15-602

COPY

OCD Hobbs

HOBBS OCD

NOV 30 2015

RECEIVED

Form 3160-3
(February 2005)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NM 14492 (H)

6. If Indian, Allotee or Tribe Name: ---

7. If Unit or CA Agreement, Name and No.: ---

8. Lease Name and Well No.: Mesa 8105 JV-P #23H (306301)

9. API Well No.: 30-025 - 42962

10. Field and Pool, or Exploratory: (97903) WC-025 G-08 S253235E; Wolfbone

11. Sec., T. R. M. or Blk. and Survey or Area: Sec. 12, T26S-R32E

1a. Type of work: [✓] DRILL [ ] REENTER

1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other [✓] Single Zone [ ] Multiple Zone

2. Name of Operator: BTA Oil Producers, LLC (260297)

3a. Address: 104 S. Pecos, Midland, TX 79701

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

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: 330' FNL & 710' FWL NW/NW Sec. 12 UL -D-
At proposed prod. zone: 230' FSL & 950' FWL SW/SW Sec. 12 UL -M-
UNORTHODOX LOCATION

14. Distance in miles and direction from nearest town or post office*: 25 miles west from Jal, NM

12. County or Parish: Lea

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any): 230'

16. No. of acres in lease: 1960

17. Spacing Unit dedicated to this well: 160 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 348' BHL to BHL (8105 JV-P Mesa #10H)

19. Proposed Depth: 16,222' MD 11,635' TVD

20. BLM/BIA Bond No. on file: NM1195 NMB000849

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3287' GL

22. Approximate date work will start*: 08/01/2015

23. Estimated duration: 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature: Kayla McConnell — Name (Printed/Typed): Kayla McConnell — Date: 04/23/2015

Title: Regulatory Analyst — Email: kmcconnell@btaoil.com

Approved by (Signature): Steve Caffey — Name (Printed/Typed): — Date: NOV 18 2015

Title: FOR FIELD MANAGER — Office: BLM-CARLSBAD FIELD OFFICE

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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)

Carlsbad Controlled Water Basin

KZ 11/30/15

Witness Surface & Intermediate Casing

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DEC 01 2015

COPY

BTA Oil Producers LLC, Mesa 8105 JV-P #23H

Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #23H
Sec 12, T26S, R32E
Lea County, NM

1. Geologic Formations

TVD of target	11635	Pilot hole depth	N/A
MD at TD:	16222	Deepest expected fresh water:	175

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	717	Water	
Top of Salt	1362	Salt	
Base of Salt	4477	Salt	
Delaware	4717	Oil/Gas	
Cherry Canyon	5962	Oil/Gas	
Brushy Canyon	7387	Oil/Gas	
Bone Spring	8642	Oil/Gas	
Atoka			
Morrow			
Barnett Shale			
Woodford Shale			
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

HOBBS OCD
NOV 30 2015
RECEIVED

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg.Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	~~747~~ 810'	13.375"	54.5	J55	STC	1.43	1.26	2.59
12.25"	0	4687	9.625"	40	J55	LTC	1.19	1.89	2.1
8.75"	0	11908	5.5"	17	P110	LTC	1.56	1.6	2.63
7.875"	11908	16222	5.5"	17	P110	LTC	1.56	1.6	1.91
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

See COA

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N/A
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	Y
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N/A
Is 2nd string set 100' to 600' below the base of salt?	N/A
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N/A
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N/A
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N/A

3. Cementing Program

Casing	#Sks	Wt. lb/ Gal	Yld ft3/ sack	H_2O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	570	13.5	1.75	8	10	Lead: Class C
	200	14.8	1.34	8	8	Tail: Class C, circ to surf. 100% excess
Inter.	950	12.7	1.94	8	15	1st stage Lead: Class C Blend
	250	14.8	1.33	8	10	1st stage Tail: Class C, circ to surf, 65% excess
Prod.	1000	11.3	2.92	8	14	1stLead: 50:50 Blend Class H
	950	14.4	1.22	8	10	1stTail: 50:50 Blend Class H

