ATS-16-917

Form 3160-3
(August 2007)

OCD Hobbs
HOBBS OCD
JUN 17 2016
RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.
NMNM 132953

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Duo Sonic 29 Federal #2H (316013)

2. Name of Operator Endurance Resources, LLC ~~9950~~ (270329)

9. API Well No.
30-025-43805

3a. Address
203 West Wall Suite 1000
Midland, Texas 79701

3b. Phone No. *(include area code)*
432-242-4680

10. Field and Pool, or Exploratory
WC-025 G-08 S253534O; BS (97088)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 150' FSL & 1980' FWL
At proposed prod. zone 330' FNL & 1980' FWL
UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 29-25S-35E

14. Distance in miles and direction from nearest town or post office*
11 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 drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
150'	640 ac	160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
2640'	MD 16,963' TVD 12,411'	NMB001220

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3263.8 GL	11/01/2016	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	Name *(Printed/Typed)*	Date
Tinlee Tilton	Tinlee Tilton	03/09/2016

Title
Engineer

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
James A. Amos		JUN 14 2016

Title	Office
FIELD MANAGER	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 approva

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section
States any false, fictiti

erson knowingly and willfully to make to any department or agency of the United within its jurisdiction.

See attached NMOCD
Conditions of Approval

(Continued on p

*(Instructions on page 2)

KZ
06/17/16

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

ENDURANCE RESOURCES LLC

Endurance Resources LLC

DRILLING & OPERATIONS PROGRAM

Duo Sonic 29 Federal 2H
SHL: 150' FSL & 1980' FWL (N)
BHL: 330' FNL & 1980' FWL (C)
Sec 29-25S-35E
Lea Co, NM

1. Geological Name of Surface Formation
   Permian

2. Estimated Tops of Important Geological Markers

Rustler	920'	
Top of Salt	1,258'	
Castile	3,760'	
Lamar	5,225'	
Bell Canyon	5,254'	Oil
Cherry Canyon	6,270'	Oil
Bone Spring	9,280'	Oil
1st Bone Spring	10,330'	Oil
2nd Bone Spring	10,600'	Oil
3rd Bone Spring	11,950'	Oil

TVD: 12,411'; MD: 16,963'

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: 200'. Minimum depth: 0'. Max: 400'. As reported from the New Mexico Office of the State Engineer website.

   Oil & Gas: 5,254' – 12,411' (Bell Canyon to 3rd Bone Spring)
   No other formations are expected to give up oil, gas, or fresh water in measurable quantities.

ENDURANCE RESOURCES, LLC

5. Proposed Casing Program:

Casing	Hole Size	Interval	Casing OD	Casing Interval	Weight	Collar	Grade
Surface	17.5"	0'-970'	13.375"	0'-970'	54.5#	BTC	J-55
Intermediate I	12.25"	970'-9,380'	9.625"	970'-5400'	40#	BTC	HCL-80
Intermediate II	12.25"	970'-9,380'	9.625"	5400'-9380'	43.5#	BTC	HCP-110
Production	8.5"	9,380'-TD	5.5"	9380'-16,963'	20#	BTC	HCP-110

Casing	Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
Surface	13.375"	2.49	6.04	16.14
Intermediate	9.625" (HCL-80)	1.48	2.20	4.24
Intermediate	9.625" (HCP-110)	1.20	1.30	2.29
Production	5.5" (HCP-110)	2.10	2.18	1.89

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

4. 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	EXTENDACEM - CZ	13.7	1.694	550	100
Tail	HALCEM - Class C	14.8	1.326	355	100
Casing / Wellbore Description: Intermediate 9 5/8" x 12 1/4" (40# / HCL-80 / BTC, 43.5# / HCP-1100 / BTC)					
Stage	***Slurry Description***	***Weight***	***Yield***	***Sacks***	***% Excess***
Lead	TUNED LIGHT - Class C	9.0	3.556	1105	50 (OH)
Tail	VERSACEM - Class H, 0.3% Super CBL, 0.2% Halad-9, 0.2% HR-800	14.4	1.247	380	50 (OH)
Casing / Wellbore Description: Production 5 1/2" x 8 1/2" (20# / HCP-110 / BTC)					
Stage	***Slurry Description***	***Weight***	***Yield***	***Sacks***	***% Excess***
Lead	VERSACEM - Class H, 10% Bentonite, 5% Cal-Seal 60 0.1% Fe-2, 0.25 lbm D-Air 5000	11.5	2.672	1170	15 (OH)
Tail	SOLUCEM - Class H, 0.25 lbm D - AIR 5000, 0.8 % HR-601	15	2.625	520	15 (OH)

