 N	103° 44' 40.893 W
9,127.0	90.60	269.00	7,991.1	-14.4	-1,316.4	512,840.07	722,901.90	32° 24' 30.569 N	103° 44' 42.001 W
9,221.0	90.10	268.60	7,990.6	-16.3	-1,410.4	512,838.10	722,807.92	32° 24' 30.555 N	103° 44' 43.097 W
9,315.0	89.70	269.70	7,990.7	-17.7	-1,504.4	512,836.71	722,713.93	32° 24' 30.546 N	103° 44' 44.194 W
9,410.0	89.70	268.30	7,991.2	-19.4	-1,599.4	512,835.05	722,618.95	32° 24' 30.535 N	103° 44' 45.302 W
9,504.0	91.50	268.50	7,990.2	-22.0	-1,693.3	512,832.43	722,525.00	32° 24' 30.514 N	103° 44' 46.398 W
9,598.0	92.90	270.90	7,986.6	-22.5	-1,787.3	512,831.93	722,431.08	32° 24' 30.514 N	103° 44' 47.493 W

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,693.0	92.70	272.30	7,982.0	-19.9	-1,882.1	512,834.58	722,336.23	32° 24' 30.545 N	103° 44' 48.600 W
9,787.0	91.50	273.40	7,978.6	-15.2	-1,975.9	512,839.25	722,242.41	32° 24' 30.597 N	103° 44' 49.694 W
9,882.0	89.00	271.60	7,978.1	-11.0	-2,070.8	512,843.40	722,147.52	32° 24' 30.643 N	103° 44' 50.800 W
9,976.0	88.70	269.00	7,980.0	-10.5	-2,164.8	512,843.89	722,053.55	32° 24' 30.653 N	103° 44' 51.896 W
10,070.0	89.60	268.60	7,981.4	-12.5	-2,258.8	512,841.92	721,959.58	32° 24' 30.638 N	103° 44' 52.993 W
10,165.0	90.10	269.20	7,981.7	-14.3	-2,353.8	512,840.10	721,864.60	32° 24' 30.626 N	103° 44' 54.101 W
10,259.0	89.70	269.20	7,981.8	-15.7	-2,447.7	512,838.78	721,770.61	32° 24' 30.618 N	103° 44' 55.197 W
10,354.0	90.10	269.00	7,982.0	-17.1	-2,542.7	512,837.29	721,675.62	32° 24' 30.608 N	103° 44' 56.305 W
10,448.0	89.90	268.80	7,982.0	-18.9	-2,636.7	512,835.49	721,581.64	32° 24' 30.595 N	103° 44' 57.402 W
10,543.0	89.70	268.50	7,982.3	-21.2	-2,731.7	512,833.25	721,486.66	32° 24' 30.578 N	103° 44' 58.510 W
10,637.0	90.40	268.30	7,982.3	-23.8	-2,825.6	512,830.62	721,392.70	32° 24' 30.557 N	103° 44' 59.606 W
10,732.0	90.60	270.00	7,981.4	-25.2	-2,920.6	512,829.22	721,297.72	32° 24' 30.549 N	103° 45' 0.714 W
10,826.0	89.60	271.10	7,981.3	-24.3	-3,014.6	512,830.12	721,203.73	32° 24' 30.563 N	103° 45' 1.810 W
10,921.0	91.10	271.30	7,980.7	-22.3	-3,109.6	512,832.11	721,108.75	32° 24' 30.587 N	103° 45' 2.918 W
11,015.0	88.90	271.10	7,980.7	-20.4	-3,203.6	512,834.08	721,014.78	32° 24' 30.612 N	103° 45' 4.014 W
11,110.0	89.70	270.20	7,981.8	-19.3	-3,298.6	512,835.15	720,919.79	32° 24' 30.628 N	103° 45' 5.122 W
11,204.0	90.30	269.90	7,981.8	-19.2	-3,392.6	512,835.24	720,825.80	32° 24' 30.634 N	103° 45' 6.218 W
11,298.0	89.20	269.20	7,982.2	-19.9	-3,486.5	512,834.50	720,731.80	32° 24' 30.631 N	103° 45' 7.315 W
11,393.0	91.30	268.30	7,981.8	-22.0	-3,581.5	512,832.42	720,636.83	32° 24' 30.616 N	103° 45' 8.423 W
11,487.0	92.20	268.10	7,979.0	-25.0	-3,675.4	512,829.47	720,542.92	32° 24' 30.592 N	103° 45' 9.518 W
11,582.0	91.50	268.30	7,975.9	-27.9	-3,770.3	512,826.49	720,448.02	32° 24' 30.567 N	103° 45' 10.626 W
11,676.0	91.00	269.00	7,973.8	-30.2	-3,864.3	512,824.28	720,354.07	32° 24' 30.550 N	103° 45' 11.722 W
11,771.0	92.90	270.60	7,970.6	-30.5	-3,959.2	512,823.94	720,259.13	32° 24' 30.552 N	103° 45' 12.829 W
11,865.0	91.30	270.20	7,967.2	-29.8	-4,053.1	512,824.60	720,165.20	32° 24' 30.564 N	103° 45' 13.925 W
11,959.0	91.10	269.90	7,965.2	-29.8	-4,147.1	512,824.68	720,071.22	32° 24' 30.570 N	103° 45' 15.021 W
12,054.0	90.10	269.20	7,964.2	-30.5	-4,242.1	512,823.94	719,976.23	32° 24' 30.567 N	103° 45' 16.129 W
12,148.0	90.10	269.20	7,964.0	-31.8	-4,336.1	512,822.62	719,882.24	32° 24' 30.559 N	103° 45' 17.226 W
12,243.0	88.90	269.20	7,964.9	-33.1	-4,431.1	512,821.30	719,787.26	32° 24' 30.551 N	103° 45' 18.334 W
12,509.0	90.40	269.70	7,966.5	-35.7	-4,697.1	512,818.74	719,521.26	32° 24' 30.540 N	103° 45' 21.437 W
Last MWD Survey : 12509' MD / 7966' TVD									
12,560.0	90.40	269.40	7,966.1	-36.1	-4,748.1	512,818.35	719,470.26	32° 24' 30.539 N	103° 45' 22.031 W
Projection to TD: 12560' MD / 7966' TVD : 1750' FNL / 327' FWL - Northing : 512818.34 / Easting : 719470.26									
12,560.8	90.40	269.40	7,966.1	-36.1	-4,748.9	512,818.34	719,469.50	32° 24' 30.539 N	103° 45' 22.040 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,910.0	7,849.3	28.2	-134.6	330' Hardline Crossed: 7910' MD / 7849' TVD
12,509.0	7,966.5	-35.7	-4,697.1	Last MWD Survey : 12509' MD / 7966' TVD
12,560.0	7,966.1	-36.1	-4,748.1	Projection to TD: 12560' MD / 7966' TVD : 1750' FNL / 327' FWL
12,560.0	7,966.1	-36.1	-4,748.1	Northing : 512818.34 / Easting : 719470.26

