

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

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.
NMNM119271

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

8. Well Name and No.
HARROUN RANCH FED COM 6H

9. API Well No.
30-015-47200

10. Field and Pool or Exploratory Area
BOBCAT DRAW/UPPER WOLFCAM

11. County or Parish, State
EDDY COUNTY COUNTY, NM

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
BTA OIL PRODUCERS, LLC
Contact: SAMMY HAJAR
E-Mail: shajar@btaoil.com

3a. Address
104 S. PECOS
MIDLAND, TX 79701

3b. Phone No. (include area code)
Ph: 432-682-3753

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 20 T23S R29E SESE 321FSL 793FEL
32.284103 N Lat, 104.001046 W Lon

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 determined that the site is ready for final inspection.

BTA OIL PRODUCERS LLC RESPECTFULLY REQUESTS THE FOLLOWING FOOTAGE, FIELD & POOL, CASING & CEMENT, and DRILLING DESIGN CHANGES TO THE ORIGINAL APD AS APPROVED. PLEASE SEE ATTACHED DOCUMENTS FOR MORE DETAILS.

ORIGINAL FIELD & POOL : BOBCAT DRAW / UPPER WOLFCAMP
NEW FIELD & POOL: PURPLE SAGE / WOLFCAMP

ORIGINAL FOOTAGES:
FTP: 330' FSL & 1155'FEL
LTP: 330' FNL & 1155'FEL
BHL: 50' FNL & 1155'FEL

Approved
Approved with Conditions.
See attached COAs.
All previous COAs still Apply.
Carlsbad Field Office
Operator Copy

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #527535 verified by the BLM Well Information System
For BTA OIL PRODUCERS, LLC, sent to the Carlsbad

Name (Printed/Typed) SAMMY HAJAR

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 08/26/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Olabode Thomas Ajibola.

Title Petroleum Engineer.

Date 10/9/20

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)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

DISTRICT I
 1625 N. French Dr., Hobbs, NM 88240
 Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
 811 S. First St., Artesia, NM 88210
 Phone: (575) 748-1283 Fax: (575) 748-9729

DISTRICT III
 1900 Rio Brazos Road, Aztec, NM 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505
 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
 Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, New Mexico 87505

Form C-102
 Revised August 1, 2011
 Submit one copy to appropriate
 District Office

✓ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

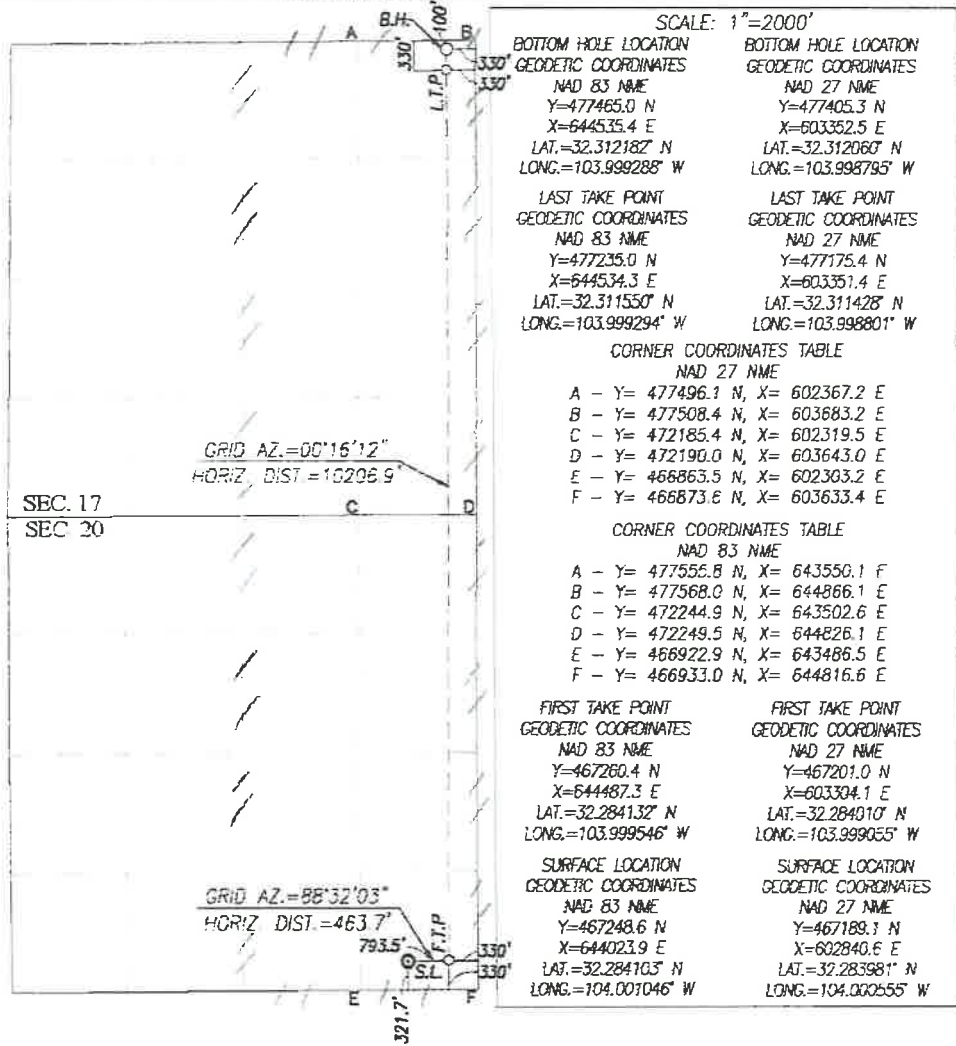
API Number 30-015-47200	Pool Code	Pool Name PURPLE SAGE ; WOLFCAMP
Property Code	Property Name HARROUN RANCH	Well Number 6H
OGRID No. 260297	Operator Name BTA OIL PRODUCERS, LLC	Elevation 3018'

Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	20	23-S	29-E		321.7	SOUTH	793.5	EAST	EDDY

Bottom Hole Location If Different From Surface									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	17	23-S	29-E		100	NORTH	330	EAST	EDDY

Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Sammy Hajar* Date: 8/26/2020

Printed Name: **Sammy Hajar**

E-mail Address: **SHAJAR@BTAOIL.COM**

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from the best of original surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: 11/11/2019
 Signature: *Ronald J. Eidson* Seal of Professional Surveyor

Certificate Number: Gary G. Eidson 12641
 Ronald J. Eidson 3239

ACK REL. W.O.:18111099 JWSC W.O.: 19.13.1172

Additional data for EC transaction #527535 that would not fit on the form

32. Additional remarks, continued

NEW FOOTAGES:
FTP: 330' FSL & 330' FEL
LTP: 330' FNL & 330' FEL
BHL: 100' FNL & 330' FEL

301A Approved 10/9/20

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BTA Oil Producers
LEASE NO.:	NMNM119271
WELL NAME & NO.:	HARROUN RANCH FED COM 6H
SURFACE HOLE FOOTAGE:	321.7'/S & 793.5'/E
BOTTOM HOLE FOOTAGE:	100'/N & 330'/E
LOCATION:	Section 20, T.23 S., R.29 E., NMP
COUNTY:	Eddy County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

All Previous CAOs Still Apply.