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 BE CIRCULATED TO AT LEAST 200' ABOVE INTERMEDIATE CASING SHOE.

ENDURANCE
RESOURCES, LLC

5. Minimum Specifications for Pressure Control:

The system used for the intermediate (12.25" hole) and production (8.5" hole) will consist of a 13-5/8 (10M) 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 KC 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 10M 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 & 5000 psi high. Annular Preventer 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. Annular Preventer 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 or 30 minutes if conducted without a test plug. Annular Preventer 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 or 30 minutes if conducted without a test plug.

6. Estimated BHP:
5,585 psi @ 12,411' TVD

ENDURANCE RESOURCES, LLC

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

Depth	Type of System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0 – 970'	Fresh	8.4 – 9.4	32-34	NC
970' – 9380'	OBM	9.0 – 9.2	55-65	<10
9380' - 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.

8. Auxiliary Well Control & Monitoring Equipment:
   a. A KC 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. H_2S 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.

9. Testing, Logging & Coring Program:
   a. No drill stem tests are planned.
   b. GR/N well log ran from KOP to surface.
   c. No open hole logs will be run.

10. Potential Hazards:

No abnormal pressures or temperatures are expected. If H_2S is encountered, Endurance Resources LLC will comply with Onshore Order #6. Regardless, all personnel will be trained & qualified with H_2S 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 H_2S has been encountered in the salt section. If H_2S is encountered, measurements & formations will be reported to the BLM.

11. 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.

Endurance Resources LLC

HALLIBURTON
Sperry Drilling Services

Project: Lea County, NM (NAD 83)
Site: Duo Sonic 29 Fed
Well: Duo Sonic 29 Fed 2H
Wellbore: Wellbore #1
Design: Plan #4
Rig: TBD

ENDURANCE RESOURCES, LLC

SURFACE LOCATION

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3263.80' @ 3263.80usft (TBD)

Northing	Easting	Latitude	Longitude
399398.34	832946.67	32° 5' 40.291 N	103° 23' 30.025 W

