

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

HOBBS OCD

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

SEP 29 2014

RECEIVED

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other						5. Lease Serial No. NMNM27507 (SL & BHL)			
b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr., Other: _____						Indian, Allottee or Tribe Name			
2. Name of Operator Mewbourne Oil Company						7. Unit or CA Agreement Name and No.			
3. Address PO Box 5270, Hobbs, NM 88240						8. Lease Name and Well No. Red Hills West 21 BO Fed Com #1H			
3a. Phone No. (include area code) (575) 393-5905						9. API Well No. 30-025-41129			
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface 150' FNL & 2310' FWL, Sec 21, T26S, R32E At top prod. interval reported below 847' FNL & 2302' FWL, Sec 21, T26S, R32E At total depth 344' ^{279'} FSL & 2282' ^{2287'} FEL, Sec 21, T26S, R32E						10. Field and Pool or Exploratory Jennings Upper Bone Spring Shale 97838			
14. Date Spudded 01/18/14						11. Sec., T., R., M., on Block and Survey or Area Sec 21, T26S, R32E			
15. Date T.D. Reached 02/11/14						12. County or Parish Lea			
16. Date Completed 03/19/14 ☐ D & A ☒ Ready to Prod.						13. State NM			
18. Total Depth: MD 13760' TVD 9338'						17. Elevations (DF, RKB, RT, GL)* 3157' GL			
19. Plug Back T.D.: MD 13660' TVD 9340'						20. Depth Bridge Plug Set: MD NA TVD NA			
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) ???????						22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit report) Directional Survey? ☐ No ☒ Yes (Submit copy)			
23. Casing and Liner Record (Report all strings set in well)									
Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cement Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17 1/2"	13 3/8" H40	48#	0	720'		550	180	Surface	NA
12 1/4"	9 5/8" J55	36 & 40#	0	4348'		1250	442	Surface	NA
8 3/4"	5 1/2" P110	17#	0	13710'		1100	586	4344'	NA
24. Tubing Record									
Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	
NA									
25. Producing Intervals									
Formation		Top	Bottom	26. Perforation Record		Perforated Interval		Size	No. Holes
A) Bone Springs		8510	13760' MD	9606' - 13566' MD		0.41"		360	Open
B)				9293' - 9343' TVD					
C)									
D)									
27. Acid, Fracture, Treatment, Cement Squeeze, etc.									
Depth Interval		Amount and Type of Material							
9606' - 13566' MD		Frac w/22,435 gals 7 1/2% acid, 5,260,917 gals of SW, carrying 5,190,818# 100 Mesh sand & 2,167,292# 40/70 white sand.							
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
03/19/14	03/21/14	24	→	246	434	3561	47.9	0.791	Production
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
Open	NA	610	→	246	434	3561	1764	Open	
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	
			→						

ACCEPTED FOR RECORD

SEP 18 2014

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

*(See instructions and spaces for additional data on page 2)

RECLAMATION
DUE 9-19-14

NOT A 0 0010

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 (Solid, used for fuel, vented, etc.)

30. Summary of Porous Zones (Include Aquifers):				31. Formation (Log) Markers	
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.					
Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				Rustler	789
				Top of Salt	1147
				Castile	2177
				Base of Salt	4238
				Delaware	4456
				Bell Canyon	4500
				Cherry Canyon	5486
				Manzanita Marker	5652
				Brushy Canyon	7111
				Bone Spring	8510

32. Additional remarks (include plugging procedure):

33. Indicate which items have been attached by placing a check in the appropriate boxes:

☒ Electrical/Mechanical Logs (1 full set req'd.)	☐ Geologic Report	☐ DST Report	☐ Directional Survey
☐ Sundry Notice for plugging and cement verification	☐ Core Analysis	☒ Other: Comp sundry, Dev Rpt, C104, Gyro, Final C102, C144 CLEZ	

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

Name (please print) Jackie Lathan Title Regulatory

Signature Jackie Lathan Date 04/02/14

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 fraudulent statements or representations as to any matter within its jurisdiction.

OPERATOR MEWBOURNE OIL COMPANY
WELL/LEASE Red Hills West 21 BO F.C 1H
COUNTY LEA

036-0061

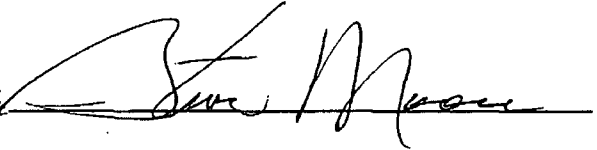
HOBBS OCD

STATE OF NEW MEXICO
DEVIATION REPORT

APR 09 2014

236	0.05
437	0.20
673	1.04
1,075	0.90
1,360	1.20
1,645	0.80
1,931	1.50
2,248	1.40
2,673	1.80
2,974	1.20
3,228	0.60
3,481	0.90
3,751	0.40
3,851	1.60
3,988	2.40
4,485	1.70
4,638	1.50
4,923	0.90
5,604	0.60
5,889	0.20
6,232	0.60
6,475	0.90
7,689	1.70
8,005	1.40
8,351	1.10

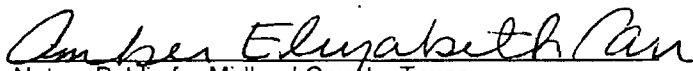
RECEIVED

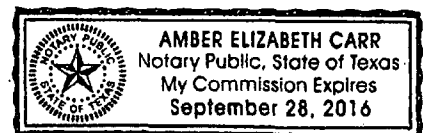
BY: 

STATE OF TEXAS

COUNTY OF MIDLAND

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


Notary Public for Midland County, Texas
My Commission Expires:





HOBBS OGD

APR 09 2014

RECEIVED

Mewbourne Oil Company .