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	65%
Production	4187'	20%

Include Pilot Hole Cementing specs:
Pilot hole depth N/A
KOP 11158

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type

4. Pressure Control Equipment

No	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M ~~3M~~	Annular	x	50% of working pressure
			Blind Ram	x	5M ~~3M~~
			Pipe Ram	x	
			Double Ram		
			Other*		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
NO	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y /N | Are anchors required by manufacturer?
ND	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • N/A See attached schematic.

5. Mud Program

See Cont

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	~~747~~ 810'	FW Spud	8.5-8.8	35-45	N/C
~~747~~	4687	Saturated Brine	10.0-10.2	28-34	N/C
4687	TD	Cut Brine	8.6-9.2	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
X	Drill stem test? If yes, explain – will be run based on geological sample shows
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	
	Density	
	CBL	
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5400 psi
Abnormal Temperature	Yes/No

Mitigation measure for abnormal conditions. Describe. No abnormal pressures or temperatures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments
_x_ Directional Plan
___ Other, describe

COPY

Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #23H
Sec 12, T26S, R32E
Lea County, NM

BTA Oil Producers, LLC

Lea County, NM
Mesa Sec 1 & 12, T26S, R32E
Mesa 23H

Wellbore #1

Plan: Design #1

Standard Planning Report

16 March, 2015

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Mesa 23H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3287.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	GL @ 3287.0usft (Original Well Elev)
Site:	Mesa Sec 1 & 12, T26S, R32E	**North Reference:**	Grid
Well:	Mesa 23H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, NM, Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	Mesa Sec 1 & 12, T26S, R32E				
Site Position:		**Northing:**	388,357.80 usft	**Latitude:**	32° 3' 56.723 N
From:	Map	**Easting:**	718,031.00 usft	**Longitude:**	103° 37' 46.202 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.37 °

Well	Mesa 23H					
Well Position	**+N/-S**	-654.6 usft	**Northing:**	387,703.20 usft	**Latitude:**	32° 3' 50.339 N
	+E/-W	-1,457.7 usft	**Easting:**	716,573.40 usft	**Longitude:**	103° 38' 3.189 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,287.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	7.77	60.08	48,690

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	176.82	

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	
11,157.5	0.00	0.00	11,157.5	0.0	0.0	0.00	0.00	0.00	0.00	
11,907.5	90.00	176.82	11,635.0	-476.7	26.4	12.00	12.00	0.00	176.82	
16,221.5	90.00	176.82	11,635.0	-4,784.1	265.4	0.00	0.00	0.00	0.00	Mesa #23H BHL