Checked By: _____ Approved By: _____ Date: _____

Yates Petroleum

Eddy, NM (NAD-83)
Martha AIK Federal
#7H

OH

Design: OH

Standard Survey Report

06 December, 2013

Survey Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Project Eddy, NM (NAD-83)

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

Site Martha AIK Federal

Site Position:		Northing:	509,750.87 usft	Latitude:	32° 23' 59.928 N
From:	Map	Easting:	724,235.17 usft	Longitude:	103° 44' 26.648 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well #7H

Well Position	+N/-S	0.0 usft	Northing:	512,854.44 usft	Latitude:	32° 24' 30.639 N
	+E/-W	0.0 usft	Easting:	724,218.35 usft	Longitude:	103° 44' 26.644 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	usft	Ground Level:	3,550.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/23/2013	7.39	60.27	48,472

Design OH

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	42.15

Survey Program Date 12/6/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,425.0	Gyro Surveys (OH)	Good_gyro	Good Gyro
7,494.0	12,560.8	Crescent MWD Surveys (OH)	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.25	160.44	100.0	-0.2	0.1	-0.1	0.25	0.25	0.00
200.0	0.24	168.03	200.0	-0.6	0.2	-0.3	0.03	-0.01	7.59
300.0	0.26	147.10	300.0	-1.0	0.4	-0.5	0.09	0.02	-20.93
400.0	0.16	118.71	400.0	-1.3	0.6	-0.5	0.14	-0.10	-28.39
500.0	0.21	105.18	500.0	-1.4	0.9	-0.4	0.07	0.05	-13.53
600.0	0.11	84.93	600.0	-1.4	1.2	-0.3	0.11	-0.10	-20.25
700.0	0.09	75.44	700.0	-1.4	1.3	-0.1	0.03	-0.02	-9.49
800.0	0.14	145.74	800.0	-1.5	1.5	-0.1	0.14	0.05	70.30
900.0	0.25	136.09	900.0	-1.7	1.7	-0.1	0.11	0.11	-9.65