To convert a Magnetic Direction to a Grid Direction, Add 6.58°

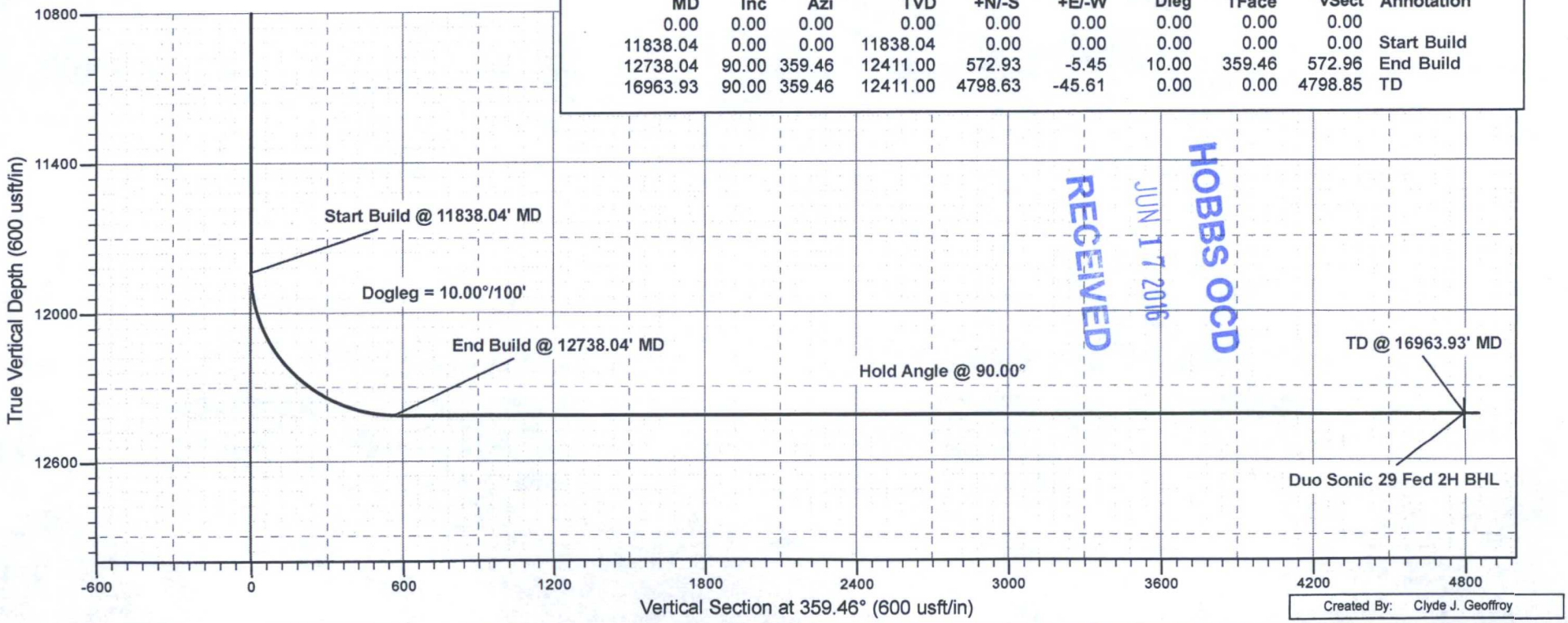
Magnetic Model: BGGM2015 Date: 09-Mar-16
Azimuths to Grid North

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Duo Sonic 29 Fed 2H BHL	12411.00	4798.63	-45.61	404196.97	832901.06	32° 6' 27.777 N	103° 23' 30.068 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	
11838.04	0.00	0.00	11838.04	0.00	0.00	0.00	0.00	0.00	Start Build
12738.04	90.00	359.46	12411.00	572.93	-5.45	10.00	359.46	572.96	End Build
16963.93	90.00	359.46	12411.00	4798.63	-45.61	0.00	0.00	4798.85	TD



