

Form 3160-4
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FORM APPROVED
OMB NO. 1004-0137
Expires: March 31, 2007

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

2. Name of Operator **BTA Oil Producers LLC**3. Address **104 S. Pecos; Midland, TX 79701**3a. Phone No. (include area code)
32-662-3753

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

At surface **UL -G- 1980' FNL & 1830' FEL**At top prod. interval reported below **UL -J- 2200' FSL & 1807' FEL**At total depth **UL -G- 2304' FNL & 1656' FEL (32-23S-28E)**14. Date Spudded
08/24/200915. Date T.D. Reached
10/31/200916. Date Completed **12/22/2009**
☐ D & A ☒ Ready to Prod.5. Lease Serial No.
NMNM1003356. If Indian, Allottee or Tribe Name
---7. Unit or CA Agreement Name and No.
---8. Lease Name and Well No.
Ogden #1H9. AFI Well No.
30-015-2420610. Field and Pool, or Exploratory
Culebra Bluff; Bone Spring, S.11. Sec., T., R., M., on Block and
Survey or Area **29-23S-28E**12. County or Parish **Eddy** 13. State
NM17. Elevations (DF, RKB, RT, GL)*
3084'18. Total Depth: **MD 12438' ST**
TVD19. Plug Back T.D.: **MD 6635' orig wlbcr**
TVD20. Depth Bridge Plug Set: **MD 6635' & 8458'**
TVD

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

RAL log22. 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 Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20"	16"	65#	0	405'		500 sx		surface	
14-3/4"	10-3/4"	40.5#	0	2490'		2050 sx		surface	
9-1/2"	7-5/8"	29.7,33.7	0	9595'		1150 sx		5710'	
5"			9264'	12764'		685 sx			
6-1/8"	5-1/2"	20#	0	6315'		415 sx via FO	tool	surface	
6-1/8"	4-1/2"	11.6#	6315'	12235'					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2-7/8"	6123'	---	---	---	---	---	---	---

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Bone Spring			5825 - 6031'			sqzd w/150 sx
B)			8504 - 8526'		4 JSPF	CIBP @ 8458'
C)						
D)						

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

Depth Interval	Amount and Type of Material
8504 - 8526'	A w/1500 gal 7-1/2% HCl. F w/1069 bbls gelled wtr + 38.45 tns sd
7423 - 12438'	F w/16000 gals acid, 18059 bbls gelled wtr + 401 tns sd

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
12/22/2009	02/01/2010	24	→	52	203	350	39.8	.7727	Pumping
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
14/64	—	—	→	52	203	350	3904		Producing

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 page 2)

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Cost

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 - first sales through pipeline 1/19/2010 (sales through test separator 241 MCF in 12/09)

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
Bureau of Land Management RECEIVED FEB 04 2010 Carlsbad Field Office Carlsbad, N.M.					

32. Additional remarks (include plugging procedure):

CIBP @ 8458'. Cmt sqz 7-5/8" csg by 10-3/4" annulus w/400 sx. Sqz perfs 5825-6031' w/150 sx.
CIBP @ 6635'. Set whipstock. Mill window in 7-5/8" csg 6615-6626'.
Horizontal Lateral 7500-12438' (4938')

Sales from Test Tanks 324 BO
Sales through Test Separator 241 MCF

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

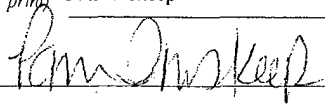
- ☐ Electrical/Mechanical Logs (1 full set req'd.)
☐ Geologic Report
☐ DST Report
☒ Directional Survey
☐ Sundry Notice for plugging and cement verification
☐ Core Analysis
☒ Other: Wellbore schematic, RAL log

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) Pam Inskeep

Title Regulatory Administrator

Signature



Date 02/02/2010

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.

BTA Oil Producers

Eddy ,NM

20509 JV-P Ogden #1H

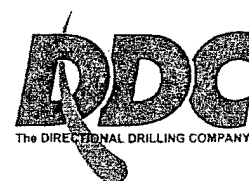
20509 JV-P Ogden #1H

Wellbore #1

Survey: MWD Survey

DDC Survey Report

03 November, 2009



DDC
Survey Report



Company: BTA Oil Producers
Project: Eddy ,NM
Site: 20509 JV-P Ogden #1H
Well: 20509 JV-P Ogden #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well 20509 JV-P Ogden #1H
TVD Reference: WELL @ 3100.0usft (Original Well Elev)
MD Reference: WELL @ 3100.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Eddy ,NM		
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 20509 JV-P Ogden #1H

Site Position: Northing: 464,838.40 usft Latitude: 32° 16' 39.913 N
From: Map Easting: 570,140.90 usft Longitude: 104° 6' 22.975 W
Position Uncertainty: 0.0 usft Slot Radius: 0 " Grid Convergence: 0.12 °