Survey Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

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)
1,000.0	0.24	125.70	1,000.0	-2.0	2.0	-0.1	0.05	-0.01	-10.39
1,100.0	0.24	91.70	1,100.0	-2.1	2.4	0.0	0.14	0.00	-34.00
1,200.0	0.26	85.58	1,200.0	-2.1	2.8	0.3	0.03	0.02	-6.12
1,300.0	0.37	65.65	1,300.0	-2.0	3.4	0.8	0.15	0.11	-19.93
1,400.0	0.53	61.26	1,400.0	-1.6	4.1	1.5	0.16	0.16	-4.39
1,500.0	0.58	51.36	1,500.0	-1.1	4.9	2.5	0.11	0.05	-9.90
1,600.0	0.73	46.87	1,600.0	-0.3	5.7	3.6	0.16	0.15	-4.49
1,700.0	0.76	51.24	1,700.0	0.5	6.7	4.9	0.06	0.03	4.37
1,800.0	0.86	54.53	1,800.0	1.4	7.8	6.3	0.11	0.10	3.29
1,900.0	0.96	52.10	1,899.9	2.3	9.1	7.8	0.11	0.10	-2.43
2,000.0	1.02	52.24	1,999.9	3.4	10.5	9.5	0.06	0.06	0.14
2,100.0	1.08	55.10	2,099.9	4.5	12.0	11.3	0.08	0.06	2.86
2,200.0	1.11	53.30	2,199.9	5.6	13.5	13.2	0.05	0.03	-1.80
2,300.0	1.24	57.31	2,299.9	6.7	15.2	15.2	0.15	0.13	4.01
2,400.0	1.36	56.05	2,399.8	8.0	17.1	17.4	0.12	0.12	-1.26
2,500.0	1.59	47.87	2,499.8	9.6	19.1	19.9	0.31	0.23	-8.18
2,600.0	1.77	39.12	2,599.8	11.7	21.1	22.8	0.31	0.18	-8.75
2,700.0	1.82	31.13	2,699.7	14.3	22.9	25.9	0.25	0.05	-7.99
2,800.0	1.35	24.99	2,799.7	16.7	24.2	28.6	0.50	-0.47	-6.14
2,900.0	1.40	23.19	2,899.7	18.9	25.2	30.9	0.07	0.05	-1.80
3,000.0	1.17	41.71	2,999.6	20.8	26.4	33.1	0.47	-0.23	18.52
3,100.0	1.25	52.56	3,099.6	22.2	27.9	35.2	0.24	0.08	10.85
3,200.0	2.34	53.21	3,199.6	24.1	30.4	38.3	1.09	1.09	0.65
3,300.0	2.42	55.13	3,299.5	26.5	33.8	42.3	0.11	0.08	1.92
3,400.0	1.67	83.82	3,399.4	27.9	37.1	45.6	1.19	-0.55	28.69
3,500.0	1.61	79.63	3,499.4	28.3	40.1	47.9	0.29	-0.26	-4.19
3,600.0	1.81	78.29	3,599.3	28.9	43.1	50.3	0.20	0.20	-1.34
3,700.0	2.71	77.79	3,699.2	29.7	46.9	53.5	0.90	0.90	-0.50
3,800.0	3.05	71.21	3,799.1	31.1	51.7	57.8	0.47	0.34	-6.58
3,900.0	3.01	75.08	3,899.0	32.6	56.8	62.3	0.21	-0.04	3.87
4,000.0	2.90	74.31	3,998.8	34.0	61.8	66.6	0.12	-0.11	-0.77
4,100.0	2.49	75.11	4,098.7	35.2	66.3	70.6	0.41	-0.41	0.80
4,200.0	1.78	75.39	4,198.6	36.2	69.9	73.7	0.71	-0.71	0.28
4,300.0	1.11	69.03	4,298.6	36.9	72.3	75.9	0.69	-0.67	-6.36
4,400.0	1.00	60.16	4,398.6	37.7	74.0	77.6	0.20	-0.11	-8.87
4,500.0	0.67	75.60	4,498.6	38.3	75.3	78.9	0.40	-0.33	15.44
4,600.0	0.94	73.73	4,598.6	38.6	76.6	80.1	0.27	0.27	-1.87
4,700.0	0.89	61.25	4,698.6	39.2	78.1	81.6	0.21	-0.05	-12.48
4,800.0	0.28	37.82	4,798.6	39.8	78.9	82.5	0.64	-0.61	-23.43
4,900.0	0.35	42.21	4,898.6	40.2	79.3	83.0	0.07	0.07	4.39
5,000.0	0.10	76.84	4,998.6	40.5	79.6	83.4	0.27	-0.25	34.63
5,100.0	0.23	50.32	5,098.6	40.6	79.8	83.7	0.15	0.13	-26.52
5,200.0	0.38	17.06	5,198.6	41.1	80.1	84.2	0.23	0.15	-33.26

