

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.
NMNM132953

6. Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

DUO SONIC 29 FEDERAL 4H

2. Name of Operator

ENDURANCE RESOURCES LLC

Contact: PEGGY REDMAN

E-Mail: peggy@enduranceresourcesllc.com

9. API Well No.

30-025-43090-00-X1

3a. Address

MIDLAND, TX 79701

3b. Phone No. (include area code)

Ph: 432-242-4680

10. Field and Pool, or Exploratory

WC-025 G08 S2535340

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 29 T25S R35E SESE 150FSL 660FEL

11. County or Parish, and State

LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomple 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Endurance Resources LLC respectfully requests to change the formation to be drilled from a Third Bone Spring Sand well to a Brushy Canyon. This will result in the following casing design changes:
17 1/2" hole drilled to 1075' with 13 3/8" 54.5# J-55 BTC set to the same depth.
12 1/4" hole drilled to 5265' with 9 5/8" 40# HCL-80 LT&C set to the same depth.
8 3/4" hole drilled to 13,628' with 7" 29# HCP-110 BTC from 0 - 8500' and 5 1/2" 20# HCP-110 BTC from 8500 - 13,628'.

All of the casing safety factors are noted in the attached Drilling Plan.

The mud program and cement design will be changed according to the attached Drilling Plan.

Please refer to the attached C-102 and directional plan that reflects this change.

Endurance would also like to request that the field/pooling be changed to WC025; G05; S253523H;

DELAWARE; SW as reflected above and on the updated C-102.

All previous CoA still apply

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #343411 verified by the BLM Well Information System For ENDURANCE RESOURCES LLC, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 06/30/2016 (16PP0840SE)	
Name (Printed/Typed) TINLEE TILTON	Title ENGINEER
Signature (Electronic Submission)	Date 06/29/2016
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
APPROVED	
JUL 22 2016	
PETROLEUM ENGINEER	
BUREAU OF LAND MANAGEMENT	
CARLSBAD FIELD OFFICE	
Approved By Teungku Muchlis Krueng	Title
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 some Department of Agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.	

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) 748-9720

District III

1000 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, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-43090	² Pool Code 97779	³ Pool Name WLC-025-G-B5-S1535123H, Delaware
⁴ Property Code 316013	⁵ Property Name DUO SONIC 29 FEDERAL	⁶ Well Number 4H
⁷ OGRID No. 270329	⁸ Operator Name ENDURANCE RESOURCES, LLC	⁹ Elevation 3219.3

" 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	29	25 S	35 E		150	SOUTH	660	EAST	LEA

" 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	29	25 S	35 E		330	NORTH	660	EAST	LEA

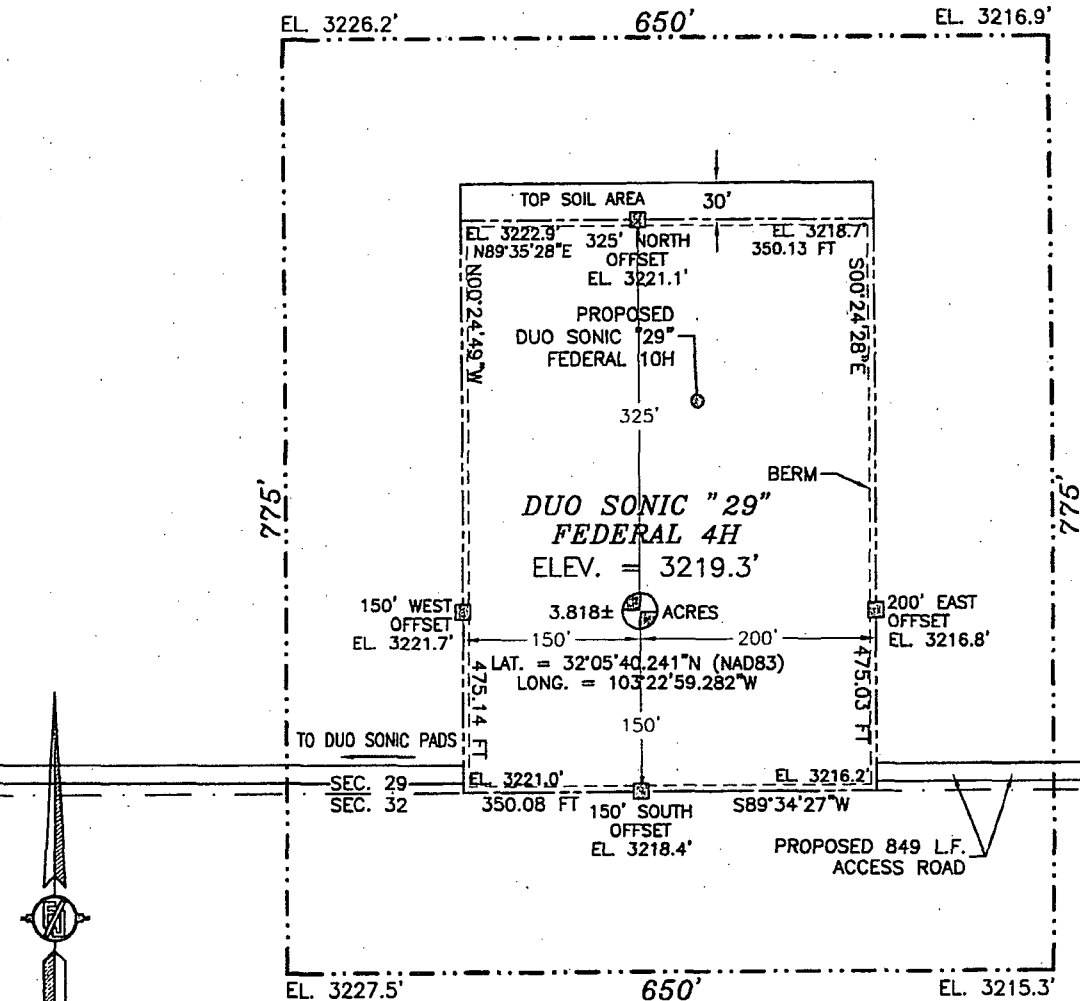
¹² Dedicated Acres 1000	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