BTA
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Mesa 23H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3287.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	GL @ 3287.0usft (Original Well Elev)
Site:	Mesa Sec 1 & 12, T26S, R32E	**North Reference:**	Grid
Well:	Mesa 23H	**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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Mesa 23H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3287.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	GL @ 3287.0usft (Original Well Elev)
Site:	Mesa Sec 1 & 12, T26S, R32E	**North Reference:**	Grid
Well:	Mesa 23H	**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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,600.0	0.0	0.0	0.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,700.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Mesa 23H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3287.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	GL @ 3287.0usft (Original Well Elev)
Site:	Mesa Sec 1 & 12, T26S, R32E	**North Reference:**	Grid
Well:	Mesa 23H	**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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,800.0	0.00	0.00	10,800.0	0.0	0.0	0.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,900.0	0.0	0.0	0.0	0.00	0.00	0.00
11,000.0	0.00	0.00	11,000.0	0.0	0.0	0.0	0.00	0.00	0.00
11,100.0	0.00	0.00	11,100.0	0.0	0.0	0.0	0.00	0.00	0.00
11,157.5	0.00	0.00	11,157.5	0.0	0.0	0.0	0.00	0.00	0.00
11,200.0	5.10	176.82	11,199.9	-1.9	0.1	1.9	12.00	12.00	0.00
11,300.0	17.10	176.82	11,297.9	-21.1	1.2	21.1	12.00	12.00	0.00
11,400.0	29.10	176.82	11,389.7	-60.2	3.3	60.3	12.00	12.00	0.00
11,500.0	41.10	176.82	11,471.4	-117.5	6.5	117.6	12.00	12.00	0.00
11,600.0	53.10	176.82	11,539.3	-190.5	10.6	190.8	12.00	12.00	0.00
11,700.0	65.10	176.82	11,590.6	-276.0	15.3	276.4	12.00	12.00	0.00
11,800.0	77.10	176.82	11,622.9	-370.3	20.5	370.8	12.00	12.00	0.00
11,900.0	89.10	176.82	11,634.9	-469.2	26.0	469.9	12.00	12.00	0.00
11,907.5	90.00	176.82	11,635.0	-476.7	26.4	477.5	12.00	12.00	0.00
12,000.0	90.00	176.82	11,635.0	-569.1	31.6	569.9	0.00	0.00	0.00
12,100.0	90.00	176.82	11,635.0	-668.9	37.1	669.9	0.00	0.00	0.00
12,200.0	90.00	176.82	11,635.0	-768.7	42.6	769.9	0.00	0.00	0.00
12,300.0	90.00	176.82	11,635.0	-868.6	48.2	869.9	0.00	0.00	0.00
12,400.0	90.00	176.82	11,635.0	-968.4	53.7	969.9	0.00	0.00	0.00
12,500.0	90.00	176.82	11,635.0	-1,068.3	59.3	1,069.9	0.00	0.00	0.00
12,600.0	90.00	176.82	11,635.0	-1,168.1	64.8	1,169.9	0.00	0.00	0.00
12,700.0	90.00	176.82	11,635.0	-1,268.0	70.3	1,269.9	0.00	0.00	0.00
12,800.0	90.00	176.82	11,635.0	-1,367.8	75.9	1,369.9	0.00	0.00	0.00
12,900.0	90.00	176.82	11,635.0	-1,467.7	81.4	1,469.9	0.00	0.00	0.00
13,000.0	90.00	176.82	11,635.0	-1,567.5	87.0	1,569.9	0.00	0.00	0.00
13,100.0	90.00	176.82	11,635.0	-1,667.4	92.5	1,669.9	0.00	0.00	0.00
13,200.0	90.00	176.82	11,635.0	-1,767.2	98.0	1,769.9	0.00	0.00	0.00
13,300.0	90.00	176.82	11,635.0	-1,867.1	103.6	1,869.9	0.00	0.00	0.00
13,400.0	90.00	176.82	11,635.0	-1,966.9	109.1	1,969.9	0.00	0.00	0.00
13,500.0	90.00	176.82	11,635.0	-2,066.8	114.7	2,069.9	0.00	0.00	0.00
13,600.0	90.00	176.82	11,635.0	-2,166.6	120.2	2,169.9	0.00	0.00	0.00
13,700.0	90.00	176.82	11,635.0	-2,266.4	125.7	2,269.9	0.00	0.00	0.00
13,800.0	90.00	176.82	11,635.0	-2,366.3	131.3	2,369.9	0.00	0.00	0.00
13,900.0	90.00	176.82	11,635.0	-2,466.1	136.8	2,469.9	0.00	0.00	0.00
14,000.0	90.00	176.82	11,635.0	-2,566.0	142.4	2,569.9	0.00	0.00	0.00
14,100.0	90.00	176.82	11,635.0	-2,665.8	147.9	2,669.9	0.00	0.00	0.00
14,200.0	90.00	176.82	11,635.0	-2,765.7	153.4	2,769.9	0.00	0.00	0.00
14,300.0	90.00	176.82	11,635.0	-2,865.5	159.0	2,869.9	0.00	0.00	0.00
14,400.0	90.00	176.82	11,635.0	-2,965.4	164.5	2,969.9	0.00	0.00	0.00
14,500.0	90.00	176.82	11,635.0	-3,065.2	170.1	3,069.9	0.00	0.00	0.00
14,600.0	90.00	176.82	11,635.0	-3,165.1	175.6	3,169.9	0.00	0.00	0.00
14,700.0	90.00	176.82	11,635.0	-3,264.9	181.1	3,269.9	0.00	0.00	0.00
14,800.0	90.00	176.82	11,635.0	-3,364.8	186.7	3,369.9	0.00	0.00	0.00
14,900.0	90.00	176.82	11,635.0	-3,464.6	192.2	3,469.9	0.00	0.00	0.00
15,000.0	90.00	176.82	11,635.0	-3,564.4	197.7	3,569.9	0.00	0.00	0.00
15,100.0	90.00	176.82	11,635.0	-3,664.3	203.3	3,669.9	0.00	0.00	0.00
15,200.0	90.00	176.82	11,635.0	-3,764.1	208.8	3,769.9	0.00	0.00	0.00
15,300.0	90.00	176.82	11,635.0	-3,864.0	214.4	3,869.9	0.00	0.00	0.00
15,400.0	90.00	176.82	11,635.0	-3,963.8	219.9	3,969.9	0.00	0.00	0.00
15,500.0	90.00	176.82	11,635.0	-4,063.7	225.4	4,069.9	0.00	0.00	0.00
15,600.0	90.00	176.82	11,635.0	-4,163.5	231.0	4,169.9	0.00	0.00	0.00
15,700.0	90.00	176.82	11,635.0	-4,263.4	236.5	4,269.9	0.00	0.00	0.00
15,800.0	90.00	176.82	11,635.0	-4,363.2	242.1	4,369.9	0.00	0.00	0.00
15,900.0	90.00	176.82	11,635.0	-4,463.1	247.6	4,469.9	0.00	0.00	0.00