Survey Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

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)
5,300.0	0.45	353.13	5,298.6	41.8	80.1	84.7	0.19	0.07	-23.93
5,400.0	0.61	324.55	5,398.5	42.6	79.8	85.1	0.30	0.16	-28.58
5,500.0	0.39	332.73	5,498.5	43.3	79.3	85.4	0.23	-0.22	8.18
5,600.0	0.65	348.67	5,598.5	44.2	79.0	85.6	0.30	0.26	16.14
5,700.0	0.74	330.81	5,698.5	45.3	78.6	86.4	0.24	0.09	-18.06
5,800.0	0.71	295.11	5,798.5	46.1	77.7	86.4	0.45	-0.03	-35.70
5,900.0	0.97	281.47	5,898.5	46.6	76.4	85.8	0.33	0.26	-13.64
6,000.0	0.66	268.49	5,998.5	46.7	75.0	84.9	0.36	-0.31	-12.98
6,100.0	0.72	268.69	6,098.5	46.7	73.7	84.1	0.06	0.06	0.20
6,200.0	0.86	267.27	6,198.5	46.6	72.4	83.1	0.14	0.14	-1.42
6,300.0	1.07	265.32	6,298.5	46.5	70.7	81.9	0.21	0.21	-1.95
6,400.0	1.22	259.08	6,398.4	46.2	68.7	80.4	0.19	0.15	-6.24
6,500.0	1.28	252.63	6,498.4	45.7	66.6	78.8	0.15	0.06	-6.45
6,600.0	1.29	251.26	6,598.4	45.0	64.5	76.6	0.03	0.01	-1.37
6,700.0	0.92	263.12	6,698.4	44.6	62.6	75.1	0.43	-0.37	11.86
6,800.0	0.60	234.57	6,798.4	44.2	61.4	73.9	0.49	-0.32	-28.55
6,900.0	0.87	231.99	6,898.4	43.4	60.4	72.7	0.27	0.27	-2.58
7,000.0	0.57	220.21	6,998.4	42.5	59.4	71.4	0.33	-0.30	-11.78
7,100.0	0.57	218.26	7,098.4	41.8	58.8	70.4	0.02	0.00	-1.95
7,200.0	0.66	204.82	7,198.3	40.9	58.3	69.4	0.17	0.09	-13.44
7,300.0	0.66	223.86	7,298.3	39.9	57.6	68.3	0.22	0.00	19.04
7,400.0	0.48	222.54	7,398.3	39.2	56.9	67.3	0.18	-0.18	-1.32
7,425.0	0.48	216.36	7,423.3	39.0	56.8	67.1	0.21	0.00	-24.72
7,494.0	0.90	240.00	7,492.3	38.5	56.2	66.3	0.72	0.61	34.26
7,526.0	5.80	260.40	7,524.3	38.1	54.4	64.7	15.52	15.31	63.75
7,557.0	11.80	261.20	7,554.9	37.4	49.7	61.1	19.36	19.35	2.58
7,589.0	17.10	262.00	7,585.9	36.2	41.8	54.9	16.57	16.56	2.50
7,620.0	22.00	262.10	7,615.1	34.8	31.5	46.9	15.81	15.81	0.32
7,651.0	24.60	263.70	7,643.5	33.3	19.3	37.7	8.63	8.39	5.16
7,683.0	27.10	265.80	7,672.3	32.0	5.4	27.4	8.32	7.81	6.56
7,714.0	30.30	268.30	7,699.5	31.3	-9.4	16.9	11.02	10.32	8.06
7,746.0	33.60	269.50	7,726.7	31.0	-26.3	5.3	10.50	10.31	3.75
7,777.0	37.00	270.20	7,752.0	30.9	-44.3	-6.8	11.04	10.97	2.26
7,809.0	40.50	269.50	7,776.9	30.9	-64.3	-20.3	11.02	10.94	-2.19
7,840.0	42.90	268.50	7,800.1	30.5	-84.8	-34.4	8.03	7.74	-3.23
7,872.0	45.00	267.60	7,823.1	29.7	-107.1	-49.8	6.85	6.56	-2.81
7,903.0	47.30	266.30	7,844.6	28.5	-129.4	-65.7	8.01	7.42	-4.19
7,910.0	48.14	266.06	7,849.3	28.2	-134.6	-69.4	12.18	11.92	-3.37
330' Hardline Crossed: 7910' MD / 7849' TVD									
7,934.0	51.00	265.30	7,864.8	26.8	-152.8	-82.7	12.18	11.94	-3.18
7,966.0	54.40	264.60	7,884.2	24.6	-178.1	-101.3	10.77	10.63	-2.19
7,997.0	58.60	265.10	7,901.3	22.3	-203.9	-120.3	13.61	13.55	1.61
8,029.0	62.10	266.30	7,917.2	20.2	-231.6	-140.5	11.41	10.94	3.75

Survey Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #7H
Project:	Eddy, NM (NAD-83)	TVD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	MD Reference:	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

