

OPERATOR
WELL/LEASE
COUNTY

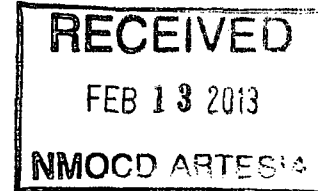
MEWBOURNE OIL COMPANY
ARIES 19 IL FED COM 1H
EDDY

046-0083

STATE OF NEW MEXICO
DEVIATION REPORT

30-015-40497

151	0.94
521	0.45
778	0.12
1,030	0.37
1,562	1.21
1,969	1.03
2,440	0.73
2,749	0.64
3,182	0.34
3,582	0.77
3,952	1.11
4,417	0.49
4,808	2.44
5,188	2.21
5,460	1.54
5,746	3.43
5,872	2.78
5,967	2.67
6,062	2.76
6,157	3.22
6,252	3.82
6,347	3.26
6,442	2.68
6,507	1.81
6,887	2.68
7,173	0.69



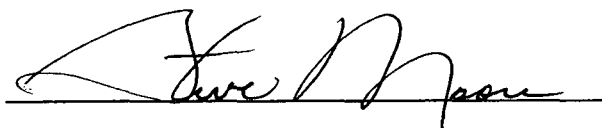
Received

NOV 30 2012

STATE OF TEXAS

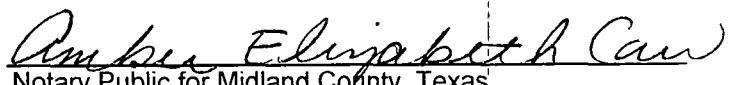
COUNTY OF MIDLAND

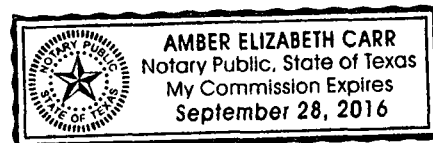
Mewbourne Oil Company
Hobbs

BY: 

The foregoing instrument was acknowledged before me on
Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

11/28/12, by


Notary Public for Midland County, Texas
My Commission Expires:





Company: Mewbourne Oil Company
Lease/Well: Aries 19 IL Federal Com / No. 001H
Location: SEC20 T18S R30E
Rig Name: Patterson-UTI 46
State/County: New Mexico / Eddy
Latitude: 32.73, Longitude: -104.00
GRID North is 0.18 Degrees East of True North
VS-Azi: 0.00 Degrees



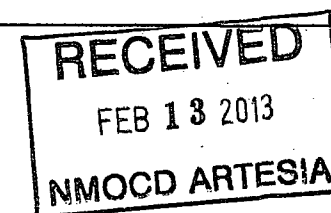
Depth Reference : RKB = 20.5'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 12/4/2012 / 08:44

Vaughn Energy Services
Gardendale, Texas
(432) 563-5444

Surveyor: Colby Ware
Aries 19 IL Federal Com No. 001H / API 30-015-40497



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.37	196.47	100.00	-0.31	-0.09	-0.31	0.32	196.47	0.37
200.00	0.52	198.91	200.00	-1.05	-0.33	-1.05	1.10	197.48	0.16
300.00	0.45	211.71	299.99	-1.82	-0.69	-1.82	1.94	200.67	0.13
400.00	0.38	224.52	399.99	-2.39	-1.12	-2.39	2.64	205.20	0.12
500.00	0.28	205.82	499.99	-2.84	-1.46	-2.84	3.19	207.20	0.15
600.00	0.17	187.12	599.99	-3.20	-1.58	-3.20	3.57	206.27	0.12
700.00	0.19	157.75	699.99	-3.51	-1.54	-3.51	3.83	203.65	0.09
800.00	0.17	148.39	799.99	-3.79	-1.40	-3.79	4.04	200.19	0.04
900.00	0.31	186.53	899.99	-4.19	-1.35	-4.19	4.40	197.83	0.20
1000.00	0.45	264.67	999.98	-4.49	-1.77	-4.49	4.83	201.46	0.49
1100.00	0.76	336.83	1099.98	-3.92	-2.41	-3.92	4.61	211.62	0.75
1200.00	1.07	38.99	1199.97	-2.59	-2.09	-2.59	3.33	218.87	0.98
1300.00	1.07	49.48	1299.95	-1.26	-0.79	-1.26	1.49	212.20	0.19
1400.00	1.07	49.97	1399.93	-0.06	0.62	-0.06	0.63	95.41	0.01
1500.00	1.05	46.05	1499.92	1.18	2.00	1.18	2.32	59.50	0.07
1600.00	1.08	42.13	1599.90	2.52	3.29	2.52	4.15	52.63	0.08
1700.00	1.19	43.96	1699.88	3.97	4.65	3.97	6.11	49.55	0.12
1800.00	1.27	45.79	1799.86	5.49	6.17	5.49	8.25	48.34	0.08