N89°35'57"E 2642.03 FT NW CORNER SEC. 29 LAT. = 32°06'31.075"N LONG. = 103°23'53.087"W N/4 CORNER SEC. 29 LAT. = 32°06'31.030"N LONG. = 103°23'22.375"W NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) IN DEGREES MINUTES DECIMAL SECONDS FORMAT. BASIS OF BEARING IS NEW MEXICO STATE PLANE EAST (NAD83) COORDINATES MODIFIED TO SURFACE. W/4 CORNER SEC. 29 SCALED SW CORNER SEC. 29 LAT. = 32°05'38.838"N LONG. = 103°23'53.036"W S89°35'41"W 2642.82 FT		N89°36'04"E 2642.84 FT BOTTOM OF HOLE BOTTOM OF HOLE LAT. = 32°06'27.729"N LONG. = 103°22'59.323"W NE CORNER SEC. 29 LAT. = 32°06'30.982"N LONG. = 103°22'51.654"W E/4 CORNER SEC. 29 LAT. = 32°06'04.863"N LONG. = 103°22'51.635"W SE CORNER SEC. 29 LAT. = 32°05'38.743"N LONG. = 103°22'51.609"W S89°36'37"W 2642.31 FT		" OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Tina L. Tilton</i> 6/28/2016 Signature Date Tina L. Tilton Printed Name tine@endurance E-mail Address resourcesllc.com " SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. OCTOBER 1, 2014 Date of Survey <i>Filmon F. Jaramillo</i> Signature and Seal of Professional Surveyor Certificate Number FILMON F. JARAMILLO, PLS 12797 SURVEY NO. 3299
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SECTION 29, TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) IN DEGREES, MINUTES AND DECIMAL SECONDS FORMAT. BASIS OF BEARING IS NEW MEXICO STATE PLANE EAST (NAD83) COORDINATES MODIFIED TO SURFACE.



015 75 150 300

SCALE 1" = 150'

DIRECTIONS TO LOCATION

FROM STATE HWY. 128 AND CR. #2 (BATTLE AXE), GO EAST ON STATE HWY. 128 0.2 MILES, TURN RIGHT ON CALICHE ROAD AND GO SOUTH 4.2 MILES, TURN LEFT AND GO SOUTHEAST 1.2 MILES, BEND RIGHT AND GO SOUTH 0.7 MILES, TURN LEFT AND GO EAST 0.91 MILES, TURN RIGHT ON SANDY TRAIL ROAD AND GO SOUTH 4440' TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS WEST 849' TO THE PROPOSED SOUTHEAST PAD CORNER FOR THIS LOCATION.

ENDURANCE RESOURCES, LLC
DUO SONIC "29" FEDERAL 4H
LOCATED 150 FT. FROM THE SOUTH LINE
AND 660 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