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)
8,060.0	64.20	266.90	7,931.2	18.5	-259.2	-160.2	6.99	6.77	1.94
8,092.0	67.20	267.10	7,944.3	17.0	-288.3	-180.9	9.39	9.38	0.63
8,123.0	70.90	267.40	7,955.4	15.6	-317.3	-201.3	11.97	11.94	0.97
8,155.0	74.10	268.30	7,965.0	14.5	-347.8	-222.6	10.35	10.00	2.81
8,186.0	77.80	269.50	7,972.6	13.9	-377.8	-243.2	12.51	11.94	3.87
8,217.0	80.20	269.70	7,978.5	13.7	-408.2	-263.8	7.77	7.74	0.65
8,249.0	82.30	269.50	7,983.3	13.5	-439.9	-285.2	6.59	6.56	-0.63
8,278.0	84.10	270.60	7,986.8	13.5	-468.7	-304.5	7.26	6.21	3.79
8,309.0	84.50	270.40	7,989.9	13.8	-499.5	-325.0	1.44	1.29	-0.65
8,340.0	84.80	270.00	7,992.8	13.9	-530.4	-345.6	1.61	0.97	-1.29
8,372.0	85.90	269.90	7,995.3	13.9	-562.3	-367.1	3.45	3.44	-0.31
8,403.0	86.90	268.80	7,997.3	13.5	-593.2	-388.1	4.79	3.23	-3.55
8,466.0	92.00	268.30	7,997.9	11.9	-656.2	-431.5	8.13	8.10	-0.79
8,561.0	88.30	266.00	7,997.6	7.2	-751.0	-498.7	4.59	-3.89	-2.42
8,655.0	91.10	267.80	7,998.1	2.1	-844.9	-565.4	3.54	2.98	1.91
8,749.0	89.90	267.10	7,997.3	-2.1	-938.8	-631.6	1.48	-1.28	-0.74
8,844.0	90.30	266.90	7,997.2	-7.0	-1,033.6	-698.9	0.47	0.42	-0.21
8,938.0	91.50	268.60	7,995.7	-10.7	-1,127.5	-764.7	2.21	1.28	1.81
9,032.0	91.70	269.00	7,993.1	-12.7	-1,221.5	-829.2	0.48	0.21	0.43
9,127.0	90.60	269.00	7,991.1	-14.4	-1,316.4	-894.1	1.16	-1.16	0.00
9,221.0	90.10	268.60	7,990.6	-16.3	-1,410.4	-958.7	0.68	-0.53	-0.43
9,315.0	89.70	269.70	7,990.7	-17.7	-1,504.4	-1,022.8	1.25	-0.43	1.17
9,410.0	89.70	268.30	7,991.2	-19.4	-1,599.4	-1,087.8	1.47	0.00	-1.47
9,504.0	91.50	268.50	7,990.2	-22.0	-1,693.3	-1,152.8	1.93	1.91	0.21
9,598.0	92.90	270.90	7,986.6	-22.5	-1,787.3	-1,216.2	2.95	1.49	2.55
9,693.0	92.70	272.30	7,982.0	-19.9	-1,882.1	-1,277.8	1.49	-0.21	1.47
9,787.0	91.50	273.40	7,978.6	-15.2	-1,975.9	-1,337.3	1.73	-1.28	1.17
9,882.0	89.00	271.60	7,978.1	-11.0	-2,070.8	-1,398.0	3.24	-2.63	-1.89
9,976.0	88.70	269.00	7,980.0	-10.5	-2,164.8	-1,460.7	2.78	-0.32	-2.77
10,070.0	89.60	268.60	7,981.4	-12.5	-2,258.8	-1,525.2	1.05	0.96	-0.43
10,165.0	90.10	269.20	7,981.7	-14.3	-2,353.8	-1,590.3	0.82	0.53	0.63
10,259.0	89.70	269.20	7,981.8	-15.7	-2,447.7	-1,654.3	0.43	-0.43	0.00
10,354.0	90.10	269.00	7,982.0	-17.1	-2,542.7	-1,719.2	0.47	0.42	-0.21
10,448.0	89.90	268.80	7,982.0	-18.9	-2,636.7	-1,783.6	0.30	-0.21	-0.21
10,543.0	89.70	268.50	7,982.3	-21.2	-2,731.7	-1,849.0	0.38	-0.21	-0.32
10,637.0	90.40	268.30	7,982.3	-23.8	-2,825.6	-1,914.0	0.77	0.74	-0.21
10,732.0	90.60	270.00	7,981.4	-25.2	-2,920.6	-1,978.8	1.80	0.21	1.79
10,826.0	89.60	271.10	7,981.3	-24.3	-3,014.6	-2,041.2	1.58	-1.06	1.17
10,921.0	91.10	271.30	7,980.7	-22.3	-3,109.6	-2,103.5	1.59	1.58	0.21
11,015.0	88.90	271.10	7,980.7	-20.4	-3,203.6	-2,165.1	2.35	-2.34	-0.21
11,110.0	89.70	270.20	7,981.8	-19.3	-3,298.6	-2,228.0	1.27	0.84	-0.95
11,204.0	90.30	269.90	7,981.8	-19.2	-3,392.6	-2,291.0	0.71	0.64	-0.32
11,298.0	89.20	269.20	7,982.2	-19.9	-3,486.5	-2,354.7	1.39	-1.17	-0.74
11,393.0	91.30	268.30	7,981.8	-22.0	-3,581.5	-2,419.9	2.40	2.21	-0.95

