

Form 3160-5
(June 2019)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No. NMMN119271

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator BTA OIL PRODUCERS, LLC

3a. Address 104 S. PECOS; MIDLAND, TX.

3b. Phone No. (include area code)
(432) 682-37534. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC 20 T23S R29E SESE 321 FSL, 793 FEL

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No. HARROUN RANCH 20702 20-17 FED com 6 H

9. API Well No. 3001547200

10. Field and Pool or Exploratory Area
BOBCAT DRAW/UPPER WOLFCAMP11. Country or Parish, State
EDDY

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

11/5/2020: SPUD WELL

11/6/2020: DRILLED 14 3/4" HOLE AND SET 10 3/4" 40.5# J-55 STC CASING @463' WITH 400 SACKS OF CEMENT. CEMENT CIRCULATED TO SURFACE. SUSPEND OPERATIONS FOR BATCH DRILLING.

11/14/2020: TEST 10 3/4" CASING TO 1500 PSI FOR 30 MIN. GOOD TEST. RESUME OPERATIONS.

11/18/2020: DRILLED 9 7/8" HOLE AND SET 7 5/8" 29.7# P-110 BTC CASING @ 9,497' IN TWO STAGES with 855

sx. Open DV tool at 2862', cmt circ to surface off DV tool, pump 2nd stage with 745 sx. Cmt circ to surface. SUSPEND OPERATIONS FOR BATCH DRILLING.

12/10/2020: RESUMED OPERATIONS.

TD: 20,343'

12/26/2020: DRILLED 6 3/4" HOLE AND SET 5 1/2" X 5" TAPERED STING CASING @ 20,328'. (5" 18# TXP-BTC P110 20,328' - 9,465') (5-1/2" 20# P-110 ICY TXP-BTC) to surface WITH 1,750 SACKS CEMENT. TOC CALCULATED TO 500'.

12/26/2020: RIG RELEASED

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

KATY REDDELL

REGULATORY ANALYST

Title

Signature

Date

02/08/2021

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

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.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240



BTA Oil Producers, LLC

Eddy County, New Mexico (NAD 83)

Sec 20, T23-S, R29-E

Harroun Ranch 20702 20-17 Fed Com #6H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

23 December, 2020





QES
Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #6H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #288)
Site:	Sec 20, T23-S, R29-E	MD Reference:	WELL @ 3043.0usft (Patterson #288)
Well:	Harroun Ranch 20702 20-17 Fed Com #6H	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 (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 20, T23-S, R29-E		
Site Position:		Northing:	467,071.70 usft
From:	Map	Easting:	642,041.70 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 17' 1.081 N
		Longitude:	104° 0' 26.864 W
		Grid Convergence:	0.17 °

Well	Harroun Ranch 20702 20-17 Fed Com #6H		
Well Position	+N/-S	0.0 usft	Northing: 467,248.60 usft
	+E/-W	0.0 usft	Easting: 644,023.90 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 17' 2.772 N
		Longitude:	104° 0' 3.766 W
		Ground Level:	3,018.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM2020	10/27/2020	6.88
			Dip Angle (°)
			60.00
			Field Strength (nT)
			47,771.60000000

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)
	0.0	0.0	0.0
			Direction (°)
			2.87

Survey Program	Date	12/23/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
198.0	20,343.0	QES MWD Surveys (Wellbore #1)	MWD	OWSG MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
198.0	2.60	268.00	197.9	-0.2	-4.5	467,248.44	644,019.42	32° 17' 2.770 N	104° 0' 3.819 W
First MWD Survey @ 198.0' MD / 197.9' TVD									
289.0	2.00	263.40	288.9	-0.4	-8.1	467,248.19	644,015.78	32° 17' 2.768 N	104° 0' 3.861 W
349.0	1.90	258.20	348.8	-0.7	-10.1	467,247.87	644,013.76	32° 17' 2.765 N	104° 0' 3.885 W
410.0	2.10	258.30	409.8	-1.2	-12.2	467,247.43	644,011.68	32° 17' 2.761 N	104° 0' 3.909 W
496.0	2.30	271.80	495.7	-1.4	-15.5	467,247.17	644,008.41	32° 17' 2.758 N	104° 0' 3.947 W
591.0	2.90	191.50	590.7	-3.7	-17.9	467,244.87	644,006.02	32° 17' 2.735 N	104° 0' 3.975 W
686.0	6.50	139.10	685.4	-10.2	-14.8	467,238.45	644,009.07	32° 17' 2.672 N	104° 0' 3.940 W
782.0	7.30	139.60	780.7	-18.9	-7.3	467,229.70	644,016.58	32° 17' 2.585 N	104° 0' 3.852 W
877.0	7.70	129.30	874.8	-27.5	1.5	467,221.07	644,025.42	32° 17' 2.499 N	104° 0' 3.750 W
972.0	7.60	133.10	969.0	-35.9	11.0	467,212.74	644,034.93	32° 17' 2.417 N	104° 0' 3.639 W