COPY

BTA

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Mesa 23H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3287.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	GL @ 3287.0usft (Original Well Elev)
Site:	Mesa Sec 1 & 12, T26S, R32E	**North Reference:**	Grid
Well:	Mesa 23H	**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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,000.0	90.00	176.82	11,635.0	-4,562.9	253.1	4,569.9	0.00	0.00	0.00
16,100.0	90.00	176.82	11,635.0	-4,662.8	258.7	4,669.9	0.00	0.00	0.00
16,200.0	90.00	176.82	11,635.0	-4,762.6	264.2	4,769.9	0.00	0.00	0.00
16,221.5	90.00	176.82	11,635.0	-4,784.1	265.4	4,791.4	0.00	0.00	0.00
Mesa #23H BHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Mesa #23H BHL - plan hits target center - Point	0.00	0.00	11,635.0	-4,784.1	265.4	382,919.30	716,838.80	32° 3' 2.981 N	103° 38' 0.466 W

Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #23H
Sec 12, T26S, R32E
Lea County, NM

Azimuths to Grid North
True North: -0.37°
Magnetic North: 7.39°

Magnetic Field
Strength: 48690.3snT
Dip Angle: 60.08°
Date: 12/31/2009
Model: IGRF200510

WELL DETAILS: Mesa 23H

Ground Level: 3287.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	387703.20	716573.40	32° 3' 50.339 N	103° 38' 3.189 W