A. CASING

Casing Design:

1. The 10-3/4 inch surface casing shall be set at approximately **470 feet** (a minimum of **70 feet (Eddy County)**) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength,

whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The 7-5/8 inch intermediate casing shall be set at approximately 9,533 feet. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
Excess cement calculates to -19%, additional cement might be required.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
Excess cement calculates to 16%, additional cement might be required.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

B. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

C. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

OTA10092020



BTA Oil Producers, LLC
 104 S Pecos
 Midland, TX 79701

WELL: Harroun Ranch 20702 20-17 #6H
 TVD: 10053
 MD: 20400

DRILLING PLAN

Casing Program

Hole Size	Csg.Size	From (MD)	To (MD)	From (TVD)	To (TVD)	Tapered String	Weight (lbs)	Grade	Conn.	Collapse	Burst	Body Tension	Joint Tension	Dry/Buoyant	Mud Weight (ppg)
14 3/4	10 3/4	0	470	0	470	No	40.5	J-55	STC	7.8	15.4	33.0	22.1	Dry	8.3
9 7/8	7 5/8	0	9533	0	9500	No	29.7	P110	Buttress	2.1	2.0	3.3	3.4	Dry	9.4
6 3/4	5 1/2	0	9333	0	10032	Yes	20	P110	Buttress	1.5	1.7	3.4	3.6	Dry	13
6 3/4	5	9333	20400	10032	10053	Yes	18	P110	Buttress	1.8	1.9	1.6	1.7	Dry	13

*7 5/8" has DV Tool @ 2881

DV Tool Depth 2881

Cementing Program

Csg. Size		Stage Tool Depth	Top MD of Segment	Bottom MD of Segment	Cement Type	Quantity (sk)	Yield (cu. Ft./sk)	Density (lbs. gal)	Volume (cu.ft.)	% Excess	Additives
10 3/4	Lead		0	225	Class C	145	1.74	13.5	252.3	100%	2% CaCl2
	Tail		225	470	Class C	200	1.34	14.8	268	100%	2% CaCl2
7 5/8	Stg 2 Lead		0	2450	Class C	395	2.19	12.7	865.05	50%	0.5% CaCl2
	Stg 2 Tail		2450	2881	Class C	150	1.33	14.8	199.5	50%	1% CaCl2
	Stg 1 Lead		2881	7645	Class II	450	2.64	10.5	1188	15%	0.5% CaCl2
	Stg 1 Tail		7645	9533	Class II	400	1.19	15.6	476	15%	1% CaCl2
5 1/2	Lead										
	Tail		8533	11790	Class II						
5	Lead										
	Tail		9333	20400	Class II	1335	1.27	14.8	1695.45	10%	0.1% Fluid Loss

