

Company Name: Mewbourne Oil Co
Savage 5 EH Federal #1H
Eddy County, New Mexico
Rig: Patterson #46
Created By: James Dawson
Date: 3/7/2014

Savage 5 EH Federal #1H
Eddy County, New Mexico
Q140082 & WT-140138
Design #2

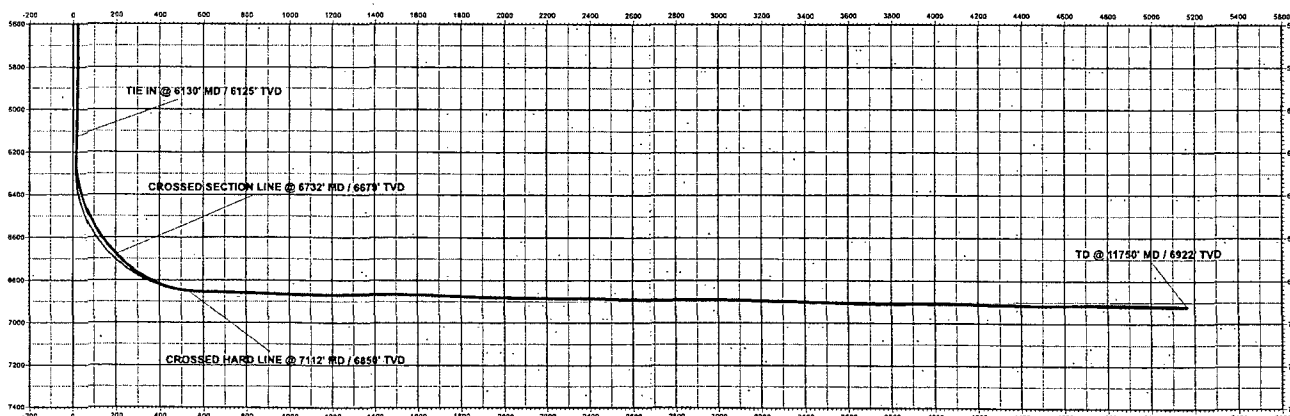
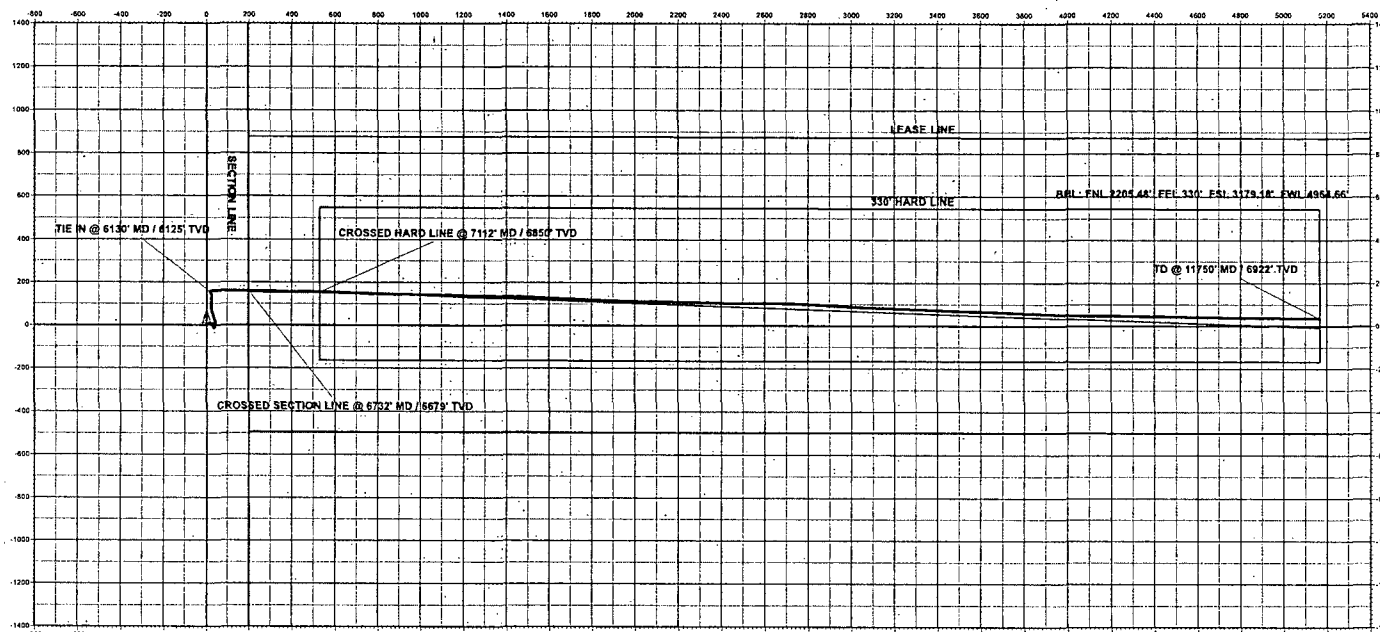
Mewbourne Oil Company