Lea County N.M.

Section 21-26S-32E Red Hills West 21 BO

Red Hills West 21 BO Federal Com #1H

OH

Design: OH

Standard Survey Report

12 February, 2014





Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 + 20 @ 3177.0 usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0 usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project: Lea County, N.M.			
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: Section 21-26S-32E-Red Hills West 21 BO					
Site Position:		Northing:	377,065.16 usft	Latitude:	32° 2' 5.910 N
From:	Map	Easting:	702,972.54 usft	Longitude:	103° 40' 41.986 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.35 °

Well:	Red Hills West 21 BO Federal Com #1H					
Well Position	+N-S	0.0 usft	Northing:	377,065.16 usft	Latitude:	32° 2' 5.910 N
	+E-W	0.0 usft	Easting:	702,972.54 usft	Longitude:	103° 40' 41.986 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	-	3,157.0 usft

Wellbore:	OH				
Magnetics	ModelName	SampleDate	Declination (°)	Dip/Angle (°)	Field Strength (nT)
	IGRF2010	9/27/2013	7.34	59.94	48,264

Design: OH				
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (MVD)	N/S	E/W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	180.00

Survey Program	Date	2/12/2014
From	To	
(usft)	(usft)	
100.0	8,593.0 MS Gyro Survey #1 (OH)	GyroFlex
8,644.0	13,760.0 Survey #2 (OH)	MWD
		MWD - Standard

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	0.13	279.21	100.0	0.0	-0.1	0.0	0.13	0.13	0.00
200.0	0.49	250.01	200.0	-0.1	-0.6	0.1	0.38	0.36	-29.20
300.0	0.80	240.77	300.0	-0.6	-1.6	0.6	0.33	0.31	-9.24
400.0	0.85	239.80	400.0	-1.3	-2.9	1.3	0.05	0.05	-0.97
500.0	1.06	231.26	500.0	-2.3	-4.2	2.3	0.25	0.21	-8.54
600.0	1.28	233.08	599.9	-3.5	-5.9	3.5	0.22	0.22	1.82
700.0	1.33	230.01	699.9	-4.9	-7.6	4.9	0.09	0.05	-3.07
800.0	1.35	227.83	799.9	-6.5	-9.4	6.5	0.05	0.02	-2.18
900.0	0.97	217.13	899.9	-7.9	-10.8	7.9	0.44	-0.38	-10.70