BTA Oil Producers, LLC

SITE DETAILS: Mesa Sec 1 & 12, T26S, R32E

Site Centre Northing: 388357.80
Easting: 718031.00

Positional Uncertainity: 0.0
Convergence: 0.37
Local North: Grid

PROJECT DETAILS: Lea County, NM

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

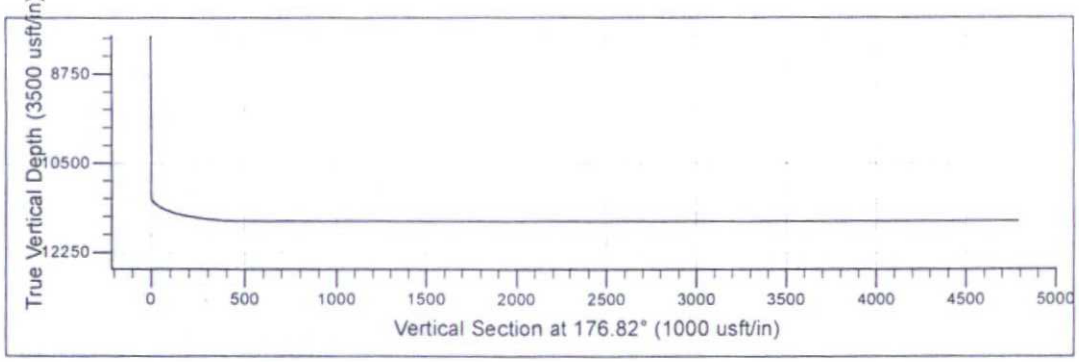
System Datum: Ground Level