WELL DETAILS: Savage 5 EH Federal #1H					
Ground Level: 3286.0					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
9.6	9.9	583446.50	576025.50	32° 36' 13.659 N	104° 6' 21.373 W

DESIGN TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude
PBHL Savage 5 EH Federal #1H D#1	8926.0	-8.4	5164.5	583438.38	575190.44	32° 36' 13.463 N
- plan hits target center						
Longitude						
104° 5' 20.993 W						

ANNOTATIONS									
MD	Inc	Asl	TVD	+N-S	+E-W	Vsect	Departure	Annotation	
8130.0	2.13	320.65	6124.8	153.6	19.4	19.1	225.6	TIE IN @ 6130' MD / 6125' TVD	
6731.5	43.10	82.90	6678.8	159.0	199.3	199.1	413.3	CROSSED SECTION LINE @ 6732' MD / 6678' TVD	
7111.7	83.83	91.73	6845.8	155.5	529.3	529.0	743.2	CROSSED HARD LINE @ 7112' MD / 6850' TVD	
11750.0	87.00	90.20	6921.5	36.1	5164.2	5164.1	5380.2	TD @ 11750' MD / 6922' TVD	



Vertical Section at 90.09° (200 usf/in)

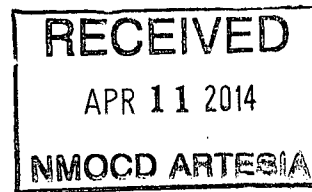
T G M Azimuths to Grid North
Magnetic North: 7.41°

Magnetic Field
Strength: 48520.6snT
Dip Angle: 60.38°
Date: 2/13/2014
Model: IGRF2010

PROJECT DETAILS: Eddy County, New Mexico	
Geodetic System:	US State Plane 1927 (Exact solution)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	New Mexico East 3001
System Datum:	Mean Sea Level

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Mewbourne Oil Co

Eddy County, New Mexico

Sec 6, T20S, R9E

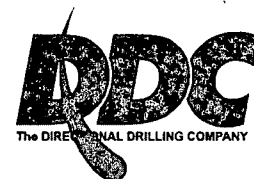
Savage 5 EH Federal #1H

Wellbore #1

Design: Wellbore #1

DDC Survey Report

07 March, 2014



DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Savage 5 EH Federal #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3306.0usft (Patterson #46)
Site:	Sec 6, T20S, R9E	MD Reference:	WELL @ 3306.0usft (Patterson #46)
Well:	Savage 5 EH Federal #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project:	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Sec 6, T20S, R9E			
Site Position:		Northing:	585,555.00 usft	Latitude:	32° 36' 34.554 N
From:	Map	Easting:	568,460.40 usft	Longitude:	104° 6' 39.623 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.12 °

Well	Savage 5 EH Federal #1H					
Well Position	+N/-S	0.0 usft	Northing:	583,446.80 usft	Latitude:	32° 36' 13.659 N
	+E/-W	0.0 usft	Easting:	570,025.90 usft	Longitude:	104° 6' 21.373 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,286.0 usft

Wellbore					
Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/13/2014	7.53	60.38	48,521

Design		Wellbore #1			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	90.09	