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 +20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 +20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
1,000.0	0.95	216.02	999.9	-9.3	-11.8	9.3	0.03	-0.02	-1.11
1,100.0	0.95	215.10	1,099.8	-10.6	-12.8	10.6	0.02	0.00	-0.92
1,200.0	0.91	214.01	1,199.8	-12.0	-13.7	12.0	0.04	-0.04	-1.09
1,300.0	0.98	218.22	1,299.8	-13.3	-14.6	13.3	0.10	0.07	4.21
1,400.0	0.95	216.40	1,399.8	-14.6	-15.7	14.6	0.04	-0.03	-1.82
1,500.0	0.98	216.95	1,499.8	-16.0	-16.7	16.0	0.03	0.03	0.55
1,600.0	1.06	212.79	1,599.8	-17.4	-17.7	17.4	0.11	0.08	-4.16
1,700.0	1.08	214.50	1,699.8	-19.0	-18.7	19.0	0.04	0.02	1.71
1,800.0	1.09	221.55	1,799.7	-20.5	-19.9	20.5	0.13	0.01	7.05
1,900.0	1.32	224.51	1,899.7	-22.0	-21.3	22.0	0.24	0.23	2.96
2,000.0	1.41	225.68	1,999.7	-23.7	-23.0	23.7	0.09	0.09	1.17
2,100.0	1.34	222.56	2,099.7	-25.4	-24.7	25.4	0.10	-0.07	-3.12
2,200.0	1.39	223.67	2,199.6	-27.2	-26.3	27.2	0.06	0.05	1.11
2,300.0	1.34	232.59	2,299.6	-28.7	-28.1	28.7	0.22	-0.05	8.92
2,400.0	1.57	237.58	2,399.6	-30.2	-30.2	30.2	0.26	0.23	4.99
2,500.0	1.98	239.82	2,499.5	-31.8	-32.8	31.8	0.42	0.41	2.24
2,600.0	1.97	239.39	2,599.5	-33.5	-35.8	33.5	0.02	-0.01	-0.43
2,700.0	1.83	232.78	2,699.4	-35.4	-38.5	35.4	0.26	-0.14	-6.61
2,800.0	1.86	222.27	2,799.4	-37.5	-40.9	37.5	0.34	0.03	-10.51
2,900.0	1.56	219.67	2,899.3	-39.8	-42.9	39.8	0.31	-0.30	-2.60
3,000.0	1.06	197.84	2,999.3	-41.7	-44.0	41.7	0.70	-0.50	-21.83
3,100.0	0.83	165.04	3,099.3	-43.3	-44.1	43.3	0.58	-0.23	-32.80
3,200.0	0.79	136.06	3,199.3	-44.5	-43.4	44.5	0.41	-0.04	-28.98
3,300.0	0.67	116.93	3,299.3	-45.3	-42.4	45.3	0.27	-0.12	-19.13
3,400.0	0.88	91.29	3,399.2	-45.5	-41.2	45.5	0.40	0.21	-25.64
3,500.0	0.69	98.11	3,499.2	-45.6	-39.8	45.6	0.21	-0.19	6.82
3,600.0	0.28	116.35	3,599.2	-45.8	-39.0	45.8	0.43	-0.41	18.24
3,700.0	0.40	99.26	3,699.2	-46.0	-38.4	46.0	0.16	0.12	-17.09
3,800.0	1.21	102.51	3,799.2	-46.3	-37.0	46.3	0.81	0.81	3.25
3,900.0	1.53	103.19	3,899.2	-46.8	-34.7	46.8	0.32	0.32	0.68
4,000.0	2.03	106.22	3,999.1	-47.6	-31.7	47.6	0.51	0.50	3.03
4,100.0	2.70	117.47	4,099.1	-49.2	-27.9	49.2	0.81	0.67	11.25
4,200.0	2.81	118.96	4,198.9	-51.5	-23.7	51.5	0.13	0.11	1.49
4,300.0	2.17	123.96	4,298.8	-53.7	-20.0	53.7	0.68	-0.64	5.00
4,400.0	1.50	130.76	4,398.8	-55.6	-17.4	55.6	0.70	-0.67	6.80
4,500.0	1.31	129.32	4,498.8	-57.2	-15.5	57.2	0.19	-0.19	-1.44
4,600.0	0.97	134.64	4,598.7	-58.5	-14.0	58.5	0.36	-0.34	5.32
4,700.0	0.93	140.74	4,698.7	-59.8	-12.9	59.8	0.11	-0.04	6.10
4,800.0	0.70	148.73	4,798.7	-60.9	-12.1	60.9	0.26	-0.23	7.99
4,900.0	0.57	166.92	4,898.7	-61.9	-11.7	61.9	0.24	-0.13	18.19
5,000.0	0.53	186.41	4,998.7	-62.9	-11.6	62.9	0.19	-0.04	19.49
5,100.0	0.59	184.68	5,098.7	-63.8	-11.7	63.8	0.06	0.06	-1.73
5,200.0	0.61	181.57	5,198.7	-64.9	-11.8	64.9	0.04	0.02	-3.11