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	1.14	46.32	1899.84	6.94	7.68	6.94	10.35	47.87	0.12
2000.00	1.06	46.84	1999.82	8.26	9.07	8.26	12.27	47.67	0.08
2100.00	0.84	40.71	2099.80	9.45	10.22	9.45	13.92	47.25	0.24
2200.00	0.62	34.58	2199.79	10.45	11.01	10.45	15.18	46.49	0.23
2300.00	0.82	33.91	2299.79	11.49	11.72	11.49	16.41	45.55	0.20
2400.00	0.98	33.24	2399.77	12.81	12.59	12.81	17.96	44.50	0.16
2500.00	1.05	29.49	2499.76	14.32	13.51	14.32	19.69	43.32	0.09
2600.00	1.15	25.75	2599.74	16.03	14.40	16.03	21.54	41.93	0.13
2700.00	0.97	27.09	2699.72	17.69	15.22	17.69	23.34	40.71	0.19
2800.00	0.79	28.43	2799.71	19.05	15.93	19.05	24.83	39.91	0.18
2900.00	1.03	32.90	2899.70	20.41	16.75	20.41	26.40	39.38	0.25
3000.00	1.28	37.37	2999.68	22.05	17.92	22.05	28.41	39.09	0.26
3100.00	1.11	36.29	3099.66	23.72	19.16	23.72	30.49	38.94	0.17
3200.00	0.94	35.22	3199.64	25.17	20.21	25.17	32.28	38.77	0.17
3300.00	0.88	30.70	3299.63	26.50	21.08	26.50	33.86	38.50	0.09
3400.00	0.84	26.18	3399.62	27.82	21.80	27.82	35.34	38.08	0.08
3500.00	0.73	15.10	3499.61	29.09	22.28	29.09	36.65	37.45	0.19
3600.00	0.62	4.02	3599.60	30.24	22.49	30.24	37.69	36.63	0.17
3700.00	0.69	359.55	3699.59	31.38	22.52	31.38	38.62	35.67	0.09
3800.00	0.72	355.09	3799.59	32.60	22.46	32.60	39.59	34.57	0.06
3900.00	0.93	354.62	3899.58	34.03	22.33	34.03	40.71	33.27	0.21
4000.00	1.17	354.16	3999.56	35.86	22.15	35.86	42.15	31.71	0.25
4100.00	1.54	334.52	4099.53	38.09	21.47	38.09	43.72	29.41	0.59
4200.00	1.90	314.89	4199.49	40.47	19.72	40.47	45.02	25.98	0.69
4300.00	1.74	323.75	4299.44	42.86	17.65	42.86	46.35	22.38	0.33
4400.00	1.57	332.62	4399.40	45.31	16.12	45.31	48.09	19.58	0.30
4500.00	1.34	332.06	4499.36	47.56	14.94	47.56	49.85	17.44	0.23
4600.00	1.11	331.49	4599.34	49.44	13.93	49.44	51.37	15.73	0.23
4700.00	1.71	338.15	4699.31	51.68	12.91	51.68	53.27	14.02	0.62
4800.00	2.31	344.80	4799.25	55.01	11.82	55.01	56.27	12.13	0.64
4900.00	2.28	348.11	4899.17	58.90	10.89	58.90	59.90	10.47	0.14
5000.00	2.24	351.41	4999.09	62.78	10.18	62.78	63.61	9.21	0.13
5100.00	2.46	346.70	5099.00	66.81	9.40	66.81	67.47	8.01	0.29
5200.00	2.68	341.98	5198.90	71.13	8.18	71.13	71.60	6.56	0.31
5300.00	2.70	342.96	5298.79	75.61	6.76	75.61	75.91	5.11	0.05
5400.00	2.74	343.95	5398.68	80.17	5.41	80.17	80.35	3.86	0.06
5500.00	2.86	343.46	5498.56	84.85	4.04	84.85	84.95	2.73	0.11
5600.00	3.01	342.96	5598.43	89.75	2.56	89.75	89.79	1.64	0.15
5700.00	3.06	344.86	5698.29	94.84	1.10	94.84	94.84	0.66	0.11

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	3.12	346.76	5798.14	100.06	-0.22	100.06	100.06	359.87	0.12
5900.00	3.00	341.32	5898.00	105.18	-1.68	105.18	105.20	359.08	0.31
6000.00	2.88	335.87	5997.87	109.96	-3.55	109.96	110.01	358.15	0.30
6100.00	2.88	331.36	6097.74	114.45	-5.78	114.45	114.60	357.11	0.23
6200.00	2.87	324.85	6197.62	118.70	-8.43	118.70	119.00	355.94	0.33
6300.00	2.79	317.95	6297.50	122.56	-11.50	122.56	123.10	354.64	0.35
6400.00	2.71	311.05	6397.38	125.92	-14.92	125.92	126.80	353.24	0.34
6500.00	2.41	311.06	6497.28	128.86	-18.28	128.86	130.15	351.92	0.31
6600.00	2.10	311.08	6597.21	131.44	-21.25	131.44	133.14	350.82	0.31
6700.00	2.05	310.90	6697.14	133.81	-23.97	133.81	135.94	349.84	0.05
6800.00	1.99	310.71	6797.08	136.11	-26.64	136.11	138.70	348.93	0.05
6900.00	2.08	299.80	6897.02	138.15	-29.53	138.15	141.27	347.93	0.40
7000.00	2.16	288.89	6996.95	139.66	-32.88	139.66	143.48	346.75	0.41
7100.00	1.67	288.58	7096.89	140.73	-36.05	140.73	145.27	345.63	0.49
7200.00	1.18	288.26	7196.86	141.52	-38.41	141.52	146.64	344.82	0.49
7300.00	1.05	292.45	7296.84	142.19	-40.24	142.19	147.78	344.20	0.15
7400.00	0.92	286.64	7396.83	142.78	-41.86	142.78	148.79	343.66	0.16
7487.00	1.53	270.47	7483.81	142.99	-43.69	142.99	149.51	343.01	0.79

Mewbourne Oil Co

Eddy County, New Mexico

Sec 19-18S-30E

Aries 19 IL Fed Com #1H

Wellbore #1

Design: Wellbore #1

DDC Survey Report

11 December, 2012



DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Aries 19 IL Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3494.0usft (Patterson #46)
Site:	Sec 19-18S-30E	MD Reference:	WELL @ 3494.0usft (Patterson #46)
Well:	Aries 19 IL Fed Com #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 19-18S-30E			
Site Position:		Northing:	629,625.90 usft	Latitude:	32° 43' 49.796 N
From:	Map	Easting:	601,928.40 usft	Longitude:	104° 0' 6.741 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.18 °

Well:	Aries 19 IL Fed Com #1H					
Well Position	+N/-S	0.0 usft	Northing:	629,625.90 usft	Latitude:	32° 43' 49.796 N
	+E/-W	0.0 usft	Easting:	601,928.40 usft	Longitude:	104° 0' 6.741 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,474.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/15/2012	7.65	60.55	48.731

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	343.01

Survey Program		Date: 12/11/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,487.0	Gyro (Wellbore #1)	Good_gyro	Good Gyro
7,620.0	12,933.0	MWD (Wellbore #1)	MWD default	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	0.37	196.47	100.0	-0.3	-0.1	-0.3	0.37	0.37	0.00
200.0	0.52	198.91	200.0	-1.0	-0.3	-0.9	0.15	0.15	2.44
300.0	0.45	211.71	300.0	-1.8	-0.7	-1.5	0.13	-0.07	12.80
400.0	0.38	224.52	400.0	-2.4	-1.1	-2.0	0.12	-0.07	12.81
500.0	0.28	205.82	500.0	-2.8	-1.5	-2.3	0.15	-0.10	-18.70
600.0	0.17	187.12	600.0	-3.2	-1.6	-2.6	0.13	-0.11	-18.70
700.0	0.19	157.75	700.0	-3.5	-1.5	-2.9	0.09	0.02	-29.37
800.0	0.17	148.39	800.0	-3.8	-1.4	-3.2	0.04	-0.02	-9.36
900.0	0.31	186.53	900.0	-4.2	-1.4	-3.6	0.21	0.14	38.14

