OCD-HOBBS

15-05

Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

APPLICATION FOR PERMIT TO DRILL OR REENTER

OCT 30 2015

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. LC-065194
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name (H)
2. Name of Operator Endurance Resources, LLC (270329)	7. If Unit or CA Agreement, Name and No. Com
3a. Address 203 West Wall Suite 1000 Midland, Tx 79701	8. Lease Name and Well No. Starcaster 18 Fed 3H (313567)
3b. Phone No. (include area code) 432-242-4680	9. API Well No. 30-025-42917
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 155' FNL & 1980' FEL (B) At proposed prod. zone 330' FSL & ~~660'~~ 1980' FEL (O)	10. Field and Pool, or Exploratory Bell Lake; Bone Springs, North (5150)
	11. Sec., T. R. M. or Blk. and Survey or Area Sec 18-23s-34e
14. Distance in miles and direction from nearest town or post office* 26 miles Northwest of Jal, New Mexico	12. County or Parish Lea / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 155'	16. No. of acres in lease 320 ac / 17. Spacing Unit dedicated to this well 160 ac
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320'	19. Proposed Depth MD: 14,999' TVD: 10,450' / 20. BLM/BIA Bond No. on file NMB000~~640~~ 1220
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3489.7' GL	22. Approximate date work will start* 04/01/2015 / 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 M. A. Sirgo III	Name (Printed/Typed) M.A. Sirgo III	Date 08/21/2014
Title Engineer		
Approved by (Signature) /S/ STEPHEN J. CAFFEY	Name (Printed/Typed)	Date OCT 15 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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

KZ 10/30/15

Witness Surface Casing

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Endurance Resources LLC

DRILLING & OPERATIONS PROGRAM

Starcaster 18 FED 3H
SHL: 155' FNL & 1980' FEL (B)
BHL: 330' FSL & 1980' FEL (O)
Sec 18-23S-34E
Lea Co, NM

1. Geological Name of Surface Formation
   Quarternary

2. Estimated Tops of Important Geological Markers

Fresh Water	311'
Rustler	940'
Top of Salt	1,290'
Lamar Limestone	4,950'
Delaware	4,990' Oil
Bone Spring	8,490' Oil
1st Bone Spring	9,810' Oil
2nd Bone Spring	10,150' Oil

   TVD: 10,450'; MD: 14,999'

3. Estimated Depths of Anticipated Fresh Water, Oil or Gas
   The estimated depths at which water, oil and gas will be encountered are as follows:
   Water: Average depth to water: 311'. Minimum depth: 255'. Max: 430'. As reported from the New Mexico Office of the State Engineer website.

   Oil & Gas: 4,990' – 10,500' (Delaware through Bone Spring)
   No other formations are expected to give up oil, gas, or fresh water in measurable quantities.

ENDURANCE RESOURCES LLC

4. Proposed Casing Program:

See COA

Casing	Hole Size	Interval	Casing OD	Casing Interval	Weight	Collar	Grade
Surface	17.5"	0'-~~1000'~~ 1090'	13.375"	0'-~~1000'~~ 1090'	54.5#	STC	J-55
Intermediate I	12.25"	1000'-5040'	9.625"	0'-4350'	40#	STC	J-55
Intermediate II	12.25"	1000'-~~5040'~~ 4790'	9.625"	4350'-~~5040'~~ 4970'	40#	LTC	HCL-80
Production	8.75"	5040'-TD	5.5"	0'-14999'	20#	BTC	HCP-110

Casing	Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
Surface	13.375"	2.42	5.84	9.43
Intermediate	9.625" (J-55)	1.14	1.75	2.60
Intermediate	9.625" (HCL-80)	1.62	2.20	4.15
Production	5.5"	1.58	1.76	2.22

NOTE: ALL CASING IS NEW & API APPROVED. WHILE RUNNING CASING, PIPE WILL BE KEPT A MINIMUM OF 1/3 FULL AT ALL TIMES TO AVOID APPROACHING COLLAPSE PRESSURE OF THE CASING. SURFACE CASING WILL BE WATCHED & NECESSARY ADJUSTMENTS MADE TO ENSURE PIPE IF FULL DUE TO LOST CIRCULATION ZONES THAT MAY OCCUR. CENTRALIZERS WILL BE USED ON SURFACE CASING