QES

Survey Report - Geographic



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Well:	Harroun Ranch 20702 20-17 Fed Com #6H	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,067.0	8.10	117.30	1,063.1	-43.2	21.6	467,205.38	644,045.46	32° 17' 2.343 N	104° 0' 3.517 W
1,162.0	8.10	118.00	1,157.2	-49.4	33.4	467,199.17	644,057.32	32° 17' 2.282 N	104° 0' 3.379 W
1,257.0	7.90	117.10	1,251.3	-55.5	45.1	467,193.05	644,069.04	32° 17' 2.221 N	104° 0' 3.243 W
1,352.0	7.80	117.40	1,345.4	-61.5	56.7	467,187.11	644,080.58	32° 17' 2.162 N	104° 0' 3.109 W
1,447.0	7.50	119.50	1,439.5	-67.5	67.8	467,181.09	644,091.70	32° 17' 2.102 N	104° 0' 2.979 W
1,542.0	7.20	123.90	1,533.7	-73.9	78.1	467,174.72	644,102.03	32° 17' 2.038 N	104° 0' 2.859 W
1,637.0	7.00	125.20	1,628.0	-80.5	87.8	467,168.06	644,111.71	32° 17' 1.972 N	104° 0' 2.747 W
1,732.0	6.90	125.60	1,722.3	-87.2	97.2	467,161.40	644,121.08	32° 17' 1.906 N	104° 0' 2.638 W
1,827.0	6.30	125.70	1,816.7	-93.6	106.0	467,155.04	644,129.95	32° 17' 1.843 N	104° 0' 2.535 W
1,922.0	5.70	124.30	1,911.2	-99.3	114.2	467,149.34	644,138.08	32° 17' 1.786 N	104° 0' 2.440 W
2,017.0	5.00	122.30	2,005.7	-104.1	121.6	467,144.47	644,145.48	32° 17' 1.738 N	104° 0' 2.354 W
2,112.0	6.90	108.00	2,100.2	-108.1	130.5	467,140.49	644,154.40	32° 17' 1.698 N	104° 0' 2.250 W
2,207.0	8.60	113.10	2,194.4	-112.7	142.5	467,135.94	644,166.37	32° 17' 1.653 N	104° 0' 2.111 W
2,302.0	8.40	113.00	2,288.3	-118.2	155.4	467,130.44	644,179.29	32° 17' 1.598 N	104° 0' 1.961 W
2,397.0	8.00	112.60	2,382.3	-123.4	167.9	467,125.19	644,191.78	32° 17' 1.545 N	104° 0' 1.815 W
2,493.0	8.30	113.60	2,477.4	-128.7	180.4	467,119.85	644,204.29	32° 17' 1.492 N	104° 0' 1.670 W
2,588.0	8.50	124.50	2,571.4	-135.5	192.5	467,113.13	644,216.36	32° 17' 1.425 N	104° 0' 1.529 W
2,683.0	8.70	123.80	2,665.3	-143.4	204.2	467,105.15	644,228.12	32° 17' 1.346 N	104° 0' 1.393 W
2,777.0	8.70	123.60	2,758.2	-151.3	216.0	467,097.27	644,239.95	32° 17' 1.268 N	104° 0' 1.255 W
2,872.0	8.30	122.10	2,852.2	-159.0	227.8	467,089.65	644,251.74	32° 17' 1.192 N	104° 0' 1.118 W
2,967.0	8.00	121.50	2,946.2	-166.1	239.3	467,082.55	644,263.19	32° 17' 1.121 N	104° 0' 0.985 W
3,062.0	8.00	119.60	3,040.3	-172.8	250.7	467,075.83	644,274.57	32° 17' 1.054 N	104° 0' 0.853 W
3,157.0	7.60	129.60	3,134.4	-180.0	261.3	467,068.56	644,285.16	32° 17' 0.982 N	104° 0' 0.730 W
3,252.0	7.70	131.00	3,228.6	-188.2	270.9	467,060.38	644,294.81	32° 17' 0.901 N	104° 0' 0.618 W
3,347.0	7.80	129.40	3,322.7	-196.5	280.7	467,052.11	644,304.59	32° 17' 0.819 N	104° 0' 0.504 W
3,442.0	7.80	127.80	3,416.8	-204.5	290.8	467,044.07	644,314.67	32° 17' 0.739 N	104° 0' 0.387 W
3,537.0	7.80	127.60	3,510.9	-212.4	301.0	467,036.18	644,324.87	32° 17' 0.661 N	104° 0' 0.268 W