Well 20509 JV-P Ogden #1H

Well Position +N/-S 0.0 usft Northing: 464,838.40 usft Latitude: 32° 16' 39.913 N
+E/-W 0.0 usft Easting: 570,140.90 usft Longitude: 104° 6' 22.975 W
Position Uncertainty 0.0 usft Wellhead Elevation: usft Ground Level: 3,084.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/20/2009	8.04	60.20	48,802

Design Wellbore #1

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	178.23

Survey Program Date 11/3/2009

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
6,675.0	12,438.0	MWD Survey (Wellbore #1)		

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)
Tie-In									
6,600.0	1.32	108.76	6,599.5	-36.2	1.4	36.3	0.00	0.00	0.00
6,675.0	12.10	194.30	6,673.9	-44.2	0.3	44.2	16.09	14.38	114.07
6,706.0	18.20	192.30	6,703.8	-52.1	-1.6	52.0	19.75	19.68	-6.45
6,738.0	22.70	197.20	6,733.8	-62.8	-4.4	62.7	15.03	14.06	15.31
6,770.0	26.90	195.70	6,762.9	-75.7	-8.2	75.4	13.27	13.13	-4.69
6,802.0	30.60	191.70	6,790.9	-90.7	-11.8	90.3	13.03	11.56	-12.50
6,833.0	34.40	184.90	6,817.1	-107.1	-14.2	106.6	16.99	12.26	-21.94
6,865.0	37.50	179.60	6,843.0	-125.9	-14.9	125.4	13.72	9.69	-16.56
6,893.0	40.30	177.80	6,864.8	-143.5	-14.5	142.9	10.78	10.00	-6.43
6,925.0	43.40	174.70	6,888.6	-164.8	-13.1	164.3	11.64	9.69	-9.69

DDC Survey Report



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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)
6,957.0	47.10	170.80	6,911.1	-187.3	-10.2	186.9	14.44	11.56	-12.19
6,989.0	51.00	167.60	6,932.1	-211.0	-5.6	210.7	14.34	12.19	-10.00
7,020.0	54.10	166.10	6,951.0	-235.0	0.0	234.9	10.71	10.00	-4.84
7,052.0	55.60	165.80	6,969.4	-260.4	6.3	260.4	4.75	4.69	-0.94
7,084.0	56.80	168.00	6,987.2	-286.3	12.3	286.5	6.83	3.75	6.88
7,116.0	58.40	172.40	7,004.3	-312.9	16.9	313.2	12.64	5.00	13.75
7,148.0	62.50	176.80	7,020.1	-340.6	19.5	341.0	17.52	12.81	13.75
7,180.0	68.60	178.90	7,033.4	-369.7	20.6	370.1	19.98	19.06	6.56
7,212.0	75.20	179.40	7,043.3	-400.1	21.1	400.5	20.68	20.63	1.56
7,243.0	81.40	179.50	7,049.6	-430.4	21.3	430.8	20.00	20.00	0.32
7,275.0	82.10	179.10	7,054.2	-462.1	21.7	462.5	2.51	2.19	-1.25