Survey Report

Company:	Yates Petroleum	**Local Co-ordinate Reference:**	Well #7H
Project:	Eddy, NM (NAD-83)	**TVD Reference:**	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Site:	Martha AIK Federal	**MD Reference:**	Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Well:	#7H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Houston R5000 Database

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)
11,487.0	92.20	268.10	7,979.0	-25.0	-3,675.4	-2,485.2	0.98	0.96	-0.21
11,582.0	91.50	268.30	7,975.9	-27.9	-3,770.3	-2,551.1	0.77	-0.74	0.21
11,676.0	91.00	269.00	7,973.8	-30.2	-3,864.3	-2,615.7	0.91	-0.53	0.74
11,771.0	92.90	270.60	7,970.6	-30.5	-3,959.2	-2,679.7	2.61	2.00	1.68
11,865.0	91.30	270.20	7,967.2	-29.8	-4,053.1	-2,742.3	1.75	-1.70	-0.43
11,959.0	91.10	269.90	7,965.2	-29.8	-4,147.1	-2,805.3	0.38	-0.21	-0.32
12,054.0	90.10	269.20	7,964.2	-30.5	-4,242.1	-2,869.6	1.28	-1.05	-0.74
12,148.0	90.10	269.20	7,964.0	-31.8	-4,336.1	-2,933.6	0.00	0.00	0.00
12,243.0	88.90	269.20	7,964.9	-33.1	-4,431.1	-2,998.4	1.26	-1.26	0.00
12,509.0	90.40	269.70	7,966.5	-35.7	-4,697.1	-3,178.8	0.59	0.56	0.19
Last MWD Survey : 12509' MD / 7966' TVD									
12,560.0	90.40	269.40	7,966.1	-36.1	-4,748.1	-3,213.3	0.58	0.00	-0.58
Projection to TD: 12560' MD / 7966' TVD : 1750' FNL / 327' FWL - Northing : 512818.34 / Easting : 719470.26									
12,560.8	90.40	269.40	7,966.1	-36.1	-4,748.9	-3,213.8	0.58	0.00	-0.58

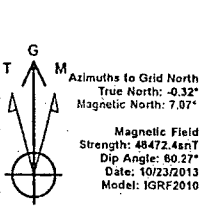
Design Annotations

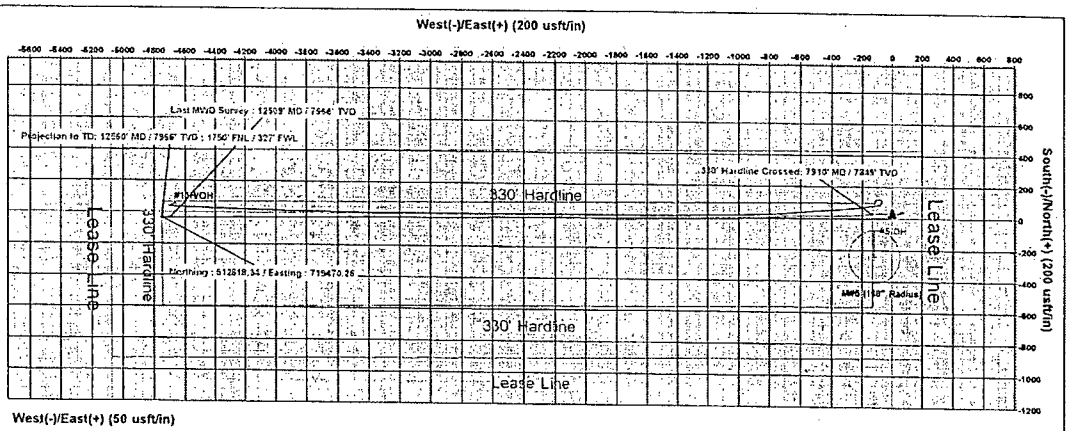
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,910.0	7,849.3	28.2	-134.6	330' Hardline Crossed: 7910' MD / 7849' TVD
12,509.0	7,966.5	-35.7	-4,697.1	Last MWD Survey : 12509' MD / 7966' TVD
12,560.0	7,966.1	-36.1	-4,748.1	Projection to TD: 12560' MD / 7966' TVD : 1750' FNL / 327' FWL
12,560.0	7,966.1	-36.1	-4,748.1	Northing : 512818.34 / Easting : 719470.26