Survey Program		Date	3/7/2014	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	6,130.0	Gyro (Wellbore #1)	Good_gyro	Good Gyro
6,175.0	11,750.0	MWD (Wellbore #1)	MWD default	MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.08	148.83	100.0	-0.1	0.0	0.0	0.08	0.08	0.00
200.0	0.28	42.63	200.0	0.1	0.2	0.2	0.31	0.20	-106.20
300.0	0.31	55.92	300.0	0.4	0.6	0.6	0.07	0.03	13.29
400.0	0.46	64.01	400.0	0.7	1.2	1.2	0.16	0.15	8.09
500.0	0.48	76.02	500.0	1.0	2.0	2.0	0.10	0.02	12.01
600.0	1.26	83.93	600.0	1.2	3.5	3.5	0.79	0.78	7.91
700.0	2.36	90.64	699.9	1.3	6.6	6.6	1.12	1.10	6.71
800.0	2.46	91.18	799.8	1.2	10.8	10.8	0.10	0.10	0.54
900.0	2.32	87.08	899.8	1.3	15.0	15.0	0.22	-0.14	-4.10

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Savage 5 EH Federal #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3306.0usft (Patterson #46)
Site:	Sec 6, T20S, R9E	MD Reference:	WELL @ 3306.0usft (Patterson #46)
Well:	Savage 5 EH Federal #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM-5000.1 Single User 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)
1,000.0	2.11	89.87	999.7	1.4	18.9	18.9	0.24	-0.21	2.79
1,100.0	1.91	83.25	1,099.6	1.6	22.4	22.4	0.31	-0.20	-6.62
1,200.0	1.45	89.09	1,199.6	1.8	25.3	25.3	0.49	-0.46	5.84
1,300.0	1.18	88.29	1,299.5	1.9	27.6	27.6	0.27	-0.27	-0.80
1,400.0	0.95	63.47	1,399.5	2.3	29.3	29.3	0.51	-0.23	-24.82
1,500.0	0.47	323.46	1,499.5	3.0	29.8	29.8	1.13	-0.48	-100.01
1,600.0	1.52	171.63	1,599.5	2.0	29.8	29.8	1.95	1.05	-151.83
1,700.0	2.56	162.27	1,699.5	-1.4	30.7	30.7	1.09	1.04	-9.36
1,800.0	3.07	162.01	1,799.3	-6.1	32.2	32.2	0.51	0.51	-0.26
1,900.0	3.25	155.92	1,899.2	-11.3	34.2	34.2	0.38	0.18	-6.09
2,000.0	1.28	127.13	1,999.1	-14.5	36.2	36.2	2.22	-1.97	-28.79
2,100.0	1.67	15.78	2,099.1	-13.8	37.5	37.5	2.45	0.39	-111.35