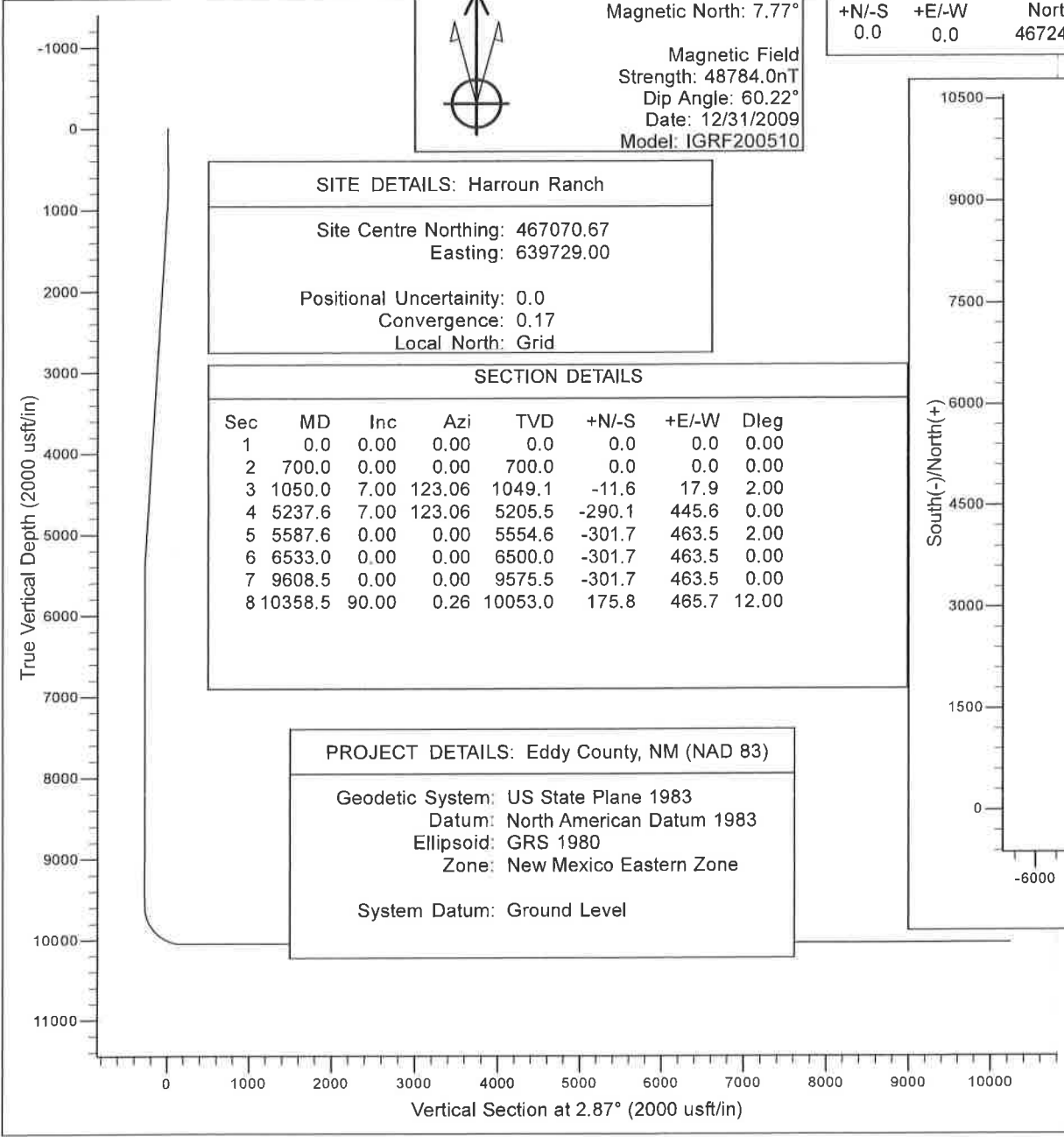
BTA Oil Producers, LLC

T G M

Azimuths to Grid North
 True North: -0.18°
 Magnetic North: 7.77°

Magnetic Field
 Strength: 48784.0nT
 Dip Angle: 60.22°
 Date: 12/31/2009
 Model: IGRF200510

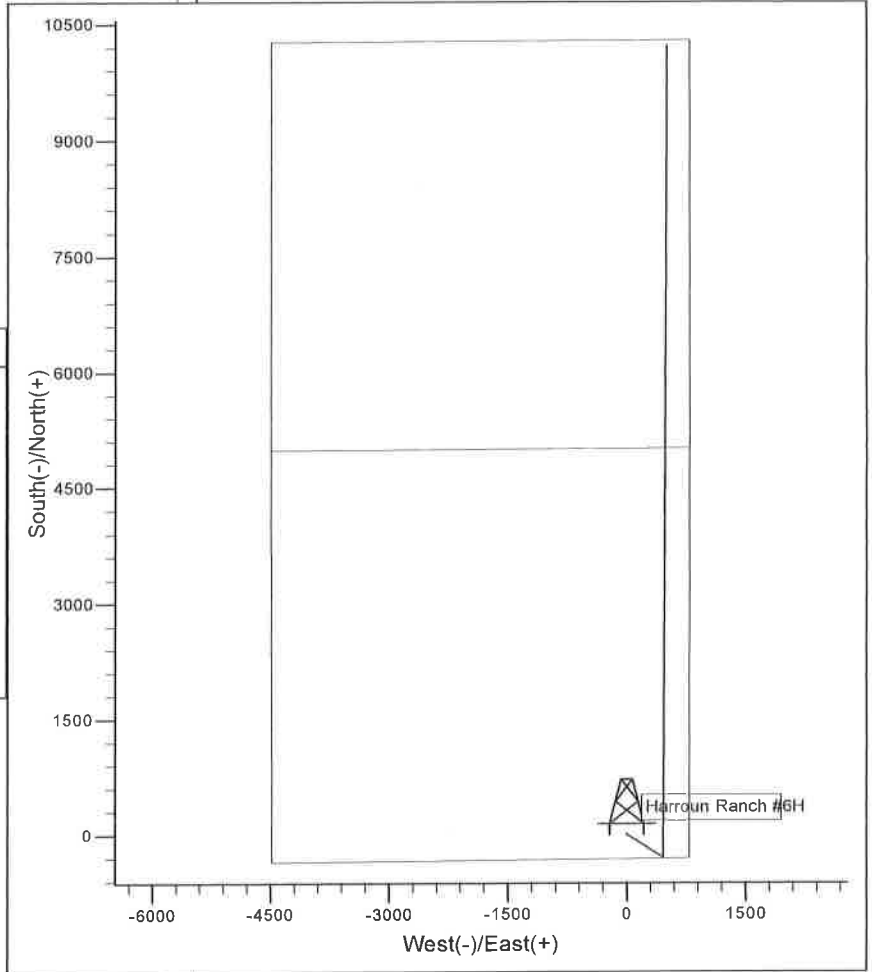
WELL DETAILS: Harroun Ranch #6H					
+N/-S	+E/-W	Northing	Easting	Ground Level Latitude	Ground Level Longitude
0.0	0.0	467248.60	644023.90	3018.0 $32^\circ 17' 2.772\text{ N}$	104° 0' 3.766 W



SITE DETAILS: Harroun Ranch	
Site Centre Northing:	467070.67
Easting:	639729.00
Positional Uncertainty:	0.0
Convergence:	0.17
Local North:	Grid

SECTION DETAILS							
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00
2	700.0	0.00	0.00	700.0	0.0	0.0	0.00
3	1050.0	7.00	123.06	1049.1	-11.6	17.9	2.00
4	5237.6	7.00	123.06	5205.5	-290.1	445.6	0.00
5	5587.6	0.00	0.00	5554.6	-301.7	463.5	2.00
6	6533.0	0.00	0.00	6500.0	-301.7	463.5	0.00
7	9608.5	0.00	0.00	9575.5	-301.7	463.5	0.00
8	10358.5	90.00	0.26	10053.0	175.8	465.7	12.00

PROJECT DETAILS: Eddy County, NM (NAD 83)	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Ground Level



BTA Oil Producers, LLC

Eddy County, NM (NAD 83)

Harroun Ranch

Harroun Ranch #6H

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

26 August, 2020

Microsoft
Planning Report - Geographic

Database:	Old	Local Co-ordinate Reference:	Well Harroun Ranch #6H
Company:	BTA Oil Producers, LLC	TVD Reference:	WELL @ 3018.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	MD Reference:	WELL @ 3018.0usft (Original Well Elev)
Site:	Harroun Ranch	North Reference:	Grid
Well:	Harroun Ranch #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Harroun Ranch				
Site Position:		Northing:	467,070.67 usft	Latitude:	32° 17' 1.140 N
From:	Map	Easting:	639,729.01 usft	Longitude:	104° 0' 53.805 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.17 °