Stryker Directional Survey Report



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Project:	Lea County N.M.	TVD Reference:	GL 3157 +/- 20 @ 3177.0usft (Patterson 36)
Site:	Section 21 26S 32E Red Hills West 21 BO	MD Reference:	GL 3157 +/- 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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	0.64	184.45	5,298.7	-66.0	-11.8	66.0	0.04	0.03	2.88	
5,400.0	0.62	176.70	5,398.7	-67.1	-11.8	67.1	0.09	-0.02	-7.75	
5,500.0	0.70	180.92	5,498.7	-68.2	-11.8	68.2	0.09	0.08	4.22	
5,600.0	0.50	177.50	5,598.7	-69.3	-11.8	69.3	0.20	-0.20	-3.42	
5,700.0	0.48	180.95	5,698.7	-70.1	-11.8	70.1	0.04	-0.02	3.45	
5,800.0	0.37	181.24	5,798.7	-70.9	-11.8	70.9	0.11	-0.11	0.29	
5,900.0	0.38	182.03	5,898.7	-71.5	-11.8	71.5	0.01	0.01	0.79	
6,000.0	0.43	188.40	5,998.7	-72.2	-11.9	72.2	0.07	0.05	6.37	
6,100.0	0.65	196.98	6,098.7	-73.1	-12.1	73.1	0.23	0.22	8.58	
6,200.0	0.77	210.25	6,198.7	-74.2	-12.6	74.2	0.20	0.12	13.27	
6,300.0	0.70	210.08	6,298.6	-75.4	-13.3	75.4	0.07	-0.07	-0.17	
6,400.0	0.83	205.05	6,398.6	-76.5	-13.9	76.5	0.15	0.13	-5.03	
6,500.0	0.93	199.29	6,498.6	-78.0	-14.4	78.0	0.13	0.10	-5.76	
6,600.0	1.16	191.43	6,598.6	-79.7	-14.9	79.7	0.27	0.23	-7.86	
6,700.0	1.14	191.87	6,698.6	-81.7	-15.3	81.7	0.02	-0.02	0.44	
6,800.0	1.34	190.43	6,798.6	-83.8	-15.7	83.8	0.20	0.20	-1.44	
6,900.0	1.30	188.87	6,898.5	-86.1	-16.1	86.1	0.05	-0.04	-1.56	
7,000.0	1.73	204.87	6,998.5	-88.6	-16.9	88.6	0.60	0.43	16.00	
7,100.0	1.74	205.53	7,098.5	-91.3	-18.2	91.3	0.02	0.01	0.66	
7,200.0	1.84	217.57	7,198.4	-94.0	-19.9	94.0	0.39	0.10	12.04	
7,300.0	1.94	214.26	7,298.4	-96.6	-21.8	96.6	0.15	0.10	-3.31	
7,400.0	1.95	214.59	7,398.3	-99.4	-23.7	99.4	0.02	0.01	0.33	
7,500.0	1.69	213.17	7,498.2	-102.1	-25.5	102.1	0.26	-0.26	-1.42	
7,600.0	1.74	217.81	7,598.2	-104.5	-27.2	104.5	0.15	0.05	4.64	
7,700.0	1.62	210.57	7,698.2	-106.9	-28.9	106.9	0.24	-0.12	-7.24	
7,800.0	1.50	209.15	7,798.1	-109.3	-30.2	109.3	0.13	-0.12	-1.42	
7,900.0	1.31	196.83	7,898.1	-111.5	-31.2	111.5	0.36	-0.19	-12.32	
8,000.0	1.23	191.35	7,998.1	-113.7	-31.7	113.7	0.15	-0.08	-5.48	
8,100.0	1.26	190.00	8,098.0	-115.8	-32.1	115.8	0.04	0.03	-1.35	
8,200.0	1.23	192.23	8,198.0	-117.9	-32.5	117.9	0.06	-0.03	2.23	
8,300.0	1.09	208.87	8,298.0	-119.8	-33.2	119.8	0.36	-0.14	16.64	
8,400.0	0.98	214.44	8,398.0	-121.3	-34.2	121.3	0.15	-0.11	5.57	
8,500.0	1.14	223.22	8,498.0	-122.8	-35.3	122.8	0.23	0.16	8.78	
8,593.0	1.07	223.15	8,590.9	-124.1	-36.6	124.1	0.08	-0.08	-0.08	
8593 MD/MS Gyro Survey										
8,644.0	1.80	224.30	8,641.9	-125.0	-37.5	125.0	1.43	1.43	2.25	
8,676.0	4.70	190.10	8,673.9	-126.6	-38.0	126.6	10.52	9.06	-106.88	
PBHL Red Hills West 21 BO Federal Com #1H2										
8,708.0	8.10	190.40	8,705.7	-130.2	-38.7	130.2	10.63	10.63	0.94	
8,740.0	11.40	191.40	8,737.2	-135.5	-39.7	135.5	10.33	10.31	3.13	
8,772.0	13.90	197.40	8,768.4	-142.2	-41.5	142.2	8.82	7.81	18.75	
8,803.0	15.80	195.80	8,798.4	-149.9	-43.7	149.9	6.27	6.13	-5.16	
8,835.0	18.50	191.20	8,829.0	-159.0	-45.9	159.0	9.44	8.44	-14.38	
8,867.0	20.40	185.70	8,859.1	-169.6	-47.5	169.6	8.24	5.94	-17.19	



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Red Hills West 21 BO Federal Com #1H
Project:	Lea County, N.M.	TVD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 + 20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
-----------------------------	--------------------	----------------	-----------------------------	---------------	---------------	-------------------------------	-------------------------------	------------------------------	-----------------------------

8,898.0	22.80	180.50	8,888.0	-181.0	-48.0	181.0	9.90	7.74	-16.77
8,930.0	24.40	180.40	8,917.3	-193.8	-48.1	193.8	5.00	5.00	-0.31
8,962.0	25.20	183.00	8,946.3	-207.2	-48.5	207.2	4.23	2.50	8.13
8,994.0	26.80	183.50	8,975.1	-221.2	-49.3	221.2	5.05	5.00	1.56
9,026.0	29.80	183.70	9,003.3	-236.3	-50.3	236.3	9.38	9.38	0.63
9,057.0	34.10	182.70	9,029.6	-252.7	-51.2	252.7	13.98	13.87	-3.23
9,091.0	37.60	183.30	9,057.1	-272.6	-52.3	272.6	10.35	10.29	1.76
9,123.0	39.30	179.70	9,082.2	-292.5	-52.8	292.5	8.78	5.31	-11.25
9,154.0	41.70	177.80	9,105.8	-312.6	-52.3	312.6	8.70	7.74	-6.13
9,186.0	44.20	174.30	9,129.2	-334.3	-50.8	334.3	10.79	7.81	-10.94
9,218.0	46.10	171.60	9,151.8	-356.8	-48.0	356.8	8.43	5.94	-8.44
9,250.0	48.80	172.50	9,173.4	-380.2	-44.8	380.2	8.69	8.44	2.81
9,281.0	52.20	172.00	9,193.1	-403.9	-41.5	403.9	11.04	10.97	-1.61
9,312.0	55.70	171.40	9,211.3	-428.7	-37.9	428.7	11.40	11.29	-1.94
9,344.0	59.70	170.40	9,228.4	-455.4	-33.6	455.4	12.78	12.50	-3.13
9,376.0	64.10	170.30	9,243.5	-483.2	-28.9	483.2	13.75	13.75	-0.31
9,407.0	68.30	170.40	9,256.0	-511.2	-24.1	511.2	13.55	13.55	0.32
9,439.0	73.10	170.90	9,266.6	-540.9	-19.2	540.9	15.07	15.00	1.56
9,471.0	76.70	173.30	9,274.9	-571.5	-15.0	571.5	13.38	11.25	7.50
9,487.0	78.66	174.76	9,278.4	-587.1	-13.4	587.1	15.12	12.24	9.09