Checked By: _____ Approved By: _____ Date: _____

Yates Petroleum
Project: Eddy, NM (NAD-83)
Site: Martha AIK Federal
Well: #7H
Wellbore: OH
Plan: Final Plan vs Actual

YATES PETROLEUM CORPORATION





DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL (M#7H)	7965.0	-35.5	-4748.6	512818.94	719469.72
M#5 (168" Radius)	8416.5	-241.1	-114.6	512613.36	724103.77

WELL DETAILS: #7H

Ground Elevation:: 3550.0
RKB Elevation: Well @ 3571.5usft (Nomac #22 - 21.5' KB)
Rig Name: Nomac #22 - 21.5' KB

Surface Hole Location

Northing	Easting	Latitude	Longitude
512854.43	724218.35	32° 24' 30.639 N	103° 44' 26.644 W

PROJECT DETAILS: Eddy, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

CRESCENT DIRECTIONAL DRILLING

Crescent Directional Drilling
7715 West Industrial Ave. Midland, Tx 79706
Phone: 432-618-1135

Plan: Plan #3 (#7H/OH)
Created By: Jason Roe Date: 21:28, December 06 2013

MS Energy Services

Job Number: SVMO-131032
Company: Yates Petroleum Corporation
Lease/Well: Martha AIK Federal 7H
Location: Eddy County, NM
Rig Name: Nomac #22
RKB: 21.5'
G.L. or M.S.L.: GL

State/Country: New Mexico/USA
Declination: 7.07°
Grid: East To Grid North
File name: S:\2013SU~1\YATES\MO\MARTHA~1\7H.SVY
Date/Time: 02-Dec-13 / 11:26
Curve Name: Surface - 7425' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 269.57
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.25	160.44	100.00	-.21	.07	-.07	.22	160.44	.25
200.00	.24	168.03	200.00	-.62	.19	-.18	.64	162.90	.03
300.00	.26	147.10	300.00	-1.01	.36	-.35	1.07	160.60	.09
400.00	.16	118.71	400.00	-1.27	.60	-.59	1.40	154.62	.14
500.00	.21	105.18	500.00	-1.38	.90	-.89	1.65	146.93	.07
600.00	.11	84.93	600.00	-1.42	1.17	-1.16	1.85	140.49	.11
700.00	.09	75.44	700.00	-1.40	1.35	-1.33	1.94	136.04	.03
800.00	.14	145.74	800.00	-1.48	1.49	-1.48	2.10	134.74	.14
900.00	.25	136.09	900.00	-1.73	1.71	-1.70	2.44	135.41	.11

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
1000.00	.24	125.70	999.99	-2.01	2.03	-2.02	2.86	134.75	.05
1100.00	.24	91.70	1099.99	-2.14	2.41	-2.39	3.23	131.63	.14
1200.00	.26	85.58	1199.99	-2.13	2.85	-2.83	3.56	126.82	.03
1300.00	.37	65.65	1299.99	-1.98	3.37	-3.35	3.91	120.47	.15
1400.00	.53	61.26	1399.99	-1.63	4.07	-4.05	4.38	111.78	.16
1500.00	.58	51.36	1499.98	-1.09	4.87	-4.86	4.99	102.58	.11
1600.00	.73	46.87	1599.98	-.34	5.73	-5.73	5.74	93.35	.16
1700.00	.76	51.24	1699.97	.52	6.71	-6.71	6.73	85.61	.06
1800.00	.86	54.53	1799.96	1.37	7.84	-7.85	7.96	80.11	.11
1900.00	.96	52.10	1899.95	2.32	9.11	-9.13	9.40	75.73	.11
2000.00	1.02	52.24	1999.93	3.38	10.48	-10.50	11.01	72.14	.06
2100.00	1.08	55.10	2099.91	4.46	11.95	-11.98	12.76	69.54	.08
2200.00	1.11	53.30	2199.90	5.58	13.50	-13.54	14.61	67.55	.05
2300.00	1.24	57.31	2299.87	6.74	15.19	-15.24	16.62	66.07	.15
2400.00	1.36	56.05	2399.85	7.99	17.08	-17.14	18.86	64.94	.12
2500.00	1.59	47.87	2499.82	9.58	19.10	-19.17	21.37	63.35	.31
2600.00	1.77	39.12	2599.77	11.71	21.10	-21.19	24.13	60.97	.31
2700.00	1.82	31.13	2699.72	14.27	22.90	-23.00	26.98	58.07	.25
2800.00	1.35	24.99	2799.69	16.70	24.21	-24.34	29.41	55.41	.50
2900.00	1.40	23.19	2899.66	18.89	25.19	-25.33	31.49	53.14	.07
3000.00	1.17	41.71	2999.63	20.77	26.35	-26.51	33.55	51.76	.47
3100.00	1.25	52.56	3099.61	22.20	27.90	-28.06	35.65	51.49	.24
3200.00	2.34	53.21	3199.56	24.08	30.40	-30.58	38.78	51.61	1.09
3300.00	2.42	55.13	3299.47	26.51	33.77	-33.96	42.93	51.86	.11
3400.00	1.87	83.82	3399.41	27.89	37.12	-37.33	46.43	53.08	1.19
3500.00	1.61	79.63	3499.36	28.32	40.12	-40.34	49.11	54.78	.29
3600.00	1.81	78.29	3599.31	28.90	43.05	-43.27	51.85	56.13	.20
3700.00	2.71	77.79	3699.24	29.72	46.91	-47.13	55.53	57.65	.90
3800.00	3.05	71.21	3799.11	31.07	51.74	-51.97	60.35	59.01	.47