DDC Survey Report



Company: Mewbourne Oil Co
Project: Eddy County, New Mexico
Site: Sec 19-18S-30E
Well: Aries 19 IL Fed Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Aries 19 IL Fed Com #1H
TVD Reference: WELL @ 3494.0usft (Patterson #46)
MD Reference: WELL @ 3494.0usft (Patterson #46)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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	0.45	264.67	1,000.0	-4.5	-1.8	-3.8	0.49	0.14	78.14
1,100.0	0.76	336.83	1,100.0	-3.9	-2.4	-3.0	0.76	0.31	72.16
1,200.0	1.07	38.99	1,200.0	-2.6	-2.1	-1.9	0.98	0.31	62.16
1,300.0	1.07	49.48	1,300.0	-1.2	-0.8	-1.0	0.20	0.00	10.49
1,400.0	1.07	49.97	1,399.9	0.0	0.6	-0.2	0.01	0.00	0.49
1,500.0	1.05	46.05	1,499.9	1.2	2.0	0.6	0.08	-0.02	-3.92
1,600.0	1.08	42.13	1,599.9	2.5	3.3	1.5	0.08	0.03	-3.92
1,700.0	1.19	43.96	1,699.9	4.0	4.6	2.4	0.12	0.11	1.83
1,800.0	1.27	45.79	1,799.9	5.5	6.2	3.5	0.09	0.08	1.83
1,900.0	1.14	46.32	1,899.8	7.0	7.7	4.4	0.13	-0.13	0.53
2,000.0	1.06	46.84	1,999.8	8.3	9.1	5.3	0.08	-0.08	0.52
2,100.0	0.84	40.71	2,099.8	9.5	10.2	6.1	0.24	-0.22	-6.13
2,200.0	0.62	34.58	2,199.8	10.5	11.0	6.8	0.23	-0.22	-6.13
2,300.0	0.82	33.91	2,299.8	11.5	11.7	7.6	0.20	0.20	-0.67
2,400.0	0.98	33.24	2,399.8	12.8	12.6	8.6	0.16	0.16	-0.67
2,500.0	1.05	29.49	2,499.8	14.3	13.5	9.8	0.10	0.07	-3.75
2,600.0	1.15	25.75	2,599.7	16.0	14.4	11.1	0.12	0.10	-3.74
2,700.0	0.97	27.09	2,699.7	17.7	15.2	12.5	0.18	-0.18	1.34
2,800.0	0.79	28.43	2,799.7	19.0	15.9	13.6	0.18	-0.18	1.34
2,900.0	1.03	32.90	2,899.7	20.4	16.7	14.6	0.25	0.24	4.47
3,000.0	1.28	37.37	2,999.7	22.1	17.9	15.9	0.27	0.25	4.47
3,100.0	1.11	36.29	3,099.7	23.7	19.2	17.1	0.17	-0.17	-1.08
3,200.0	0.94	35.22	3,199.6	25.2	20.2	18.2	0.17	-0.17	-1.07
3,300.0	0.88	30.70	3,299.6	26.5	21.1	19.2	0.09	-0.06	-4.52
3,400.0	0.84	26.18	3,399.6	27.8	21.8	20.2	0.08	-0.04	-4.52
3,500.0	0.73	15.10	3,499.6	29.1	22.3	21.3	0.19	-0.11	-11.08
3,600.0	0.62	4.02	3,599.6	30.2	22.5	22.4	0.17	-0.11	-11.08
3,700.0	0.69	359.55	3,699.6	31.4	22.5	23.4	0.09	0.07	-4.47
3,800.0	0.72	355.09	3,799.6	32.6	22.4	24.6	0.06	0.03	-4.46
3,900.0	0.93	354.62	3,899.6	34.1	22.3	26.0	0.21	0.21	-0.47
4,000.0	1.17	354.16	3,999.6	35.9	22.1	27.8	0.24	0.24	-0.46
4,100.0	1.54	334.52	4,099.5	38.1	21.5	30.2	0.59	0.37	-19.64
4,200.0	1.90	314.89	4,199.5	40.5	19.7	33.0	0.69	0.36	-19.63
4,300.0	1.74	323.75	4,299.4	42.9	17.6	35.9	0.32	-0.16	8.86
4,400.0	1.57	332.62	4,399.4	45.3	16.1	38.6	0.31	-0.17	8.87
4,500.0	1.34	332.06	4,499.4	47.6	14.9	41.1	0.23	-0.23	-0.56
4,600.0	1.11	331.49	4,599.3	49.5	13.9	43.2	0.23	-0.23	-0.57
4,700.0	1.71	338.15	4,699.3	51.7	12.9	45.7	0.62	0.60	6.66
4,800.0	2.31	344.80	4,799.2	55.0	11.8	49.2	0.64	0.60	6.65
4,900.0	2.28	348.11	4,899.2	58.9	10.9	53.2	0.14	-0.03	3.31
5,000.0	2.24	351.41	4,999.1	62.8	10.2	57.1	0.14	-0.04	3.30
5,100.0	2.46	346.70	5,099.0	66.8	9.4	61.2	0.29	0.22	-4.71
5,200.0	2.68	341.98	5,198.9	71.1	8.2	65.6	0.31	0.22	-4.72

