

OCD

Hobbs

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM 068821
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Endurance Resources, LLC (270329)		7. If Unit or CA Agreement, Name and No.
3a. Address 203 West Wall Suite 1000 Midland, Texas 79701	3b. Phone No. (include area code) 432-242-4680	8. Lease Name and Well No. Telecaster 30 Fed 1H (40167)
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 330' FNL & 760' FWL (D.) At proposed prod. zone 330' FSL & 660' FWL (M.)		9. API Well No. 30-024-43013 (2209)
14. Distance in miles and direction from nearest town or post office* 23 Miles Northwest from Jal, NM		10. Field and Pool, or Exploratory AIRSTRIP, BONE SPRING, WEST
15. Distance from proposed* 330' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		11. Sec., T. R. M. or Blk. and Survey or Area Sec 30-23S-34E
16. No. of acres in lease 633.72 acres		12. County or Parish Lea
17. Spacing Unit dedicated to this well 153.72 acres		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		19. Proposed Depth MD 14,867.67', TVD 10,500
20. BLM/BIA Bond No. on file NMB000640		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3617.3' GL
22. Approximate date work will start* 11/01/2014		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 <i>M. A. Sirgo, III</i>	Name (Printed/Typed) M. A. Sirgo, III	Date 7-10-2014
Title Engineer		
Approved by (Signature) Steve Caffey	Name (Printed/Typed)	Date JAN - 5 - 2016
Title FIELD MANAGER	Office 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)

Carlsbad Controlled Water Basin

KZ
01/14/16

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JAN 14 2016

JAN 12 2016



Endurance Resources LLC

DRILLING & OPERATIONS PROGRAM

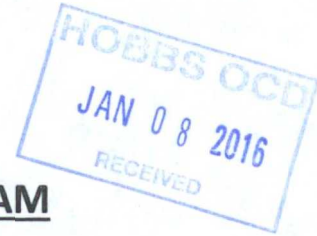
Telecaster 30 Fed 1H

SHL: 330' FNL & 760' FWL (1)

BHL: 330' FSL & 660' FWL (4)

Sec 30-23S-34E

Lea Co, NM



1. Geological Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geological Markers

Fresh Water	311'
Rustler	1,140'
Top of Salt	1,650'
Lamar Limestone	3,420'
Delaware	5,020' Oil
Bone Spring	8,620'
1 st Bone Spring	9,900' Oil
2 nd Bone Spring	10,270' Oil
TVD: 10,500' ; MD: 14,867.67'	

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: 5,020' – 10,900' (Delaware through Bone Spring)

No other formations are expected to give up oil, gas, or fresh water in measurable quantities.



4. Proposed Casing Program:

See cor17 for depth changes

Hole Size	Interval	CSG OD	CSG Interval	Weight	Collar	Grade
17.5"	0' - 1180'	13.375"	0 - 1180'	48# 54.5'	BTC	J-55
12.25"	1180' - 5100'	9.625"	0 - 4350'	40#	STC	J-55
12.25"	1180-5100	9.625"	4350'-5100'	40#	LTC	HCL-80
8.75"	5100' - TD	5.5"	0 - 14,867'	20#	BTC	HCP-110

operator changes

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13.375"	2.05	4.95	7.99
9.625"	1.14	1.75	2.60
9.625"	1.60	2.17	4.10
5.5"	1.59	1.78	2.24

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:

Casing / Wellbore Description: Surface - 13 3/8" x 17 1/2" (54# / J-55 / BTC)					
Stage	Slurry Description	Weight (ppg)	Yield (ft. ³ /sk)	Sacks	% Excess
Lead	Class C, 4% Bentonite, 2% Calcium Chloride	13.7	1.68	565	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	1140	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	795	15 (OH)
Tail	50% Class H, 50% Poz, 2% Bentonite, .5% Halad-9, .2% Econolite, 3% KCL, .2% HR-601	14.2	1.31	1100	15

NOTE: THE ABOVE CEMENT VOLUMES COULD BE REVISED PENDING FLUID CALIPER & CALIPER LOG DATA. ALL VOLUMES ARE DESIGNED TO CIRCULATE TO SURFACE. Production cement will circulate to at least 200' above intermediate casing shoe.



6. Minimum Specifications for Pressure Control:

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 5M BOP system. Below the 13-3/8" csg shoe, this 5M system will be equipped with a 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. Hydril 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 250psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 psi high. These low pressure tests from 250 to 300 psi will be held a minimum of 10 minutes if test is done with a test plug & 30 minutes without a test plug.

7. Estimated BHP:

4690 psi @ 10,500' TVD

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

Depth	Type of System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0 - 1180' ¹¹⁹⁰	Fresh	8.4 - 9.4	32-34	NC
1180' - 5100'	Brine	10.0	28-39	NC
5100' - 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 is 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, See COA 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.