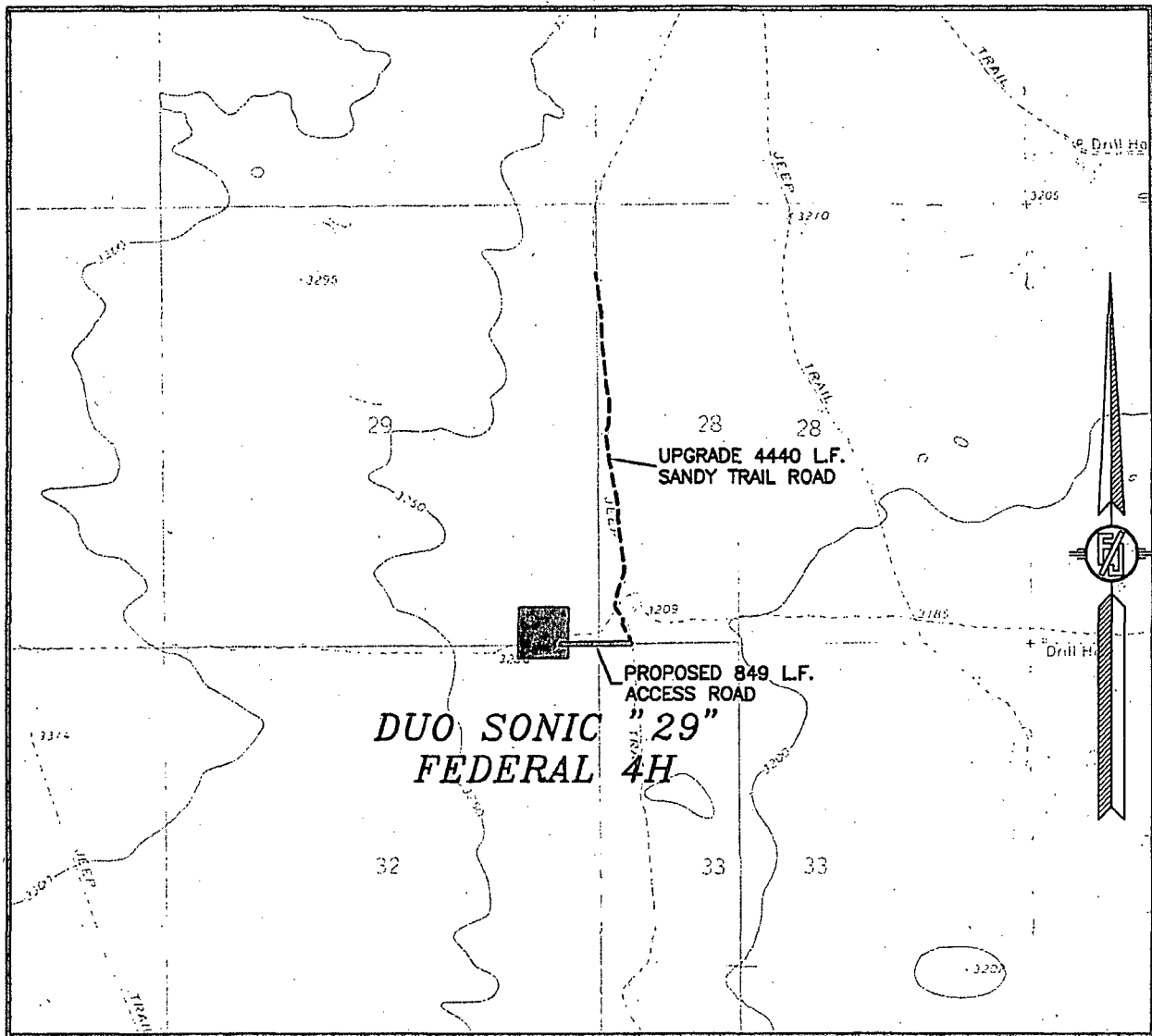
OCTOBER 1, 2014

SURVEY NO. 3299

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



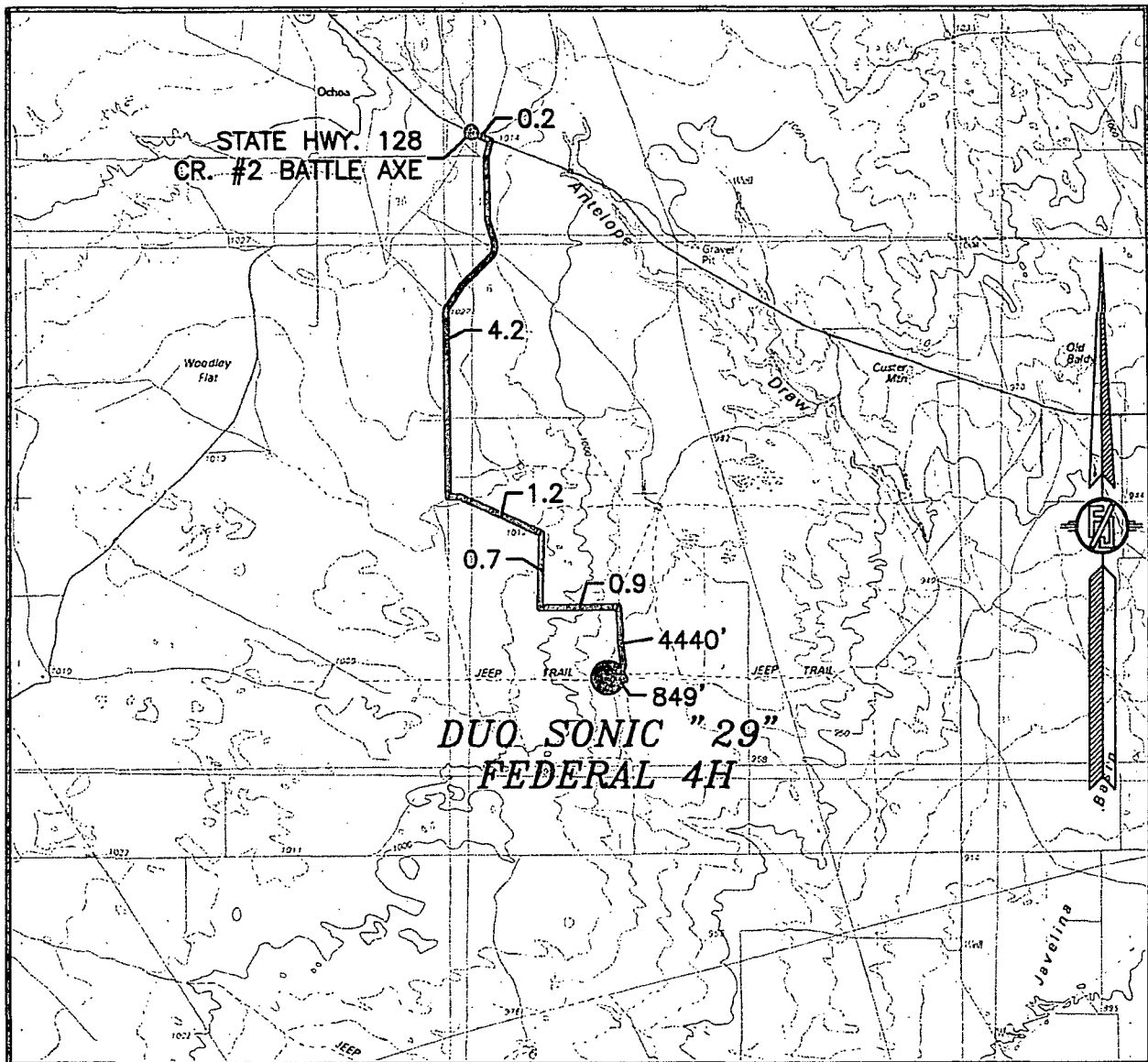
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LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 1, 2014

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SURVEY NO. 3299

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM STATE HWY. 128 AND CR. #2 (BATTLE AXE), GO EAST ON STATE HWY. 128 0.2 MILES, TURN RIGHT ON CALICHE ROAD AND GO SOUTH 4.2 MILES, TURN LEFT AND GO SOUTHEAST 1.2 MILES, BEND RIGHT AND GO SOUTH 0.7 MILES, TURN LEFT AND GO EAST 0.91 MILES, TURN RIGHT ON SANDY TRAIL ROAD AND GO SOUTH 4440' TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS WEST 849' TO THE PROPOSED SOUTHEAST PAD CORNER FOR THIS LOCATION.

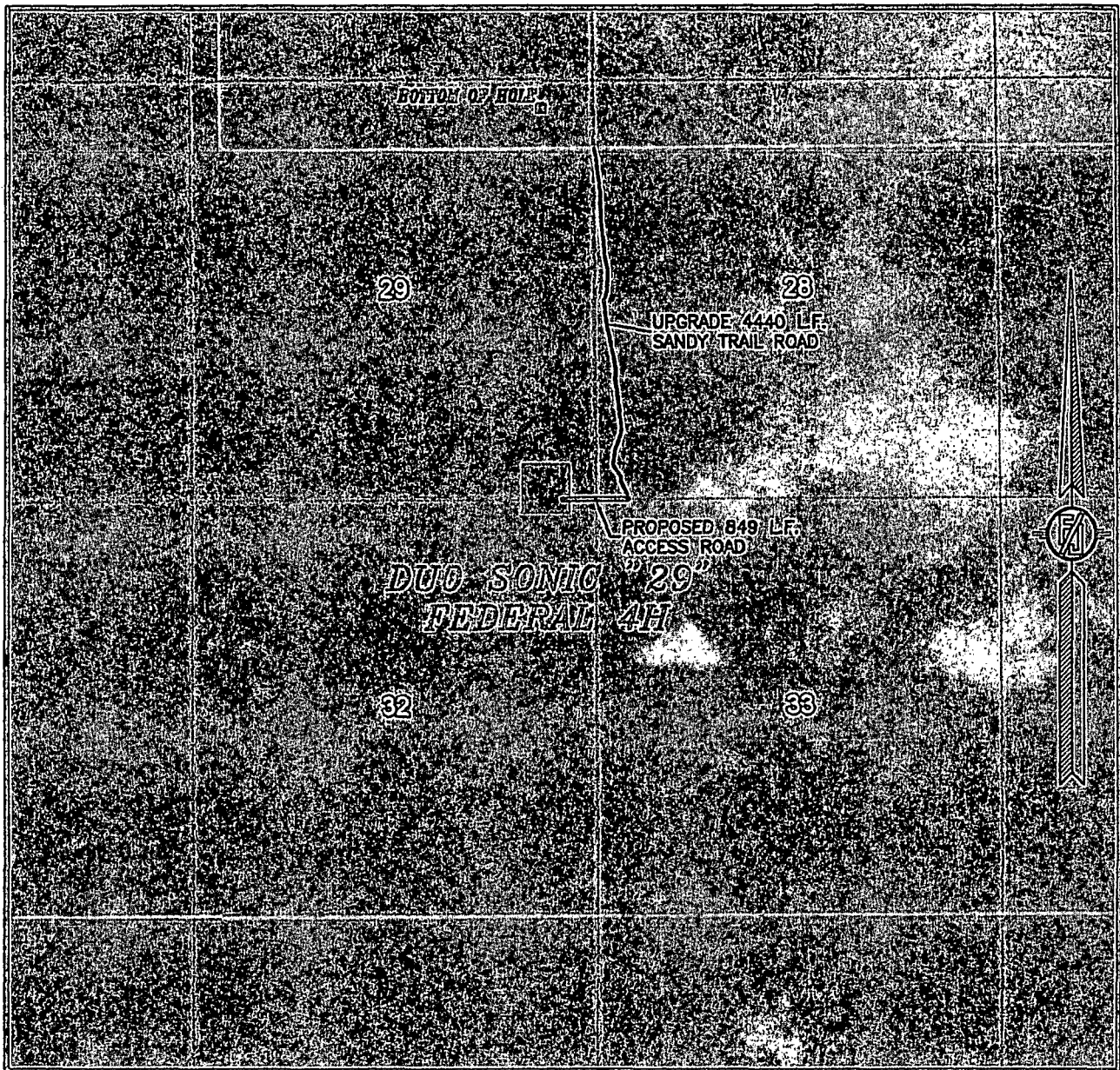
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LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 1, 2014