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Aries 19 IL Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3494.0usft (Patterson #46)
Site:	Sec.19-18S-30E	MD Reference:	WELL @ 3494.0usft (Patterson #46)
Well:	Aries 19 IL Fed Com #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	2.70	342.96	5,298.8	75.6	6.8	70.3	0.05	0.02	0.98	
5,400.0	2.74	343.95	5,398.7	80.1	5.4	75.1	0.06	0.04	0.99	
5,500.0	2.86	343.46	5,498.6	84.8	4.0	80.0	0.12	0.12	-0.49	
5,600.0	3.01	342.96	5,598.4	89.7	2.6	85.1	0.15	0.15	-0.50	
5,700.0	3.06	344.86	5,698.3	94.8	1.1	90.4	0.11	0.05	1.90	
5,800.0	3.12	346.76	5,798.1	100.0	-0.2	95.7	0.12	0.06	1.90	
5,900.0	3.00	341.32	5,898.0	105.2	-1.7	101.1	0.31	-0.12	-5.44	
6,000.0	2.88	335.87	5,997.9	109.9	-3.6	106.2	0.30	-0.12	-5.45	
6,100.0	2.88	331.36	6,097.7	114.4	-5.8	111.1	0.23	0.00	-4.51	
6,200.0	2.87	324.85	6,197.6	118.7	-8.4	116.0	0.33	-0.01	-6.51	
6,300.0	2.79	317.95	6,297.5	122.6	-11.5	120.6	0.35	-0.08	-6.90	
6,400.0	2.71	311.05	6,397.4	125.9	-14.9	124.8	0.34	-0.08	-6.90	
6,500.0	2.41	311.06	6,497.3	128.8	-18.3	128.6	0.30	-0.30	0.01	
6,600.0	2.10	311.08	6,597.2	131.4	-21.3	131.9	0.31	-0.31	0.02	
6,700.0	2.05	310.90	6,697.1	133.8	-24.0	135.0	0.05	-0.05	-0.18	
6,800.0	1.99	310.71	6,797.1	136.1	-26.7	138.0	0.06	-0.06	-0.19	
6,900.0	2.08	299.80	6,897.0	138.1	-29.5	140.7	0.40	0.09	-10.91	
7,000.0	2.16	288.89	6,996.9	139.7	-32.9	143.2	0.41	0.08	-10.91	
7,100.0	1.67	288.58	7,096.9	140.7	-36.1	145.1	0.49	-0.49	-0.31	
7,200.0	1.18	288.26	7,196.9	141.5	-38.4	146.6	0.49	-0.49	-0.32	
7,300.0	1.05	292.45	7,296.8	142.2	-40.3	147.7	0.15	-0.13	4.19	
7,400.0	0.92	286.64	7,396.8	142.8	-41.9	148.8	0.16	-0.13	-5.81	
TIE ON @ 7487' MD / 7484' TVD										
7,487.0	1.53	270.47	7,483.8	143.0	-43.7	149.5	0.80	0.70	-18.59	
7,620.0	1.50	261.00	7,616.8	142.7	-47.2	150.3	0.19	-0.02	-7.12	
7,652.0	0.30	196.90	7,648.8	142.6	-47.6	150.3	4.36	-3.75	-200.31	
7,683.0	0.60	161.30	7,679.8	142.3	-47.6	150.0	1.28	0.97	-114.84	
7,715.0	2.60	254.90	7,711.7	142.0	-48.3	149.9	8.45	6.25	292.50	
7,747.0	6.70	268.10	7,743.6	141.7	-50.8	150.4	13.16	12.81	41.25	
7,778.0	10.80	273.40	7,774.3	141.9	-55.5	151.9	13.47	13.23	17.10	
7,810.0	14.80	276.20	7,805.5	142.5	-62.6	154.5	12.65	12.50	8.75	
7,842.0	18.80	276.20	7,836.1	143.5	-71.8	158.2	12.50	12.50	0.00	
7,873.0	22.40	274.70	7,865.1	144.5	-82.6	162.3	11.74	11.61	-4.84	
7,905.0	26.50	274.70	7,894.2	145.6	-95.8	167.2	12.81	12.81	0.00	
CROSSED LEASE LINE @ 7928' MD / 7915' TVD										
7,928.0	29.45	274.25	7,914.5	146.4	-106.6	171.2	12.84	12.81	-1.94	
7,937.0	30.60	274.10	7,922.3	146.8	-111.1	172.8	12.84	12.82	-1.70	
7,969.0	34.30	273.70	7,949.3	147.9	-128.2	178.9	11.58	11.56	-1.25	
8,000.0	38.00	273.90	7,974.4	149.1	-146.4	185.4	11.94	11.94	0.65	
8,032.0	41.70	274.00	7,998.9	150.5	-166.9	192.8	11.56	11.56	0.31	
8,064.0	45.90	273.90	8,022.0	152.1	-189.0	200.7	13.13	13.13	-0.31	
8,096.0	50.30	274.00	8,043.4	153.7	-212.7	209.2	13.75	13.75	0.31	
8,127.0	54.50	274.00	8,062.3	155.4	-237.2	218.0	13.55	13.55	0.00	
8,159.0	58.90	274.50	8,079.9	157.4	-263.9	227.7	13.81	13.75	1.56	