5. Proposed Cement Program:

Stage	Slurry Description	Weight (ppg)	Yield ($ft.^3/sk$)	Sacks	% Excess
Casing / Wellbore Description: Surface - 13 3/8" x 17 1/2" (54# / J-55 / BTC)					
Lead	Class C, 4% Bentonite, 2% Calcium Chlorid	13.7	1.68	415	100 (OH)
Tail	Class C	14.8	1.33	550	100
Casing / Wellbore Description: Intermediate 9 5/8" x 12 1/4" (40# / J-55,L-80 / STC,LTC)					
Stage	**Slurry Description**	**Weight**	**Yield**	**Sacks**	**% Excess**
Lead	65% Class C, 35% Poz, 6% Bentonite, .125 lb/sk Poly-E-Flake, .4% HR-800	12.9	1.77	1115	75 (OH)
Tail	Class C Cement	14.8	1.33	230	75
Casing / Wellbore Description: Production 5 1/2" x 8 3/4" (20# / HCP-110 / BTC)					
Stage	**Slurry Description**	**Weight**	**Yield**	**Sacks**	**% Excess**
Lead	50% Class H, 50% Poz, 10% Bentonite, .1% Fe-2, 5% Cal-Seal 60, .25 lb D-Air 5000	11.5	2.63	790	15 (OH)
Tail	50% Class H, 50% Poz, 2% Bentonite, .5% Halad-9, .2% Econolite, 3% KCL, .2% HR-601	14.2	1.31	1145	15

To Surface

To 4790'

NOTE: THE ABOVE CEMENT VOLUMES COULD BE REVISED PENDING FLUID CALIPER & CALIPER LOG DATA. ALL VOLUMES ARE DESIGNED TO CIRCULATE TO SURFACE. PRODUCTION INTERVAL CEMENT WILL BE CIRCULATED TO AT LEAST 200' ABOVE THE INTERMEDIATE CASING SHOE.

ENDURANCE
RESOURCES, LLC

6. Minimum Specifications for Pressure Control:

The system used for the intermediate (12.25" hole) and production (8.75" hole) will consist of a 13-5/8 (5M) working pressure BOP system consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer (please see BOP schematic). A 5M choke manifold & 120 gallon accumulator with floor and remote operating stations & auxiliary power system. Rotating head as needed. A Kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be NU and operated at least once a day while drilling and the blind rams will be operated when out of the hole during trips. From the base of the 13-3/8" csg through running of production casing, the well will be equipped with a 3M BOP system and HCR valve, remote kill line, & annular to match. The remote kill line will be installed prior to testing the system & tested to stack pressure.

Before drilling out of the 13-3/8 surface casing, BOP will be tested by an independent surface company to 250 psi low & 3000 psi high. Hydrill will be tested to 250 psi low and 1500 psi high. Before drilling out the 9-5/8 intermediate shoe BOP will be tested by an independent service company to 250 psi low and 5000 psi high. Hydrill will be tested to 250 psi low and 2500 psi high. These low pressure tests from 250 psi to 300 psi will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes if test is done without a test plug.

7. Estimated BHP:
4699 psi @ 10,450' TVD

ENDURANCE RESOURCES LLC

8. Mud Program: The applicable depths & properties of this system are as follows:

Depth	Type of System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0 – 1000'	Fresh	8.4 – 9.4	32-34	NC
1040' – 5040'	Brine	10.0 – 10.2	28-39	NC
5040' - TD	Cut Brine	8.3 – 9.3	28-32	NC-12

NOTE: NECESSARY MUD PRODUCTS FOR WEIGHT ADDITION & FLUID LOSS WILL BE ON LOCATION AT ALL TIMES. VISUAL MUD MONITORING EQUIPMENT (I.E. TRIP TANK) WILL BE IN PLACE TO DETECT VOLUME CHANGES INDICATING LOSS OR GAIN OF CIRCULATION VOLUME WITH ALARMS.

9. Auxiliary Well Control & Monitoring Equipment:
   a. A Kelly cock will be in the drill string at all times.
   b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times
   c. H2S detection equipment will be in operation & breathing apparatuses will be on location after the drill out of the 13-3/8" casing shoe until the 5-1/2" casing in cemented.