SURVEY NO. 3299

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
APRIL 2013

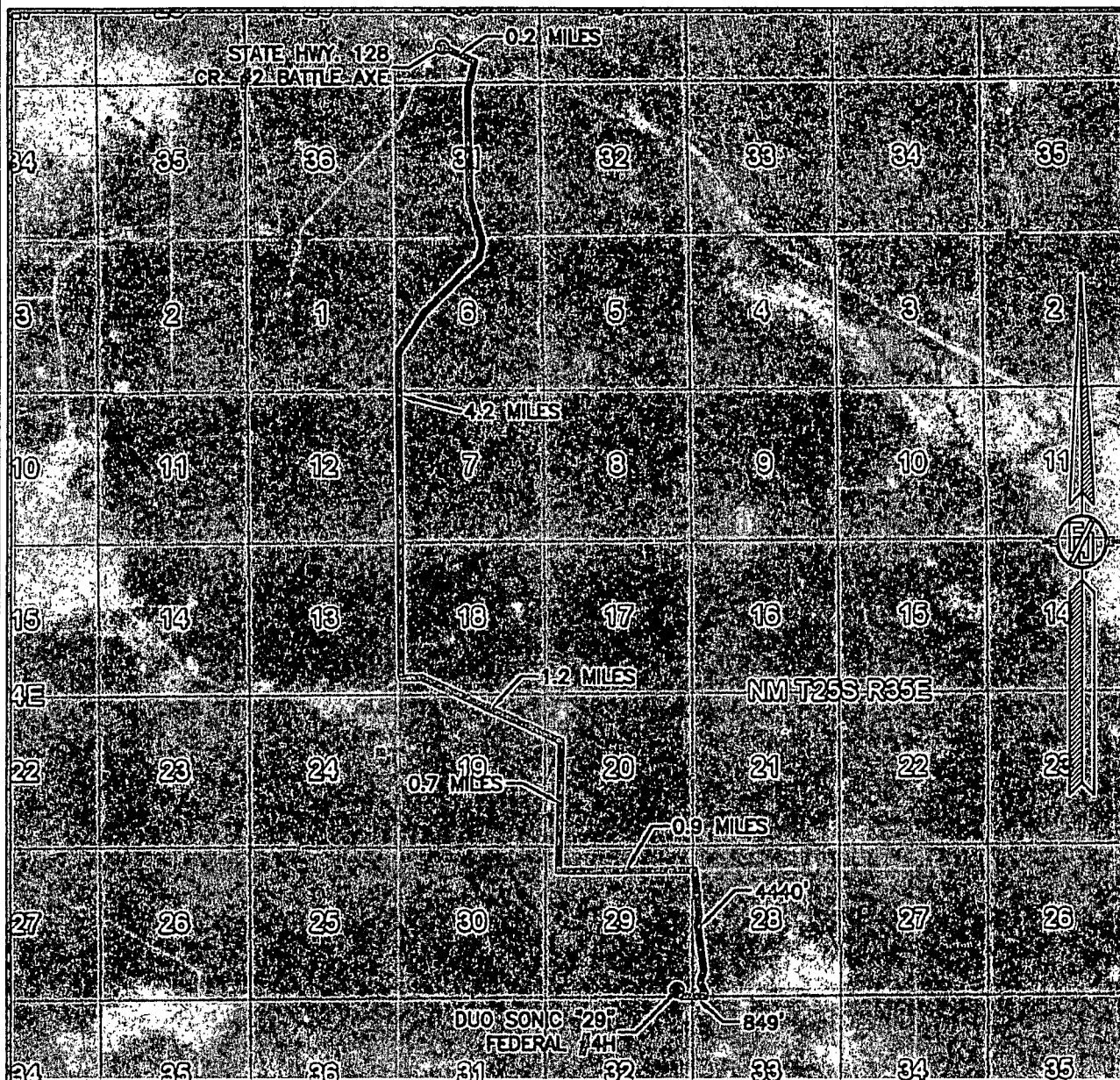
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OCTOBER 1, 2014

SURVEY NO. 3299

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(575) 234-3341

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
APRIL 2013

ENDURANCE RESOURCES, LLC
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LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 1, 2014

SURVEY NO. 3299

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341



Endurance Resources LLC

DRILLING & OPERATIONS PROGRAM

Duo Sonic 29 Fed #4H

SHL: 150' FSL & 660' FEL

Sec 29-25S-35E

BHL: 330' FNL & 660' FEL

Sec 29-25S-35E

Lea Co, NM

1. Geological Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geological Markers

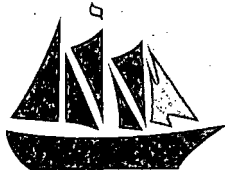
Fresh Water	400'
Rustler	987'
Top of Salt	1,544'
Lamar Limestone	5,260'
Bell Canyon	5,272' - Oil
Cherry Canyon	6,344'
Brushy canyon	7,807' – Oil
Bone Spring	9,134' – Oil
TVD: 9,034'; MD: 13,628'	
Pilot Hole drilled to 9350'	