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Aries 19 IL Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3494.0usft (Patterson #46)
Site:	Sec 19-18S-30E	MD Reference:	WELL @ 3494.0usft (Patterson #46)
Well:	Aries 19 IL Fed Com #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)
8,191.0	62.30	274.40	8,095.6	159.6	-291.7	237.9	10.63	10.63	-0.31
8,223.0	65.30	274.30	8,109.7	161.7	-320.3	248.3	9.38	9.38	-0.31
8,254.0	68.80	273.90	8,121.8	163.8	-348.8	258.6	11.35	11.29	-1.29
8,286.0	72.50	273.60	8,132.4	165.8	-378.9	269.3	11.60	11.56	-0.94
8,318.0	75.40	273.80	8,141.2	167.7	-409.6	280.1	9.08	9.06	0.63
CROSSED HARDLINE @ 8350' MD / 8148' TVD									
8,350.0	79.00	274.50	8,148.3	170.0	-440.7	291.4	11.45	11.25	2.19
8,381.0	83.30	275.00	8,153.1	172.5	-471.2	302.7	13.96	13.87	1.61
8,403.0	86.50	274.80	8,155.0	174.4	-493.1	310.9	14.57	14.55	-0.91
8,482.0	89.80	270.90	8,157.6	178.3	-571.9	337.7	6.46	4.18	-4.94
8,513.0	89.90	271.80	8,157.7	179.1	-602.9	347.5	2.92	0.32	2.90
8,545.0	89.80	271.80	8,157.7	180.1	-634.9	357.8	0.31	-0.31	0.00
8,577.0	89.80	271.60	8,157.9	181.0	-666.9	368.0	0.62	0.00	-0.63
8,608.0	89.60	272.50	8,158.0	182.1	-697.8	378.1	2.97	-0.65	2.90
8,672.0	90.00	273.80	8,158.2	185.6	-761.7	400.2	2.13	0.63	2.03
8,735.0	90.80	275.40	8,157.8	190.7	-824.5	423.4	2.84	1.27	2.54
8,799.0	91.00	275.20	8,156.8	196.6	-888.3	447.6	0.44	0.31	-0.31
8,862.0	90.90	274.70	8,155.8	202.0	-951.0	471.2	0.81	-0.16	-0.79
8,926.0	91.30	274.80	8,154.5	207.3	-1,014.8	494.9	0.64	0.63	0.16
8,989.0	91.40	274.70	8,153.0	212.6	-1,077.5	518.2	0.22	0.16	-0.16
9,052.0	89.70	274.20	8,152.4	217.4	-1,140.4	541.3	2.81	-2.70	-0.79
9,116.0	89.60	273.40	8,152.8	221.7	-1,204.2	564.0	1.26	-0.16	-1.25
9,179.0	91.20	273.90	8,152.4	225.7	-1,267.1	586.2	2.66	2.54	0.79
9,242.0	92.00	273.40	8,150.6	229.7	-1,329.9	608.4	1.50	1.27	-0.79
9,305.0	92.70	272.80	8,148.0	233.1	-1,392.8	630.0	1.46	1.11	-0.95
9,369.0	91.70	273.40	8,145.6	236.6	-1,456.6	652.0	1.82	-1.56	0.94
9,432.0	90.40	273.80	8,144.4	240.5	-1,519.5	674.1	2.16	-2.06	0.63
9,496.0	90.80	273.00	8,143.8	244.3	-1,583.4	696.4	1.40	0.63	-1.25
9,559.0	89.80	271.80	8,143.4	247.0	-1,646.3	717.4	2.48	-1.59	-1.90
9,622.0	89.10	272.50	8,144.0	249.3	-1,709.3	738.0	1.57	-1.11	1.11
9,686.0	89.10	273.30	8,145.0	252.6	-1,773.2	759.8	1.25	0.00	1.25
9,749.0	90.40	273.50	8,145.3	256.3	-1,836.1	781.8	2.09	2.06	0.32
9,813.0	92.00	274.50	8,144.0	260.8	-1,899.9	804.7	2.95	2.50	1.56
9,876.0	92.00	274.80	8,141.8	265.9	-1,962.7	827.9	0.48	0.00	0.48
9,939.0	92.20	274.20	8,139.5	270.8	-2,025.4	851.0	1.00	0.32	-0.95
10,003.0	92.60	274.00	8,136.8	275.4	-2,089.2	874.0	0.70	0.63	-0.31
10,066.0	91.20	273.70	8,134.7	279.6	-2,152.0	896.4	2.27	-2.22	-0.48
10,129.0	89.90	273.60	8,134.1	283.6	-2,214.9	918.6	2.07	-2.06	-0.16
10,192.0	88.90	274.90	8,134.8	288.3	-2,277.7	941.4	2.60	-1.59	2.06
10,256.0	88.80	275.10	8,136.0	293.9	-2,341.5	965.4	0.35	-0.16	0.31
10,319.0	90.10	274.30	8,136.6	299.0	-2,404.2	988.7	2.42	2.06	-1.27
10,383.0	91.70	274.40	8,135.6	303.9	-2,468.0	1,012.0	2.50	2.50	0.16
10,446.0	91.60	274.90	8,133.8	309.0	-2,530.8	1,035.2	0.81	-0.16	0.79

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Aries 19 IL Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3494.0usft (Patterson #46)
Site:	Sec 19-18S-30E	MD Reference:	WELL @ 3494.0usft (Patterson #46)
Well:	Aries 19 IL Fed Com #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)
10,509.0	92.60	275.20	8,131.5	314.5	-2,593.5	1,058.8	1.66	1.59	0.48
10,572.0	91.50	274.90	8,129.3	320.1	-2,656.2	1,082.5	1.81	-1.75	-0.48
10,636.0	91.80	274.50	8,127.4	325.3	-2,720.0	1,106.1	0.78	0.47	-0.63
10,699.0	91.90	273.40	8,125.4	329.6	-2,782.8	1,128.6	1.75	0.16	-1.75
10,763.0	91.30	272.80	8,123.6	333.1	-2,846.7	1,150.6	1.33	-0.94	-0.94
10,795.0	91.50	272.30	8,122.8	334.5	-2,878.7	1,161.3	1.68	0.63	-1.56
10,827.0	91.10	272.20	8,122.1	335.8	-2,910.6	1,171.8	1.29	-1.25	-0.31
10,858.0	90.70	273.30	8,121.6	337.3	-2,941.6	1,182.3	3.78	-1.29	3.55
10,890.0	90.30	274.40	8,121.3	339.4	-2,973.5	1,193.7	3.66	-1.25	3.44
10,922.0	90.30	275.50	8,121.2	342.2	-3,005.4	1,205.7	3.44	0.00	3.44
10,986.0	90.70	274.30	8,120.6	347.6	-3,069.1	1,229.5	1.98	0.63	-1.88
11,049.0	90.60	274.70	8,119.9	352.6	-3,131.9	1,252.6	0.65	-0.16	0.63
11,112.0	89.80	275.00	8,119.7	357.9	-3,194.7	1,276.0	1.36	-1.27	0.48
11,175.0	90.30	274.20	8,119.6	363.0	-3,257.5	1,299.2	1.50	0.79	-1.27
11,238.0	90.70	274.80	8,119.1	367.9	-3,320.3	1,322.3	1.14	0.63	0.95
11,301.0	91.30	275.30	8,118.0	373.4	-3,383.1	1,346.0	1.24	0.95	0.79
11,364.0	91.60	274.90	8,116.4	379.0	-3,445.8	1,369.6	0.79	0.48	-0.63
11,427.0	91.70	276.10	8,114.6	385.1	-3,508.5	1,393.7	1.91	0.16	1.90
11,490.0	91.90	275.50	8,112.6	391.4	-3,571.1	1,418.1	1.00	0.32	-0.95
11,554.0	90.90	274.80	8,111.0	397.2	-3,634.8	1,442.3	1.91	-1.56	-1.09
11,617.0	91.20	276.10	8,109.9	403.2	-3,697.5	1,466.3	2.12	0.48	2.06
11,681.0	91.60	277.00	8,108.3	410.5	-3,761.1	1,491.9	1.54	0.63	1.41
11,744.0	92.60	277.50	8,106.0	418.4	-3,823.6	1,517.7	1.77	1.59	0.79
11,808.0	93.20	278.00	8,102.7	427.0	-3,886.9	1,544.5	1.22	0.94	0.78
11,840.0	92.50	278.00	8,101.2	431.5	-3,918.5	1,558.0	2.19	-2.19	0.00
11,871.0	91.00	277.60	8,100.2	435.7	-3,949.2	1,571.0	5.01	-4.84	-1.29
11,903.0	90.20	277.40	8,099.9	439.9	-3,981.0	1,584.2	2.58	-2.50	-0.63
11,935.0	89.20	276.90	8,100.0	443.8	-4,012.7	1,597.3	3.49	-3.13	-1.56
11,967.0	88.80	276.30	8,100.6	447.5	-4,044.5	1,610.1	2.25	-1.25	-1.88
11,998.0	88.80	276.00	8,101.3	450.8	-4,075.3	1,622.3	0.97	0.00	-0.97
12,030.0	88.90	275.10	8,101.9	453.9	-4,107.2	1,634.6	2.83	0.31	-2.81
12,061.0	89.30	274.80	8,102.4	456.6	-4,138.0	1,646.2	1.61	1.29	-0.97
12,093.0	90.10	274.20	8,102.5	459.1	-4,169.9	1,657.9	3.12	2.50	-1.88
12,125.0	89.50	273.30	8,102.7	461.2	-4,201.9	1,669.2	3.38	-1.88	-2.81
12,156.0	88.90	271.80	8,103.1	462.6	-4,232.8	1,679.6	5.21	-1.94	-4.84
12,187.0	89.60	271.70	8,103.5	463.5	-4,263.8	1,689.5	2.28	2.26	-0.32
12,219.0	90.50	271.60	8,103.5	464.5	-4,295.8	1,699.8	2.83	2.81	-0.31
12,251.0	91.50	272.30	8,102.9	465.6	-4,327.8	1,710.2	3.81	3.13	2.19
12,283.0	91.40	273.30	8,102.1	467.1	-4,359.7	1,721.0	3.14	-0.31	3.13
12,314.0	91.10	274.20	8,101.4	469.1	-4,390.7	1,732.0	3.06	-0.97	2.90
12,345.0	90.60	274.40	8,101.0	471.5	-4,421.6	1,743.2	1.74	-1.61	0.65
12,377.0	90.00	274.90	8,100.8	474.1	-4,453.5	1,755.0	2.44	-1.88	1.56
12,409.0	91.00	275.90	8,100.5	477.1	-4,485.3	1,767.2	4.42	3.13	3.13