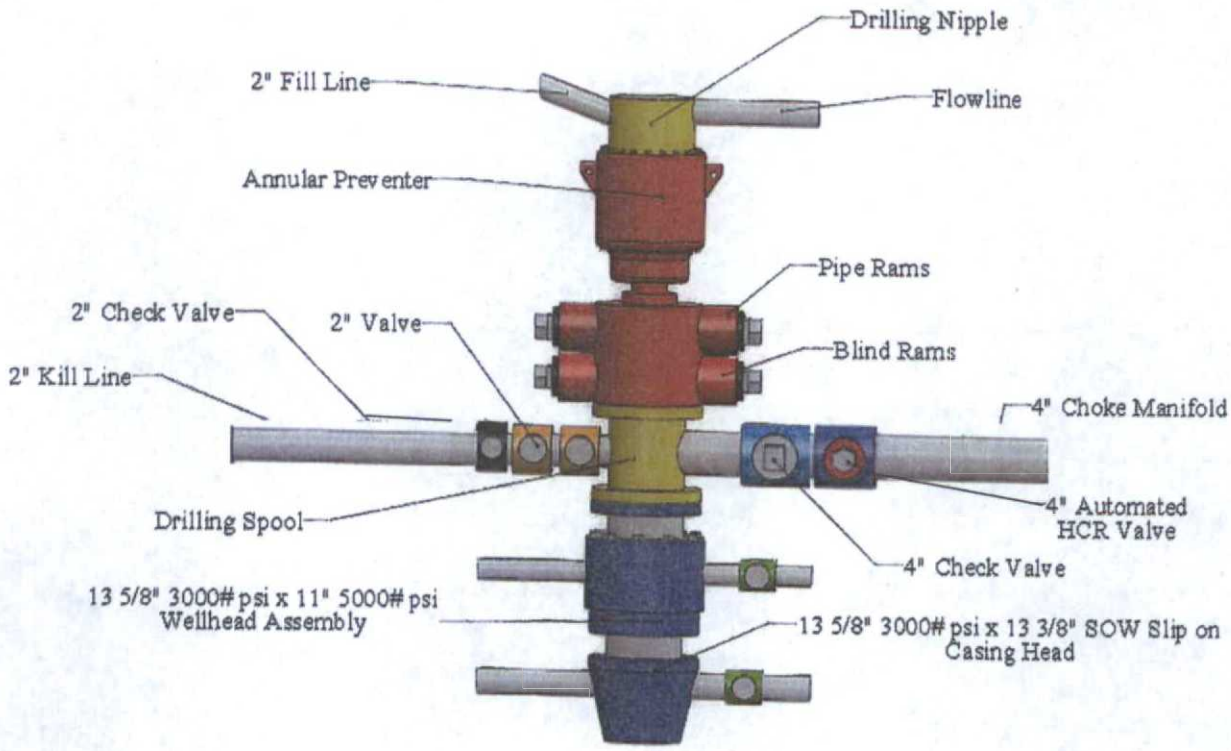
10. Testing, Logging & Coring Program:
    a. No drill stem tests are planned.
    b. GR/N well log ran from KOP to surface.

11. Potential Hazards:
    No abnormal pressures or temperatures are expected. If H2S is encountered, Endurance Resources LLC will comply with Onshore Order #6. Regardless, all personnel will be trained & qualified with H2S safety. Rig safety equipment will all also be checked daily once drill out of the 13-3/8" casing shoe to TD. It has been noted that H2S has been encountered in the salt section. If H2S is encountered, measurements & formations will be reported to the BLM.

12. Anticipated starting date & Duration of Operations:
    Road & location construction will begin after the BLM has approved the APD. Anticipated spud date will begin after BLM approval & after a drilling rig is secured. Move in operations & drilling is expected to take no more than 45 days. An additional 30-50 days will be needed to complete this well & construct surface facilities and/or lay flow lines in order to place well on production.