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

Oil & Gas: 5,272' – 9,350' (Bell Canyon through Brushy Canyon)



ENDURANCE
RESOURCES, LLC

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

4. Proposed Casing Program:

Hole Size	Casing Size	Depth	#/ft	Grade	Connection	Collapse	Burst	Tension
17 1/2"	13 3/8"	1,075'	54.5	J-55	BTC	2.25	5.45	15.52
12 1/4"	9 5/8"	5,265'	40	HCL-80	LT&C	1.57	2.34	3.45
8 3/4"	7"	0 - 8,500'	29	HCP-110	BTC/TTRS-1	2.45	2.82	3.23
8 3/4"	5 1/2"	8,500 - 13,628'	20	HCP-110	BTC/TTRS-1	2.62	2.93	2.45

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 IS FULL DUE TO LOST CIRCULATION ZONES THAT MAY OCCUR. CENTRALIZERS WILL BE USED ON SURFACE, INTERMEDIATE, and PRODUCTION CASING.

5. Proposed Cement Program:

a. 13-3/8" Surface

Lead: 635 sks ExtendaCem Class C (13.7 ppg / 1.694 cuft/sk)

Tail: 315 sks HalCem Class C (14.8 ppg / 1.326 cuft/sk)

**Calculated w/ 100% excess on OH volume

b. 9-5/8" Intermediate

Lead: 1160 sxs EconoCem Class C + 0.4% HR-800 Retarder + 0.125

lbm/sk Poly-E-Flake Lost Circulation Additive (12.9ppg / 1.789 cuft/sk)

Tail: 250 sks HalCem Class C (14.80 ppg / 1.326 cuft/sk)

**Calculated w/ 50% excess on OH volumes & 10% in CH

c. Pilot Plug Back

Plug #1: 9350' – 8900': 195 sxs PlugCem + 0.2% HR-601

Plug #2: 8850' – 8500': 150 sxs PlugCem + 0.2% HR-601

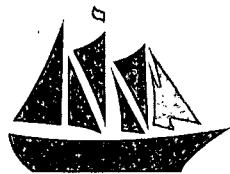
**Calculated w/ 20% excess

d. 7" X 5 1/2" Production

Lead: 425 sks Tuned Light Class H (9.0 ppg / 3.556 cuft/sk)

Tail: 1285 sks VersaCem Class H + 0.5 % Halad-344 + 0.4% Halad-322 +
0.4% HR-800 retarder (14.5 ppg / 1.227 cuft/sk)

**Calculated w/ 20% excess in OH & 10% in CH



ENDURANCE
RESOURCES, LLC

NOTE: THE ABOVE CEMENT VOLUMES COULD BE REVISED PENDING FLUID CALIPER & CALIPER LOG DATA. ALL VOLUMES ARE DESIGNED TO CIRCULATE TO SURFACE OR OFF THE TOP OF THE LINER HANGER.

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 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 surface casing through running of production casing, the well will be equipped with a 5M BOP system. Below the surface casing 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 surface casing, BOP will be tested by an independent surface company to 250 psi low & 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:

4208 psi @ 9,350' 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 – 1,075'	Fresh	8.4	29-32	NC
1,075' – 5,265'	Brine	10	29-32	NC
5,265' – 9,350'	Cut Brine	8.8 - 9.2	28-32	<20
KOP – 13,628'	Cut Brine	8.8 – 9.2	28-32	<20



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 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. H2S detection equipment will be in operation & breathing apparatuses will be on location after the drill out of the surface casing shoe until the production casing is cemented.

10. Testing, Logging & Coring Program:

- a. No drill stem tests or coring are planned.
- b. GR/N well log ran from KOP to surface.
- c. Triple Combo ran from Pilot TD to intermediate casing point

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 surface 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.

Endurance Resources, LLC

HALLIBURTON

Sperry Drilling Services

Project: Lea County, NM (NAD 83)

Site: Duo Sonic 29 Fed

Well: Duo Sonic 29 Fed 4H

Wellbore: Wellbore #1

Plan #2

Rig: Patriot 4

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	
8556.54	0.00	0.00	8556.54	0.00	0.00	0.00	0.00	0.00	Start Build
9306.54	90.00	359.45	9034.00	477.44	-4.56	12.00	359.45	477.46	End Build
13628.13	90.00	359.45	9034.00	4798.84	-45.82	0.00	0.00	4799.06	TD

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Duo Sonic 29 Fed 4H BHL	9034.00	4798.84	-45.82	404215.32	835545.54	32° 6' 27.729 N	103° 22' 59.323 W

Surface Location:

US State Plane 1983

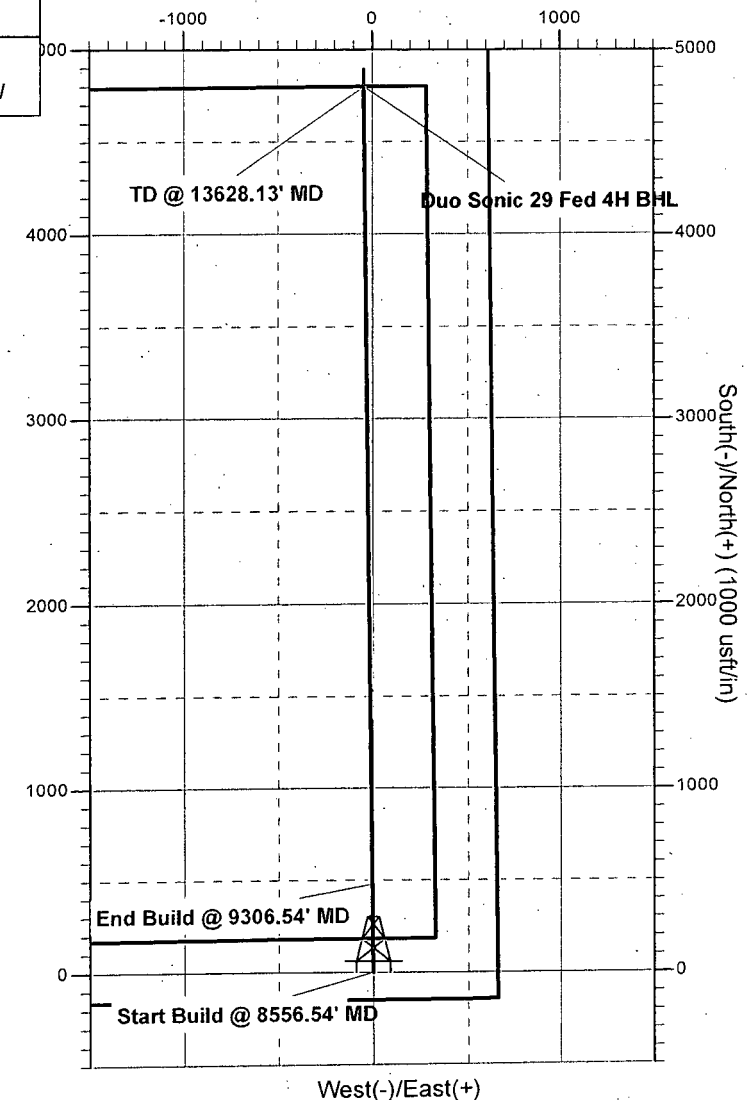
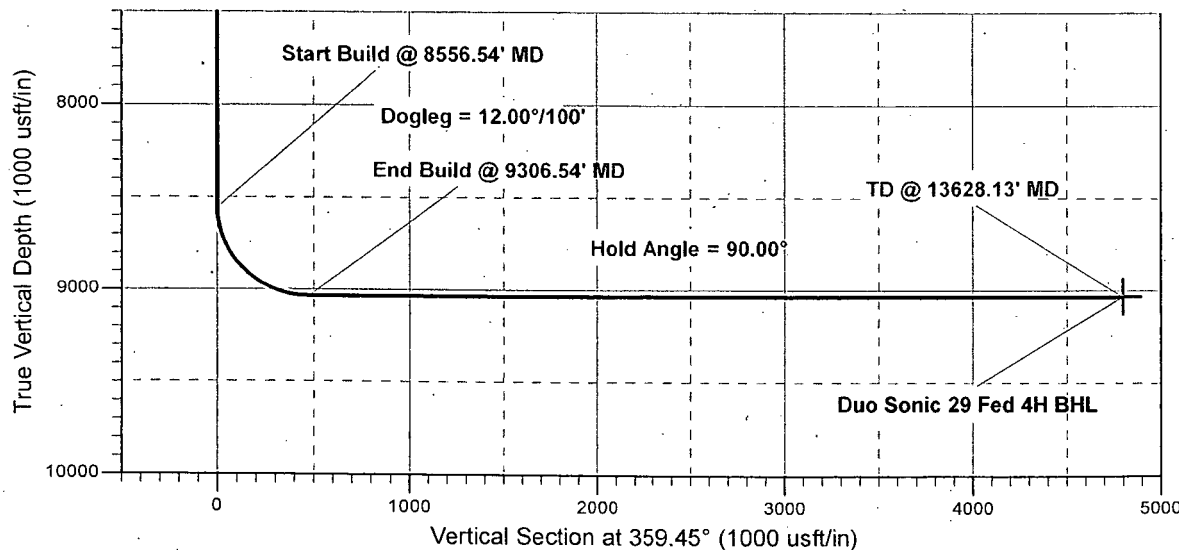
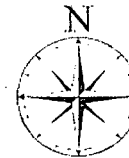
New Mexico Eastern Zone

Elevation: GL 3219.3' + KB 21' @ 3240.30usft (Patriot 4)

Northing	Easting	Latitude	Longitude
399416.48	835591.37	32° 5' 40.241 N	103° 22' 59.282 W

To convert a Magnetic Direction to a Grid Direction, Add 6.51°

Magnetic Model: BGGM2016 Date: 28-Jun-16
Azimuths to Grid North



Endurance Resources, LLC

Lea County, NM (NAD 83)

Duo Sonic 29 Fed

Duo Sonic 29 Fed 4H

Wellbore #1

Plan: Plan #2

Sperry Drilling Services Proposal Report

28 June, 2016

Well Coordinates: 399,416.48 N, 835,591.37 E (32° 05' 40.24" N, 103° 22' 59.28" W)

Ground Level: 3,219.30 usft

Local Coordinate Origin: Centered on Well Duo Sonic 29 Fed 4H

Viewing Datum: GL 3219.3' + KB 21' @ 3240.30usft (Patriot 4)

TVDs to System: N

North Reference: Grid

Unit System: API - US Survey Feet

Version: 5000.1 Build: 81

HALLIBURTON

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

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
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
1,300.00	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
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

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

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 (°)
5,900.00	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
8,556.54	0.00	0.00	8,556.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build @ 8556.54' MD - Dogleg = 12.00°/100'										
8,575.00	2.22	359.45	8,575.00	0.36	0.00	0.36	12.00	12.00	0.00	359.45
8,600.00	5.22	359.45	8,599.94	1.98	-0.02	1.98	12.00	12.00	0.00	0.00
8,625.00	8.22	359.45	8,624.77	4.90	-0.05	4.90	12.00	12.00	0.00	0.00
8,650.00	11.22	359.45	8,649.40	9.12	-0.09	9.12	12.00	12.00	0.00	0.00
8,675.00	14.22	359.45	8,673.79	14.62	-0.14	14.62	12.00	12.00	0.00	0.00
8,700.00	17.22	359.45	8,697.85	21.39	-0.20	21.39	12.00	12.00	0.00	0.00
8,725.00	20.22	359.45	8,721.53	29.41	-0.28	29.41	12.00	12.00	0.00	0.00
8,750.00	23.22	359.45	8,744.75	38.66	-0.37	38.66	12.00	12.00	0.00	0.00
8,775.00	26.22	359.45	8,767.46	49.11	-0.47	49.11	12.00	12.00	0.00	0.00
8,800.00	29.22	359.45	8,789.59	60.74	-0.58	60.74	12.00	12.00	0.00	0.00
8,825.00	32.22	359.45	8,811.08	73.50	-0.70	73.51	12.00	12.00	0.00	0.00
8,850.00	35.22	359.45	8,831.87	87.38	-0.83	87.38	12.00	12.00	0.00	0.00
8,875.00	38.22	359.45	8,851.91	102.32	-0.98	102.33	12.00	12.00	0.00	0.00
8,900.00	41.22	359.45	8,871.14	118.29	-1.13	118.30	12.00	12.00	0.00	0.00
8,925.00	44.22	359.45	8,889.50	135.25	-1.29	135.26	12.00	12.00	0.00	0.00
8,950.00	47.22	359.45	8,906.95	153.15	-1.46	153.15	12.00	12.00	0.00	0.00
8,975.00	50.22	359.45	8,923.45	171.93	-1.64	171.94	12.00	12.00	0.00	0.00
9,000.00	53.22	359.45	8,938.93	191.55	-1.83	191.56	12.00	12.00	0.00	0.00
9,025.00	56.22	359.45	8,953.37	211.95	-2.02	211.96	12.00	12.00	0.00	0.00
9,050.00	59.22	359.45	8,966.73	233.08	-2.23	233.10	12.00	12.00	0.00	0.00
9,075.00	62.22	359.45	8,978.95	254.89	-2.43	254.90	12.00	12.00	0.00	0.00
9,100.00	65.22	359.45	8,990.02	277.30	-2.65	277.31	12.00	12.00	0.00	0.00
9,125.00	68.22	359.45	8,999.90	300.26	-2.87	300.27	12.00	12.00	0.00	0.00
9,150.00	71.22	359.45	9,008.57	323.70	-3.09	323.72	12.00	12.00	0.00	0.00
9,175.00	74.22	359.45	9,016.00	347.57	-3.32	347.59	12.00	12.00	0.00	0.00
9,200.00	77.22	359.45	9,022.16	371.79	-3.55	371.81	12.00	12.00	0.00	0.00
9,225.00	80.22	359.45	9,027.06	396.31	-3.78	396.33	12.00	12.00	0.00	0.00
9,250.00	83.22	359.45	9,030.66	421.04	-4.02	421.06	12.00	12.00	0.00	0.00
9,275.00	86.22	359.45	9,032.96	445.93	-4.26	445.95	12.00	12.00	0.00	0.00
9,300.00	89.22	359.45	9,033.96	470.91	-4.50	470.93	12.00	12.00	0.00	0.00