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
3900.00	3.01	75.08	3898.97	32.61	56.79	-57.04	65.49	60.14	.21
4000.00	2.90	74.31	3998.84	33.97	61.77	-62.02	70.49	61.19	.12
4100.00	2.49	75.11	4098.73	35.21	66.30	-66.56	75.07	62.03	.41
4200.00	1.78	75.39	4198.66	36.16	69.90	-70.17	78.70	62.65	.71
4300.00	1.11	69.03	4298.62	36.90	72.31	-72.59	81.18	62.97	.69
4400.00	1.00	60.16	4398.61	37.68	73.97	-74.25	83.02	63.01	.20
4500.00	.67	75.60	4498.60	38.26	75.30	-75.58	84.46	63.06	.40
4600.00	.94	73.73	4598.59	38.63	76.65	-76.94	85.84	63.25	.27
4700.00	.89	61.25	4698.57	39.24	78.12	-78.41	87.42	63.33	.21
4800.00	.28	37.82	4798.57	39.80	78.95	-79.25	88.42	63.24	.64
4900.00	.35	42.21	4898.57	40.22	79.30	-79.60	88.92	63.11	.07
5000.00	.10	76.84	4998.57	40.47	79.59	-79.90	89.29	63.05	.27
5100.00	.23	50.32	5098.57	40.62	79.83	-80.14	89.57	63.03	.15
5200.00	.38	17.06	5198.56	41.06	80.09	-80.39	90.00	62.85	.23
5300.00	.45	353.13	5298.56	41.77	80.14	-80.45	90.37	62.47	.19
5400.00	.61	324.55	5398.56	42.59	79.78	-80.10	90.44	61.90	.30
5500.00	.39	332.73	5498.55	43.33	79.32	-79.64	90.38	61.35	.23
5600.00	.65	348.87	5598.55	44.19	79.05	-79.38	90.56	60.80	.30
5700.00	.74	330.81	5698.54	45.31	78.63	-78.96	90.75	60.05	.24
5800.00	.71	295.11	5798.53	46.13	77.75	-78.09	90.41	59.32	.45
5900.00	.97	281.47	5898.52	46.57	76.36	-76.71	89.44	58.62	.33
6000.00	.66	268.49	5998.51	46.72	74.95	-75.30	88.32	58.06	.36
6100.00	.72	268.69	6098.51	46.69	73.75	-74.10	87.29	57.66	.06
6200.00	.86	267.27	6198.50	46.64	72.37	-72.72	86.10	57.20	.14
6300.00	1.07	265.32	6298.48	46.53	70.69	-71.04	84.63	56.65	.21
6400.00	1.22	259.08	6398.46	46.25	68.72	-69.06	82.83	56.06	.19
6500.00	1.28	252.63	6498.44	45.71	66.60	-66.95	80.78	55.54	.15
6600.00	1.29	251.26	6598.41	45.02	64.47	-64.81	78.63	55.07	.03
6700.00	.92	263.12	6698.40	44.56	62.61	-62.94	76.85	54.56	.43

Surface - 7425' M.D. (Rate Gyro) File: S:\2013SU~1\YATES\MO\MARTHA~1\7H.SVY

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
6800.00	.60	234.57	6798.39	44.16	61.39	-61.72	75.62	54.27	.49
6900.00	.87	231.99	6898.38	43.39	60.36	-60.69	74.34	54.29	.27
7000.00	.57	220.21	6998.37	42.54	59.44	-59.76	73.10	54.41	.33
7100.00	.57	218.26	7098.37	41.77	58.81	-59.12	72.14	54.62	.02
7200.00	.66	204.82	7198.36	40.86	58.26	-58.57	71.16	54.96	.17
7300.00	.66	223.86	7298.35	39.92	57.62	-57.92	70.10	55.29	.22
7400.00	.48	222.54	7398.35	39.20	56.94	-57.23	69.13	55.46	.18
Last Survey Depth Recorded									
7425.00	.48	216.36	7423.35	39.04	56.81	-57.10	68.93	55.50	.21