2,200.0	2.74	5.47	2,199.0	-10.0	38.1	38.1	1.14	1.07	-10.31
2,300.0	2.66	6.72	2,298.9	-5.3	38.6	38.6	0.10	-0.08	1.25
2,400.0	3.16	13.28	2,398.8	-0.3	39.5	39.5	0.60	0.50	6.56
2,500.0	3.53	10.28	2,498.6	5.4	40.7	40.7	0.41	0.37	-3.00
2,600.0	3.75	8.36	2,598.4	11.6	41.7	41.7	0.25	0.22	-1.92
2,700.0	4.10	347.02	2,698.2	18.4	41.4	41.4	1.49	0.35	-21.34
2,800.0	4.74	342.01	2,797.9	25.8	39.3	39.3	0.75	0.64	-5.01
2,900.0	4.46	340.37	2,897.5	33.4	36.7	36.7	0.31	-0.28	-1.64
3,000.0	4.26	338.77	2,997.3	40.5	34.1	34.0	0.23	-0.20	-1.60
3,100.0	3.70	338.72	3,097.0	47.0	31.6	31.5	0.56	-0.56	-0.05
3,200.0	3.26	341.23	3,196.8	52.7	29.5	29.4	0.47	-0.44	2.51
3,300.0	2.81	344.57	3,296.7	57.7	27.9	27.8	0.48	-0.45	3.34
3,400.0	2.60	346.14	3,396.6	62.3	26.7	26.6	0.22	-0.21	1.57
3,500.0	2.37	346.05	3,496.5	66.5	25.7	25.6	0.23	-0.23	-0.09
3,600.0	2.25	343.86	3,596.4	70.4	24.6	24.5	0.15	-0.12	-2.19
3,700.0	1.71	345.86	3,696.3	73.7	23.7	23.6	0.54	-0.54	2.00
3,800.0	1.47	347.57	3,796.3	76.4	23.1	23.0	0.24	-0.24	1.71
3,900.0	1.38	346.72	3,896.3	78.8	22.5	22.4	0.09	-0.09	-0.85
4,000.0	1.44	350.17	3,996.2	81.2	22.0	21.9	0.10	0.06	3.45
4,100.0	1.36	359.18	4,096.2	83.7	21.8	21.7	0.23	-0.08	9.01
4,200.0	1.13	11.69	4,196.2	85.8	22.0	21.9	0.35	-0.23	12.51
4,300.0	1.11	11.88	4,296.2	87.7	22.4	22.3	0.02	-0.02	0.19
4,400.0	1.15	8.49	4,396.1	89.7	22.7	22.6	0.08	0.04	-3.39
4,500.0	1.13	9.87	4,496.1	91.6	23.1	22.9	0.03	-0.02	1.38
4,600.0	1.23	1.76	4,596.1	93.7	23.3	23.1	0.19	0.10	-8.11
4,700.0	1.37	2.20	4,696.1	95.9	23.3	23.2	0.14	0.14	0.44
4,800.0	1.57	1.48	4,796.0	98.5	23.4	23.3	0.20	0.20	-0.72
4,900.0	1.75	4.56	4,896.0	101.4	23.6	23.4	0.20	0.18	3.08
5,000.0	2.06	3.36	4,996.0	104.7	23.8	23.6	0.31	0.31	-1.20
5,100.0	2.27	3.89	5,095.9	108.5	24.0	23.9	0.21	0.21	0.53
5,200.0	2.54	4.63	5,195.8	112.7	24.4	24.2	0.27	0.27	0.74