3,632.0	7.70	126.00	3,605.1	-220.1	311.2	467,028.51	644,335.12	32° 17' 0.584 N	104° 0' 0.149 W
3,727.0	7.90	124.90	3,699.2	-227.6	321.7	467,021.03	644,345.63	32° 17' 0.510 N	104° 0' 0.027 W
3,822.0	7.40	123.00	3,793.3	-234.6	332.2	467,013.97	644,356.11	32° 17' 0.440 N	103° 59' 59.905 W
3,917.0	6.80	134.50	3,887.6	-241.9	341.3	467,006.69	644,365.25	32° 17' 0.367 N	103° 59' 59.799 W
4,011.0	6.60	137.00	3,981.0	-249.8	349.0	466,998.84	644,372.91	32° 17' 0.290 N	103° 59' 59.710 W
4,106.0	6.60	136.20	4,075.4	-257.7	356.5	466,990.91	644,380.41	32° 17' 0.211 N	103° 59' 59.623 W
4,202.0	6.70	135.10	4,170.7	-265.6	364.3	466,982.96	644,388.18	32° 17' 0.132 N	103° 59' 59.533 W
4,296.0	6.50	133.00	4,264.1	-273.2	372.0	466,975.45	644,395.94	32° 17' 0.057 N	103° 59' 59.442 W
4,391.0	3.70	145.50	4,358.7	-279.3	377.7	466,969.25	644,401.61	32° 16' 59.996 N	103° 59' 59.377 W
4,486.0	3.30	145.20	4,453.5	-284.1	381.0	466,964.48	644,404.91	32° 16' 59.949 N	103° 59' 59.338 W
4,581.0	3.10	144.00	4,548.4	-288.4	384.1	466,960.16	644,407.98	32° 16' 59.906 N	103° 59' 59.303 W
4,676.0	3.00	141.50	4,643.2	-292.5	387.1	466,956.13	644,411.04	32° 16' 59.866 N	103° 59' 59.267 W
4,771.0	0.70	111.50	4,738.2	-294.6	389.2	466,953.97	644,413.13	32° 16' 59.844 N	103° 59' 59.243 W
4,866.0	0.70	87.90	4,833.2	-294.8	390.3	466,953.78	644,414.25	32° 16' 59.842 N	103° 59' 59.230 W
4,961.0	0.70	87.50	4,928.2	-294.8	391.5	466,953.83	644,415.41	32° 16' 59.843 N	103° 59' 59.216 W
5,056.0	0.50	85.10	5,023.2	-294.7	392.5	466,953.89	644,416.40	32° 16' 59.843 N	103° 59' 59.205 W
5,151.0	0.30	98.00	5,118.2	-294.7	393.2	466,953.89	644,417.06	32° 16' 59.843 N	103° 59' 59.197 W
5,246.0	0.10	123.20	5,213.2	-294.8	393.5	466,953.81	644,417.37	32° 16' 59.843 N	103° 59' 59.194 W
5,341.0	0.20	257.90	5,308.2	-294.9	393.4	466,953.73	644,417.28	32° 16' 59.842 N	103° 59' 59.195 W
5,436.0	0.20	277.00	5,403.2	-294.9	393.0	466,953.72	644,416.95	32° 16' 59.842 N	103° 59' 59.198 W
5,531.0	0.40	247.60	5,498.2	-295.0	392.6	466,953.61	644,416.48	32° 16' 59.841 N	103° 59' 59.204 W
5,626.0	0.50	254.70	5,593.2	-295.2	391.9	466,953.37	644,415.78	32° 16' 59.838 N	103° 59' 59.212 W
5,721.0	0.40	245.70	5,688.2	-295.5	391.2	466,953.13	644,415.07	32° 16' 59.836 N	103° 59' 59.220 W
5,816.0	0.50	233.50	5,783.2	-295.9	390.5	466,952.74	644,414.44	32° 16' 59.832 N	103° 59' 59.228 W
5,911.0	0.60	224.20	5,878.2	-296.5	389.9	466,952.14	644,413.76	32° 16' 59.826 N	103° 59' 59.236 W
6,005.0	0.50	216.90	5,972.1	-297.1	389.3	466,951.46	644,413.17	32° 16' 59.819 N	103° 59' 59.243 W
6,101.0	0.60	218.10	6,068.1	-297.9	388.7	466,950.73	644,412.61	32° 16' 59.812 N	103° 59' 59.249 W
6,196.0	0.70	213.70	6,163.1	-298.7	388.1	466,949.86	644,411.98	32° 16' 59.804 N	103° 59' 59.257 W