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

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.95	60.22	48,784.03429346

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	2.87	

Plan Survey Tool Program	Date	8/26/2020			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	20,428.9 Design #1 (Wellbore #1)			

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,050.0	7.00	123.06	1,049.1	-11.6	17.9	2.00	2.00	0.00	123.06	
5,237.6	7.00	123.06	5,205.5	-290.1	445.6	0.00	0.00	0.00	0.00	
5,587.6	0.00	0.00	5,554.6	-301.7	463.5	2.00	-2.00	0.00	180.00	
6,533.0	0.00	0.00	6,500.0	-301.7	463.5	0.00	0.00	0.00	0.00	
9,608.5	0.00	0.00	9,575.5	-301.7	463.5	0.00	0.00	0.00	0.00	
10,358.5	90.00	0.26	10,053.0	175.8	465.7	12.00	12.00	0.00	0.26	

Microsoft
Planning Report - Geographic

Database:	Old	Local Co-ordinate Reference:	Well Harroun Ranch #6H
Company:	BTA Oil Producers, LLC	TVD Reference:	WELL @ 3018.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	MD Reference:	WELL @ 3018.0usft (Original Well Elev)
Site:	Harroun Ranch	North Reference:	Grid
Well:	Harroun Ranch #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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
100.0	0.00	0.00	100.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
200.0	0.00	0.00	200.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
300.0	0.00	0.00	300.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
400.0	0.00	0.00	400.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
500.0	0.00	0.00	500.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
600.0	0.00	0.00	600.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
700.0	0.00	0.00	700.0	0.0	0.0	467,248.60	644,023.90	32° 17' 2.772 N	104° 0' 3.766 W
800.0	2.00	123.06	800.0	-1.0	1.5	467,247.65	644,025.37	32° 17' 2.762 N	104° 0' 3.749 W
900.0	4.00	123.06	899.8	-3.8	5.8	467,244.79	644,029.75	32° 17' 2.734 N	104° 0' 3.698 W
1,000.0	6.00	123.06	999.5	-8.6	13.2	467,240.04	644,037.06	32° 17' 2.687 N	104° 0' 3.614 W
1,050.0	7.00	123.06	1,049.1	-11.6	17.9	467,236.95	644,041.80	32° 17' 2.656 N	104° 0' 3.558 W
1,100.0	7.00	123.06	1,098.8	-15.0	23.0	467,233.63	644,046.91	32° 17' 2.623 N	104° 0' 3.499 W
1,200.0	7.00	123.06	1,198.0	-21.6	33.2	467,226.98	644,057.12	32° 17' 2.557 N	104° 0' 3.380 W
1,300.0	7.00	123.06	1,297.3	-28.3	43.4	467,220.33	644,067.33	32° 17' 2.491 N	104° 0' 3.262 W
1,400.0	7.00	123.06	1,396.5	-34.9	53.6	467,213.69	644,077.54	32° 17' 2.425 N	104° 0' 3.143 W
1,500.0	7.00	123.06	1,495.8	-41.6	63.9	467,207.04	644,087.76	32° 17' 2.359 N	104° 0' 3.024 W
1,600.0	7.00	123.06	1,595.0	-48.2	74.1	467,200.39	644,097.97	32° 17' 2.292 N	104° 0' 2.905 W
1,700.0	7.00	123.06	1,694.3	-54.9	84.3	467,193.74	644,108.18	32° 17' 2.226 N	104° 0' 2.787 W
1,800.0	7.00	123.06	1,793.5	-61.5	94.5	467,187.09	644,118.40	32° 17' 2.160 N	104° 0' 2.668 W
1,900.0	7.00	123.06	1,892.8	-68.2	104.7	467,180.45	644,128.61	32° 17' 2.094 N	104° 0' 2.549 W
2,000.0	7.00	123.06	1,992.0	-74.8	114.9	467,173.80	644,138.82	32° 17' 2.028 N	104° 0' 2.430 W
2,100.0	7.00	123.06	2,091.3	-81.5	125.1	467,167.15	644,149.04	32° 17' 1.962 N	104° 0' 2.312 W
2,200.0	7.00	123.06	2,190.6	-88.1	135.4	467,160.50	644,159.25	32° 17' 1.896 N	104° 0' 2.193 W
2,300.0	7.00	123.06	2,289.8	-94.8	145.6	467,153.85	644,169.46	32° 17' 1.830 N	104° 0' 2.074 W
2,400.0	7.00	123.06	2,389.1	-101.4	155.8	467,147.21	644,179.67	32° 17' 1.764 N	104° 0' 1.956 W
2,500.0	7.00	123.06	2,488.3	-108.0	166.0	467,140.56	644,189.89	32° 17' 1.698 N	104° 0' 1.837 W
2,600.0	7.00	123.06	2,587.6	-114.7	176.2	467,133.91	644,200.10	32° 17' 1.632 N	104° 0' 1.718 W
2,700.0	7.00	123.06	2,686.8	-121.3	186.4	467,127.26	644,210.31	32° 17' 1.565 N	104° 0' 1.599 W
2,800.0	7.00	123.06	2,786.1	-128.0	196.6	467,120.62	644,220.53	32° 17' 1.499 N	104° 0' 1.481 W
2,900.0	7.00	123.06	2,885.3	-134.6	206.9	467,113.97	644,230.74	32° 17' 1.433 N	104° 0' 1.362 W
3,000.0	7.00	123.06	2,984.6	-141.3	217.1	467,107.32	644,240.95	32° 17' 1.367 N	104° 0' 1.243 W
3,100.0	7.00	123.06	3,083.8	-147.9	227.3	467,100.67	644,251.17	32° 17' 1.301 N	104° 0' 1.124 W
3,200.0	7.00	123.06	3,183.1	-154.6	237.5	467,094.02	644,261.38	32° 17' 1.235 N	104° 0' 1.006 W
3,300.0	7.00	123.06	3,282.4	-161.2	247.7	467,087.38	644,271.59	32° 17' 1.169 N	104° 0' 0.887 W
3,400.0	7.00	123.06	3,381.6	-167.9	257.9	467,080.73	644,281.80	32° 17' 1.103 N	104° 0' 0.768 W
3,500.0	7.00	123.06	3,480.9	-174.5	268.1	467,074.08	644,292.02	32° 17' 1.037 N	104° 0' 0.649 W
3,600.0	7.00	123.06	3,580.1	-181.2	278.3	467,067.43	644,302.23	32° 17' 0.971 N	104° 0' 0.531 W
3,700.0	7.00	123.06	3,679.4	-187.8	288.6	467,060.79	644,312.44	32° 17' 0.904 N	104° 0' 0.412 W
3,800.0	7.00	123.06	3,778.6	-194.5	298.8	467,054.14	644,322.66	32° 17' 0.838 N	104° 0' 0.293 W
3,900.0	7.00	123.06	3,877.9	-201.1	309.0	467,047.49	644,332.87	32° 17' 0.772 N	104° 0' 0.175 W
4,000.0	7.00	123.06	3,977.1	-207.8	319.2	467,040.84	644,343.08	32° 17' 0.706 N	104° 0' 0.056 W
4,100.0	7.00	123.06	4,076.4	-214.4	329.4	467,034.19	644,353.29	32° 17' 0.640 N	103° 59' 59.937 W
4,200.0	7.00	123.06	4,175.7	-221.1	339.6	467,027.55	644,363.51	32° 17' 0.574 N	103° 59' 59.818 W
4,300.0	7.00	123.06	4,274.9	-227.7	349.8	467,020.90	644,373.72	32° 17' 0.508 N	103° 59' 59.700 W
4,400.0	7.00	123.06	4,374.2	-234.4	360.1	467,014.25	644,383.93	32° 17' 0.442 N	103° 59' 59.581 W
4,500.0	7.00	123.06	4,473.4	-241.0	370.3	467,007.60	644,394.15	32° 17' 0.376 N	103° 59' 59.462 W
4,600.0	7.00	123.06	4,572.7	-247.7	380.5	467,000.96	644,404.36	32° 17' 0.310 N	103° 59' 59.343 W
4,700.0	7.00	123.06	4,671.9	-254.3	390.7	466,994.31	644,414.57	32° 17' 0.243 N	103° 59' 59.225 W
4,800.0	7.00	123.06	4,771.2	-261.0	400.9	466,987.66	644,424.79	32° 17' 0.177 N	103° 59' 59.106 W
4,900.0	7.00	123.06	4,870.4	-267.6	411.1	466,981.01	644,435.00	32° 17' 0.111 N	103° 59' 58.987 W
5,000.0	7.00	123.06	4,969.7	-274.3	421.3	466,974.36	644,445.21	32° 17' 0.045 N	103° 59' 58.869 W
5,100.0	7.00	123.06	5,068.9	-280.9	431.6	466,967.72	644,455.42	32° 16' 59.979 N	103° 59' 58.750 W
5,200.0	7.00	123.06	5,168.2	-287.6	441.8	466,961.07	644,465.64	32° 16' 59.913 N	103° 59' 58.631 W
5,237.6	7.00	123.06	5,205.5	-290.1	445.6	466,958.57	644,469.47	32° 16' 59.888 N	103° 59' 58.586 W