DDC
Survey Report



Company:	Newbourne Oil Co	Local Co-ordinate Reference:	Well Savage 5 EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3306.0usft (Patterson #46)
Site:	Sec 6-T20S, R9E	MD Reference:	WELL @ 3306.0usft (Patterson #46)
Well:	Savage 5 EH Federal #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User 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)	
5,300.0	2.71	0.07	5,295.7	117.2	24.5	24.4	0.27	0.17	-4.56	
5,400.0	2.91	358.23	5,395.6	122.1	24.5	24.3	0.22	0.20	-1.84	
5,500.0	2.97	0.46	5,495.4	127.3	24.4	24.2	0.13	0.06	2.23	
5,600.0	2.85	0.53	5,595.3	132.4	24.4	24.2	0.12	-0.12	0.07	
5,700.0	2.64	358.42	5,695.2	137.1	24.4	24.2	0.23	-0.21	-2.11	
5,800.0	2.43	351.16	5,795.1	141.5	24.0	23.8	0.38	-0.21	-7.26	
5,900.0	2.31	346.09	5,895.0	145.6	23.2	23.0	0.24	-0.12	-5.07	
6,000.0	2.14	336.94	5,994.9	149.3	22.0	21.8	0.39	-0.17	-9.15	
6,100.0	2.33	324.14	6,094.9	152.6	20.1	19.8	0.53	0.19	-12.80	
TIE IN @ 6130' MD / 6125' TVD										
6,130.0	2.13	320.65	6,124.8	153.6	19.4	19.1	0.81	-0.67	-11.63	
6,175.0	2.10	318.40	6,169.8	154.8	18.3	18.0	0.20	-0.07	-5.00	
6,206.0	1.80	312.60	6,200.8	155.6	17.5	17.3	1.16	-0.97	-18.71	
6,238.0	1.90	323.00	6,232.8	156.3	16.9	16.6	1.09	0.31	32.50	
6,270.0	2.50	59.50	6,264.8	157.1	17.1	16.9	10.33	1.88	301.56	
6,302.0	6.60	77.60	6,296.6	157.9	19.5	19.3	13.42	12.81	56.56	
6,334.0	9.30	81.80	6,328.3	158.6	23.9	23.6	8.63	8.44	13.13	
6,365.0	12.10	81.90	6,358.8	159.4	29.6	29.3	9.03	9.03	0.32	
6,397.0	15.30	81.90	6,389.9	160.5	37.1	36.8	10.00	10.00	0.00	
6,429.0	18.80	86.00	6,420.5	161.5	46.4	46.2	11.56	10.94	12.81	
6,461.0	21.80	89.50	6,450.5	161.9	57.5	57.3	10.11	9.38	10.94	
6,493.0	23.60	91.10	6,480.0	161.8	69.9	69.6	5.95	5.63	5.00	
6,525.0	25.50	92.30	6,509.1	161.4	83.1	82.9	6.14	5.94	3.75	
6,557.0	28.00	92.00	6,537.7	160.9	97.5	97.3	7.82	7.81	-0.94	
6,588.0	31.10	90.40	6,564.6	160.6	112.8	112.6	10.32	10.00	-5.16	
6,620.0	34.00	89.70	6,591.6	160.5	130.0	129.8	9.14	9.06	-2.19	
6,652.0	36.40	90.20	6,617.8	160.6	148.5	148.2	7.55	7.50	1.56	
6,684.0	39.20	91.40	6,643.0	160.3	168.1	167.8	9.05	8.75	3.75	
6,716.0	41.90	92.80	6,667.4	159.5	188.9	188.6	8.90	8.44	4.38	
CROSSED SECTION LINE @ 6732' MD / 6679' TVD										
6,731.5	43.10	92.90	6,678.8	159.0	199.3	199.1	7.75	7.74	0.66	
6,747.0	44.30	93.00	6,690.0	158.4	210.0	209.8	7.75	7.74	0.63	
6,779.0	46.50	92.30	6,712.5	157.4	232.8	232.5	7.05	6.88	-2.19	
6,811.0	49.80	91.80	6,733.8	156.5	256.6	256.4	10.38	10.31	-1.56	
6,843.0	53.80	90.40	6,753.6	156.1	281.7	281.5	12.96	12.50	-4.38	
6,874.0	57.70	90.40	6,771.0	155.9	307.4	307.1	12.58	12.58	0.00	
6,907.0	60.50	90.20	6,788.0	155.7	335.7	335.4	8.50	8.48	-0.61	
6,939.0	64.00	89.90	6,802.9	155.7	364.0	363.7	10.97	10.94	-0.94	
6,971.0	67.40	89.90	6,816.0	155.8	393.1	392.9	10.63	10.63	0.00	
7,003.0	71.80	89.90	6,827.2	155.8	423.1	422.9	13.75	13.75	0.00	
7,035.0	75.70	89.50	6,836.2	156.0	453.8	453.6	12.25	12.19	-1.25	
7,066.0	79.00	90.00	6,842.9	156.1	484.1	483.8	10.76	10.65	1.61	
7,098.0	82.30	91.10	6,848.1	155.8	515.7	515.4	10.86	10.31	3.44	
CROSSED HARD LINE @ 7112' MD / 6850' TVD										