QES

Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #6H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #288)
Site:	Sec 20, T23-S, R29-E	MD Reference:	WELL @ 3043.0usft (Patterson #288)
Well:	Harroun Ranch 20702 20-17 Fed Com #6H	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,290.0	0.70	212.50	6,257.1	-299.7	387.4	466,948.89	644,411.35	32° 16' 59.794 N	103° 59' 59.264 W
6,385.0	0.50	336.70	6,352.1	-299.8	387.0	466,948.79	644,410.88	32° 16' 59.793 N	103° 59' 59.269 W
6,481.0	0.80	353.50	6,448.1	-298.8	386.7	466,949.84	644,410.63	32° 16' 59.803 N	103° 59' 59.272 W
6,575.0	0.40	350.80	6,542.1	-297.8	386.6	466,950.81	644,410.51	32° 16' 59.813 N	103° 59' 59.274 W
6,670.0	0.40	330.50	6,637.1	-297.2	386.4	466,951.43	644,410.29	32° 16' 59.819 N	103° 59' 59.276 W
6,765.0	0.60	292.90	6,732.1	-296.7	385.8	466,951.91	644,409.67	32° 16' 59.824 N	103° 59' 59.283 W
6,860.0	0.70	280.80	6,827.1	-296.4	384.7	466,952.21	644,408.64	32° 16' 59.827 N	103° 59' 59.295 W
6,955.0	1.10	283.70	6,922.1	-296.1	383.3	466,952.54	644,407.19	32° 16' 59.830 N	103° 59' 59.312 W
7,050.0	1.10	281.00	7,017.1	-295.7	381.5	466,952.93	644,405.40	32° 16' 59.834 N	103° 59' 59.333 W
7,145.0	0.70	266.00	7,112.1	-295.5	380.0	466,953.06	644,403.93	32° 16' 59.836 N	103° 59' 59.350 W
7,240.0	1.20	111.70	7,207.1	-295.9	380.4	466,952.65	644,404.28	32° 16' 59.832 N	103° 59' 59.346 W
7,335.0	1.30	117.20	7,302.0	-296.8	382.3	466,951.79	644,406.16	32° 16' 59.823 N	103° 59' 59.324 W
7,430.0	1.10	144.50	7,397.0	-298.0	383.7	466,950.56	644,407.65	32° 16' 59.811 N	103° 59' 59.307 W
7,525.0	0.90	184.90	7,492.0	-299.5	384.2	466,949.07	644,408.11	32° 16' 59.796 N	103° 59' 59.302 W
7,620.0	1.30	180.70	7,587.0	-301.4	384.1	466,947.25	644,408.04	32° 16' 59.778 N	103° 59' 59.303 W
7,715.0	0.90	320.90	7,682.0	-301.8	383.6	466,946.75	644,407.55	32° 16' 59.773 N	103° 59' 59.308 W
7,810.0	1.10	316.80	7,777.0	-300.6	382.6	466,948.00	644,406.46	32° 16' 59.785 N	103° 59' 59.321 W
7,905.0	1.20	299.30	7,871.9	-299.5	381.1	466,949.15	644,404.96	32° 16' 59.797 N	103° 59' 59.338 W
8,000.0	0.60	311.40	7,966.9	-298.6	379.8	466,949.96	644,403.72	32° 16' 59.805 N	103° 59' 59.353 W
8,095.0	1.90	72.00	8,061.9	-297.8	380.9	466,950.78	644,404.85	32° 16' 59.813 N	103° 59' 59.340 W
8,191.0	1.50	65.10	8,157.9	-296.8	383.6	466,951.80	644,407.50	32° 16' 59.823 N	103° 59' 59.309 W
8,286.0	0.40	265.00	8,252.9	-296.3	384.4	466,952.29	644,408.30	32° 16' 59.828 N	103° 59' 59.299 W
8,381.0	0.40	242.80	8,347.9	-296.5	383.8	466,952.11	644,407.67	32° 16' 59.826 N	103° 59' 59.307 W
8,476.0	0.70	221.80	8,442.9	-297.1	383.1	466,951.53	644,406.99	32° 16' 59.820 N	103° 59' 59.315 W
8,571.0	0.70	205.90	8,537.8	-298.0	382.4	466,950.57	644,406.35	32° 16' 59.811 N	103° 59' 59.322 W
8,666.0	1.10	203.30	8,632.8	-299.4	381.8	466,949.21	644,405.74	32° 16' 59.797 N	103° 59' 59.329 W