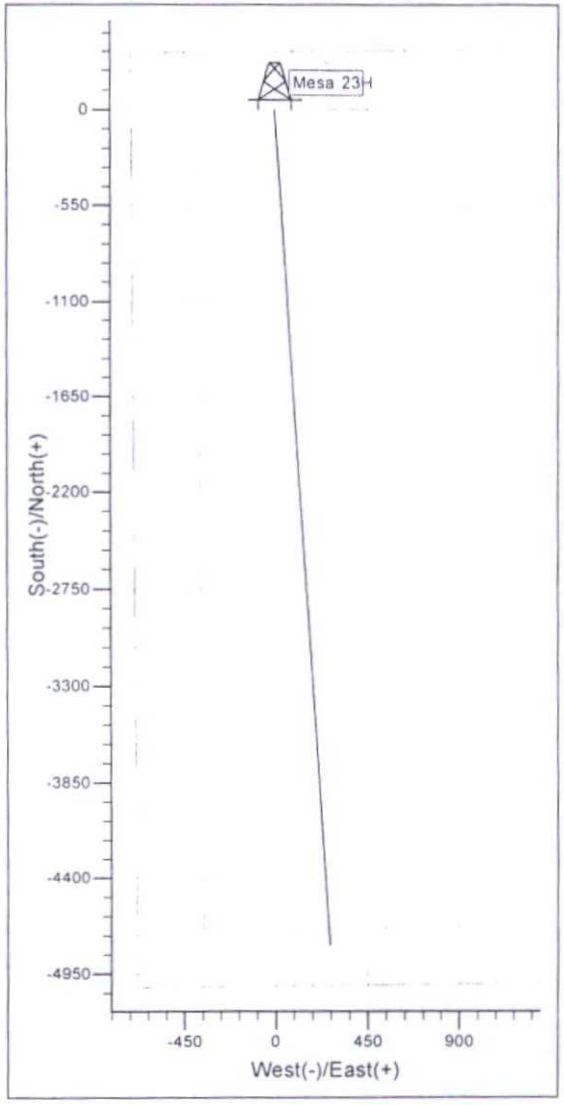
CASING DETAILS

No casing data is available

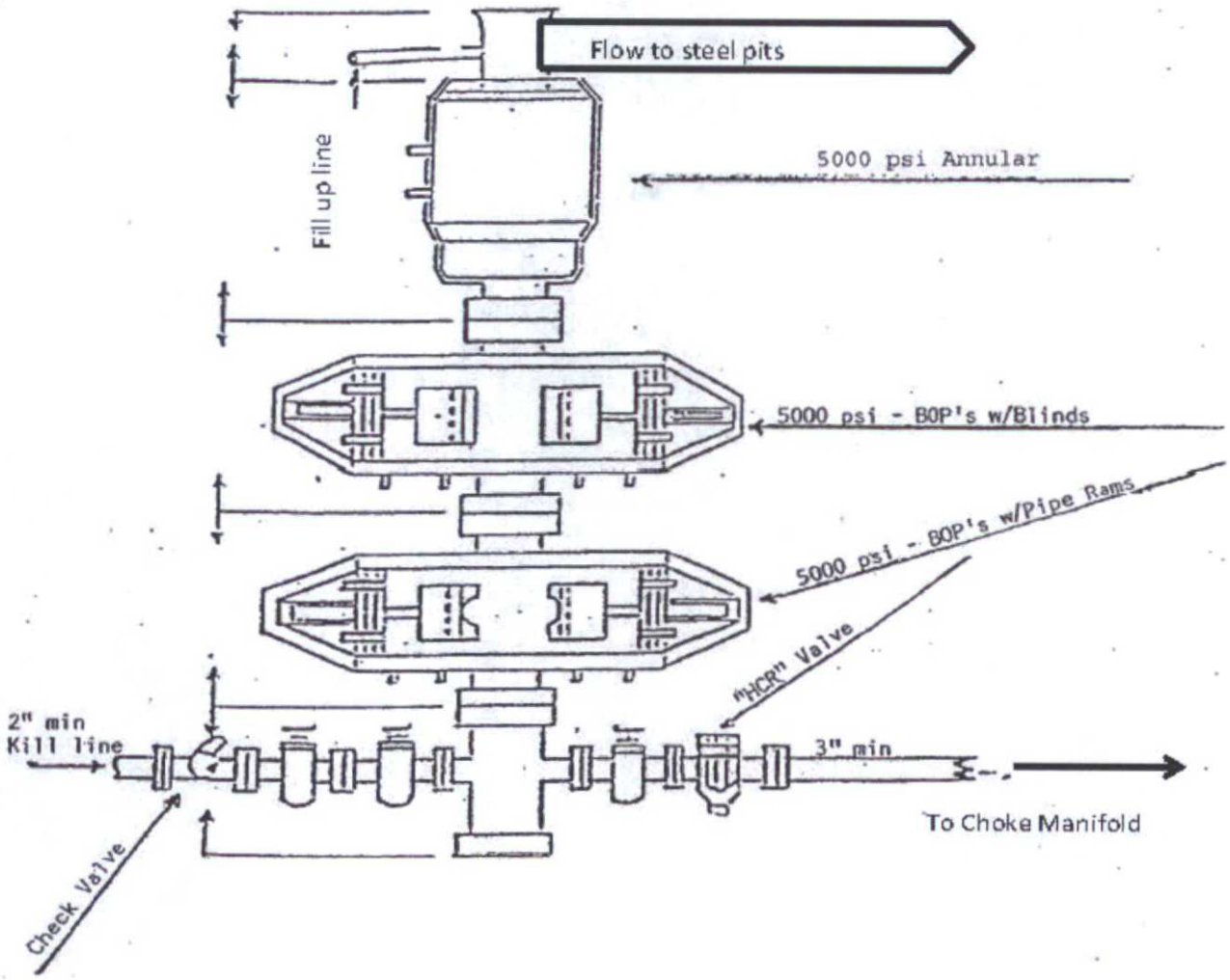
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
11157.5	0.00	0.00	11157.5	0.0	0.0	0.00	0.00	0.0	
11907.5	90.00	176.82	11635.0	-476.7	26.4	12.00	176.82	477.5	
16221.5	90.00	176.82	11635.0	-4784.1	265.4	0.00	0.00	4791.4	Mesa #23H BHL