COA will be TD (horizontal well - vertical portion of hole) to surface

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.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced.

O=orphaned,

C=the file is (quarters are 1=NW 2=NE 3=SW 4=SE)

closed) (quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00556	LE			4	4	3	08	23S	34E	641762	3576206	497	255	242
CP 00580	LE			3	4	3	23	23S	34E	646524	3572948*	220		
CP 00606	LE				4	1	23	23S	34E	646613	3573854*	650	265	385
CP 00618	LE			1	2	4	22	23S	34E	645713	3573539*	428	295	133
CP 00637	LE			3	3	4	15	23S	34E	645293	3574541*	430	430	0
CP 00651	LE			1	1	1	08	23S	34E	641225	3577504*	500	305	195
CP 00670	LE			2	3	3	14	23S	34E	646366	3574753	397	318	79

Average Depth to Water: 311 feet

Minimum Depth: 255 feet

Maximum Depth: 430 feet

Record Count: 7

Basin/County Search:

County Lea

PLSS Search:

Township 23S

Range 34E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Endurance Resources LLC

HALLIBURTON | Sperry Drilling

Project: Lea County, NM (NAD 83)
Site: Telecaster 30 Fed
Well: Telecaster 30 Fed #1H
Wellbore: Wellbore #1
Plan: Plan #1
Rig: Patriot 4