8,761.0	1.50	35.00	8,727.8	-299.2	382.2	466,949.40	644,406.09	32° 16' 59.799 N	103° 59' 59.325 W
8,856.0	1.70	33.70	8,822.8	-297.0	383.7	466,951.59	644,407.59	32° 16' 59.821 N	103° 59' 59.308 W
8,951.0	1.00	48.30	8,917.8	-295.3	385.1	466,953.31	644,408.99	32° 16' 59.838 N	103° 59' 59.291 W
9,046.0	0.70	49.90	9,012.8	-294.4	386.1	466,954.24	644,410.05	32° 16' 59.847 N	103° 59' 59.279 W
9,141.0	0.40	34.00	9,107.7	-293.7	386.8	466,954.88	644,410.68	32° 16' 59.853 N	103° 59' 59.271 W
9,235.0	0.40	127.90	9,201.7	-293.6	387.2	466,954.96	644,411.12	32° 16' 59.854 N	103° 59' 59.266 W
9,330.0	0.50	143.10	9,296.7	-294.2	387.7	466,954.42	644,411.63	32° 16' 59.849 N	103° 59' 59.260 W
9,425.0	0.50	165.80	9,391.7	-294.9	388.1	466,953.69	644,411.98	32° 16' 59.842 N	103° 59' 59.256 W
9,456.0	0.50	164.70	9,422.7	-295.2	388.1	466,953.43	644,412.05	32° 16' 59.839 N	103° 59' 59.256 W
9,513.0	0.50	153.10	9,479.7	-295.6	388.3	466,952.96	644,412.23	32° 16' 59.834 N	103° 59' 59.253 W
9,608.0	7.90	17.60	9,574.4	-289.8	390.5	466,958.83	644,414.40	32° 16' 59.892 N	103° 59' 59.228 W
9,702.0	27.10	20.20	9,663.7	-263.3	399.9	466,985.33	644,423.83	32° 17' 0.154 N	103° 59' 59.117 W
9,797.0	38.10	18.20	9,743.6	-215.0	416.6	467,033.63	644,440.51	32° 17' 0.632 N	103° 59' 58.921 W
9,891.0	43.20	2.50	9,815.1	-155.1	427.1	467,093.52	644,451.00	32° 17' 1.224 N	103° 59' 58.797 W
9,986.0	52.60	359.40	9,878.7	-84.7	428.1	467,163.90	644,452.03	32° 17' 1.921 N	103° 59' 58.782 W
10,080.0	58.00	1.30	9,932.2	-7.5	428.6	467,241.15	644,452.54	32° 17' 2.685 N	103° 59' 58.773 W
10,102.2	58.58	1.13	9,943.9	11.4	429.0	467,260.03	644,452.94	32° 17' 2.872 N	103° 59' 58.768 W
330' HL Crossed @ 10102.2' MD / 9943.9' TVD									
10,175.0	60.50	0.60	9,980.8	74.2	430.0	467,322.77	644,453.89	32° 17' 3.493 N	103° 59' 58.755 W
10,270.0	74.80	2.60	10,016.8	161.8	432.5	467,410.37	644,456.42	32° 17' 4.359 N	103° 59' 58.722 W
10,391.0	81.40	3.50	10,041.7	279.9	438.8	467,528.53	644,462.72	32° 17' 5.529 N	103° 59' 58.644 W
10,486.0	86.30	0.80	10,051.9	374.3	442.4	467,622.88	644,466.25	32° 17' 6.462 N	103° 59' 58.600 W
10,581.0	90.00	1.70	10,055.0	469.2	444.4	467,717.79	644,468.33	32° 17' 7.401 N	103° 59' 58.572 W
10,676.0	89.70	1.50	10,055.2	564.2	447.1	467,812.75	644,470.98	32° 17' 8.341 N	103° 59' 58.538 W
10,770.0	88.40	0.20	10,056.8	658.1	448.5	467,906.73	644,472.37	32° 17' 9.271 N	103° 59' 58.518 W
10,865.0	87.90	0.30	10,059.9	753.1	448.9	468,001.68	644,472.79	32° 17' 10.210 N	103° 59' 58.510 W
10,960.0	88.70	0.60	10,062.7	848.0	449.6	468,096.63	644,473.53	32° 17' 11.150 N	103° 59' 58.498 W
11,054.0	89.30	1.10	10,064.3	942.0	451.0	468,190.60	644,474.93	32° 17' 12.080 N	103° 59' 58.478 W
11,149.0	91.20	2.00	10,063.9	1,037.0	453.6	468,285.56	644,477.50	32° 17' 13.019 N	103° 59' 58.445 W