LP Red Hills West BO Federal Com #1H

9,502.0	80.50	176.10	9,281.1	-601.8	-12.2	601.8	15.12	12.28	8.97
9,534.0	82.30	177.80	9,285.8	-633.4	-10.5	633.4	7.70	5.63	5.31
9,566.0	83.70	177.80	9,289.7	-665.1	-9.3	665.1	4.38	4.38	0.00
9,598.0	85.30	177.10	9,292.8	-696.9	-7.9	696.9	5.45	5.00	-2.19
9,629.0	86.00	177.30	9,295.2	-727.8	-6.4	727.8	2.35	2.26	0.65
9,657.0	87.60	177.40	9,296.7	-755.7	-5.1	755.7	5.73	5.71	0.36
9,689.0	88.50	178.10	9,297.8	-787.7	-3.8	787.7	3.56	2.81	2.19
9,721.0	90.50	178.70	9,298.1	-819.7	-2.9	819.7	6.53	6.25	1.88
9,753.0	91.30	178.90	9,297.6	-851.7	-2.3	851.7	2.58	2.50	0.63
9,784.0	91.70	179.10	9,296.8	-882.7	-1.7	882.7	1.44	1.29	0.65
9,816.0	90.30	179.30	9,296.2	-914.6	-1.3	914.6	4.42	-4.38	0.63
9,847.0	90.50	179.20	9,296.0	-945.6	-0.9	945.6	0.72	0.65	-0.32
9,911.0	89.80	179.80	9,295.8	-1,009.6	-0.3	1,009.6	1.44	-1.09	0.94
9,973.0	89.60	182.00	9,296.2	-1,071.6	-1.3	1,071.6	3.56	-0.32	3.55
10,036.0	88.60	181.70	9,297.1	-1,134.6	-3.3	1,134.6	1.66	-1.59	-0.48
10,068.0	88.40	181.60	9,298.0	-1,166.6	-4.2	1,166.6	0.70	-0.63	-0.31
10,131.0	89.40	182.20	9,299.2	-1,229.5	-6.3	1,229.5	1.85	1.59	0.95
10,195.0	88.70	181.50	9,300.3	-1,293.5	-8.4	1,293.5	1.55	-1.09	-1.09
10,258.0	89.40	181.40	9,301.3	-1,356.4	-10.0	1,356.4	1.12	1.11	-0.16
10,321.0	89.70	180.40	9,301.8	-1,419.4	-11.0	1,419.4	1.66	0.48	-1.59
10,385.0	88.40	179.00	9,302.9	-1,483.4	-10.6	1,483.4	2.98	-2.03	-2.19
10,448.0	88.90	177.90	9,304.3	-1,546.4	-8.9	1,546.4	1.92	0.79	-1.75