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Savage 5 EH Federal #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3306.0usft (Patterson #46)
Site:	Sec 6, T20S, R9E	MD Reference:	WELL @ 3306.0usft (Patterson #46)
Well:	Savage 5 EH Federal #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,111.7	83.83	91.73	6,849.8	155.5	529.3	529.0	12.06	11.15	4.63
7,124.0	85.20	92.30	6,851.0	155.0	541.5	541.2	12.06	11.16	4.60
7,218.0	89.10	91.10	6,855.6	152.3	635.3	635.1	4.34	4.15	-1.28
7,281.0	88.60	92.20	6,856.9	150.4	698.3	698.0	1.92	-0.79	1.75
7,312.0	88.10	92.20	6,857.8	149.2	729.2	729.0	1.61	-1.61	0.00
7,375.0	87.60	91.80	6,860.2	147.1	792.2	791.9	1.02	-0.79	-0.63
7,439.0	88.20	90.70	6,862.5	145.7	856.1	855.9	1.96	0.94	-1.72
7,502.0	87.90	90.70	6,864.6	144.9	919.1	918.8	0.48	-0.48	0.00
7,565.0	88.50	90.90	6,866.6	144.0	982.0	981.8	1.00	0.95	0.32
7,629.0	89.00	90.90	6,868.0	143.0	1,046.0	1,045.8	0.78	0.78	0.00
7,692.0	89.90	90.90	6,868.6	142.0	1,109.0	1,108.8	1.43	1.43	0.00
7,756.0	88.80	90.70	6,869.4	141.1	1,173.0	1,172.7	1.75	-1.72	-0.31
7,819.0	90.80	91.40	6,869.6	140.0	1,236.0	1,235.7	3.36	3.17	1.11
7,882.0	90.50	91.30	6,868.9	138.5	1,298.9	1,298.7	0.50	-0.48	-0.16
7,946.0	90.60	91.40	6,868.2	137.0	1,362.9	1,362.7	0.22	0.16	0.16
8,009.0	90.80	91.60	6,867.5	135.3	1,425.9	1,425.7	0.45	0.32	0.32
8,072.0	89.70	92.20	6,867.2	133.2	1,488.8	1,488.6	1.99	-1.75	0.95
8,136.0	88.90	92.70	6,868.0	130.5	1,552.8	1,552.6	1.47	-1.25	0.78
8,199.0	88.30	92.50	6,869.5	127.6	1,615.7	1,615.5	1.00	-0.95	-0.32
8,262.0	87.80	92.00	6,871.7	125.2	1,678.6	1,678.4	1.12	-0.79	-0.79
8,326.0	87.40	92.30	6,874.3	122.8	1,742.5	1,742.3	0.78	-0.63	0.47
8,389.0	87.20	92.30	6,877.3	120.2	1,805.4	1,805.2	0.32	-0.32	0.00
8,452.0	88.40	92.80	6,879.7	117.4	1,868.3	1,868.1	2.06	1.90	0.79
8,516.0	89.50	92.30	6,880.9	114.6	1,932.2	1,932.0	1.89	1.72	-0.78
8,579.0	88.50	90.60	6,882.0	113.0	1,995.2	1,995.0	3.13	-1.59	-2.70
8,642.0	89.30	91.30	6,883.2	112.0	2,058.2	2,058.0	1.69	1.27	1.11
8,706.0	89.30	91.30	6,884.0	110.5	2,122.1	2,122.0	0.00	0.00	0.00
8,769.0	89.90	90.70	6,884.4	109.4	2,185.1	2,184.9	1.35	0.95	-0.95
8,833.0	89.30	90.60	6,884.9	108.7	2,249.1	2,248.9	0.95	-0.94	-0.16
8,896.0	90.10	91.30	6,885.2	107.6	2,312.1	2,311.9	1.69	1.27	1.11
8,959.0	89.70	91.30	6,885.3	106.2	2,375.1	2,374.9	0.63	-0.63	0.00
9,023.0	88.40	90.20	6,886.4	105.4	2,439.1	2,438.9	2.66	-2.03	-1.72
9,086.0	88.10	89.50	6,888.3	105.5	2,502.0	2,501.9	1.21	-0.48	-1.11
9,149.0	88.60	90.40	6,890.1	105.6	2,565.0	2,564.8	1.63	0.79	1.43
9,212.0	89.10	90.60	6,891.4	105.0	2,628.0	2,627.8	0.85	0.79	0.32
9,276.0	89.80	91.80	6,892.0	103.7	2,692.0	2,691.8	2.17	1.09	1.88
9,339.0	90.00	91.80	6,892.1	101.7	2,754.9	2,754.8	0.32	0.32	0.00
9,402.0	90.80	92.70	6,891.7	99.3	2,817.9	2,817.7	1.91	1.27	1.43
9,465.0	90.50	93.20	6,891.0	96.0	2,880.8	2,880.7	0.93	-0.48	0.79
9,529.0	89.90	93.40	6,890.7	92.3	2,944.7	2,944.6	0.99	-0.94	0.31
9,592.0	89.10	92.70	6,891.3	89.0	3,007.6	3,007.5	1.69	-1.27	-1.11
9,656.0	88.50	92.50	6,892.6	86.1	3,071.5	3,071.4	0.99	-0.94	-0.31
9,719.0	87.90	92.50	6,894.6	83.3	3,134.4	3,134.3	0.95	-0.95	0.00