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Aries 19 IL Fed Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3494.0usft (Patterson #46)
Site:	Sec 19-18S-30E	MD Reference:	WELL @ 3494.0usft (Patterson #46)
Well:	Aries 19 IL Fed Com #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)
12,440.0	91.10	275.70	8,100.0	480.2	-4,516.2	1,779.2	0.72	0.32	-0.65
12,471.0	91.20	274.90	8,099.3	483.1	-4,547.0	1,791.0	2.60	0.32	-2.58
12,534.0	90.80	273.00	8,098.2	487.4	-4,609.9	1,813.5	3.08	-0.63	-3.02
12,598.0	91.70	272.20	8,096.8	490.3	-4,673.8	1,835.0	1.88	1.41	-1.25
12,661.0	91.70	271.00	8,095.0	492.1	-4,736.7	1,855.0	1.90	0.00	-1.90
12,724.0	91.60	269.00	8,093.1	492.1	-4,799.7	1,873.5	3.18	-0.16	-3.17
12,787.0	91.70	267.00	8,091.3	489.9	-4,862.6	1,889.7	3.18	0.16	-3.17
12,850.0	91.60	264.90	8,089.5	485.4	-4,925.4	1,903.9	3.34	-0.16	-3.33
12,882.0	91.70	264.10	8,088.6	482.4	-4,957.3	1,910.2	2.52	0.31	-2.50
BIT PROJECTION @ 12933' MD / 8087' TVD									
12,933.0	91.70	264.10	8,087.1	477.1	-5,008.0	1,920.0	0.00	0.00	0.00

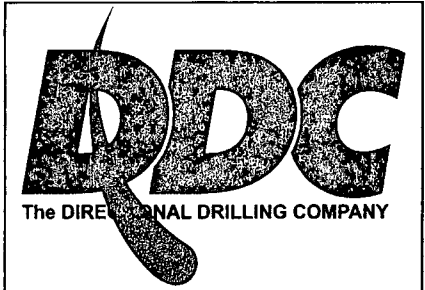
Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,487.0	7,483.8	143.0	-43.7	TIE ON @ 7487' MD / 7484' TVD
7,928.0	7,914.5	146.4	-106.6	CROSSED LEASE LINE @ 7928' MD / 7915' TVD
8,350.0	8,148.3	170.0	-440.7	CROSSED HARDLINE @ 8350' MD / 8148' TVD
12,933.0	8,087.1	477.1	-5,008.0	BIT PROJECTION @ 12933' MD / 8087' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
Aries 19 IL Fed Com #1H
Eddy County, New Mexico
Rig: Patterson #46
Created By: Guthrey Johnson
Date: 12/11/2012