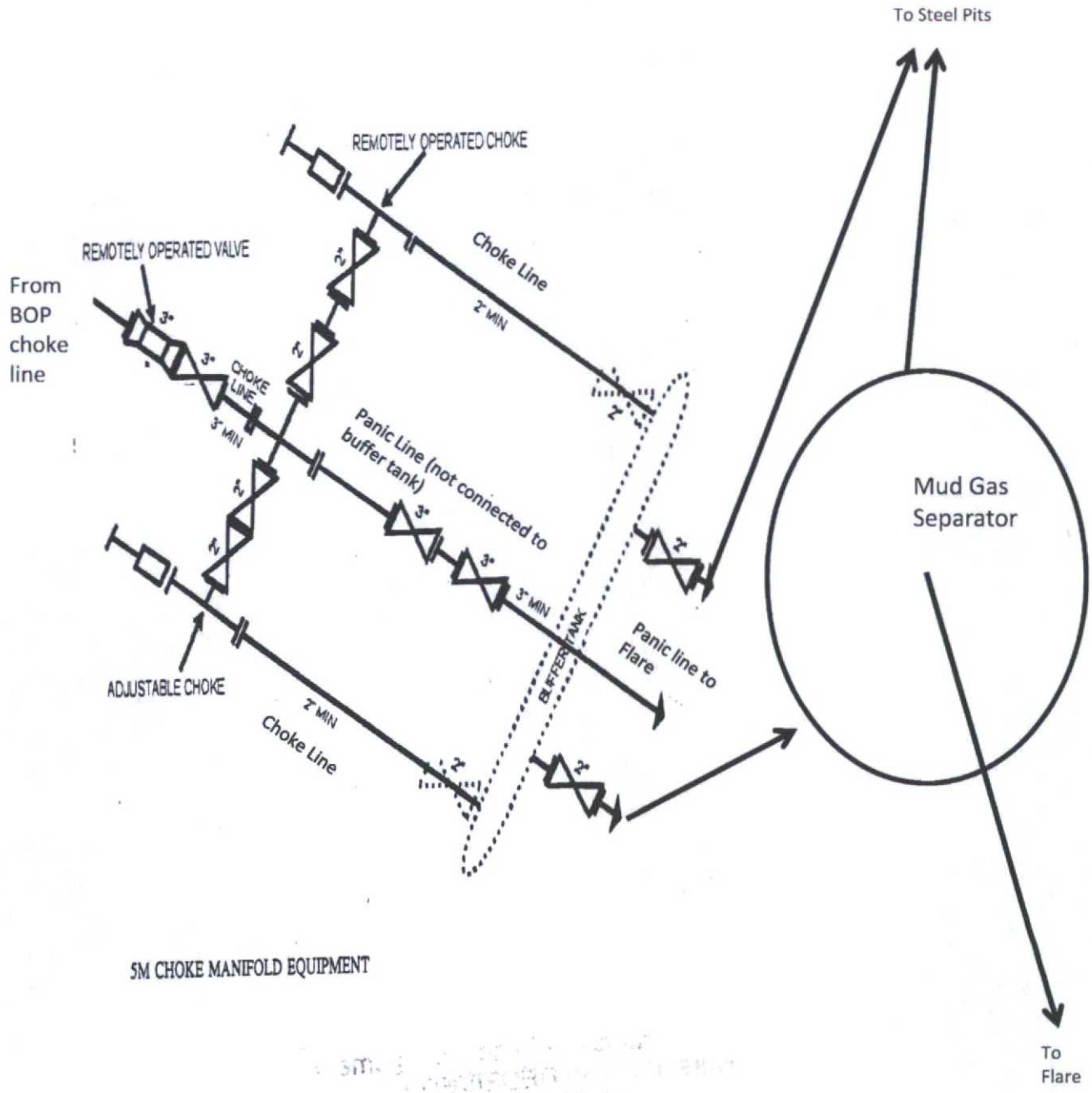


13-5/8" 5,000 PSI BOP



BTA OIL PRODUCERS, LLC

Attachment to APD



5M CHOKE MANIFOLD EQUIPMENT

BTA OIL PRODUCERS, LLC

Attachment to APD