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Savage 5 EH Federal #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3306.0usft (Patterson #46)
Site:	Sec 6, T20S, R9E	MD Reference:	WELL @ 3306.0usft (Patterson #46)
Well:	Savage 5 EH Federal #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000-1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,782.0	88.60	92.30	6,896.5	80.7	3,197.4	3,197.2	1.16	1.11	-0.32
9,846.0	88.80	92.50	6,898.0	78.0	3,261.3	3,261.2	0.44	0.31	0.31
9,909.0	88.80	92.00	6,899.3	75.5	3,324.2	3,324.1	0.79	0.00	-0.79
9,972.0	88.30	91.60	6,900.9	73.6	3,387.2	3,387.0	1.02	-0.79	-0.63
10,036.0	88.20	92.00	6,902.8	71.5	3,451.1	3,451.0	0.64	-0.16	0.63
10,099.0	88.30	91.80	6,904.8	69.5	3,514.0	3,513.9	0.35	0.16	-0.32
10,162.0	87.70	91.60	6,907.0	67.6	3,577.0	3,576.9	1.00	-0.95	-0.32
10,225.0	88.10	91.80	6,909.3	65.7	3,639.9	3,639.8	0.71	0.63	0.32
10,288.0	89.70	92.30	6,910.5	63.5	3,702.9	3,702.7	2.66	2.54	0.79
10,351.0	90.30	92.70	6,910.5	60.7	3,765.8	3,765.7	1.14	0.95	0.63
10,415.0	90.40	92.30	6,910.1	57.9	3,829.7	3,829.6	0.64	0.16	-0.63
10,478.0	90.70	92.30	6,909.5	55.4	3,892.7	3,892.6	0.48	0.48	0.00
10,541.0	90.30	92.80	6,908.9	52.6	3,955.6	3,955.5	1.02	-0.63	0.79
10,604.0	90.00	92.30	6,908.8	49.8	4,018.5	4,018.5	0.93	-0.48	-0.79
10,668.0	89.10	90.90	6,909.3	48.0	4,082.5	4,082.4	2.60	-1.41	-2.19
10,731.0	88.40	89.70	6,910.7	47.7	4,145.5	4,145.4	2.20	-1.11	-1.90
10,794.0	88.90	89.90	6,912.1	47.9	4,208.5	4,208.4	0.85	0.79	0.32
10,857.0	89.50	91.10	6,913.0	47.4	4,271.5	4,271.4	2.13	0.95	1.90
10,920.0	89.00	91.10	6,913.8	46.1	4,334.5	4,334.4	0.79	-0.79	0.00
10,984.0	88.40	90.70	6,915.3	45.1	4,398.4	4,398.4	1.13	-0.94	-0.63
11,047.0	88.60	90.60	6,916.9	44.4	4,461.4	4,461.3	0.35	0.32	-0.16
11,110.0	90.60	90.60	6,917.4	43.8	4,524.4	4,524.3	3.17	3.17	0.00
11,173.0	91.10	91.10	6,916.4	42.8	4,587.4	4,587.3	1.12	0.79	0.79
11,237.0	91.00	91.10	6,915.3	41.6	4,651.4	4,651.3	0.16	-0.16	0.00
11,332.0	90.60	91.10	6,913.9	39.8	4,746.3	4,746.3	0.42	-0.42	0.00
11,427.0	89.80	90.90	6,913.6	38.1	4,841.3	4,841.3	0.87	-0.84	-0.21
11,522.0	88.80	90.20	6,914.8	37.2	4,936.3	4,936.2	1.28	-1.05	-0.74
11,617.0	88.60	90.40	6,916.9	36.7	5,031.3	5,031.2	0.30	-0.21	0.21
11,695.0	88.10	90.20	6,919.2	36.3	5,109.2	5,109.2	0.69	-0.64	-0.26
TD @ 11750' MD / 6922' TVD									
11,750.0	87.00	90.20	6,921.5	36.1	5,164.2	5,164.1	2.00	-2.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
6,130.0	6,124.8	153.6	19.4	TIE IN @ 6130' MD / 6125' TVD
6,731.5	6,678.8	159.0	199.3	CROSSED SECTION LINE @ 6732' MD / 6679' TVD
7,111.7	6,849.8	155.5	529.3	CROSSED HARD LINE @ 7112' MD / 6850' TVD
11,750.0	6,921.5	36.1	5,164.2	TD @ 11750' MD / 6922' TVD

Checked By: _____ Approved By: _____ Date: _____