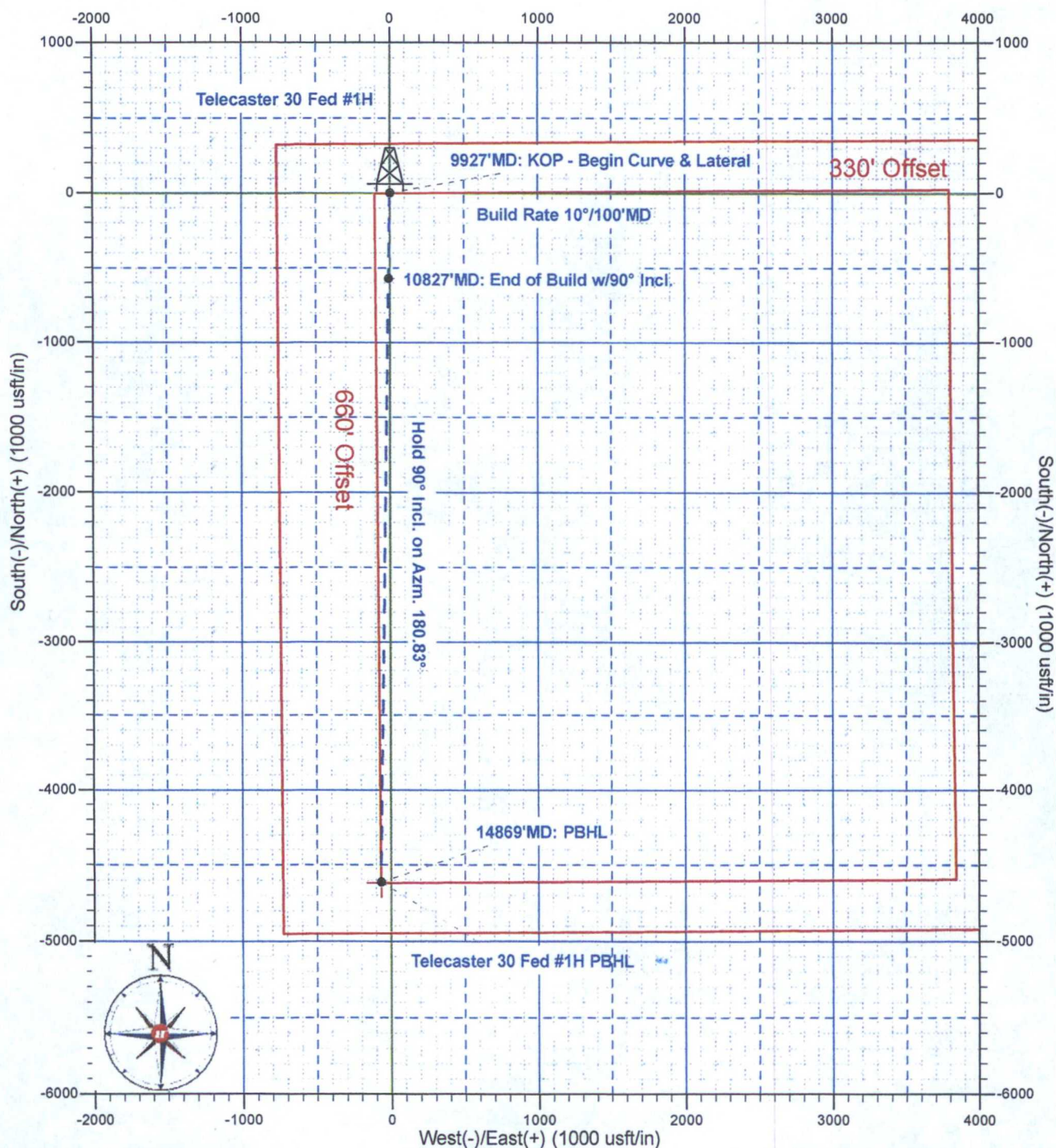


SURFACE LOCATION

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3617.3' + 22.5' KBE @ 3639.80usft (Patriot 4)
Northing 467271.64 Easting 794217.34 Latitude 32° 16' 55.029 N Longitude 103° 30' 54.211 W

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

Magnetic Model: BGGM2014 Date: 25-Jun-14
Azimuths to Grid North



Endurance Resources LLC

HALLIBURTON
Sperry Drilling Services

Project: Lea County, NM (NAD 83)
Site: Telecaster 30 Fed
Well: Telecaster 30 Fed #1H
Wellbore: Wellbore #1
Plan: Plan #1 (Telecaster 30 Fed #1H/Wellbore #1)
Rig: Patriot 4



Surface Location:

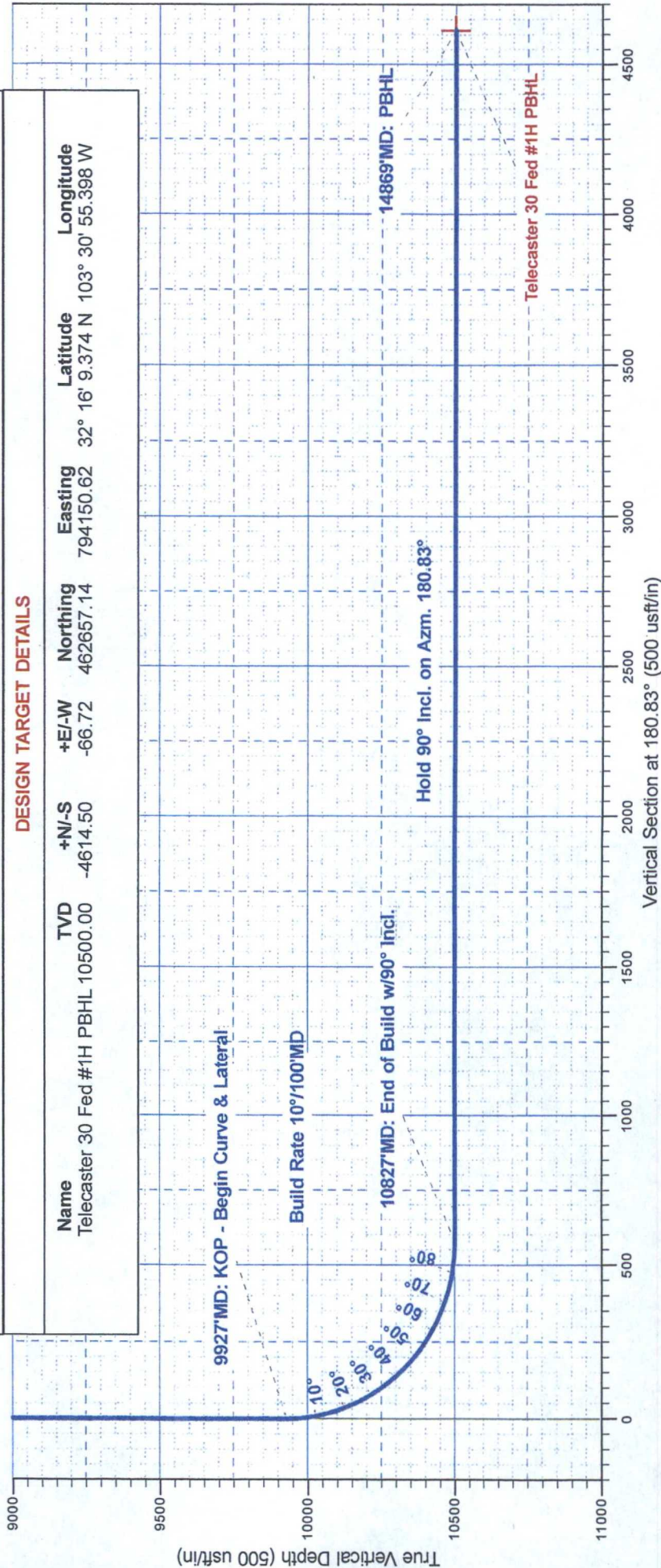
US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3617.3' + 22.5' KBE @ 3639.80usft (Patriot 4)
Northing 467271.64 Easting 794217.34
Latitude 32° 16' 55.029 N Longitude 103° 30' 54.211 W