Microsoft
Planning Report - Geographic

Database:	Old	Local Co-ordinate Reference:	Well Harroun Ranch #6H
Company:	BTA Oil Producers, LLC	TVD Reference:	WELL @ 3018.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	MD Reference:	WELL @ 3018.0usft (Original Well Elev)
Site:	Harroun Ranch	North Reference:	Grid
Well:	Harroun Ranch #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,300.0	5.75	123.06	5,267.5	-293.8	451.4	466,954.79	644,475.28	32° 16' 59.850 N	103° 59' 58.519 W
5,400.0	3.75	123.06	5,367.2	-298.4	458.4	466,950.27	644,482.22	32° 16' 59.806 N	103° 59' 58.438 W
5,500.0	1.75	123.06	5,467.1	-301.0	462.4	466,947.65	644,486.25	32° 16' 59.780 N	103° 59' 58.391 W
5,587.6	0.00	0.00	5,554.6	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
5,600.0	0.00	0.00	5,567.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
5,700.0	0.00	0.00	5,667.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
5,800.0	0.00	0.00	5,767.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
5,900.0	0.00	0.00	5,867.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,000.0	0.00	0.00	5,967.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,100.0	0.00	0.00	6,067.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,200.0	0.00	0.00	6,167.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,300.0	0.00	0.00	6,267.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,400.0	0.00	0.00	6,367.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,500.0	0.00	0.00	6,467.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,533.0	0.00	0.00	6,500.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,600.0	0.00	0.00	6,567.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,700.0	0.00	0.00	6,667.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,800.0	0.00	0.00	6,767.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
6,900.0	0.00	0.00	6,867.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,000.0	0.00	0.00	6,967.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,100.0	0.00	0.00	7,067.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,200.0	0.00	0.00	7,167.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,300.0	0.00	0.00	7,267.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,400.0	0.00	0.00	7,367.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,500.0	0.00	0.00	7,467.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,600.0	0.00	0.00	7,567.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,700.0	0.00	0.00	7,667.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,800.0	0.00	0.00	7,767.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
7,900.0	0.00	0.00	7,867.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,000.0	0.00	0.00	7,967.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,100.0	0.00	0.00	8,067.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,200.0	0.00	0.00	8,167.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,300.0	0.00	0.00	8,267.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,400.0	0.00	0.00	8,367.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,500.0	0.00	0.00	8,467.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,600.0	0.00	0.00	8,567.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,700.0	0.00	0.00	8,667.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,800.0	0.00	0.00	8,767.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
8,900.0	0.00	0.00	8,867.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,000.0	0.00	0.00	8,967.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,100.0	0.00	0.00	9,067.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,200.0	0.00	0.00	9,167.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,300.0	0.00	0.00	9,267.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,400.0	0.00	0.00	9,367.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,500.0	0.00	0.00	9,467.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,600.0	0.00	0.00	9,567.0	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,608.5	0.00	0.00	9,575.5	-301.7	463.5	466,946.92	644,487.37	32° 16' 59.772 N	103° 59' 58.378 W
9,700.0	10.98	0.26	9,666.5	-293.0	463.5	466,955.67	644,487.41	32° 16' 59.859 N	103° 59' 58.378 W
9,800.0	22.98	0.26	9,762.0	-263.8	463.7	466,984.82	644,487.54	32° 17' 0.147 N	103° 59' 58.375 W
9,900.0	34.98	0.26	9,849.3	-215.4	463.9	467,033.18	644,487.76	32° 17' 0.626 N	103° 59' 58.371 W
10,000.0	46.98	0.26	9,924.6	-150.0	464.2	467,098.63	644,488.06	32° 17' 1.274 N	103° 59' 58.365 W
10,100.0	58.98	0.26	9,984.7	-70.3	464.6	467,178.32	644,488.42	32° 17' 2.062 N	103° 59' 58.358 W
10,200.0	70.98	0.26	10,026.9	20.2	465.0	467,268.77	644,488.84	32° 17' 2.957 N	103° 59' 58.350 W
10,300.0	82.98	0.26	10,049.4	117.4	465.4	467,366.01	644,489.28	32° 17' 3.919 N	103° 59' 58.341 W
10,358.5	90.00	0.26	10,053.0	175.8	465.7	467,424.35	644,489.55	32° 17' 4.497 N	103° 59' 58.336 W