QES

Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #6H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #288)
Site:	Sec 20, T23-S, R29-E	MD Reference:	WELL @ 3043.0usft (Patterson #288)
Well:	Harroun Ranch 20702 20-17 Fed Com #6H	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,243.0	89.60	1.70	10,063.2	1,130.9	456.6	468,379.51	644,480.53	32° 17' 13.949 N	103° 59' 58.406 W
11,338.0	93.70	4.20	10,060.5	1,225.7	461.5	468,474.32	644,485.42	32° 17' 14.887 N	103° 59' 58.346 W
11,432.0	91.40	1.70	10,056.3	1,319.5	466.3	468,568.09	644,490.25	32° 17' 15.815 N	103° 59' 58.286 W
11,526.0	89.50	0.30	10,055.6	1,413.5	468.0	468,662.06	644,491.89	32° 17' 16.745 N	103° 59' 58.264 W
11,620.0	91.10	0.90	10,055.1	1,507.5	469.0	468,756.05	644,492.87	32° 17' 17.675 N	103° 59' 58.249 W
11,715.0	91.30	1.00	10,053.1	1,602.4	470.5	468,851.02	644,494.44	32° 17' 18.615 N	103° 59' 58.227 W
11,809.0	89.50	0.70	10,052.5	1,696.4	471.9	468,945.00	644,495.84	32° 17' 19.545 N	103° 59' 58.207 W
11,904.0	89.00	359.40	10,053.7	1,791.4	472.0	469,039.99	644,495.92	32° 17' 20.485 N	103° 59' 58.203 W
11,999.0	89.20	359.90	10,055.2	1,886.4	471.4	469,134.98	644,495.34	32° 17' 21.425 N	103° 59' 58.206 W
12,093.0	90.20	0.60	10,055.7	1,980.4	471.8	469,228.97	644,495.75	32° 17' 22.355 N	103° 59' 58.198 W
12,188.0	90.70	0.90	10,054.9	2,075.4	473.1	469,323.96	644,497.00	32° 17' 23.295 N	103° 59' 58.180 W
12,282.0	87.60	359.60	10,056.3	2,169.3	473.5	469,417.94	644,497.41	32° 17' 24.225 N	103° 59' 58.172 W
12,377.0	86.40	358.70	10,061.3	2,264.2	472.1	469,512.79	644,496.00	32° 17' 25.163 N	103° 59' 58.185 W
12,472.0	90.50	0.60	10,063.9	2,359.1	471.5	469,607.73	644,495.42	32° 17' 26.103 N	103° 59' 58.188 W
12,567.0	88.70	359.20	10,064.5	2,454.1	471.4	469,702.72	644,495.26	32° 17' 27.043 N	103° 59' 58.187 W
12,661.0	89.50	359.20	10,066.0	2,548.1	470.0	469,796.70	644,493.94	32° 17' 27.973 N	103° 59' 58.199 W
12,756.0	90.70	358.80	10,065.8	2,643.1	468.4	469,891.69	644,492.28	32° 17' 28.913 N	103° 59' 58.214 W
12,850.0	90.50	358.90	10,064.9	2,737.1	466.5	469,985.66	644,490.40	32° 17' 29.843 N	103° 59' 58.233 W
12,945.0	89.10	357.60	10,065.2	2,832.0	463.6	470,080.61	644,487.50	32° 17' 30.783 N	103° 59' 58.263 W
13,039.0	91.00	358.00	10,065.1	2,925.9	460.0	470,174.54	644,483.89	32° 17' 31.712 N	103° 59' 58.302 W
13,134.0	90.90	359.30	10,063.5	3,020.9	457.7	470,269.50	644,481.65	32° 17' 32.652 N	103° 59' 58.325 W
13,229.0	89.80	358.10	10,063.0	3,115.9	455.6	470,364.47	644,479.50	32° 17' 33.592 N	103° 59' 58.346 W
13,324.0	91.30	1.30	10,062.0	3,210.8	455.1	470,459.45	644,479.00	32° 17' 34.532 N	103° 59' 58.349 W
13,419.0	92.80	1.90	10,058.6	3,305.7	457.7	470,554.35	644,481.65	32° 17' 35.471 N	103° 59' 58.314 W
13,514.0	90.40	1.80	10,056.0	3,400.7	460.8	470,649.25	644,484.71	32° 17' 36.410 N	103° 59' 58.275 W
13,608.0	88.60	0.40	10,056.8	3,494.6	462.6	470,743.22	644,486.52	32° 17' 37.340 N	103° 59' 58.251 W