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 +20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 +20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N/S (usft)	E/W (usft)	Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,511.0	89.00	179.00	9,305.5	-1,609.3	-7.2	1,609.3	1.75	0.16	1.75
10,575.0	89.60	179.10	9,306.3	-1,673.3	-6.2	1,673.3	0.95	0.94	0.16
10,639.0	88.60	178.50	9,307.3	-1,737.3	-4.8	1,737.3	1.82	-1.56	-0.94
10,702.0	89.10	178.60	9,308.5	-1,800.3	-3.2	1,800.3	0.81	0.79	0.16
10,766.0	90.10	178.10	9,309.0	-1,864.2	-1.4	1,864.2	1.75	1.56	-0.78
10,829.0	89.40	179.10	9,309.3	-1,927.2	0.2	1,927.2	1.94	-1.11	1.59
10,893.0	89.90	179.80	9,309.7	-1,991.2	0.8	1,991.2	1.34	0.78	1.09
10,956.0	92.40	180.50	9,308.4	-2,054.2	0.6	2,054.2	4.12	3.97	1.11
11,020.0	91.60	179.70	9,306.2	-2,118.2	0.5	2,118.2	1.77	-1.25	-1.25
11,083.0	89.10	179.70	9,305.8	-2,181.2	0.8	2,181.2	3.97	-3.97	0.00
11,146.0	86.50	179.90	9,308.2	-2,244.1	1.0	2,244.1	4.14	-4.13	0.32
11,209.0	86.80	180.00	9,311.9	-2,307.0	1.1	2,307.0	0.50	0.48	0.16
11,272.0	87.60	180.20	9,315.0	-2,369.9	1.0	2,369.9	1.31	1.27	0.32
11,335.0	88.80	179.80	9,316.9	-2,432.9	1.0	2,432.9	2.01	1.90	-0.63
11,399.0	90.00	179.40	9,317.6	-2,496.9	1.4	2,496.9	1.98	1.88	-0.63
11,462.0	89.90	180.00	9,317.7	-2,559.9	1.8	2,559.9	0.97	-0.16	0.95
11,525.0	89.80	179.80	9,317.8	-2,622.9	1.9	2,622.9	0.35	-0.16	-0.32
11,589.0	90.20	179.30	9,317.8	-2,686.9	2.4	2,686.9	1.00	0.63	-0.78
11,652.0	88.50	179.90	9,318.5	-2,749.9	2.8	2,749.9	2.86	-2.70	0.95
11,715.0	89.70	180.00	9,319.5	-2,812.9	2.9	2,812.9	1.91	1.90	0.16
11,779.0	89.10	179.50	9,320.2	-2,876.9	3.2	2,876.9	1.22	-0.94	-0.78
11,842.0	89.40	179.30	9,321.0	-2,939.8	3.8	2,939.8	0.57	0.48	-0.32
11,905.0	89.70	178.90	9,321.5	-3,002.8	4.8	3,002.8	0.79	0.48	-0.63
11,969.0	89.80	178.90	9,321.8	-3,066.8	6.0	3,066.8	0.16	0.16	0.00
12,032.0	88.70	180.10	9,322.6	-3,129.8	6.6	3,129.8	2.58	-1.75	1.90
12,095.0	88.90	180.40	9,323.9	-3,192.8	6.3	3,192.8	0.57	0.32	0.48
12,159.0	89.80	180.10	9,324.7	-3,256.8	6.0	3,256.8	1.48	1.41	-0.47
12,222.0	88.70	179.70	9,325.5	-3,319.8	6.1	3,319.8	1.86	-1.75	-0.63
12,285.0	89.00	179.50	9,326.8	-3,382.8	6.6	3,382.8	0.57	0.48	-0.32
12,348.0	89.70	179.10	9,327.5	-3,445.8	7.3	3,445.8	1.28	1.11	-0.63
12,410.0	89.90	179.70	9,327.7	-3,507.8	8.0	3,507.8	1.02	0.32	0.97
12,473.0	90.20	179.40	9,327.6	-3,570.8	8.5	3,570.8	0.67	0.48	-0.48
12,537.0	90.10	180.00	9,327.5	-3,634.8	8.8	3,634.8	0.95	-0.16	0.94
12,600.0	89.10	180.00	9,327.9	-3,697.7	8.8	3,697.7	1.59	-1.59	0.00
12,664.0	90.90	180.70	9,327.9	-3,761.7	8.4	3,761.7	3.02	2.81	1.09
12,727.0	90.40	180.70	9,327.2	-3,824.7	7.7	3,824.7	0.79	-0.79	0.00
12,791.0	90.50	180.60	9,326.7	-3,888.7	6.9	3,888.7	0.22	0.16	-0.16
12,854.0	90.30	180.90	9,326.2	-3,951.7	6.1	3,951.7	0.57	-0.32	0.48
12,919.0	89.20	180.90	9,326.5	-4,016.7	5.1	4,016.7	1.69	-1.69	0.00
12,981.0	90.30	180.40	9,326.8	-4,078.7	4.4	4,078.7	1.95	1.77	-0.81
13,044.0	88.60	179.60	9,327.4	-4,141.7	4.4	4,141.7	2.98	-2.70	-1.27
13,108.0	87.10	179.40	9,329.8	-4,205.7	4.9	4,205.7	2.36	-2.34	-0.31
13,172.0	87.60	178.70	9,332.8	-4,269.6	6.0	4,269.6	1.34	0.78	-1.09



Stryker Directional Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well: Red Hills West 21 BO Federal Com #1H
Project:	Lea County N.M.	TVD Reference:	GL 3157 +20 @ 3177.0usft (Patterson 36)
Site:	Section 21-26S-32E Red Hills West 21 BO	MD Reference:	GL 3157 +20 @ 3177.0usft (Patterson 36)
Well:	Red Hills West 21 BO Federal Com #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
13,235.0	88.00	178.50	9,335.2	-4,332.5	7.5	4,332.5	0.71	0.63	-0.32
13,299.0	87.30	177.30	9,337.8	-4,396.4	9.9	4,396.4	2.17	-1.09	-1.88
13,362.0	87.80	177.00	9,340.5	-4,459.3	13.0	4,459.3	0.93	0.79	-0.48
13,426.0	88.90	179.00	9,342.3	-4,523.2	15.2	4,523.2	3.57	1.72	3.13
13,490.0	89.80	179.20	9,343.1	-4,587.2	16.3	4,587.2	1.44	1.41	0.31
13,553.0	90.70	179.20	9,342.8	-4,650.2	17.1	4,650.2	1.43	1.43	0.00
13,617.0	91.60	179.00	9,341.5	-4,714.2	18.1	4,714.2	1.44	1.41	-0.31
13,681.0	91.40	177.90	9,339.8	-4,778.1	19.9	4,778.1	1.75	-0.31	-1.72
13,710.0	91.60	177.60	9,339.1	-4,807.1	21.0	4,807.1	1.24	0.69	-1.03
13,760.0	91.60	177.60	9,337.7	-4,857.0	23.1	4,857.0	0.00	0.00	0.00
13760' MD Projected to Bit PBHL Red Hills West 21 BO Federal Com #1H									