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

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 (°)
9,306.54	90.00	359.45	9,034.00	477.45	-4.56	477.47	11.99	11.99	0.00	0.00
End Build @ 9306.54' MD - Hold Angle = 90.00°										
9,400.00	90.00	359.45	9,034.00	570.90	-5.45	570.93	0.00	0.00	0.00	0.00
9,500.00	90.00	359.45	9,034.00	670.90	-6.41	670.93	0.00	0.00	0.00	0.00
9,600.00	90.00	359.45	9,034.00	770.89	-7.36	770.93	0.00	0.00	0.00	0.00
9,700.00	90.00	359.45	9,034.00	870.89	-8.32	870.93	0.00	0.00	0.00	0.00
9,800.00	90.00	359.45	9,034.00	970.89	-9.27	970.93	0.00	0.00	0.00	0.00
9,900.00	90.00	359.45	9,034.00	1,070.88	-10.23	1,070.93	0.00	0.00	0.00	0.00
10,000.00	90.00	359.45	9,034.00	1,170.88	-11.18	1,170.93	0.00	0.00	0.00	0.00
10,100.00	90.00	359.45	9,034.00	1,270.87	-12.14	1,270.93	0.00	0.00	0.00	0.00
10,200.00	90.00	359.45	9,034.00	1,370.87	-13.09	1,370.93	0.00	0.00	0.00	0.00
10,300.00	90.00	359.45	9,034.00	1,470.86	-14.04	1,470.93	0.00	0.00	0.00	0.00
10,400.00	90.00	359.45	9,034.00	1,570.86	-15.00	1,570.93	0.00	0.00	0.00	0.00
10,500.00	90.00	359.45	9,034.00	1,670.85	-15.95	1,670.93	0.00	0.00	0.00	0.00
10,600.00	90.00	359.45	9,034.00	1,770.85	-16.91	1,770.93	0.00	0.00	0.00	0.00
10,700.00	90.00	359.45	9,034.00	1,870.84	-17.86	1,870.93	0.00	0.00	0.00	0.00
10,800.00	90.00	359.45	9,034.00	1,970.84	-18.82	1,970.93	0.00	0.00	0.00	0.00
10,900.00	90.00	359.45	9,034.00	2,070.84	-19.77	2,070.93	0.00	0.00	0.00	0.00
11,000.00	90.00	359.45	9,034.00	2,170.83	-20.73	2,170.93	0.00	0.00	0.00	0.00
11,100.00	90.00	359.45	9,034.00	2,270.83	-21.68	2,270.93	0.00	0.00	0.00	0.00
11,200.00	90.00	359.45	9,034.00	2,370.82	-22.64	2,370.93	0.00	0.00	0.00	0.00
11,300.00	90.00	359.45	9,034.00	2,470.82	-23.59	2,470.93	0.00	0.00	0.00	0.00
11,400.00	90.00	359.45	9,034.00	2,570.81	-24.55	2,570.93	0.00	0.00	0.00	0.00
11,500.00	90.00	359.45	9,034.00	2,670.81	-25.50	2,670.93	0.00	0.00	0.00	0.00
11,600.00	90.00	359.45	9,034.00	2,770.80	-26.46	2,770.93	0.00	0.00	0.00	0.00
11,700.00	90.00	359.45	9,034.00	2,870.80	-27.41	2,870.93	0.00	0.00	0.00	0.00
11,800.00	90.00	359.45	9,034.00	2,970.79	-28.37	2,970.93	0.00	0.00	0.00	0.00
11,900.00	90.00	359.45	9,034.00	3,070.79	-29.32	3,070.93	0.00	0.00	0.00	0.00
12,000.00	90.00	359.45	9,034.00	3,170.79	-30.28	3,170.93	0.00	0.00	0.00	0.00
12,100.00	90.00	359.45	9,034.00	3,270.78	-31.23	3,270.93	0.00	0.00	0.00	0.00
12,200.00	90.00	359.45	9,034.00	3,370.78	-32.19	3,370.93	0.00	0.00	0.00	0.00
12,300.00	90.00	359.45	9,034.00	3,470.77	-33.14	3,470.93	0.00	0.00	0.00	0.00
12,400.00	90.00	359.45	9,034.00	3,570.77	-34.10	3,570.93	0.00	0.00	0.00	0.00
12,500.00	90.00	359.45	9,034.00	3,670.76	-35.05	3,670.93	0.00	0.00	0.00	0.00
12,600.00	90.00	359.45	9,034.00	3,770.76	-36.01	3,770.93	0.00	0.00	0.00	0.00
12,700.00	90.00	359.45	9,034.00	3,870.75	-36.96	3,870.93	0.00	0.00	0.00	0.00
12,800.00	90.00	359.45	9,034.00	3,970.75	-37.92	3,970.93	0.00	0.00	0.00	0.00
12,900.00	90.00	359.45	9,034.00	4,070.74	-38.87	4,070.93	0.00	0.00	0.00	0.00
13,000.00	90.00	359.45	9,034.00	4,170.74	-39.83	4,170.93	0.00	0.00	0.00	0.00
13,100.00	90.00	359.45	9,034.00	4,270.73	-40.78	4,270.93	0.00	0.00	0.00	0.00
13,200.00	90.00	359.45	9,034.00	4,370.73	-41.74	4,370.93	0.00	0.00	0.00	0.00
13,300.00	90.00	359.45	9,034.00	4,470.73	-42.69	4,470.93	0.00	0.00	0.00	0.00
13,400.00	90.00	359.45	9,034.00	4,570.72	-43.64	4,570.93	0.00	0.00	0.00	0.00
13,500.00	90.00	359.45	9,034.00	4,670.72	-44.60	4,670.93	0.00	0.00	0.00	0.00
13,600.00	90.00	359.45	9,034.00	4,770.71	-45.55	4,770.93	0.00	0.00	0.00	0.00
13,628.13	90.00	359.45	9,034.00	4,798.84	-45.82	4,799.06	0.00	0.00	0.00	0.00
TD @ 13628.13' MD - Duo Sonic 29 Fed 4H BHL										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,556.54	8,556.54	0.00	0.00	Start Build @ 8556.54' MD
8,556.54	8,556.54	0.00	0.00	Dogleg = 12.00°/100'
9,306.54	9,034.00	477.44	-4.56	End Build @ 9306.54' MD
9,306.54	9,034.00	477.45	-4.56	Hold Angle = 90.00°
13,628.13	9,034.00	4,798.84	-45.82	TD @ 13628.13' MD