Microsoft
Planning Report - Geographic

Database:	Old	Local Co-ordinate Reference:	Well Harroun Ranch #6H
Company:	BTA Oil Producers, LLC	TVD Reference:	WELL @ 3018.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	MD Reference:	WELL @ 3018.0usft (Original Well Elev)
Site:	Harroun Ranch	North Reference:	Grid
Well:	Harroun Ranch #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,400.0	90.00	0.26	10,053.0	217.3	465.9	467,465.85	644,489.74	32° 17' 4.907 N	103° 59' 58.332 W	
10,500.0	90.00	0.26	10,053.0	317.3	466.3	467,565.85	644,490.19	32° 17' 5.897 N	103° 59' 58.323 W	
10,600.0	90.00	0.26	10,053.0	417.3	466.8	467,665.84	644,490.65	32° 17' 6.886 N	103° 59' 58.314 W	
10,700.0	90.00	0.26	10,053.0	517.3	467.2	467,765.83	644,491.11	32° 17' 7.876 N	103° 59' 58.305 W	
10,800.0	90.00	0.26	10,053.0	617.3	467.7	467,865.82	644,491.56	32° 17' 8.865 N	103° 59' 58.296 W	
10,900.0	90.00	0.26	10,053.0	717.3	468.2	467,965.81	644,492.02	32° 17' 9.855 N	103° 59' 58.287 W	
11,000.0	90.00	0.26	10,053.0	817.3	468.6	468,065.80	644,492.48	32° 17' 10.844 N	103° 59' 58.278 W	
11,100.0	90.00	0.26	10,053.0	917.3	469.1	468,165.79	644,492.93	32° 17' 11.834 N	103° 59' 58.269 W	
11,200.0	90.00	0.26	10,053.0	1,017.3	469.5	468,265.78	644,493.39	32° 17' 12.823 N	103° 59' 58.260 W	
11,300.0	90.00	0.26	10,053.0	1,117.3	470.0	468,365.77	644,493.85	32° 17' 13.813 N	103° 59' 58.252 W	
11,400.0	90.00	0.26	10,053.0	1,217.3	470.4	468,465.76	644,494.30	32° 17' 14.802 N	103° 59' 58.243 W	
11,500.0	90.00	0.26	10,053.0	1,317.3	470.9	468,565.76	644,494.76	32° 17' 15.792 N	103° 59' 58.234 W	
11,600.0	90.00	0.26	10,053.0	1,417.3	471.4	468,665.75	644,495.22	32° 17' 16.781 N	103° 59' 58.225 W	
11,700.0	90.00	0.26	10,053.0	1,517.3	471.8	468,765.74	644,495.67	32° 17' 17.771 N	103° 59' 58.216 W	
11,800.0	90.00	0.26	10,053.0	1,617.3	472.3	468,865.73	644,496.13	32° 17' 18.760 N	103° 59' 58.207 W	
11,900.0	90.00	0.26	10,053.0	1,717.3	472.7	468,965.72	644,496.59	32° 17' 19.750 N	103° 59' 58.198 W	
12,000.0	90.00	0.26	10,053.0	1,817.3	473.2	469,065.71	644,497.04	32° 17' 20.739 N	103° 59' 58.189 W	
12,100.0	90.00	0.26	10,053.0	1,917.3	473.6	469,165.70	644,497.50	32° 17' 21.729 N	103° 59' 58.180 W	
12,200.0	90.00	0.26	10,053.0	2,017.3	474.1	469,265.69	644,497.96	32° 17' 22.718 N	103° 59' 58.171 W	
12,300.0	90.00	0.26	10,053.0	2,117.3	474.5	469,365.68	644,498.41	32° 17' 23.708 N	103° 59' 58.162 W	
12,400.0	90.00	0.26	10,053.0	2,217.2	475.0	469,465.68	644,498.87	32° 17' 24.697 N	103° 59' 58.153 W	
12,500.0	90.00	0.26	10,053.0	2,317.2	475.5	469,565.67	644,499.33	32° 17' 25.686 N	103° 59' 58.144 W	
12,600.0	90.00	0.26	10,053.0	2,417.2	475.9	469,665.66	644,499.78	32° 17' 26.676 N	103° 59' 58.135 W	
12,700.0	90.00	0.26	10,053.0	2,517.2	476.4	469,765.65	644,500.24	32° 17' 27.665 N	103° 59' 58.126 W	
12,800.0	90.00	0.26	10,053.0	2,617.2	476.8	469,865.64	644,500.70	32° 17' 28.655 N	103° 59' 58.117 W	
12,900.0	90.00	0.26	10,053.0	2,717.2	477.3	469,965.63	644,501.15	32° 17' 29.644 N	103° 59' 58.108 W	