7,306.0	82.20	179.10	7,058.4	-492.8	22.2	493.2	0.32	0.32	0.00
7,338.0	84.70	180.10	7,062.0	-524.6	22.4	525.0	8.41	7.81	3.13
7,370.0	85.90	180.00	7,064.7	-556.4	22.4	556.9	3.76	3.75	-0.31
7,402.0	85.40	179.10	7,067.1	-588.4	22.7	588.8	3.21	-1.56	-2.81
7,434.0	85.10	179.10	7,069.7	-620.2	23.2	620.7	0.94	-0.94	0.00
7,466.0	88.40	180.20	7,071.6	-652.2	23.4	652.6	10.87	10.31	3.44
7,498.0	90.80	180.30	7,071.8	-684.2	23.2	684.6	7.51	7.50	0.31
7,530.0	90.80	180.10	7,071.3	-716.2	23.1	716.5	0.62	0.00	-0.63
7,562.0	90.70	179.20	7,070.9	-748.2	23.3	748.5	2.83	-0.31	-2.81
7,594.0	90.20	179.30	7,070.7	-780.2	23.7	780.5	1.59	-1.56	0.31
7,626.0	90.10	179.20	7,070.6	-812.2	24.1	812.5	0.44	-0.31	-0.31
7,658.0	89.90	179.30	7,070.6	-844.2	24.6	844.5	0.70	-0.63	0.31
7,690.0	90.10	177.40	7,070.6	-876.1	25.5	876.5	5.97	0.63	-5.94
7,722.0	89.90	177.60	7,070.6	-908.1	26.9	908.5	0.88	-0.63	0.63
7,754.0	89.50	177.30	7,070.8	-940.1	28.3	940.5	1.56	-1.25	-0.94
7,786.0	89.50	177.00	7,071.0	-972.0	29.9	972.5	0.94	0.00	-0.94
7,818.0	90.40	176.60	7,071.1	-1,004.0	31.7	1,004.5	3.08	2.81	-1.25
7,849.0	90.20	177.00	7,070.9	-1,034.9	33.4	1,035.5	1.44	-0.65	1.29
7,881.0	90.40	176.90	7,070.7	-1,066.9	35.1	1,067.5	0.70	0.63	-0.31
7,913.0	90.20	176.90	7,070.6	-1,098.9	36.8	1,099.5	0.63	-0.63	0.00
7,945.0	90.10	176.50	7,070.5	-1,130.8	38.7	1,131.5	1.29	-0.31	-1.25
7,976.0	89.80	176.60	7,070.5	-1,161.7	40.5	1,162.4	1.02	-0.97	0.32
8,007.0	89.40	176.10	7,070.7	-1,192.7	42.5	1,193.4	2.07	-1.29	-1.61
8,039.0	89.10	176.10	7,071.1	-1,224.6	44.7	1,225.4	0.94	-0.94	0.00
8,071.0	89.40	178.50	7,071.6	-1,256.6	46.2	1,257.4	7.56	0.94	7.50
8,103.0	90.20	178.90	7,071.7	-1,288.6	46.9	1,289.4	2.80	2.50	1.25
8,135.0	90.20	179.50	7,071.6	-1,320.5	47.4	1,321.4	1.87	0.00	1.88
8,166.0	90.60	179.00	7,071.3	-1,351.5	47.8	1,352.4	2.07	1.29	-1.61
8,197.0	90.60	178.50	7,071.0	-1,382.5	48.5	1,383.4	1.61	0.00	-1.61
8,229.0	90.40	178.80	7,070.7	-1,414.5	49.2	1,415.4	1.13	-0.63	0.94
8,261.0	90.60	178.60	7,070.5	-1,446.5	49.9	1,447.4	0.88	0.63	-0.63
8,293.0	90.50	178.80	7,070.2	-1,478.5	50.7	1,479.4	0.70	-0.31	0.63