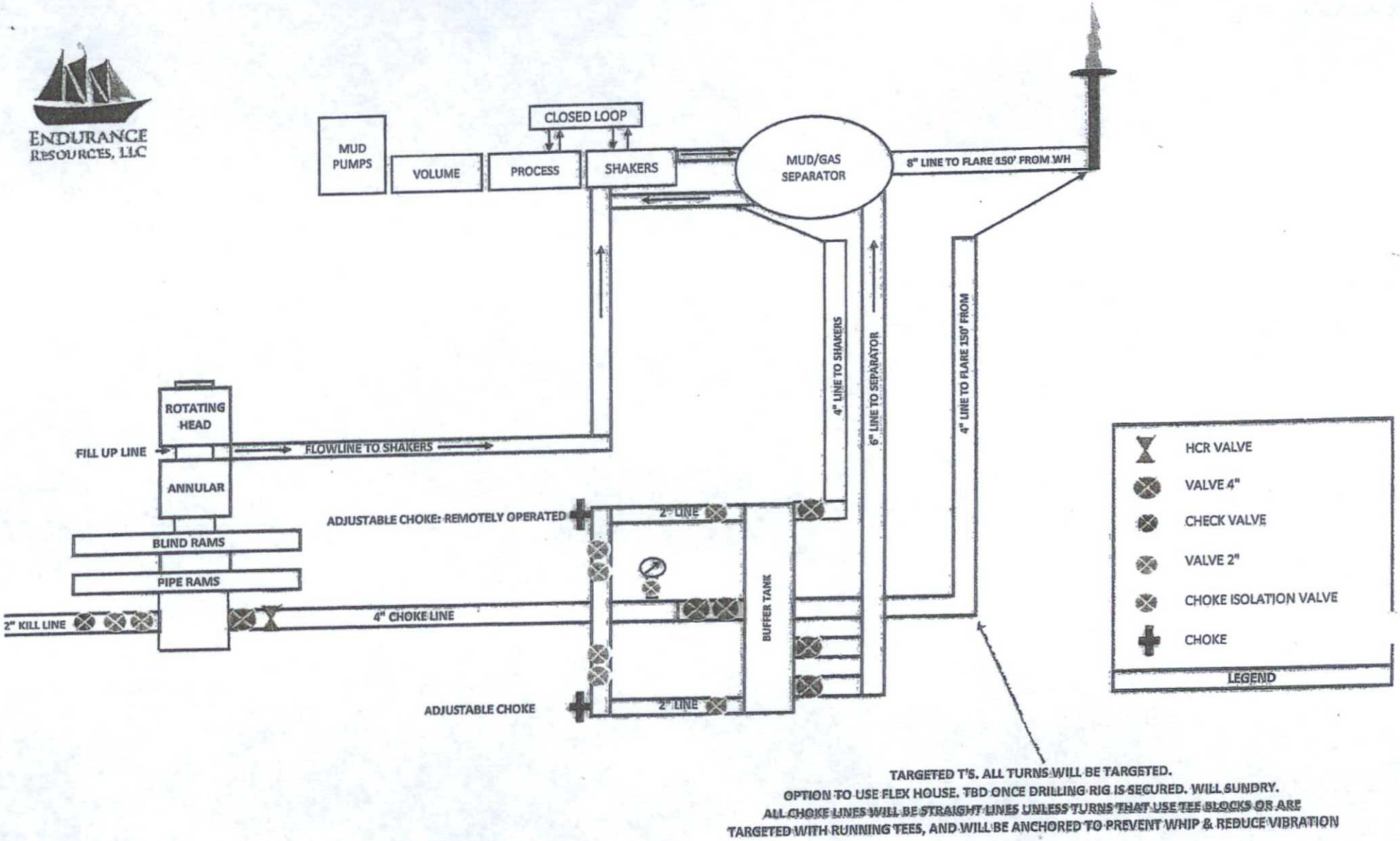
Starcaster 18 Fed 3H

5000# BOP



5M BOP, 5M CHOKE MANIFOLD, AND CLOSED LOOP EQUIPMENT SCHEMATIC FOR 13-5/8 BOP SYSTEM TESTED TO 3M PER ONSHORE ORDER #2

ENDURANCE RESOURCES, LLC



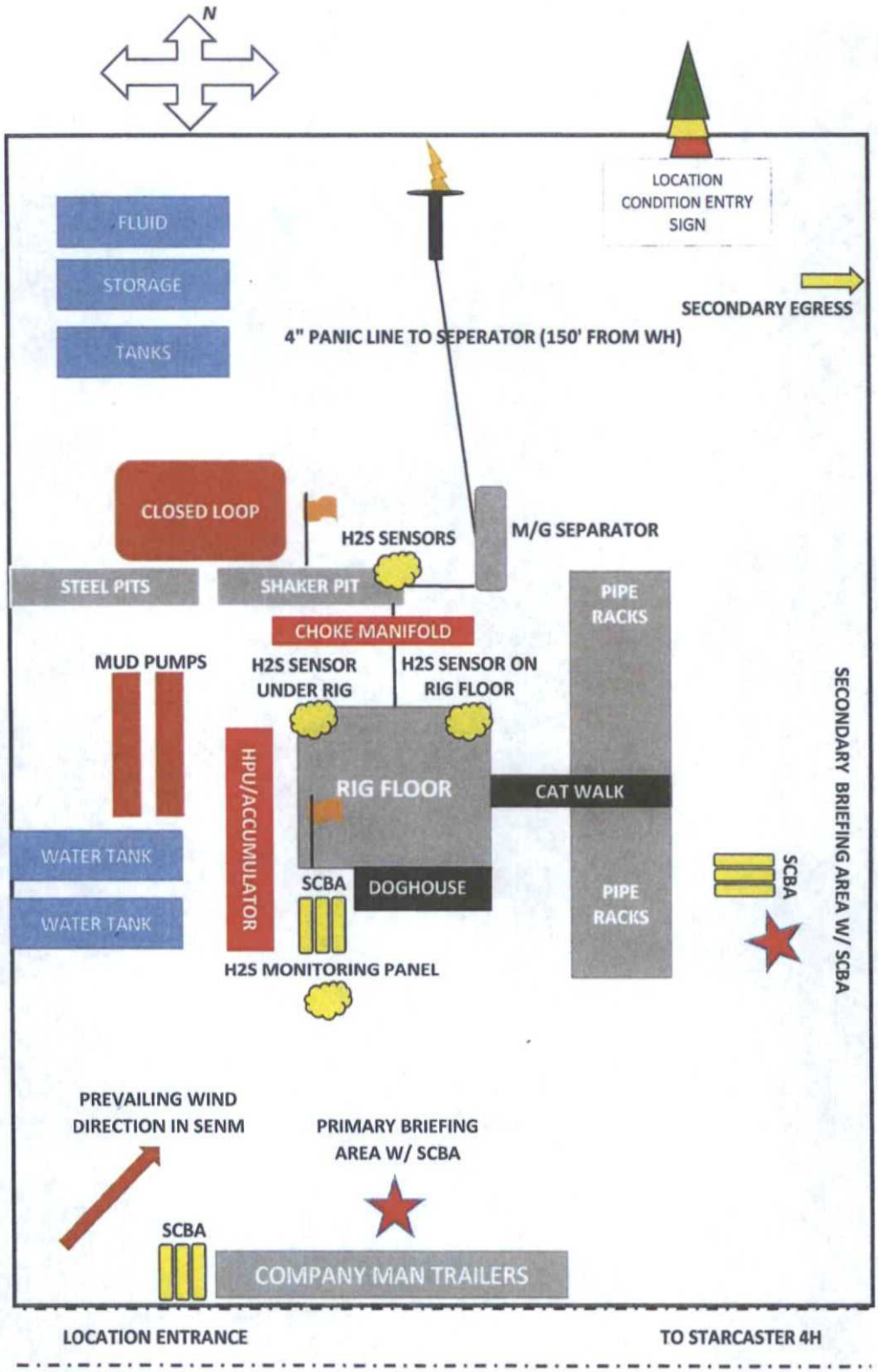
TARGETED T'S. ALL TURNS WILL BE TARGETED.
OPTION TO USE FLEX HOUSE. TBD ONCE DRILLING RIG IS SECURED. WILL SUNDRY.
ALL CHOKE LINES WILL BE STRAIGHT LINES UNLESS TURNS THAT USE TEE BLOCKS OR ARE TARGETED WITH RUNNING TEES, AND WILL BE ANCHORED TO PREVENT WHIP & REDUCE VIBRATION