13,000.0	90.00	0.26	10,053.0	2,817.2	477.7	470,065.62	644,501.61	32° 17' 30.634 N	103° 59' 58.099 W	
13,100.0	90.00	0.26	10,053.0	2,917.2	478.2	470,165.61	644,502.07	32° 17' 31.623 N	103° 59' 58.090 W	
13,200.0	90.00	0.26	10,053.0	3,017.2	478.7	470,265.60	644,502.52	32° 17' 32.613 N	103° 59' 58.082 W	
13,300.0	90.00	0.26	10,053.0	3,117.2	479.1	470,365.60	644,502.98	32° 17' 33.602 N	103° 59' 58.073 W	
13,400.0	90.00	0.26	10,053.0	3,217.2	479.6	470,465.59	644,503.44	32° 17' 34.592 N	103° 59' 58.064 W	
13,500.0	90.00	0.26	10,053.0	3,317.2	480.0	470,565.58	644,503.89	32° 17' 35.581 N	103° 59' 58.055 W	
13,600.0	90.00	0.26	10,053.0	3,417.2	480.5	470,665.57	644,504.35	32° 17' 36.571 N	103° 59' 58.046 W	
13,700.0	90.00	0.26	10,053.0	3,517.2	480.9	470,765.56	644,504.81	32° 17' 37.560 N	103° 59' 58.037 W	
13,800.0	90.00	0.26	10,053.0	3,617.2	481.4	470,865.55	644,505.26	32° 17' 38.550 N	103° 59' 58.028 W	
13,900.0	90.00	0.26	10,053.0	3,717.2	481.9	470,965.54	644,505.72	32° 17' 39.539 N	103° 59' 58.019 W	
14,000.0	90.00	0.26	10,053.0	3,817.2	482.3	471,065.53	644,506.18	32° 17' 40.529 N	103° 59' 58.010 W	
14,100.0	90.00	0.26	10,053.0	3,917.2	482.8	471,165.52	644,506.63	32° 17' 41.518 N	103° 59' 58.001 W	
14,200.0	90.00	0.26	10,053.0	4,017.2	483.2	471,265.51	644,507.09	32° 17' 42.508 N	103° 59' 57.992 W	
14,300.0	90.00	0.26	10,053.0	4,117.2	483.7	471,365.51	644,507.55	32° 17' 43.497 N	103° 59' 57.983 W	
14,400.0	90.00	0.26	10,053.0	4,217.2	484.1	471,465.50	644,508.00	32° 17' 44.487 N	103° 59' 57.974 W	
14,500.0	90.00	0.26	10,053.0	4,317.2	484.6	471,565.49	644,508.46	32° 17' 45.476 N	103° 59' 57.965 W	
14,600.0	90.00	0.26	10,053.0	4,417.2	485.1	471,665.48	644,508.92	32° 17' 46.465 N	103° 59' 57.956 W	
14,700.0	90.00	0.26	10,053.0	4,517.2	485.5	471,765.47	644,509.37	32° 17' 47.455 N	103° 59' 57.947 W	
14,800.0	90.00	0.26	10,053.0	4,617.2	486.0	471,865.46	644,509.83	32° 17' 48.444 N	103° 59' 57.938 W	
14,900.0	90.00	0.26	10,053.0	4,717.2	486.4	471,965.45	644,510.29	32° 17' 49.434 N	103° 59' 57.929 W	
15,000.0	90.00	0.26	10,053.0	4,817.2	486.9	472,065.44	644,510.74	32° 17' 50.423 N	103° 59' 57.920 W	
15,100.0	90.00	0.26	10,053.0	4,917.2	487.3	472,165.43	644,511.20	32° 17' 51.413 N	103° 59' 57.912 W	
15,200.0	90.00	0.26	10,053.0	5,017.2	487.8	472,265.43	644,511.66	32° 17' 52.402 N	103° 59' 57.903 W	
15,300.0	90.00	0.26	10,053.0	5,117.2	488.2	472,365.42	644,512.11	32° 17' 53.392 N	103° 59' 57.894 W	
15,400.0	90.00	0.26	10,053.0	5,217.2	488.7	472,465.41	644,512.57	32° 17' 54.381 N	103° 59' 57.885 W	
15,500.0	90.00	0.26	10,053.0	5,317.2	489.2	472,565.40	644,513.03	32° 17' 55.371 N	103° 59' 57.876 W	
15,600.0	90.00	0.26	10,053.0	5,417.2	489.6	472,665.39	644,513.48	32° 17' 56.360 N	103° 59' 57.867 W	
15,700.0	90.00	0.26	10,053.0	5,517.2	490.1	472,765.38	644,513.94	32° 17' 57.350 N	103° 59' 57.858 W	
15,800.0	90.00	0.26	10,053.0	5,617.2	490.5	472,865.37	644,514.40	32° 17' 58.339 N	103° 59' 57.849 W	