Created By: Clyde J. Geoffroy

Endurance Resources LLC

HALLIBURTON
Sperry Drilling Services

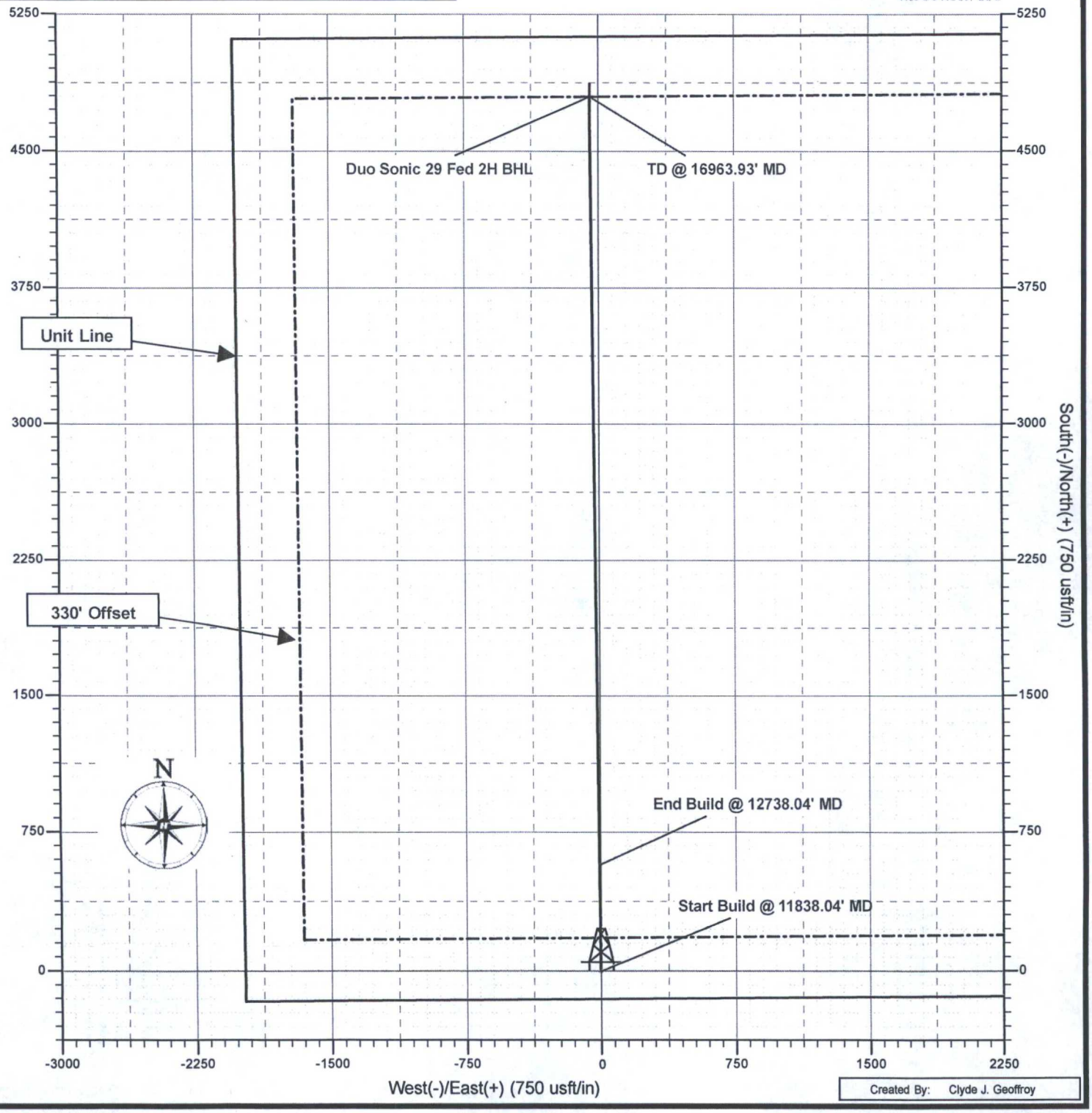
Project: Lea County, NM (NAD 83)
Site: Duo Sonic 29 Fed
Well: Duo Sonic 29 Fed 2H
Wellbore: Wellbore #1
Plan #4
Rig: TBD

SURFACE LOCATION			
US State Plane 1983 New Mexico Eastern Zone Elevation: GL 3263.80' @ 3263.80usft (TBD)			
Northing	**Easting**	**Latitude**	**Longitude**
399398.34	832946.67	32° 5' 40.291 N	103° 23' 30.025 W

To convert a Magnetic Direction to a Grid Direction, Add 6.58°

Magnetic Model: BGGM2015 Date: 09-Mar-16
Azimuths to Grid North

ENDURANCE RESOURCES, LLC



Created By: Clyde J. Geoffroy

Endurance Resources LLC

Lea County, NM (NAD 83)
Duo Sonic 29 Fed
Duo Sonic 29 Fed 2H

Wellbore #1

Plan: Plan #4

Sperry Drilling Services
Proposal Report

09 March, 2016

Well Coordinates: 399,398.34 N, 832,946.67 E (32° 05' 40.29" N, 103° 23' 30.02" W)
Ground Level: 3,263.80 usft

Local Coordinate Origin:	Centered on Well Duo Sonic 29 Fed 2H
Viewing Datum:	GL 3263.80' @ 3263.80usft (TBD)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - US Survey Feet