13,702.0	88.00	0.10	10,059.6	3,588.6	463.0	470,837.18	644,486.93	32° 17' 38.269 N	103° 59' 58.242 W
13,797.0	88.40	2.20	10,062.6	3,683.5	464.9	470,932.11	644,488.83	32° 17' 39.209 N	103° 59' 58.217 W
13,892.0	90.90	3.80	10,063.2	3,778.4	469.9	471,026.97	644,493.81	32° 17' 40.147 N	103° 59' 58.155 W
13,987.0	91.40	4.00	10,061.3	3,873.1	476.4	471,121.73	644,500.27	32° 17' 41.085 N	103° 59' 58.077 W
14,082.0	89.90	1.50	10,060.2	3,968.0	480.9	471,216.60	644,504.82	32° 17' 42.024 N	103° 59' 58.020 W
14,177.0	90.50	1.90	10,059.8	4,063.0	483.7	471,311.56	644,507.64	32° 17' 42.963 N	103° 59' 57.984 W
14,271.0	89.30	359.90	10,060.0	4,156.9	485.2	471,405.54	644,509.12	32° 17' 43.893 N	103° 59' 57.963 W
14,365.0	88.70	359.90	10,061.7	4,250.9	485.0	471,499.53	644,508.95	32° 17' 44.823 N	103° 59' 57.962 W
14,460.0	89.50	359.20	10,063.1	4,345.9	484.3	471,594.51	644,508.21	32° 17' 45.763 N	103° 59' 57.967 W
14,554.0	90.00	359.60	10,063.6	4,439.9	483.3	471,688.50	644,507.22	32° 17' 46.693 N	103° 59' 57.975 W
14,649.0	90.60	0.90	10,063.1	4,534.9	483.7	471,783.50	644,507.64	32° 17' 47.633 N	103° 59' 57.967 W
14,743.0	91.10	1.10	10,061.7	4,628.9	485.4	471,877.47	644,509.28	32° 17' 48.563 N	103° 59' 57.944 W
14,838.0	86.50	358.80	10,063.7	4,723.8	485.3	471,972.42	644,509.20	32° 17' 49.503 N	103° 59' 57.942 W
14,932.0	90.80	357.30	10,065.9	4,817.7	482.1	472,066.32	644,506.00	32° 17' 50.432 N	103° 59' 57.976 W
15,026.0	89.00	358.50	10,066.0	4,911.6	478.7	472,160.25	644,502.55	32° 17' 51.362 N	103° 59' 58.012 W
15,121.0	88.30	358.00	10,068.3	5,006.6	475.7	472,255.18	644,499.65	32° 17' 52.301 N	103° 59' 58.043 W
15,215.0	90.10	358.40	10,069.6	5,100.5	472.8	472,349.12	644,496.70	32° 17' 53.231 N	103° 59' 58.074 W
15,310.0	91.70	358.40	10,068.1	5,195.5	470.1	472,444.06	644,494.05	32° 17' 54.171 N	103° 59' 58.101 W
15,404.0	93.60	358.40	10,063.7	5,289.3	467.5	472,537.92	644,491.43	32° 17' 55.100 N	103° 59' 58.128 W
15,500.0	91.90	359.30	10,059.1	5,385.2	465.6	472,633.79	644,489.50	32° 17' 56.048 N	103° 59' 58.147 W
15,594.0	92.40	359.90	10,055.6	5,479.1	464.9	472,727.72	644,488.85	32° 17' 56.978 N	103° 59' 58.152 W
15,689.0	87.20	359.90	10,055.9	5,574.1	464.8	472,822.69	644,488.68	32° 17' 57.918 N	103° 59' 58.150 W
15,784.0	86.40	359.80	10,061.2	5,668.9	464.5	472,917.54	644,488.43	32° 17' 58.856 N	103° 59' 58.149 W
15,878.0	86.30	359.30	10,067.2	5,762.7	463.8	473,011.34	644,487.70	32° 17' 59.784 N	103° 59' 58.155 W
15,973.0	86.90	0.80	10,072.9	5,857.6	463.9	473,106.17	644,487.78	32° 18' 0.723 N	103° 59' 58.150 W
16,067.0	90.90	0.70	10,074.7	5,951.5	465.1	473,200.13	644,489.01	32° 18' 1.653 N	103° 59' 58.133 W
16,162.0	92.40	1.00	10,071.9	6,046.5	466.5	473,295.08	644,490.42	32° 18' 2.592 N	103° 59' 58.113 W
16,257.0	92.30	0.20	10,068.0	6,141.4	467.5	473,389.99	644,491.41	32° 18' 3.531 N	103° 59' 58.098 W
16,352.0	90.30	0.60	10,065.9	6,236.4	468.2	473,484.96	644,492.08	32° 18' 4.471 N	103° 59' 58.086 W