ENDURANCE RESOURCES LLC

RIG LOCATION LAYOUT & H2S SAFETY EQUIPMENT LOCATION

WELL PADS 420' X 350'

NOTE: DRAWING NOT TO SCALE



Endurance Resources LLC

HALLIBURTON
Sperry Drilling Services

Project: Lea County, NM (NAD 83)
Site: Starcaster 18 Fed
Well: Starcaster 18 Fed #3H
Wellbore: Wellbore #1
Plan: (Starcaster 18 Fed #3H/Wellbore #1)
Rig: Original Well Elev

ENDURANCE RESOURCES LLC

Surface Location:

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3489.7 + 22.5'RKB @ 3512.20usft (Original Well Elev)

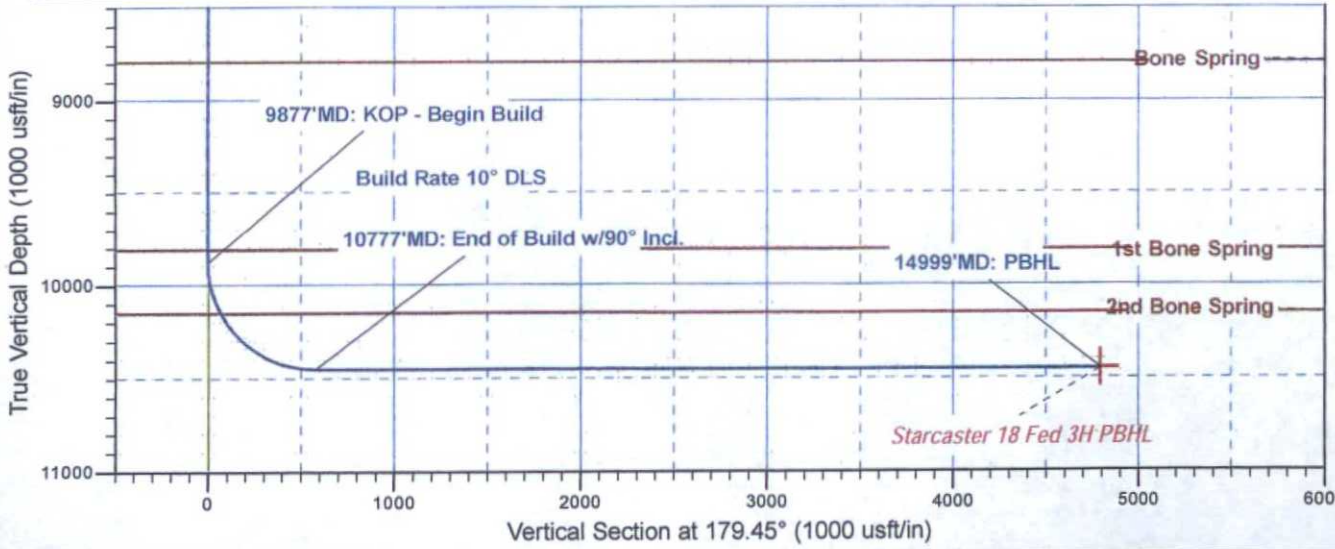
Northing	Easting	Latittude	Longitude
478022.87	796598.17	32° 18' 41.231 N	103° 30' 25.514 W