DDC
Survey Report



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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)
8,325.0	90.60	178.40	7,069.8	-1,510.5	51.4	1,511.4	1.29	0.31	-1.25
8,356.0	90.50	178.60	7,069.5	-1,541.5	52.3	1,542.4	0.72	-0.32	0.65
8,388.0	90.40	178.30	7,069.3	-1,573.5	53.1	1,574.4	0.99	-0.31	-0.94
8,420.0	90.50	177.80	7,069.0	-1,605.4	54.2	1,606.4	1.59	0.31	-1.56
8,452.0	90.30	177.60	7,068.8	-1,637.4	55.5	1,638.4	0.88	-0.63	-0.63
8,484.0	89.90	177.30	7,068.8	-1,669.4	56.9	1,670.4	1.56	-1.25	-0.94
8,516.0	89.80	177.10	7,068.8	-1,701.4	58.5	1,702.3	0.70	-0.31	-0.63
8,547.0	89.80	177.10	7,069.0	-1,732.3	60.0	1,733.3	0.00	0.00	0.00
8,578.0	89.20	177.70	7,069.2	-1,763.3	61.5	1,764.3	2.74	-1.94	1.94
8,610.0	88.80	178.20	7,069.8	-1,795.3	62.6	1,796.3	2.00	-1.25	1.56
8,642.0	88.30	178.00	7,070.6	-1,827.2	63.7	1,828.3	1.68	-1.56	-0.63
8,674.0	88.10	178.00	7,071.6	-1,859.2	64.8	1,860.3	0.63	-0.63	0.00
8,706.0	88.80	178.20	7,072.5	-1,891.2	65.8	1,892.3	2.27	2.19	0.63
8,737.0	88.40	178.20	7,073.2	-1,922.1	66.8	1,923.3	1.29	-1.29	0.00
8,769.0	88.40	178.30	7,074.1	-1,954.1	67.8	1,955.3	0.31	0.00	0.31
8,801.0	88.30	177.90	7,075.0	-1,986.1	68.8	1,987.3	1.29	-0.31	-1.25
8,833.0	89.00	178.30	7,075.8	-2,018.1	69.9	2,019.2	2.52	2.19	1.25
8,864.0	88.80	178.10	7,076.4	-2,049.0	70.9	2,050.2	0.91	-0.65	-0.65
8,896.0	88.30	178.40	7,077.2	-2,081.0	71.9	2,082.2	1.82	-1.56	0.94
8,928.0	88.30	178.20	7,078.1	-2,113.0	72.8	2,114.2	0.62	0.00	-0.63
8,960.0	89.40	177.90	7,078.8	-2,145.0	73.9	2,146.2	3.56	3.44	-0.94
8,992.0	90.10	178.20	7,078.9	-2,176.9	75.0	2,178.2	2.38	2.19	0.94
9,024.0	90.10	178.00	7,078.9	-2,208.9	76.0	2,210.2	0.63	0.00	-0.63
9,055.0	89.80	178.20	7,078.9	-2,239.9	77.1	2,241.2	1.16	-0.97	0.65
9,086.0	89.50	178.10	7,079.1	-2,270.9	78.1	2,272.2	1.02	-0.97	-0.32
9,117.0	90.20	177.90	7,079.2	-2,301.9	79.2	2,303.2	2.35	2.26	-0.65
9,149.0	90.20	178.00	7,079.1	-2,333.8	80.3	2,335.2	0.31	0.00	0.31
9,181.0	90.20	177.90	7,078.9	-2,365.8	81.4	2,367.2	0.31	0.00	-0.31
9,213.0	90.10	177.80	7,078.9	-2,397.8	82.6	2,399.2	0.44	-0.31	-0.31
9,244.0	89.80	177.70	7,078.9	-2,428.8	83.9	2,430.2	1.02	-0.97	-0.32
9,276.0	89.80	177.60	7,079.0	-2,460.7	85.2	2,462.2	0.31	0.00	-0.31
9,308.0	90.00	177.50	7,079.1	-2,492.7	86.5	2,494.2	0.70	0.63	-0.31
9,339.0	89.80	177.90	7,079.1	-2,523.7	87.8	2,525.2	1.44	-0.65	1.29
9,371.0	89.70	177.60	7,079.3	-2,555.7	89.0	2,557.2	0.99	-0.31	-0.94
9,403.0	89.80	177.10	7,079.4	-2,587.6	90.5	2,589.2	1.59	0.31	-1.56
9,434.0	89.70	177.60	7,079.5	-2,618.6	92.0	2,620.2	1.64	-0.32	1.61
9,466.0	90.20	177.70	7,079.6	-2,650.6	93.3	2,652.2	1.59	1.56	0.31
9,498.0	90.10	177.60	7,079.5	-2,682.5	94.6	2,684.2	0.44	-0.31	-0.31
9,529.0	90.50	178.80	7,079.3	-2,713.5	95.6	2,715.2	4.08	1.29	3.87
9,561.0	90.10	178.70	7,079.1	-2,745.5	96.2	2,747.2	1.29	-1.25	-0.31
9,592.0	89.90	178.50	7,079.1	-2,776.5	97.0	2,778.2	0.91	-0.65	-0.65
9,624.0	89.90	178.30	7,079.2	-2,808.5	97.9	2,810.2	0.63	0.00	-0.63
9,656.0	90.00	177.80	7,079.2	-2,840.5	99.0	2,842.2	1.59	0.31	-1.56