Design/Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
8,593.0	8,590.9	-124.1	-36.6	8593' MD MS Gyro Survey
13,760.0	9,337.7	-4,857.0	23.1	13760' MD Projected to Bit

Company Rep	Frank Midkiff
Field	HILLS WEST 21 BO FED
BOT Service Rep	Dustin Butler
District Location	Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	9.625	36.00	110000	8.921	8.765	LTC / 8RD	0.07731	4,348.00	9,960	6,230	
Top Liner	5.500	17.00	338000	4.892	4.767	LTC & BTC	0.02320	13,716.28	12,410	10,680	
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-	
TVD		9339.00		KOP		8642.00	Open Hole		8.750	Casing Vol. (bbl)	-0.5
Carry Fluid Weight (ppg)			8.4		Propan Content (ppa)				Max Drill Out Size		0

		Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Disp (BBL)
Liner Top	1	195 JNTS	5.5 17# P-110 LTC LINER	-6.28	8581.45	5.750	4.000				

Zone
Length[illegible]

Operating Company	Mewbourne Oil Co.
Well Name & Number	RHW 21 BO-1H
Sales Ticket Number	6160572

Company Rep	Frank Midkiff
Field	HILLS WEST 21 BO FED
BOT Service Rep	Dustin Butler
District Location	Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	9.625	36.00	110000	8.921	8.765	LTC / 8RD	0.07731	4,348.00	9,960	6,230	
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Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-	
TVD		9339.00		KOP		8642.00	Open Hole		8.750	Casing Vol. (bbl)	-0.5
Carry Fluid Weight (ppg)			8.4		Propan Content (ppa)				Max Drill Out Size		0

[illegible]



Job Number: SVMQ-140131
 Company: Mewbourne Oil & Gas
 Lease/Well: Red Hills West 21 Bo Fed Com 1H
 Location: Lea County, NM
 Rig Name: MS Wireline
 RKB: 26'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 6.99°
 Grid: East To Grid North
 File name: S:\2014SU-1\MEWBOU-1\MO\REDHIL-111H.SVY
 Date/Time: 03-Feb-14 / 16:02
 Curve Name: Surface - 8593' M.D. (Rate Gyro)

HOBBS OCD
 APR 09 2014
 RECEIVED

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 8593' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
Clayton Smith 2/13/14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.13	279.21	100.00	.02	-.11	.02	.11	279.22	.13
200.00	.49	250.01	200.00	-.11	-.63	-.11	.64	260.04	.38
300.00	.80	240.77	299.99	-.60	-1.64	-.60	1.74	249.96	.33
400.00	.85	239.80	399.98	-1.31	-2.89	-1.31	3.17	245.58	.05
500.00	1.06	231.26	499.97	-2.26	-4.25	-2.26	4.81	241.97	.25
600.00	1.28	233.08	599.95	-3.51	-5.86	-3.51	6.84	239.08	.22
700.00	1.33	230.01	699.92	-4.93	-7.65	-4.93	9.10	237.19	.09
800.00	1.35	227.83	799.89	-6.47	-9.41	-6.47	11.42	235.50	.05
900.00	.97	217.13	899.87	-7.93	-10.79	-7.93	13.39	233.69	.44