Microsoft
Planning Report - Geographic

Database:	Old	Local Co-ordinate Reference:	Well Harroun Ranch #6H
Company:	BTA Oil Producers, LLC	TVD Reference:	WELL @ 3018.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	MD Reference:	WELL @ 3018.0usft (Original Well Elev)
Site:	Harroun Ranch	North Reference:	Grid
Well:	Harroun Ranch #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,900.0	90.00	0.26	10,053.0	5,717.2	491.0	472,965.36	644,514.85	32° 17' 59.329 N	103° 59' 57.840 W
16,000.0	90.00	0.26	10,053.0	5,817.2	491.4	473,065.35	644,515.31	32° 18' 0.318 N	103° 59' 57.831 W
16,100.0	90.00	0.26	10,053.0	5,917.2	491.9	473,165.35	644,515.77	32° 18' 1.308 N	103° 59' 57.822 W
16,200.0	90.00	0.26	10,053.0	6,017.2	492.4	473,265.34	644,516.22	32° 18' 2.297 N	103° 59' 57.813 W
16,300.0	90.00	0.26	10,053.0	6,117.2	492.8	473,365.33	644,516.68	32° 18' 3.287 N	103° 59' 57.804 W
16,400.0	90.00	0.26	10,053.0	6,217.2	493.3	473,465.32	644,517.14	32° 18' 4.276 N	103° 59' 57.795 W
16,500.0	90.00	0.26	10,053.0	6,317.2	493.7	473,565.31	644,517.59	32° 18' 5.265 N	103° 59' 57.786 W
16,600.0	90.00	0.26	10,053.0	6,417.2	494.2	473,665.30	644,518.05	32° 18' 6.255 N	103° 59' 57.777 W
16,700.0	90.00	0.26	10,053.0	6,517.2	494.6	473,765.29	644,518.51	32° 18' 7.244 N	103° 59' 57.768 W
16,800.0	90.00	0.26	10,053.0	6,617.2	495.1	473,865.28	644,518.96	32° 18' 8.234 N	103° 59' 57.759 W
16,900.0	90.00	0.26	10,053.0	6,717.2	495.6	473,965.27	644,519.42	32° 18' 9.223 N	103° 59' 57.750 W
17,000.0	90.00	0.26	10,053.0	6,817.2	496.0	474,065.27	644,519.88	32° 18' 10.213 N	103° 59' 57.741 W
17,100.0	90.00	0.26	10,053.0	6,917.2	496.5	474,165.26	644,520.33	32° 18' 11.202 N	103° 59' 57.733 W
17,200.0	90.00	0.26	10,053.0	7,017.2	496.9	474,265.25	644,520.79	32° 18' 12.192 N	103° 59' 57.724 W
17,300.0	90.00	0.26	10,053.0	7,117.2	497.4	474,365.24	644,521.25	32° 18' 13.181 N	103° 59' 57.715 W
17,400.0	90.00	0.26	10,053.0	7,217.2	497.8	474,465.23	644,521.70	32° 18' 14.171 N	103° 59' 57.706 W
17,500.0	90.00	0.26	10,053.0	7,317.2	498.3	474,565.22	644,522.16	32° 18' 15.160 N	103° 59' 57.697 W
17,600.0	90.00	0.26	10,053.0	7,417.2	498.8	474,665.21	644,522.62	32° 18' 16.150 N	103° 59' 57.688 W
17,700.0	90.00	0.26	10,053.0	7,517.2	499.2	474,765.20	644,523.07	32° 18' 17.139 N	103° 59' 57.679 W
17,800.0	90.00	0.26	10,053.0	7,617.2	499.7	474,865.19	644,523.53	32° 18' 18.129 N	103° 59' 57.670 W
17,900.0	90.00	0.26	10,053.0	7,717.2	500.1	474,965.18	644,523.99	32° 18' 19.118 N	103° 59' 57.661 W
18,000.0	90.00	0.26	10,053.0	7,817.2	500.6	475,065.18	644,524.44	32° 18' 20.108 N	103° 59' 57.652 W
18,100.0	90.00	0.26	10,053.0	7,917.2	501.0	475,165.17	644,524.90	32° 18' 21.097 N	103° 59' 57.643 W
18,200.0	90.00	0.26	10,053.0	8,017.2	501.5	475,265.16	644,525.36	32° 18' 22.087 N	103° 59' 57.634 W
18,300.0	90.00	0.26	10,053.0	8,117.2	501.9	475,365.15	644,525.81	32° 18' 23.076 N	103° 59' 57.625 W
18,400.0	90.00	0.26	10,053.0	8,217.2	502.4	475,465.14	644,526.27	32° 18' 24.066 N	103° 59' 57.616 W
18,500.0	90.00	0.26	10,053.0	8,317.2	502.9	475,565.13	644,526.73	32° 18' 25.055 N	103° 59' 57.607 W
18,600.0	90.00	0.26	10,053.0	8,417.2	503.3	475,665.12	644,527.18	32° 18' 26.044 N	103° 59' 57.598 W
18,700.0	90.00	0.26	10,053.0	8,517.2	503.8	475,765.11	644,527.64	32° 18' 27.034 N	103° 59' 57.589 W
18,800.0	90.00	0.26	10,053.0	8,617.2	504.2	475,865.10	644,528.10	32° 18' 28.023 N	103° 59' 57.580 W
18,900.0	90.00	0.26	10,053.0	8,717.2	504.7	475,965.10	644,528.55	32° 18' 29.013 N	103° 59' 57.571 W
19,000.0	90.00	0.26	10,053.0	8,817.2	505.1	476,065.09	644,529.01	32° 18' 30.002 N	103° 59' 57.562 W
19,100.0	90.00	0.26	10,053.0	8,917.2	505.6	476,165.08	644,529.47	32° 18' 30.992 N	103° 59' 57.553 W
19,200.0	90.00	0.26	10,053.0	9,017.2	506.1	476,265.07	644,529.92	32° 18' 31.981 N	103° 59' 57.544 W
19,300.0	90.00	0.26	10,053.0	9,117.2	506.5	476,365.06	644,530.38	32° 18' 32.971 N	103° 59' 57.535 W
19,400.0	90.00	0.26	10,053.0	9,217.2	507.0	476,465.05	644,530.84	32° 18' 33.960 N	103° 59' 57.527 W
19,500.0	90.00	0.26	10,053.0	9,317.2	507.4	476,565.04	644,531.29	32° 18' 34.950 N	103° 59' 57.518 W
19,600.0	90.00	0.26	10,053.0	9,417.2	507.9	476,665.03	644,531.75	32° 18' 35.939 N	103° 59' 57.509 W
19,700.0	90.00	0.26	10,053.0	9,517.2	508.3	476,765.02	644,532.21	32° 18' 36.929 N	103° 59' 57.500 W
19,800.0	90.00	0.26	10,053.0	9,617.2	508.8	476,865.02	644,532.66	32° 18' 37.918 N	103° 59' 57.491 W
19,900.0	90.00	0.26	10,053.0	9,717.2	509.3	476,965.01	644,533.12	32° 18' 38.908 N	103° 59' 57.482 W
20,000.0	90.00	0.26	10,053.0	9,817.2	509.7	477,065.00	644,533.58	32° 18' 39.897 N	103° 59' 57.473 W
20,100.0	90.00	0.26	10,053.0	9,917.2	510.2	477,164.99	644,534.03	32° 18' 40.887 N	103° 59' 57.464 W
20,200.0	90.00	0.26	10,053.0	10,017.2	510.6	477,264.98	644,534.49	32° 18' 41.876 N	103° 59' 57.455 W
20,300.0	90.00	0.26	10,053.0	10,117.2	511.1	477,364.97	644,534.95	32° 18' 42.866 N	103° 59' 57.446 W
20,400.0	90.00	0.26	10,053.0	10,217.2	511.5	477,465.00	644,535.40	32° 18' 43.855 N	103° 59' 57.437 W

Microsoft
Planning Report - Geographic

Database:	Old	Local Co-ordinate Reference:	Well Harroun Ranch #6H
Company:	BTA Oil Producers, LLC	TVD Reference:	WELL @ 3018.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	MD Reference:	WELL @ 3018.0usft (Original Well Elev)
Site:	Harroun Ranch	North Reference:	Grid
Well:	Harroun Ranch #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Harroun #6H BHL	0.00	0.00	10,053.0	10,217.2	511.5	477,465.00	644,535.40	32° 18' 43.855 N	103° 59' 57.437 W
- plan hits target center									
- Point									