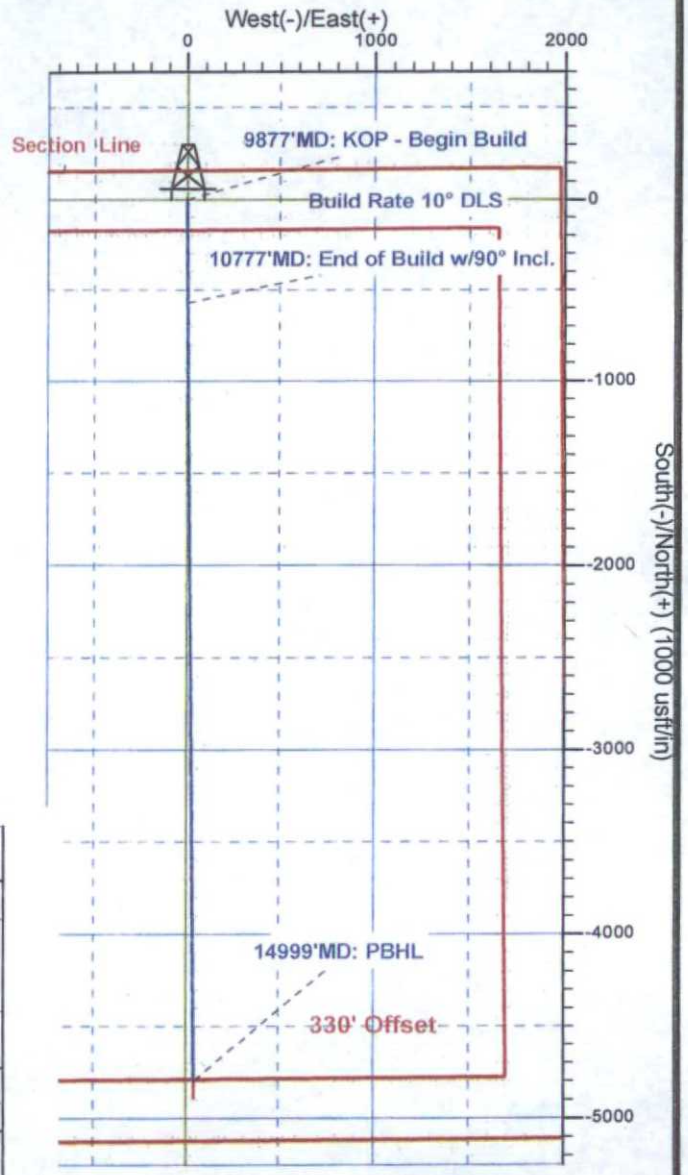
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Starcaster 18 Fed 3H PBHL	10450.00	-4794.27	45.74	473228.60	796643.91

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9877.04	0.00	0.00	9877.04	0.00	0.00	0.00	0.00	0.00	Build Rate 10° DLS
10777.04	90.00	179.45	10450.00	-572.93	5.47	10.00	179.45	572.96	10777'MD: End of Build w/90° Incl.
14998.57	90.00	179.45	10450.00	-4794.27	45.74	0.00	0.00	4794.49	14999'MD: PBHL





To convert a Magnetic Direction to a Grid Direction, Add 6.91°

Magnetic Model: BGGM2014
16-Jun-14 Azimuths to Grid North

Endurance Resources LLC

Lea County, NM (NAD 83)
Starcaster 18 Fed
Starcaster 18 Fed #3H

Wellbore #1

Plan: Plan #1

Sperry Drilling Services

Proposal Report

16 June, 2014

Well Coordinates: 478,022.87 N, 796,598.17 E (32° 18' 41.23" N, 103° 30' 25.51" W)
Ground Level: 3,489.70 usft

Local Coordinate Origin:	Centered on Well Starcaster 18 Fed #3H
Viewing Datum:	GL 3489.7 + 22.5'RKB @ 3512.20usft (Original Well Elev)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - US Survey Feet

Version: 5000.1 Build: 65

HALLIBURTON

Plan Report for Starcaster 18 Fed #3H - Plan #1

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)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
940.00	0.00	0.00	940.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler										
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,290.00	0.00	0.00	1,290.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt										
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,950.00	0.00	0.00	4,950.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar Limestone										
4,990.00	0.00	0.00	4,990.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware										