DDC
Survey Report



Company: BTA Oil Producers
Project: Eddy, NM
Site: 20509 JV-P Ogden #1H
Well: 20509 JV-P Ogden #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well 20509 JV-P Ogden #1H
TVD Reference: WELL @ 3100.0usft (Original Well Elev)
MD Reference: WELL @ 3100.0usft (Original Well Elev)
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)
9,687.0	90.10	177.60	7,079.2	-2,871.5	100.2	2,873.2	0.72	0.32	-0.65
9,719.0	90.30	177.60	7,079.1	-2,903.4	101.6	2,905.2	0.63	0.63	0.00
9,751.0	90.40	177.20	7,078.9	-2,935.4	103.0	2,937.2	1.29	0.31	-1.25
9,783.0	90.20	177.50	7,078.7	-2,967.4	104.5	2,969.2	1.13	-0.63	0.94
9,814.0	90.60	178.00	7,078.5	-2,998.3	105.7	3,000.2	2.07	1.29	1.61
9,846.0	90.30	177.30	7,078.3	-3,030.3	107.0	3,032.2	2.38	-0.94	-2.19
9,878.0	90.20	177.60	7,078.1	-3,062.3	108.5	3,064.2	0.99	-0.31	0.94
9,910.0	90.00	177.40	7,078.1	-3,094.2	109.9	3,096.2	0.88	-0.63	-0.63
9,941.0	90.30	177.10	7,078.0	-3,125.2	111.3	3,127.2	1.37	0.97	-0.97
9,973.0	90.50	177.60	7,077.8	-3,157.2	112.8	3,159.1	1.68	0.63	1.56
10,005.0	90.30	179.40	7,077.5	-3,189.2	113.7	3,191.1	5.66	-0.63	5.63
10,036.0	90.60	179.30	7,077.3	-3,220.2	114.0	3,222.1	1.02	0.97	-0.32
10,068.0	90.70	179.50	7,076.9	-3,252.1	114.3	3,254.1	0.70	0.31	0.63
10,100.0	90.90	179.50	7,076.5	-3,284.1	114.6	3,286.1	0.63	0.63	0.00
10,132.0	90.30	179.80	7,076.1	-3,316.1	114.8	3,318.1	2.10	-1.88	0.94
10,163.0	90.40	179.90	7,076.0	-3,347.1	114.9	3,349.1	0.46	0.32	0.32
10,195.0	90.80	179.60	7,075.6	-3,379.1	115.0	3,381.1	1.56	1.25	-0.94
10,227.0	90.80	179.80	7,075.2	-3,411.1	115.2	3,413.1	0.62	0.00	0.63
10,259.0	90.90	179.40	7,074.7	-3,443.1	115.4	3,445.1	1.29	0.31	-1.25
10,291.0	90.50	179.00	7,074.3	-3,475.1	115.9	3,477.0	1.77	-1.25	-1.25
10,323.0	90.20	179.00	7,074.1	-3,507.1	116.4	3,509.0	0.94	-0.94	0.00
10,354.0	90.10	178.30	7,074.0	-3,538.1	117.2	3,540.0	2.28	-0.32	-2.26
10,386.0	90.20	178.60	7,073.9	-3,570.1	118.0	3,572.0	0.99	0.31	0.94
10,418.0	90.20	178.60	7,073.8	-3,602.1	118.8	3,604.0	0.00	0.00	0.00
10,450.0	90.20	178.40	7,073.7	-3,634.1	119.7	3,636.0	0.62	0.00	-0.63
10,482.0	90.10	178.50	7,073.6	-3,666.1	120.5	3,668.0	0.44	-0.31	0.31
10,513.0	90.10	178.20	7,073.6	-3,697.1	121.4	3,699.0	0.97	0.00	-0.97
10,545.0	89.80	178.10	7,073.6	-3,729.0	122.4	3,731.0	0.99	-0.94	-0.31
10,577.0	89.80	178.30	7,073.7	-3,761.0	123.4	3,763.0	0.62	0.00	0.63
10,608.0	89.80	178.70	7,073.8	-3,792.0	124.3	3,794.0	1.29	0.00	1.29
10,640.0	89.60	178.20	7,074.0	-3,824.0	125.1	3,826.0	1.68	-0.63	-1.56
10,672.0	89.30	178.30	7,074.3	-3,856.0	126.1	3,858.0	0.99	-0.94	0.31
10,704.0	89.60	178.30	7,074.6	-3,888.0	127.1	3,890.0	0.94	0.94	0.00
10,736.0	89.50	178.00	7,074.9	-3,919.9	128.1	3,922.0	0.99	-0.31	-0.94
10,768.0	89.30	177.70	7,075.2	-3,951.9	129.3	3,954.0	1.13	-0.63	-0.94
10,800.0	89.30	177.60	7,075.6	-3,983.9	130.6	3,986.0	0.31	0.00	-0.31
10,831.0	88.80	177.60	7,076.1	-4,014.9	131.9	4,017.0	1.61	-1.61	0.00
10,863.0	88.60	177.80	7,076.8	-4,046.8	133.2	4,049.0	0.88	-0.63	0.63
10,895.0	88.80	177.40	7,077.6	-4,078.8	134.5	4,081.0	1.40	0.63	-1.25
10,926.0	88.70	177.50	7,078.2	-4,109.8	135.9	4,112.0	0.46	-0.32	0.32
10,958.0	88.40	177.60	7,079.0	-4,141.7	137.3	4,144.0	0.99	-0.94	0.31
10,990.0	89.40	177.60	7,079.7	-4,173.7	138.6	4,176.0	3.13	3.13	0.00
11,022.0	89.80	177.30	7,079.9	-4,205.6	140.0	4,208.0	1.56	1.25	-0.94
11,054.0	89.90	176.90	7,080.0	-4,237.6	141.6	4,240.0	1.29	0.31	-1.25