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

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
TD	No Target (Freehand)	359.45	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	13,628.13	Plan #2	MWD

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Duo Sonic 29 Fed 4H BHL	9,034.00	4,798.84	-45.82	Point

North Reference Sheet for Duo Sonic 29 Fed - Duo Sonic 29 Fed 4H - 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 3219.3' + KB 21' @ 3240.30usft (Patriot 4). Northing and Easting are relative to Duo Sonic 29 Fed 4H

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: 1.00000826

Grid Coordinates of Well: 399,416.48 usft N, 835,591.37 usft E

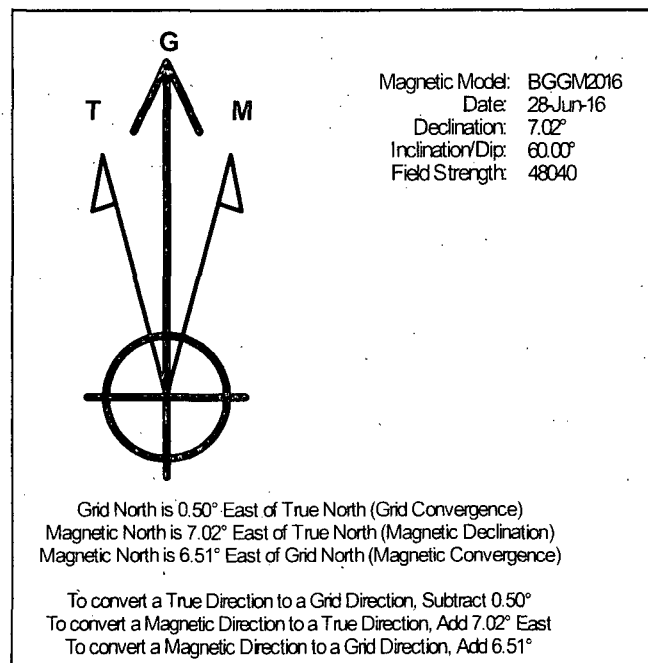
Geographical Coordinates of Well: 32° 05' 40.24" N, 103° 22' 59.28" W

Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,628.13usft

the Bottom Hole Displacement is 4,799.06usft in the Direction of 359.45° (Grid).

Magnetic Convergence at surface is: -6.51° (28 June 2016, , BGGM2016)





Krueng, Teungku Muchlis <tkrueng@blm.gov>

Fwd: Duo Sonic sundry notice

Tinlee Tilton <tinlee@enduranceresourcesllc.com>
To: "Krueng, Teungku Muchlis" <tkrueng@blm.gov>

21 July 2016 at 15:45

7 -

After talking with Halliburton cement, this is what I have for you:

1. Proposed Cement Program:**a. 13-3/8" Surface**

Lead: 635 sks ExtendaCem Class C (13.7 ppg / 1.694 cuft/sk)

Tail: 315 sks HalCem Class C (14.8 ppg / 1.326 cuft/sk)

**Calculated w/ 100% excess on OH volume

b. 9-5/8" Intermediate

Lead: 990 sxs EconoCem Class C + 0.4% HR-800 Retarder + 0.125 lbm/sk
Poly-E-Flake Lost Circulation Additive (12.9 ppg / 1.887 cuft/sk)

Tail: 390 sks HalCem Class C (14.80 ppg / 1.326 cuft/sk)

**Calculated w/ 50% excess on OH volumes

c. Pilot Plug Back

Plug #1: 9350' – 8900': 115 sxs PlugCem + 0.2% HR-601 (12.5 ppg / 2.075 cuft/sk)

Plug #2: 8800' – 8300': 125 sxs PlugCem + 0.2% HR-601 (12.5 ppg / 2.075 cuft/sk)

**Calculated w/ 20% excess

d. 7" X 5 1/2" Production – TOC @ 4000'

Lead: 420 sks NeoCem Class H (11.0 ppg / 3.167 cuft/sk)

Tail: 730 sks NeoCem Class H (14.5 ppg / 2.162 cuft/sk)

**Calculated w/ 20% excess in OH

NOTE: THE ABOVE CEMENT VOLUMES COULD BE REVISED PENDING FLUID CALIPER & CALIPER LOG DATA. ALL VOLUMES ARE DESIGNED TO CIRCULATE TO SURFACE OR TO 4000' ON THE PRODUCTION STRING.

Please let me know if you have any other questions, and thank you for getting back to me,

Tinlee Tilton

Sr. Drilling Engineer

Endurance Resources, LLC

203 West Wall, Ste #1000

Midland, TX 79701

PH: 432-242-4693

From: Krueng, Teungku Muchlis [mailto:tkrueng@blm.gov]

Sent: Tuesday, July 19, 2016 3:33 PM

To: Tinlee Tilton <tinlee@enduranceresourcesllc.com>

Subject: Re: Duo Sonic sundry notice

[Quoted text hidden]