Plan Report for Starcaster 18 Fed #3H - Plan #1

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)	Toolface Azimuth (°)
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,790.00	0.00	0.00	8,790.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring										
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,810.00	0.00	0.00	9,810.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring										
9,877.04	0.00	0.00	9,877.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Build Rate 10° DLS - 9877'MD: KOP - Begin Build										
9,900.00	2.30	179.45	9,899.99	-0.46	0.00	0.46	10.00	10.00	0.00	179.45
10,000.00	12.30	179.45	9,999.06	-13.14	0.13	13.14	10.00	10.00	0.00	0.00
10,100.00	22.30	179.45	10,094.42	-42.83	0.41	42.84	10.00	10.00	0.00	0.00
10,161.55	28.45	179.45	10,150.00	-69.19	0.66	69.20	10.00	10.00	0.00	0.00

Plan Report for Starcaster 18 Fed #3H - Plan #1

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)	Toolface Azimuth (°)
2nd Bone Spring										
10,200.00	32.30	179.45	10,183.17	-88.63	0.85	88.64	10.00	10.00	0.00	0.00
10,300.00	42.30	179.45	10,262.62	-149.15	1.42	149.15	10.00	10.00	0.00	0.00
10,400.00	52.30	179.45	10,330.35	-222.54	2.12	222.55	10.00	10.00	0.00	0.00
10,500.00	62.30	179.45	10,384.32	-306.57	2.92	306.59	10.00	10.00	0.00	0.00
10,600.00	72.30	179.45	10,422.86	-398.70	3.80	398.72	10.00	10.00	0.00	0.00
10,700.00	82.30	179.45	10,444.83	-496.12	4.73	496.15	10.00	10.00	0.00	0.00
10,777.04	90.00	179.45	10,450.00	-572.93	5.47	572.96	10.00	10.00	0.00	0.00
10777'MD: End of Build w/90° Incl.										
10,800.00	90.00	179.45	10,450.00	-595.89	5.69	595.92	0.00	0.00	0.00	0.00
10,900.00	90.00	179.45	10,450.00	-695.88	6.64	695.92	0.00	0.00	0.00	0.00
11,000.00	90.00	179.45	10,450.00	-795.88	7.59	795.92	0.00	0.00	0.00	0.00
11,100.00	90.00	179.45	10,450.00	-895.87	8.55	895.92	0.00	0.00	0.00	0.00
11,200.00	90.00	179.45	10,450.00	-995.87	9.50	995.92	0.00	0.00	0.00	0.00
11,300.00	90.00	179.45	10,450.00	-1,095.87	10.46	1,095.92	0.00	0.00	0.00	0.00
11,400.00	90.00	179.45	10,450.00	-1,195.86	11.41	1,195.92	0.00	0.00	0.00	0.00
11,500.00	90.00	179.45	10,450.00	-1,295.86	12.36	1,295.92	0.00	0.00	0.00	0.00
11,600.00	90.00	179.45	10,450.00	-1,395.85	13.32	1,395.92	0.00	0.00	0.00	0.00
11,700.00	90.00	179.45	10,450.00	-1,495.85	14.27	1,495.92	0.00	0.00	0.00	0.00
11,800.00	90.00	179.45	10,450.00	-1,595.84	15.23	1,595.92	0.00	0.00	0.00	0.00
11,900.00	90.00	179.45	10,450.00	-1,695.84	16.18	1,695.92	0.00	0.00	0.00	0.00
12,000.00	90.00	179.45	10,450.00	-1,795.83	17.13	1,795.92	0.00	0.00	0.00	0.00
12,100.00	90.00	179.45	10,450.00	-1,895.83	18.09	1,895.92	0.00	0.00	0.00	0.00
12,200.00	90.00	179.45	10,450.00	-1,995.82	19.04	1,995.92	0.00	0.00	0.00	0.00
12,300.00	90.00	179.45	10,450.00	-2,095.82	20.00	2,095.92	0.00	0.00	0.00	0.00
12,400.00	90.00	179.45	10,450.00	-2,195.82	20.95	2,195.92	0.00	0.00	0.00	0.00
12,500.00	90.00	179.45	10,450.00	-2,295.81	21.90	2,295.92	0.00	0.00	0.00	0.00
12,600.00	90.00	179.45	10,450.00	-2,395.81	22.86	2,395.92	0.00	0.00	0.00	0.00
12,700.00	90.00	179.45	10,450.00	-2,495.80	23.81	2,495.92	0.00	0.00	0.00	0.00
12,800.00	90.00	179.45	10,450.00	-2,595.80	24.77	2,595.92	0.00	0.00	0.00	0.00
12,900.00	90.00	179.45	10,450.00	-2,695.79	25.72	2,695.92	0.00	0.00	0.00	0.00
13,000.00	90.00	179.45	10,450.00	-2,795.79	26.67	2,795.92	0.00	0.00	0.00	0.00
13,100.00	90.00	179.45	10,450.00	-2,895.78	27.63	2,895.92	0.00	0.00	0.00	0.00
13,200.00	90.00	179.45	10,450.00	-2,995.78	28.58	2,995.92	0.00	0.00	0.00	0.00
13,300.00	90.00	179.45	10,450.00	-3,095.77	29.54	3,095.92	0.00	0.00	0.00	0.00
13,400.00	90.00	179.45	10,450.00	-3,195.77	30.49	3,195.92	0.00	0.00	0.00	0.00
13,500.00	90.00	179.45	10,450.00	-3,295.77	31.44	3,295.92	0.00	0.00	0.00	0.00
13,600.00	90.00	179.45	10,450.00	-3,395.76	32.40	3,395.92	0.00	0.00	0.00	0.00
13,700.00	90.00	179.45	10,450.00	-3,495.76	33.35	3,495.92	0.00	0.00	0.00	0.00
13,800.00	90.00	179.45	10,450.00	-3,595.75	34.31	3,595.92	0.00	0.00	0.00	0.00
13,900.00	90.00	179.45	10,450.00	-3,695.75	35.26	3,695.92	0.00	0.00	0.00	0.00
14,000.00	90.00	179.45	10,450.00	-3,795.74	36.21	3,795.92	0.00	0.00	0.00	0.00
14,100.00	90.00	179.45	10,450.00	-3,895.74	37.17	3,895.92	0.00	0.00	0.00	0.00
14,200.00	90.00	179.45	10,450.00	-3,995.73	38.12	3,995.92	0.00	0.00	0.00	0.00
14,300.00	90.00	179.45	10,450.00	-4,095.73	39.08	4,095.92	0.00	0.00	0.00	0.00
14,400.00	90.00	179.45	10,450.00	-4,195.72	40.03	4,195.92	0.00	0.00	0.00	0.00
14,500.00	90.00	179.45	10,450.00	-4,295.72	40.98	4,295.92	0.00	0.00	0.00	0.00
14,600.00	90.00	179.45	10,450.00	-4,395.72	41.94	4,395.92	0.00	0.00	0.00	0.00
14,700.00	90.00	179.45	10,450.00	-4,495.71	42.89	4,495.92	0.00	0.00	0.00	0.00
14,800.00	90.00	179.45	10,450.00	-4,595.71	43.85	4,595.92	0.00	0.00	0.00	0.00
14,900.00	90.00	179.45	10,450.00	-4,695.70	44.80	4,695.92	0.00	0.00	0.00	0.00
14,998.57	90.00	179.45	10,450.00	-4,794.27	45.74	4,794.49	0.00	0.00	0.00	0.00
14999'MD: PBHL - Starcaster 18 Fed 3H PBHL										