Aries 19 IL Fed Com #1H
Eddy County, New Mexico
Q120068 & WT-12867
Design #2



Mewbourne Oil Company

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

WELL DETAILS: Aries 19 IL Fed Com #1H

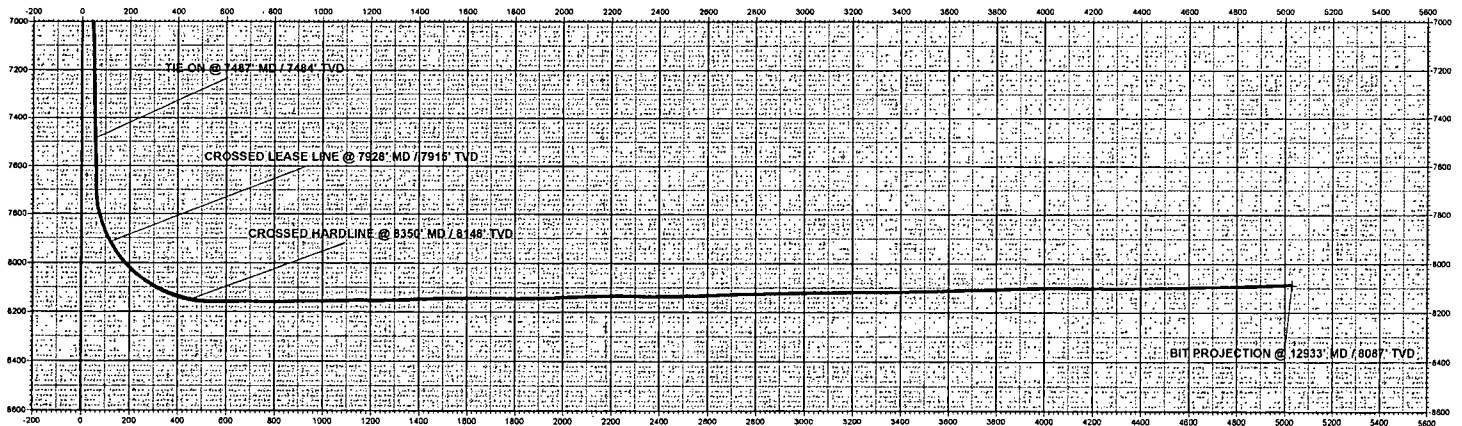
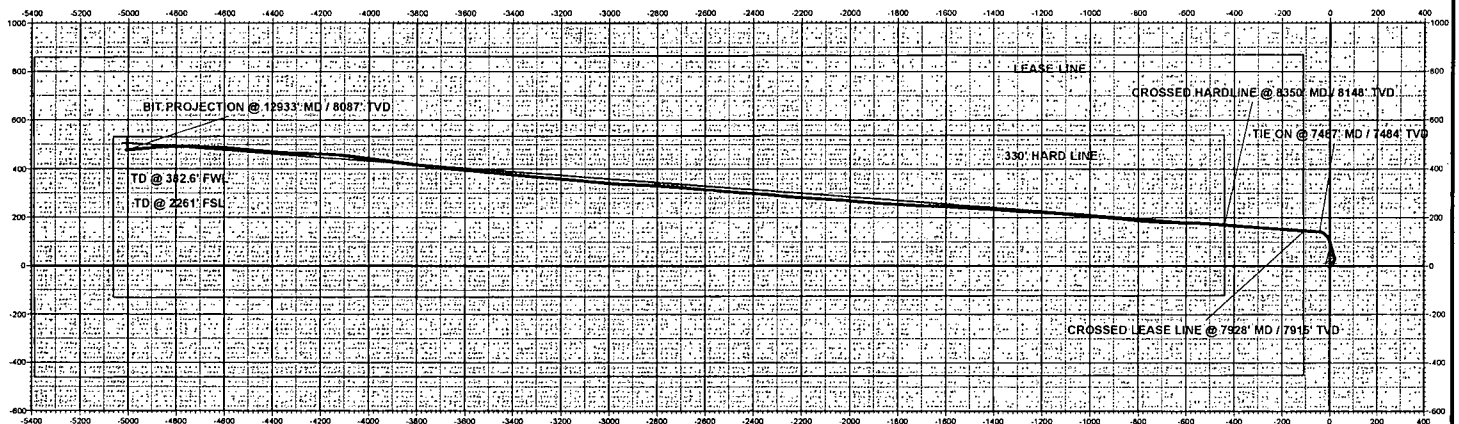
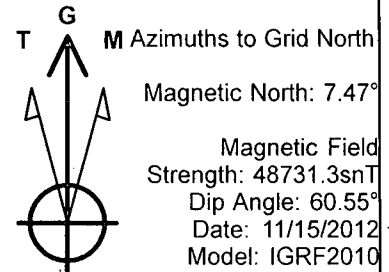
Ground Level: 3474.8
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 629625.90 601928.40 32° 43' 49.796 N 104° 0' 6.741 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL Aries 19 Fed Com #1H - plan hits target center	8089.0	506.5	-5005.2	630132.40	596923.20	32° 43' 54.960 N	104° 1' 5.317 W

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
7487.0	1.53	270.47	7483.8	143.0	-43.7	149.5	188.3	TIE ON @ 7487' MD / 7484' TVD
7928.0	29.45	274.25	7914.5	146.4	-105.6	171.2	252.3	CROSSED LEASE LINE @ 7928' MD / 7915' TVD
8350.0	79.00	274.50	8148.3	170.0	-440.7	291.4	587.0	CROSSED HARDLINE @ 8350' MD / 8148' TVD
12933.0	91.70	264.10	8087.1	477.1	-5008.0	1920.0	5168.3	BIT PROJECTION @ 12933' MD / 8087' TVD



Vertical Section at 275.78° (200 usft/in)

Operating Company Mewbourne
 Well Name & Number Aries 19 IL Fed Com #1H
 Sales Ticket Number _____
 Date 12/9/2012

Company Rep Lynn Simmons
 Field _____
 BOT Service Rep Armando Gonzalez
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,247.01	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,686.75	12,410	10,680
Bott Liner										
TVD	8,089.00		KOP		7,687.00		Open Hole	6.125	Casing Vol. (bbl)	315.5
Carry Fluid Weight (ppg)			8.7		Propant Content (ppa)				Max Drill Out Size	0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
Liner Top	1	JR Setting Sleeve_RH Profile	8247.01							

Zone Length										
20	JR Settl Slv_S3 Hyd Set Packer	8247.01	8.64	5.813	3.875					
399.9	4-1/2-13.5 LTC Nipple	8255.65	8.09	4.500	3.920					
	8 Joints of 4-1/2-13.5 LTC Casing	8263.74	303.53	4.500	3.920					
	3.625 EX Frac Sleeve	8567.27	3.90	5.750		3.625	2286	322	320	
	2 Joint of 4-1/2-13.5 LTC Casing	8571.17	75.84	4.500	3.920					
	Baker Open Hole Packer	8647.01	3.89	5.820	3.875		2154			
	3 Joints of 4-1/2-13.5 LTC Casing	8650.90	115.12	4.500	3.920					
19	3.500 EX Frac Sleeve	8766.02	3.90	5.750		3.500	2286	300	323	
203.9	2 Joint of 4-1/2-13.5 LTC Casing	8769.92	77.10	4.500	3.920					
	Baker Open Hole Packer	8847.02	3.89	5.820	3.875		2154			
	3 Joints of 4-1/2-13.5 LTC Casing	8850.91	114.34	4.500	3.920					
18	3.375 EX Frac Sleeve	8965.25	3.90	5.750		3.375	2286	279	326	
240.8	3 Joint of 4-1/2-13.5 LTC Casing	8969.15	114.79	4.500	3.920					
	Baker Open Hole Packer	9083.94	3.89	5.820	3.875		2154			
	3 Joints of 4-1/2-13.5 LTC Casing	9087.83	114.92	4.500	3.920					
17	3.250 EX Frac Sleeve	9202.75	3.90	5.750		3.250	2286	259	330	
202.9	2 Joint of 4-1/2-13.5 LTC Casing	9206.65	76.27	4.500	3.920					
	Baker Open Hole Packer	9282.92	3.89	5.820	3.875		2154			
	3 Joints of 4-1/2-13.5 LTC Casing	9286.81	114.88	4.500	3.920					
16	3.125 EX Frac Sleeve	9401.69	3.90	5.750		3.125	2286	239	333	
241.4	3 Joints of 4-1/2-13.5 LTC Casing	9405.59	114.82	4.500	3.920					
	Baker Open Hole Packer	9520.41	3.89	5.820	3.875		2154			