Version: 5000.1 Build: 76

HALLIBURTON

Plan Report for Duo Sonic 29 Fed 2H - Plan #4

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
11,838.04	0.00	0.00	11,838.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build @ 11838.04' MD - Dogleg = 10.00°/100'										
11,900.00	6.20	359.46	11,899.88	3.35	-0.03	3.35	10.00	10.00	0.00	359.46
12,000.00	16.20	359.46	11,997.85	22.74	-0.22	22.74	10.00	10.00	0.00	0.00
12,100.00	26.20	359.46	12,090.97	58.85	-0.56	58.85	10.00	10.00	0.00	0.00
12,200.00	36.20	359.46	12,176.40	110.57	-1.05	110.58	10.00	10.00	0.00	0.00
12,300.00	46.20	359.46	12,251.55	176.35	-1.68	176.36	10.00	10.00	0.00	0.00
12,400.00	56.20	359.46	12,314.14	254.18	-2.42	254.19	10.00	10.00	0.00	0.00
12,500.00	66.20	359.46	12,362.26	341.69	-3.25	341.70	10.00	10.00	0.00	0.00
12,600.00	76.20	359.46	12,394.45	436.23	-4.15	436.25	10.00	10.00	0.00	0.00
12,700.00	86.20	359.46	12,409.74	534.92	-5.08	534.94	10.00	10.00	0.00	0.00
12,738.04	90.00	359.46	12,411.00	572.93	-5.45	572.96	10.00	10.00	0.00	0.00
End Build @ 12738.04' MD - Hold Angle @ 90.00°										
12,800.00	90.00	359.46	12,411.00	634.89	-6.03	634.92	0.00	0.00	0.00	0.00
12,900.00	90.00	359.46	12,411.00	734.88	-6.99	734.92	0.00	0.00	0.00	0.00
13,000.00	90.00	359.46	12,411.00	834.88	-7.94	834.92	0.00	0.00	0.00	0.00
13,100.00	90.00	359.46	12,411.00	934.87	-8.89	934.92	0.00	0.00	0.00	0.00
13,200.00	90.00	359.46	12,411.00	1,034.87	-9.84	1,034.92	0.00	0.00	0.00	0.00
13,300.00	90.00	359.46	12,411.00	1,134.86	-10.79	1,134.92	0.00	0.00	0.00	0.00
13,400.00	90.00	359.46	12,411.00	1,234.86	-11.74	1,234.92	0.00	0.00	0.00	0.00
13,500.00	90.00	359.46	12,411.00	1,334.86	-12.69	1,334.92	0.00	0.00	0.00	0.00
13,600.00	90.00	359.46	12,411.00	1,434.85	-13.64	1,434.92	0.00	0.00	0.00	0.00
13,700.00	90.00	359.46	12,411.00	1,534.85	-14.59	1,534.92	0.00	0.00	0.00	0.00
13,800.00	90.00	359.46	12,411.00	1,634.84	-15.54	1,634.92	0.00	0.00	0.00	0.00
13,900.00	90.00	359.46	12,411.00	1,734.84	-16.49	1,734.92	0.00	0.00	0.00	0.00
14,000.00	90.00	359.46	12,411.00	1,834.83	-17.44	1,834.92	0.00	0.00	0.00	0.00
14,100.00	90.00	359.46	12,411.00	1,934.83	-18.39	1,934.92	0.00	0.00	0.00	0.00
14,200.00	90.00	359.46	12,411.00	2,034.82	-19.34	2,034.92	0.00	0.00	0.00	0.00
14,300.00	90.00	359.46	12,411.00	2,134.82	-20.29	2,134.92	0.00	0.00	0.00	0.00
14,400.00	90.00	359.46	12,411.00	2,234.81	-21.24	2,234.92	0.00	0.00	0.00	0.00
14,500.00	90.00	359.46	12,411.00	2,334.81	-22.19	2,334.92	0.00	0.00	0.00	0.00
14,600.00	90.00	359.46	12,411.00	2,434.81	-23.14	2,434.92	0.00	0.00	0.00	0.00
14,700.00	90.00	359.46	12,411.00	2,534.80	-24.09	2,534.92	0.00	0.00	0.00	0.00
14,800.00	90.00	359.46	12,411.00	2,634.80	-25.04	2,634.92	0.00	0.00	0.00	0.00
14,900.00	90.00	359.46	12,411.00	2,734.79	-26.00	2,734.92	0.00	0.00	0.00	0.00
15,000.00	90.00	359.46	12,411.00	2,834.79	-26.95	2,834.92	0.00	0.00	0.00	0.00
15,100.00	90.00	359.46	12,411.00	2,934.78	-27.90	2,934.92	0.00	0.00	0.00	0.00
15,200.00	90.00	359.46	12,411.00	3,034.78	-28.85	3,034.92	0.00	0.00	0.00	0.00
15,300.00	90.00	359.46	12,411.00	3,134.77	-29.80	3,134.92	0.00	0.00	0.00	0.00
15,400.00	90.00	359.46	12,411.00	3,234.77	-30.75	3,234.92	0.00	0.00	0.00	0.00
15,500.00	90.00	359.46	12,411.00	3,334.76	-31.70	3,334.92	0.00	0.00	0.00	0.00
15,600.00	90.00	359.46	12,411.00	3,434.76	-32.65	3,434.92	0.00	0.00	0.00	0.00
15,700.00	90.00	359.46	12,411.00	3,534.76	-33.60	3,534.92	0.00	0.00	0.00	0.00
15,800.00	90.00	359.46	12,411.00	3,634.75	-34.55	3,634.92	0.00	0.00	0.00	0.00
15,900.00	90.00	359.46	12,411.00	3,734.75	-35.50	3,734.92	0.00	0.00	0.00	0.00
16,000.00	90.00	359.46	12,411.00	3,834.74	-36.45	3,834.92	0.00	0.00	0.00	0.00
16,100.00	90.00	359.46	12,411.00	3,934.74	-37.40	3,934.92	0.00	0.00	0.00	0.00
16,200.00	90.00	359.46	12,411.00	4,034.73	-38.35	4,034.92	0.00	0.00	0.00	0.00
16,300.00	90.00	359.46	12,411.00	4,134.73	-39.30	4,134.92	0.00	0.00	0.00	0.00
16,400.00	90.00	359.46	12,411.00	4,234.72	-40.25	4,234.92	0.00	0.00	0.00	0.00
16,500.00	90.00	359.46	12,411.00	4,334.72	-41.20	4,334.92	0.00	0.00	0.00	0.00
16,600.00	90.00	359.46	12,411.00	4,434.72	-42.15	4,434.92	0.00	0.00	0.00	0.00
16,700.00	90.00	359.46	12,411.00	4,534.71	-43.10	4,534.92	0.00	0.00	0.00	0.00
16,800.00	90.00	359.46	12,411.00	4,634.71	-44.05	4,634.92	0.00	0.00	0.00	0.00
16,900.00	90.00	359.46	12,411.00	4,734.70	-45.01	4,734.92	0.00	0.00	0.00	0.00
16,963.93	90.00	359.46	12,411.00	4,798.63	-45.61	4,798.85	0.00	0.00	0.00	0.00
TD @ 16963.93' MD - Duo Sonic 29 Fed 2H BHL										