Plan Report for Starcaster 18 Fed #3H - Plan #1

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
9,877.04	9,877.04	0.00	0.00	Build Rate 10° DLS
9,877.04	9,877.04	0.00	0.00	9877'MD: KOP - Begin Build
10,777.04	10,450.00	-572.93	5.47	10777'MD: End of Build w/90° Incl.
14,998.57	10,450.00	-4,794.27	45.74	14999'MD: PBHL

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
TD	No Target (Freehand)	179.45	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	14,998.57	Plan #1	MWD+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,040.00	1,040.00	Surface	13-3/8	17-1/2
4,350.00	4,350.00	Intm.I	12-1/4	12-1/4
5,050.00	5,050.00	Intm.II	12-1/4	12-1/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
940.00	940.00	Rustler		0.00	180.00
1,290.00	1,290.00	Top of Salt		0.00	180.00
4,950.00	4,950.00	Lamar Limestone		0.00	180.00
4,990.00	4,990.00	Delaware		0.00	180.00
8,790.00	8,790.00	Bone Spring		0.00	180.00
9,810.00	9,810.00	1st Bone Spring		0.00	180.00
10,161.55	10,150.00	2nd Bone Spring		0.00	180.00

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Starcaster 18 Fed 3H PBHL	10,450.00	-4,794.27	45.74	Point

North Reference Sheet for Starcaster 18 Fed - Starcaster 18 Fed #3H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to GL 3489.7 + 22.5'RKB @ 3512.20usft (Original Well Elev). Northing and Easting are relative to Starcaster 18 Fed #3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)
Central Meridian is -104.33°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°
False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 0.99998372

Grid Coordinates of Well: 478,022.87 usft N, 796,598.17 usft E
Geographical Coordinates of Well: 32° 18' 41.23" N, 103° 30' 25.51" W
Grid Convergence at Surface is: 0.44°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,998.57usft
the Bottom Hole Displacement is 4,794.49usft in the Direction of 179.45° (Grid).

Magnetic Convergence at surface is: -6.91° (16 June 2014, , BGGM2014)