DDC Survey Report



Company: BTA Oil Producers
Project: Eddy ,NM
Site: 20509 JV-P Ogden #1H
Well: 20509 JV-P Ogden #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well 20509 JV-P Ogden #1H
TVD Reference: WELL @ 3100.0usft (Original Well Elev)
MD Reference: WELL @ 3100.0usft (Original Well Elev)
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)
11,085.0	90.50	177.20	7,079.9	-4,268.6	143.2	4,271.0	2.16	1.94	0.97
11,117.0	90.80	177.30	7,079.5	-4,300.5	144.8	4,302.9	0.99	0.94	0.31
11,149.0	90.60	177.30	7,079.1	-4,332.5	146.3	4,334.9	0.63	-0.63	0.00
11,181.0	90.90	177.30	7,078.7	-4,364.4	147.8	4,366.9	0.94	0.94	0.00
11,213.0	90.90	177.60	7,078.2	-4,396.4	149.2	4,398.9	0.94	0.00	0.94
11,244.0	90.10	177.60	7,077.9	-4,427.4	150.5	4,429.9	2.58	-2.58	0.00
11,276.0	89.90	177.00	7,077.9	-4,459.3	152.0	4,461.9	1.98	-0.63	-1.88
11,308.0	89.40	176.70	7,078.1	-4,491.3	153.8	4,493.9	1.82	-1.56	-0.94
11,340.0	89.30	176.50	7,078.5	-4,523.2	155.7	4,525.9	0.70	-0.31	-0.63
11,372.0	90.50	177.20	7,078.5	-4,555.2	157.4	4,557.9	4.34	3.75	2.19
11,404.0	90.90	178.20	7,078.1	-4,587.2	158.7	4,589.9	3.37	1.25	3.13
11,436.0	90.90	178.20	7,077.6	-4,619.1	159.7	4,621.9	0.00	0.00	0.00
11,467.0	91.00	178.20	7,077.1	-4,650.1	160.7	4,652.9	0.32	0.32	0.00
11,499.0	90.80	178.50	7,076.6	-4,682.1	161.6	4,684.9	1.13	-0.63	0.94
11,531.0	91.10	178.60	7,076.1	-4,714.1	162.4	4,716.9	0.99	0.94	0.31
11,562.0	91.10	178.60	7,075.5	-4,745.1	163.2	4,747.9	0.00	0.00	0.00
11,594.0	91.20	178.90	7,074.8	-4,777.1	163.9	4,779.8	0.99	0.31	0.94
11,626.0	91.20	178.60	7,074.2	-4,809.0	164.6	4,811.8	0.94	0.00	-0.94
11,658.0	91.20	178.40	7,073.5	-4,841.0	165.4	4,843.8	0.62	0.00	-0.63
11,690.0	91.10	178.70	7,072.9	-4,873.0	166.2	4,875.8	0.99	-0.31	0.94
11,721.0	90.90	178.40	7,072.3	-4,904.0	167.0	4,906.8	1.16	-0.65	-0.97
11,753.0	90.60	178.40	7,071.9	-4,936.0	167.9	4,938.8	0.94	-0.94	0.00
11,785.0	90.50	178.50	7,071.6	-4,968.0	168.8	4,970.8	0.44	-0.31	0.31
11,817.0	90.60	178.30	7,071.3	-5,000.0	169.7	5,002.8	0.70	0.31	-0.63
11,849.0	90.40	178.50	7,071.0	-5,031.9	170.6	5,034.8	0.88	-0.63	0.63
11,881.0	90.30	178.60	7,070.8	-5,063.9	171.4	5,066.8	0.44	-0.31	0.31
11,912.0	90.20	179.00	7,070.7	-5,094.9	172.0	5,097.8	1.33	-0.32	1.29
11,943.0	90.10	178.90	7,070.6	-5,125.9	172.6	5,128.8	0.46	-0.32	-0.32
11,975.0	89.90	178.90	7,070.6	-5,157.9	173.2	5,160.8	0.63	-0.63	0.00
12,006.0	90.00	179.00	7,070.6	-5,188.9	173.8	5,191.8	0.46	0.32	0.32
12,038.0	90.10	179.00	7,070.6	-5,220.9	174.3	5,223.8	0.31	0.31	0.00
12,070.0	90.20	179.20	7,070.5	-5,252.9	174.8	5,255.8	0.70	0.31	0.63
12,102.0	90.30	179.40	7,070.4	-5,284.9	175.2	5,287.8	0.70	0.31	0.63
12,134.0	90.30	179.50	7,070.2	-5,316.9	175.5	5,319.8	0.31	0.00	0.31
12,166.0	90.20	179.80	7,070.1	-5,348.9	175.7	5,351.8	0.99	-0.31	0.94
12,198.0	90.20	179.80	7,070.0	-5,380.9	175.8	5,383.8	0.00	0.00	0.00
12,230.0	90.10	180.10	7,069.9	-5,412.9	175.9	5,415.7	0.99	-0.31	0.94
12,262.0	90.20	180.00	7,069.8	-5,444.9	175.8	5,447.7	0.44	0.31	-0.31
12,293.0	90.40	180.40	7,069.6	-5,475.9	175.7	5,478.7	1.44	0.65	1.29
12,325.0	90.50	180.70	7,069.4	-5,507.9	175.4	5,510.7	0.99	0.31	0.94
12,357.0	90.40	180.60	7,069.1	-5,539.9	175.1	5,542.6	0.44	-0.31	-0.31
12,388.0	90.60	181.10	7,068.9	-5,570.9	174.6	5,573.6	1.74	0.65	1.61
12,438.0	90.60	181.10	7,068.3	-5,620.9	173.6	5,623.5	0.00	0.00	0.00

DDC
Survey Report



Company: BTA Oil Producers
Project: Eddy ,NM
Site: 20509 JV-P Ogden #1H
Well: 20509 JV-P Ogden #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well 20509 JV-P Ogden #1H
TVD Reference: WELL @ 3100.0usft (Original Well Elev)
MD Reference: WELL @ 3100.0usft (Original Well Elev)
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)
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Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,600.0	6,599.5	-36.2	1.4	Tie-In
12,438.0	7,068.3	-5,620.9	173.6	TD

Checked By: _____ Approved By: _____ Date: _____

30-015-24206

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

BTA OIL

Location: KEY #298, EDDY COUNTY, NEW MEXICO
Lease: OGDEN Well: #1H, 7-5/8" CASING

Job Number: MD1009GMS203

Run Date: 10/11/2009 7:46:32 AM

Surveyor: AJ EATON

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Directional Drilling Company

Survey Latitude: 32.277630 deg. N Longitude: 104.107100 deg. W

Azimuth Correction:

Gyro: -0.12000 deg to Grid North

Proposed Well Direction: 178.050 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

BTA OIL

Location: KEY #298, EDDY COUNTY, NEW MEXICO

Lease: OGDEN Well: #1H, 7-5/8" CASING

Job Number: MD1009GMS203

MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	V E R T I C A L S E C T I O N feet	D O G L E G S E V E R I T Y deg./ 100 ft.	V E R T I C A L D E P T H feet	C L O S U R E D I S T . A Z I M U T H feet deg.	H O R I Z O N T A L C O O R D I N A T E S feet
0.00	0.00	0.00	0.0	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0 TO 6800 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 7-5/8" CASING							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO KEY #298 R.K.B. (+17 FT.)							
100.00	0.13	277.77	-0.0	0.13	100.00	0.1 277.8	0.02 N 0.11 W
200.00	0.41	229.06	0.2	0.34	200.00	0.5 247.6	0.20 S 0.50 W
300.00	0.42	227.87	0.7	0.01	300.00	1.2 236.6	0.68 S 1.04 W
400.00	0.38	237.45	1.1	0.08	399.99	1.9 235.1	1.11 S 1.59 W
500.00	0.38	257.85	1.3	0.13	499.99	2.6 238.3	1.36 S 2.19 W
600.00	0.34	252.57	1.4	0.05	599.99	3.2 241.6	1.52 S 2.80 W
700.00	0.66	271.03	1.5	0.35	699.99	4.0 246.5	1.59 S 3.66 W
800.00	0.87	274.33	1.4	0.21	799.98	5.2 253.0	1.53 S 4.99 W
900.00	1.01	279.62	1.1	0.16	899.96	6.7 258.7	1.32 S 6.62 W
1000.00	0.93	284.72	0.7	0.12	999.95	8.3 263.3	0.97 S 8.27 W
1100.00	0.99	287.54	0.2	0.08	1099.93	9.9 267.1	0.50 S 9.88 W
1200.00	0.87	290.80	-0.4	0.13	1199.92	11.4 270.1	0.03 N 11.41 W
1300.00	0.64	285.70	-0.9	0.24	1299.91	12.7 272.0	0.45 N 12.66 W
1400.00	0.65	284.21	-1.2	0.02	1399.91	13.8 273.1	0.74 N 13.75 W
1500.00	0.52	276.82	-1.4	0.15	1499.90	14.8 273.6	0.93 N 14.75 W
1600.00	0.52	266.56	-1.5	0.09	1599.90	15.7 273.5	0.96 N 15.65 W
1700.00	0.56	257.92	-1.4	0.09	1699.89	16.6 272.9	0.83 N 16.58 W
1800.00	0.14	136.84	-1.2	0.64	1799.89	17.0 272.2	0.64 N 16.98 W
1900.00	0.87	115.81	-0.8	0.74	1899.89	16.2 270.8	0.22 N 16.21 W

A Gyrodata Directional Survey

BTA OIL

Location: KEY #298, EDDY COUNTY, NEW MEXICO

Lease: OGDEN Well: #1H, 7-5/8" CASING

Job Number: MD1009GMS203

MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	V E R T I C A L S E C T I O N feet	D O G L E G S E V E R I T Y deg./ 100 ft.	V E R T I C A L D E P T H feet	C L O S U R E D I S T . A Z I M U T H feet deg.	H O R I Z O N T A L C O O R D I N A T E S feet
2000.00	1.24	122.23	0.2	0.39	1999.87	14.6 267.3	0.69 S 14.61 W
2100.00	1.29	122.45	1.4	0.05	2099.85	12.9 261.7	1.87 S 12.75 W
2200.00	1.71	128.21	3.0	0.45	2199.81	11.2 252.3	3.40 S 10.62 W
2300.00	1.64	130.48	5.0	0.10	2299.77	9.9 237.9	5.25 S 8.36 W
2400.00	1.02	124.33	6.5	0.64	2399.74	9.3 224.4	6.68 S 6.54 W
2500.00	0.66	145.99	7.5	0.47	2499.73	9.4 215.6	7.66 S 5.48 W
2600.00	0.60	138.43	8.4	0.10	2599.72	9.8 209.4	8.53 S 4.81 W
2700.00	0.60	150.17	9.2	0.12	2699.72	10.3 204.2	9.37 S 4.21 W
2800.00	0.65	141.17	10.1	0.11	2799.71	10.9 199.3	10.27 S 3.59 W
2900.00	0.60	147.91	11.1	0.09	2899.71	11.5 194.8	11.16 S 2.96 W
3000.00	0.61	141.00	11.9	0.07	2999.70	12.2 191.0	12.01 S 2.34 W
3100.00	0.54	153.06	12.8	0.14	3099.70	13.0 187.9	12.85 S 1.79 W
3200.00	0.54	145.16	13.6	0.07	3199.69	13.7 185.5	13.65 S 1.31 W
3300.00	0.50	157.02	14.4	0.11	3299.69	14.5 183.5	14.44 S 0.87 W
3400.00	0.44	180.24	15.2	0.20	3399.68	15.2 182.6	15.23 S 0.70 W
3500.00	0.41	195.56	15.9	0.12	3499.68	16.0 182.9	15.96 S 0.80 W
3600.00	0.42	208.67	16.6	0.10	3599.68	16.7 183.7	16.62 S 1.07 W
3700.00	0.39	198.85	17.2	0.08	3699.68	17.3 184.5	17.27 S 1.36 W
3800.00	0.41	209.39	17.8	0.08	3799.67	18.0 185.2	17.90 S 1.64 W
3900.00	0.44	215.64	18.4	0.06	3899.67	18.6 186.3	18.52 S 2.04 W
4000.00	0.39	216.98	19.0	0.05	3999.67	19.3 187.4	19.11 S 2.47 W
4100.00	0.38	207.82	19.6	0.06	4099.67	19.9 188.2	19.67 S 2.83 W
4200.00	0.41	207.92	20.2	0.03	4199.66	20.5 188.8	20.28 S 3.15 W