QES

Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #6H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #288)
Site:	Sec 20, T23-S, R29-E	MD Reference:	WELL @ 3043.0usft (Patterson #288)
Well:	Harroun Ranch 20702 20-17 Fed Com #6H	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,446.0	89.20	0.80	10,066.3	6,330.3	469.3	473,578.95	644,493.22	32° 18' 5.401 N	103° 59' 58.070 W
16,541.0	88.90	0.80	10,067.9	6,425.3	470.6	473,673.93	644,494.55	32° 18' 6.341 N	103° 59' 58.051 W
16,636.0	88.00	0.90	10,070.4	6,520.3	472.1	473,768.88	644,495.96	32° 18' 7.281 N	103° 59' 58.031 W
16,730.0	87.50	1.00	10,074.1	6,614.2	473.6	473,862.79	644,497.52	32° 18' 8.210 N	103° 59' 58.009 W
16,825.0	88.00	0.40	10,077.9	6,709.1	474.8	473,957.71	644,498.68	32° 18' 9.149 N	103° 59' 57.992 W
16,920.0	91.00	0.60	10,078.7	6,804.1	475.6	474,052.69	644,499.51	32° 18' 10.089 N	103° 59' 57.979 W
17,015.0	91.40	0.70	10,076.7	6,899.1	476.7	474,147.67	644,500.58	32° 18' 11.029 N	103° 59' 57.963 W
17,110.0	90.20	359.40	10,075.4	6,994.1	476.8	474,242.65	644,500.67	32° 18' 11.969 N	103° 59' 57.959 W
17,204.0	89.10	358.30	10,075.9	7,088.0	474.9	474,336.63	644,498.78	32° 18' 12.899 N	103° 59' 57.977 W
17,299.0	88.50	358.90	10,077.9	7,183.0	472.6	474,431.58	644,496.46	32° 18' 13.839 N	103° 59' 58.001 W
17,394.0	92.20	1.30	10,077.4	7,278.0	472.7	474,526.56	644,496.62	32° 18' 14.778 N	103° 59' 57.996 W
17,489.0	93.50	0.30	10,072.6	7,372.8	474.0	474,621.43	644,497.95	32° 18' 15.717 N	103° 59' 57.977 W
17,584.0	93.50	358.50	10,066.8	7,467.6	473.1	474,716.24	644,496.96	32° 18' 16.655 N	103° 59' 57.985 W
17,678.0	92.90	0.70	10,061.6	7,561.5	472.4	474,810.08	644,496.30	32° 18' 17.584 N	103° 59' 57.989 W
17,772.0	92.90	1.70	10,056.8	7,655.3	474.4	474,903.94	644,498.27	32° 18' 18.513 N	103° 59' 57.963 W
17,867.0	90.60	1.60	10,053.9	7,750.3	477.1	474,998.85	644,501.00	32° 18' 19.452 N	103° 59' 57.928 W
17,961.0	90.50	4.20	10,053.0	7,844.1	481.9	475,092.72	644,505.76	32° 18' 20.381 N	103° 59' 57.869 W
18,056.0	89.50	1.90	10,053.0	7,939.0	486.9	475,187.58	644,510.81	32° 18' 21.319 N	103° 59' 57.806 W
18,151.0	87.30	2.50	10,055.7	8,033.9	490.6	475,282.46	644,514.46	32° 18' 22.258 N	103° 59' 57.760 W
18,245.0	86.40	2.30	10,060.8	8,127.6	494.5	475,376.24	644,518.39	32° 18' 23.186 N	103° 59' 57.711 W
18,340.0	86.10	2.20	10,067.1	8,222.4	498.2	475,470.96	644,522.11	32° 18' 24.123 N	103° 59' 57.664 W
18,435.0	87.20	359.70	10,072.6	8,317.2	499.8	475,565.78	644,523.68	32° 18' 25.061 N	103° 59' 57.643 W
18,531.0	87.60	359.30	10,077.0	8,413.1	498.9	475,661.67	644,522.84	32° 18' 26.010 N	103° 59' 57.649 W
18,625.0	88.40	359.40	10,080.2	8,507.0	497.9	475,755.61	644,521.78	32° 18' 26.940 N	103° 59' 57.658 W
18,719.0	88.00	358.30	10,083.2	8,600.9	496.0	475,849.54	644,519.89	32° 18' 27.870 N	103° 59' 57.677 W
18,814.0	90.80	357.80	10,084.2	8,695.9	492.8	475,944.47	644,516.66	32° 18' 28.809 N	103° 59' 57.711 W
18,908.0	91.90	359.40	10,082.0	8,789.8	490.5	476,038.41	644,514.36	32° 18' 29.739 N	103° 59' 57.734 W
19,003.0	92.00	359.60	10,078.7	8,884.8	489.6	476,133.36	644,513.53	32° 18' 30.678 N	103° 59' 57.740 W
19,097.0	93.50	359.70	10,074.2	8,978.6	489.1	476,227.24	644,512.96	32° 18' 31.608 N	103° 59' 57.744 W
19,192.0	91.80	0.50	10,069.8	9,073.5	489.2	476,322.14	644,513.13	32° 18' 32.547 N	103° 59' 57.738 W
19,287.0	93.10	1.30	10,065.8	9,168.4	490.7	476,417.04	644,514.62	32° 18' 33.486 N	103° 59' 57.717 W
19,382.0	91.80	0.20	10,061.7	9,263.3	492.0	476,511.94	644,515.86	32° 18' 34.425 N	103° 59' 57.700 W
19,476.0	90.90	4.40	10,059.5	9,357.2	495.7	476,605.81	644,519.63	32° 18' 35.354 N	103° 59' 57.652 W
19,571.0	89.70	8.50	10,059.0	9,451.6	506.4	476,700.19	644,530.30	32° 18' 36.287 N	103° 59' 57.524 W
19,666.0	87.70	5.70	10,061.2	9,545.8	518.1	476,794.42	644,542.04	32° 18' 37.219 N	103° 59' 57.384 W
19,761.0	87.30	2.40	10,065.3	9,640.5	524.8	476,889.08	644,548.74	32° 18' 38.156 N	103° 59' 57.303 W
19,855.0	86.60	358.20	10,070.3	9,734.3	525.3	476,982.93	644,549.23	32° 18' 39.084 N	103° 59' 57.294 W
19,950.0	86.60	357.50	10,075.9	9,829.1	521.8	477,077.69	644,545.68	32° 18' 40.022 N	103° 59' 57.332 W
20,045.0	91.30	358.40	10,077.7	9,924.0	518.4	477,172.59	644,542.28	32° 18' 40.962 N	103° 59' 57.368 W
20,107.5	92.02	357.81	10,075.9	9,986.4	516.3	477,235.03	644,540.21	32° 18' 41.579 N	103° 59' 57.389 W
330' HL Crossed @ 20107.5' MD / 10075.9' TVD									
20,140.0	92.40	357.50	10,074.6	10,018.9	515.0	477,267.47	644,538.88	32° 18' 41.901 N	103° 59' 57.404 W
20,234.0	90.30	356.70	10,072.4	10,112.7	510.2	477,361.32	644,534.13	32° 18' 42.829 N	103° 59' 57.456 W
20,280.0	88.90	355.50	10,072.7	10,158.6	507.1	477,407.21	644,531.00	32° 18' 43.284 N	103° 59' 57.491 W
20,343.0	88.90	355.50	10,073.9	10,221.4	502.2	477,470.01	644,526.06	32° 18' 43.905 N	103° 59' 57.546 W
TD @ 20343.0' MD / 10073.9' TVD									



QES
Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #6H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #288)
Site:	Sec 20, T23-S, R29-E	MD Reference:	WELL @ 3043.0usft (Patterson #288)
Well:	Harroun Ranch 20702 20-17 Fed Com #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
198.0	197.9	-0.2	-4.5	First MWD Survey @ 198.0' MD / 197.9' TVD
10,102.2	9,943.9	11.4	429.0	330' HL Crossed @ 10102.2' MD / 9943.9' TVD
20,107.5	10,075.9	9,986.4	516.3	330' HL Crossed @ 20107.5' MD / 10075.9' TVD
20,343.0	10,073.9	10,221.4	502.2	TD @ 20343.0' MD / 10073.9' TVD

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1000 Rio Brazos Rd., Aztec, NM 87410
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District IV
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 27778

CONDITIONS OF APPROVAL

Operator:				OGRID:	Action Number:	Action Type:
BTA OIL PRODUCERS, LLC	104 S Pecos	Midland, TX79701		260297	27778	C-103N
OCD Reviewer	Condition					
ksimmons	None					