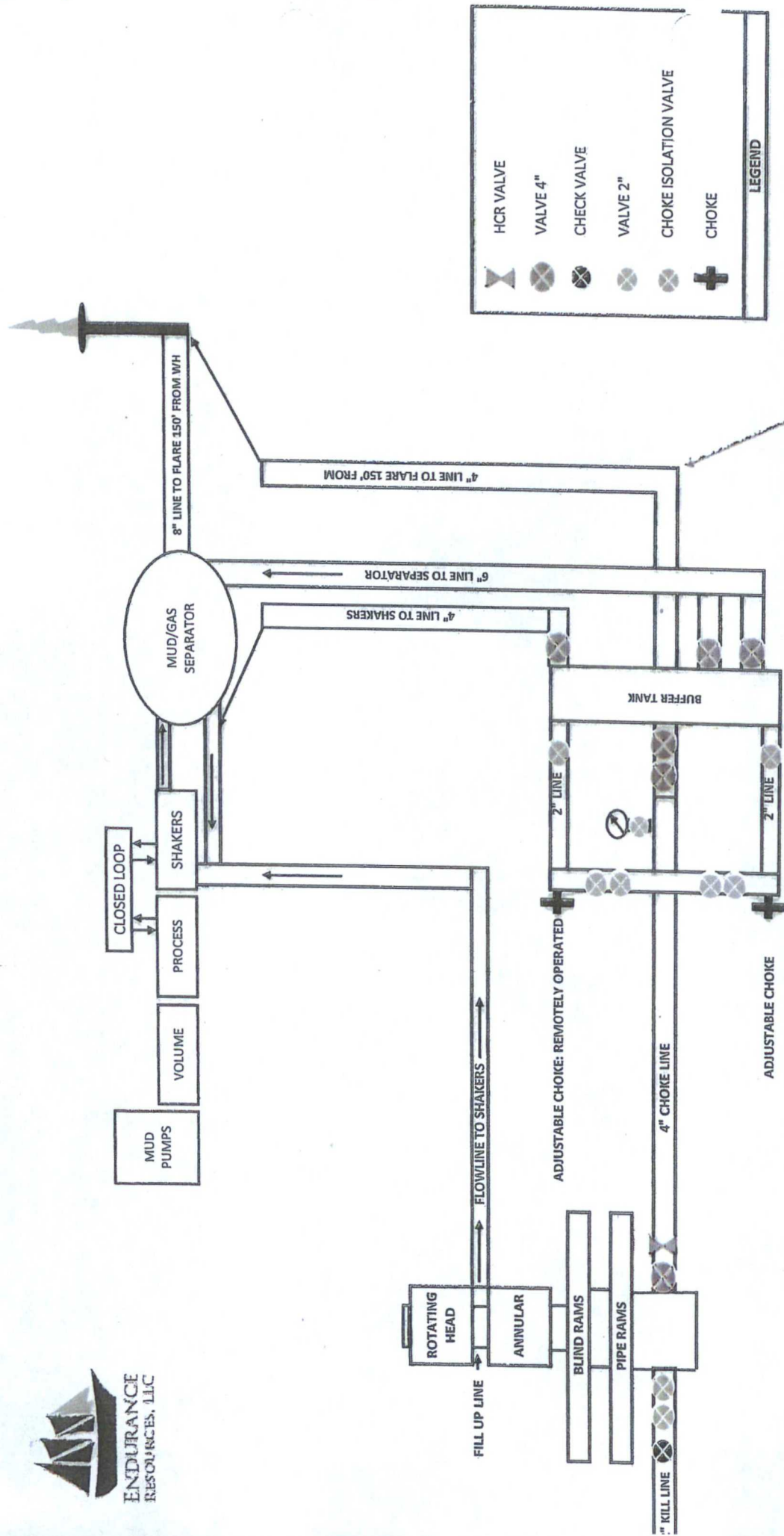
SECTION DETAILS

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	
9927.00	0.00	0.00	9927.00	0.00	0.00	0.00	0.00	0.00	9927'MD: KOP - Begin Curve & Lateral
10826.99	90.00	180.83	10499.96	-572.89	-8.28	10.00	180.83	572.95	Hold 90° Incl. on Azm. 180.83°
14869.02	90.00	180.83	10500.00	-4614.50	-66.72	0.00	0.00	4614.98	14869'MD: PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Telecaster 30 Fed #1H PBHL	10500.00	-4614.50	-66.72	462657.14	794150.62	32° 16' 9.374 N	103° 30' 55.398 W





Telecaster 30 Fed 1H

5000# BOP