A Gyrodata Directional Survey

BTA OIL

Location: KEY #298, EDDY COUNTY, NEW MEXICO

Lease: OGDEN Well: #1H, 7-5/8" CASING

Job Number: MD1009GMS203

MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	V E R T I C A L S E C T I O N feet	D O G L E G S E V E R I T Y deg./ 100 ft.	V E R T I C A L D E P T H feet	C L O S U R E D I S T . A Z I M U T H feet deg.	H O R I Z O N T A L C O O R D I N A T E S feet
4300.00	0.47	220.14	20.8	0.11	4299.66	21.2 189.7	20.91 S 3.58 W
4400.00	0.45	217.44	21.4	0.03	4399.66	21.9 190.7	21.54 S 4.09 W
4500.00	0.35	212.12	21.9	0.11	4499.66	22.6 191.5	22.11 S 4.49 W
4600.00	0.37	214.30	22.5	0.02	4599.65	23.1 192.1	22.63 S 4.83 W
4700.00	0.38	214.43	23.0	0.01	4699.65	23.8 192.7	23.17 S 5.20 W
4800.00	0.30	207.90	23.5	0.09	4799.65	24.3 193.1	23.68 S 5.51 W
4900.00	0.32	206.71	23.9	0.02	4899.65	24.8 193.4	24.16 S 5.76 W
5000.00	0.28	203.93	24.4	0.04	4999.65	25.3 193.7	24.63 S 5.99 W
5100.00	0.29	201.58	24.9	0.02	5099.65	25.8 193.8	25.09 S 6.18 W
5200.00	0.37	187.98	25.4	0.11	5199.64	26.4 193.8	25.65 S 6.32 W
5300.00	0.34	184.49	26.0	0.04	5299.64	27.0 193.7	26.26 S 6.38 W
5400.00	0.34	186.54	26.6	0.01	5399.64	27.6 193.5	26.85 S 6.44 W
5500.00	0.43	202.65	27.3	0.14	5499.64	28.3 193.5	27.49 S 6.62 W
5600.00	0.64	196.71	28.1	0.22	5599.63	29.2 193.7	28.37 S 6.92 W
5700.00	0.52	195.99	29.1	0.12	5699.63	30.2 193.8	29.35 S 7.21 W
5800.00	0.51	197.59	29.9	0.02	5799.62	31.1 193.9	30.21 S 7.47 W
5900.00	0.50	184.70	30.8	0.11	5899.62	32.0 193.8	31.06 S 7.64 W
6000.00	0.55	180.00	31.7	0.07	5999.62	32.9 193.5	31.98 S 7.68 W
6100.00	0.75	128.01	32.6	0.60	6099.61	33.6 192.3	32.86 S 7.16 W
6200.00	0.97	121.87	33.5	0.24	6199.60	34.2 190.0	33.71 S 5.92 W
6300.00	1.02	109.18	34.3	0.23	6299.58	34.7 187.2	34.45 S 4.37 W
6400.00	1.07	103.44	34.9	0.12	6399.57	35.1 184.3	34.96 S 2.62 W
6500.00	1.23	109.09	35.5	0.20	6499.55	35.5 181.1	35.53 S 0.69 W

A Gyrodata Directional Survey

BTA OIL

Location: KEY #298, EDDY COUNTY, NEW MEXICO

Lease: OGDEN Well: #1H, 7-5/8" CASING

Job Number: MD1009GMS203

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
6600.00	1.32	108.76	36.3	0.09	6599.52	36.3 177.8	36.25 S 1.41 E
6700.00	1.69	112.20	37.3	0.38	6699.49	37.4 174.1	37.18 S 3.87 E
6800.00	1.97	114.16	38.6	0.29	6799.44	39.0 170.0	38.44 S 6.80 E

Final Station Closure: Distance: 39.04 ft Az: 169.97 deg.