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1000.00	.95	216.02	999.86	-9.28	-11.79	-9.28	15.00	231.80	.03
1100.00	.95	215.10	1099.85	-10.63	-12.76	-10.63	16.60	230.20	.02
1200.00	.91	214.01	1199.83	-11.96	-13.68	-11.96	18.17	228.82	.04
1300.00	.98	218.22	1299.82	-13.29	-14.65	-13.29	19.78	227.78	.10
1400.00	.95	216.40	1399.80	-14.63	-15.67	-14.63	21.44	226.96	.04
1500.00	.98	216.95	1499.79	-15.98	-16.68	-15.98	23.10	226.22	.03
1600.00	1.06	212.79	1599.77	-17.44	-17.69	-17.44	24.84	225.40	.11
1700.00	1.08	214.50	1699.76	-19.00	-18.73	-19.00	26.68	224.59	.04
1800.00	1.09	221.55	1799.74	-20.49	-19.89	-20.49	28.55	224.16	.13
1900.00	1.32	224.51	1899.72	-22.02	-21.33	-22.02	30.66	224.09	.24
2000.00	1.41	225.68	1999.69	-23.70	-23.02	-23.70	33.04	224.16	.09
2100.00	1.34	222.56	2099.66	-25.42	-24.69	-25.42	35.44	224.16	.10
2200.00	1.39	223.67	2199.63	-27.16	-26.32	-27.16	37.82	224.10	.06
2300.00	1.34	232.59	2299.60	-28.75	-28.08	-28.75	40.19	224.33	.22
2400.00	1.57	237.58	2399.57	-30.19	-30.17	-30.19	42.68	224.98	.26
2500.00	1.98	239.82	2499.52	-31.79	-32.82	-31.79	45.69	225.91	.42
2600.00	1.97	239.39	2599.46	-33.54	-35.79	-33.54	49.05	226.86	.02
2700.00	1.83	232.78	2699.41	-35.38	-38.54	-35.38	52.32	227.45	.26
2800.00	1.86	222.27	2799.36	-37.55	-40.90	-37.55	55.52	227.45	.34
2900.00	1.56	219.67	2899.31	-39.79	-42.86	-39.79	58.49	227.13	.31
3000.00	1.06	197.84	2999.29	-41.72	-44.02	-41.72	60.65	226.53	.70
3100.00	.83	165.04	3099.27	-43.30	-44.11	-43.30	61.82	225.53	.58
3200.00	.79	136.06	3199.26	-44.50	-43.45	-44.50	62.19	224.31	.41
3300.00	.67	116.93	3299.26	-45.26	-42.45	-45.26	62.05	223.16	.27
3400.00	.88	91.29	3399.25	-45.54	-41.16	-45.54	61.39	222.11	.40
3500.00	.69	98.11	3499.24	-45.65	-39.80	-45.65	60.56	221.08	.21
3600.00	.28	116.35	3599.23	-45.84	-38.98	-45.84	60.17	220.38	.43
3700.00	.40	99.26	3699.23	-46.00	-38.42	-46.00	59.93	219.86	.16
3800.00	1.21	102.51	3799.22	-46.29	-37.04	-46.29	59.28	218.67	.81

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3900.00	1.53	103.19	3899.19	-46.82	-34.71	-46.82	58.28	216.55	.32
4000.00	2.03	106.22	3999.14	-47.62	-31.71	-47.62	57.21	213.66	.51
4100.00	2.70	117.47	4099.06	-49.20	-27.92	-49.20	56.57	209.57	.81
4200.00	2.81	118.96	4198.94	-51.48	-23.69	-51.48	56.66	204.71	.13
4300.00	2.17	123.96	4298.85	-53.72	-19.97	-53.72	57.31	200.39	.68
4400.00	1.50	130.76	4398.80	-55.63	-17.41	-55.63	58.29	197.38	.70
4500.00	1.31	129.32	4498.77	-57.21	-15.53	-57.21	59.28	195.19	.19
4600.00	.97	134.64	4598.75	-58.53	-14.05	-58.53	60.19	193.49	.36
4700.00	.93	140.74	4698.73	-59.75	-12.93	-59.75	61.14	192.21	.11
4800.00	.70	148.73	4798.72	-60.90	-12.10	-60.90	62.09	191.24	.26
4900.00	.57	166.92	4898.72	-61.91	-11.67	-61.91	63.00	190.68	.24
5000.00	.53	186.41	4998.71	-62.85	-11.61	-62.85	63.92	190.46	.19
5100.00	.59	184.68	5098.71	-63.83	-11.70	-63.83	64.89	190.39	.06
5200.00	.61	181.57	5198.70	-64.87	-11.76	-64.87	65.93	190.27	.04
5300.00	.64	184.45	5298.70	-65.96	-11.82	-65.96	67.01	190.16	.04
5400.00	.62	176.70	5398.69	-67.06	-11.83	-67.06	68.09	190.00	.09
5500.00	.70	180.92	5498.68	-68.21	-11.81	-68.21	69.22	189.82	.09
5600.00	.50	177.50	5598.68	-69.26	-11.80	-69.26	70.25	189.67	.20
5700.00	.48	180.95	5698.67	-70.11	-11.79	-70.11	71.09	189.54	.04
5800.00	.37	181.24	5798.67	-70.85	-11.80	-70.85	71.83	189.46	.11
5900.00	.38	182.03	5898.67	-71.51	-11.82	-71.51	72.48	189.39	.01
6000.00	.43	188.40	5998.67	-72.21	-11.89	-72.21	73.18	189.35	.07
6100.00	.65	196.98	6098.66	-73.12	-12.11	-73.12	74.12	189.40	.23
6200.00	.77	210.25	6198.65	-74.25	-12.61	-74.25	75.31	189.64	.20
6300.00	.70	210.08	6298.65	-75.35	-13.26	-75.35	76.51	189.98	.07
6400.00	.83	205.05	6398.64	-76.54	-13.87	-76.54	77.79	190.27	.15
6500.00	.93	199.29	6498.63	-77.96	-14.44	-77.96	79.29	190.50	.13
6600.00	1.16	191.43	6598.61	-79.72	-14.91	-79.72	81.10	190.59	.27
6700.00	1.14	191.87	6698.59	-81.69	-15.32	-81.69	83.11	190.62	.02