Operating Company Mewbourne
 Well Name & Number Aries 19 IL Fed Com #1H
 Sales Ticket Number _____
 Date 12/9/2012

Company Rep Lynn Simmons
 Field _____
 BOT Service Rep Armando Gonzalez
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,247.01	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,686.75	12,410	10,680
Bott Liner										
TVD		8,089.00	KOP		7,687.00	Open Hole		6.125	Casing Vol. (bbl)	315.5
Carry Fluid Weight (ppg)		8.7	Propan Content (ppa)					Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
15 240.9		3 Joints of 4-1/2-13.5 LTC Casing	9524.30	114.82	4.500	3.920				
		3.000 EX Frac Sleeve	9639.12	3.90	5.750		3.000	2375	225	336
		3 Joint of 4-1/2-13.5 LTC Casing	9643.02	114.37	4.500	3.920				
		Baker Open Hole Packer	9757.39	3.89	5.820	3.875		2154		
14 203.2		3 Joints of 4-1/2-13.5 LTC Casing	9761.28	114.90	4.500	3.920				
		2.875 EX Frac Sleeve	9876.18	3.90	5.750		2.875	2286	203	340
		2 Joints of 4-1/2-13.5 LTC Casing	9880.08	76.64	4.500	3.920				
		Baker Open Hole Packer	9956.72	3.89	5.820	3.875		2154		
13 241.6		3 Joints of 4-1/2-13.5 LTC Casing	9960.61	114.70	4.500	3.920				
		2.750 EX Frac Sleeve	10075.31	3.90	5.750		2.750	2286	185	343
		3 Joint of 4-1/2-13.5 LTC Casing	10079.21	115.19	4.500	3.920				
		Baker Open Hole Packer	10194.40	3.89	5.820	3.875		2154		
12 239.2		3 Joints of 4-1/2-13.5 LTC Casing	10198.29	112.97	4.500	3.920				
		2.625 EX Frac Sleeve	10311.26	3.90	5.750		2.625	2286	169	346
		3 Joints of 4-1/2-13.5 LTC Casing	10315.16	114.59	4.500	3.920				
		Baker Open Hole Packer	10429.75	3.89	5.820	3.875		2154		
11 236.8		3 Joints of 4-1/2-13.5 LTC Casing	10433.64	109.71	4.500	3.920				
		2.500 EX Frac sleeve	10543.35	3.90	5.750		2.500	2286	153	350
		3 Joint of 4-1/2-13.5 LTC Casing	10547.25	115.38	4.500	3.920				
		Baker Open Hole Packer	10662.63	3.89	5.820	3.875		2154		
10 240.6		3 Joints of 4-1/2-13.5 LTC Casing	10666.52	114.05	4.500	3.920				
		2.375 EX Frac Sleeve	10780.57	3.90	5.750		2.375	2286	138	353
		3 Joints of 4-1/2-13.5 LTC Casing	10784.47	114.82	4.500	3.920				
		Baker Open Hole Packer	10899.29	3.89	5.820	3.875		2154		
9		3 Joint of 4-1/2-13.5 LTC Casing	10903.18	115.48	4.500	3.920				
		2.250 EX Frac Sleeve	11018.66	3.90	5.750		2.250	2286	124	357

Operating Company Mewbourne
Well Name & Number Aries 19 IL Fed Com #1H
Sales Ticket Number _____

Company Rep Lynn Simmons
Field _____
BOT Service Rep Armando Gonzalez
District Location Odessa, Texas, USA



Date 12/9/2012

	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,247.01	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,686.75	12,410	10,680
Bott Liner										
TVD	8,089.00		KOP	7,687.00		Open Hole	6.125	Casing Vol. (bbl)	315.5	
Carry Fluid Weight (ppg)	8.7		Propan Content (ppa)					Max Drill Out Size	0	

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
242.8		3 Joints of 4-1/2-13.5 LTC Casing	11022.56	115.59	4.500	3.920				
		Baker Open Hole Packer	11138.15	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11142.04	115.21	4.500	3.920				
8		2.125 EX Frac Sleeve	11257.25	3.90	5.750		2.125	2286	111	360
203.3		2 Joints of 4-1/2-13.5 LTC Casing	11261.15	76.45	4.500	3.920				
		Baker Open Hole Packer	11337.60	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11341.49	115.25	4.500	3.920				
7		2.000 EX Frac Sleeve	11456.74	3.90	5.750		2.000	2286	98	363
278.3		2 Joints of 4-1/2-13.5 LTC Casing	11460.64	151.32	4.500	3.920				
		Baker Open Hole Packer	11611.96	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11615.85	111.65	4.500	3.920				
6		1.875 EX Frac Sleeve	11727.50	3.90	5.750		1.875	2286	86	367
238.8		3 Joints of 4-1/2-13.5 LTC Casing	11731.40	115.46	4.500	3.920				
		Baker Open Hole Packer	11846.86	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11850.75	113.53	4.500	3.920				
5		1.750 EX Frac Sleeve	11964.28	3.90	5.750		1.750	2286	75	371
240.05		3 Joint of 4-1/2-13.5 LTC Casing	11968.18	114.84	4.500	3.920				
		Baker Open Hole Packer	12083.02	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	12086.91	115.07	4.500	3.920				
4		1.625 EX Frac Sleeve	12201.98	3.90	5.750		1.625	2286	65	375
240.06		3 Joints of 4-1/2-13.5 LTC Casing	12205.88	113.31	4.500	3.920				
		Baker Open Hole Packer	12319.19	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	12323.08	114.80	4.500	3.920				
3		1.500 DB EX Frac Sleeve	12437.88	3.90	5.750		1.500	2286	55	378
239.94		3 Joint of 4-1/2-13.5 LTC Casing	12441.78	113.46	4.500	3.920				
		Baker Open Hole Packer	12555.24	3.89	5.820	3.875		2154		

Company Rep	Lynn Simmons
Field	
BOT Service Rep	Armando Gonzalez
District Location	Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,247.01	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,686.75	12,410	10,680	
Bott Liner											
TVD		8,089.00		KOP		7,687.00		Open Hole	6.125	Casing Vol. (bbl)	315.5
Carry Fluid Weight (ppg)			8.7		Propan Content (ppa)				Max Drill Out Size		0

[illegible]