Plan Report for Duo Sonic 29 Fed 2H - Plan #4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
11,838.04	11,838.04	0.00	0.00	Start Build @ 11838.04' MD
11,838.04	11,838.04	0.00	0.00	Dogleg = 10.00°/100'
12,738.04	12,411.00	572.93	-5.45	End Build @ 12738.04' MD
12,738.04	12,411.00	572.93	-5.45	Hold Angle @ 90.00°
16,963.93	12,411.00	4,798.63	-45.61	TD @ 16963.93' MD

Vertical Section Information

	Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
TD		No Target (Freehand)	359.46	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	16,963.93	Plan #4	MWD+SC

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Duo Sonic 29 Fed 2H BHL	12,411.00	4,798.63	-45.61	Point

North Reference Sheet for Duo Sonic 29 Fed - Duo Sonic 29 Fed 2H - 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 3263.80' @ 3263.80usft (TBD). Northing and Easting are relative to Duo Sonic 29 Fed 2H
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: 1.00000649

Grid Coordinates of Well: 399,398.34 usft N, 832,946.67 usft E
Geographical Coordinates of Well: 32° 05' 40.29" N, 103° 23' 30.02" W
Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,963.93usft
the Bottom Hole Displacement is 4,798.85usft in the Direction of 359.46° (Grid).

Magnetic Convergence at surface is: -6.58° (9 March 2016, , BGGM2015)