Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM 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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM0544986

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
ALDABRA 25 FEDERAL 2H

2. Name of Operator
DEVON ENERGY PRODUCTION CO.LP
Contact: TRINA C COUCH
Mail: trina.couch@dvn.com

9. API Well No.
30-015-38613

3a. Address
DEVON ENERGY PRODUCTION CO.LP 333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102-5015

3b. Phone No. (include area code)
Ph: 405-228-7203
Fx: 405-552-8113

10. Field and Pool, or Exploratory
WILDCAT; BONE SPRING

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 25 T23S R31E 200FSL 685FWL

11. County or Parish, and State
EDDY COUNTY 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 Change to Original APD
	☐ 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 recomplete 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 recompletion 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.)

Devon Energy Production Company, L.P. respectfully requests to change the casing design plan to a 4 string design. We will set a second intermediate 9-5/8" casing below the Delaware formation to mitigate the risk of lost returns while drilling our lateral production section. The curve and lateral section will now be a 8-1/2" hole due to casing ID restrictions.

Please see the following attachments:
Drilling Plan
Directional Survey

Thank you

Accepted for record
NMOCD

RECEIVED
NOV 14 2013
NMOCD ARTESIA

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #223162 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO.LP, sent to the Carlsbad
Committed to AFMSS for processing by JOHNNY DICKERSON on 10/23/2013 ()

Name (*Printed/Typed*) TRINA C COUCH — Title REGULATORY ASSOCIATE

Signature (Electronic Submission) — Date 10/16/2013

APPROVED
NOV 13 2013
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date

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 to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Aldabra 25 Fed 2H– Sundry DRILLING PLAN
RJC 10.09.13

Casing Program

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
26"	0 - 900	20"	0 - 900	94#	STC	J-55
17-1/2"	900 – 4,450	13-3/8"	0 – 4,450	68#	BTC	HCL-80
12-1/4"	4,450 – 8,350	9-5/8"	0 – 8,350	43.5#	BTC	HCP-110
8-1/2"	8,350 – 15,033	5-1/2"	0 – 15,033	17#	BTC	HCP-110

MAX TVD: 10,471 FT

Design Factors

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20", 94#, J-55, BT&C	1.16	4.70	16.57
13-3/8", 68#,L-80HC, BT&C	1.162	1.49	3.77
9-5/8", 43.5#, P-110, LT&C	1.402	2.18	3.04
5-1/2", 17#, HCP-110, BT&C	1.64	2.04	6.65

Mud Program

Depth	Mud Wt.	Visc.	Fluid Loss	Type System
0 – 900	8.4 – 9.0	30 – 34	N/C	FW
900 – 4,450	9.8 – 10.0	28 – 32	N/C	Brine
4,450 – 8,350	8.6 – 9.2	28 – 32	N/C	FW/Cut Brine
8,350 – 15,033	9.2 – 9.6	28 – 32	N/C	Cut Brine

Pressure Control Equipment

The BOP system used to drill the **17-1/2"** hole will consist of a **20" 2M Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **2M system** prior to drilling out the casing shoe.

See COA

A ~~**3M 13-5/8" BOP** system~~ (**Triple Ram and Annular preventer**) will be installed and tested prior to drilling out the 12-1/4" and ~~8-1/2" hole sections~~. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a ~~**3M system**~~ prior to drilling out the casing shoes.

~~The pipe rams will be operated and checked as per Onshore Order No 2.~~ A 2" kill line and 3" choke line will be incorporated into the ~~drilling spool~~ below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include ~~a kelly~~ cock, floor safety valve, choke lines, and choke manifold rated at **3,000 psi WP**.

See COA

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line); **if an H&P rig drills this well. Otherwise no flex line is needed**. The line will be kept as straight as possible with minimal turns.

Cement contingency plan: If lost circulation is encountered while drilling the 2nd intermediate well bore, 2 DV tools will be ran. The first one will be placed above the loss zone. The second will be placed a minimum of 50' below the previous casing shoe. If the DV tool does have to be moved, the cement volumes will be adjusted proportionately.

9-5/8" Intermediate #2 – 3 Stage

1st Stage
Lead: **140 sacks** Tuned Light Class C Based + 2 lbs/sack Kol-Seal+ 0.125 lbs/sack Poly-E-Flake + 0.2 lb/sack HR-800 + 70.01 % Fresh Water, 10.4 ppg

Yield: 2.91 cf/sk

Water Requirement: 15.24gal/sk

Mix Water Volume: 51 bbls

TOC @ 7000ft

Tail: **205 sacks** (50:50) Class H Cement: Poz (Fly Ash) + 0.2% bwoc Halad-9 + 2% bwoc Bentonite + 60.7% Fresh Water, 14.4 ppg

Yield: 1.24 cf/sk

Water Requirement: 5.75 gal/sk

Mix Water Volume: 28bbls

2nd Stage DV Tool at 7000ft

Lead: **385 sacks** Tuned Light Class C Based + 2 lbs/sack Kol-Seal+ 0.125 lbs/sack Poly-E-Flake + 0.2 lb/sack HR-800 + 70.01 % Fresh Water, 10.4 ppg

Yield: 2.91 cf/sk

Water Requirement: 15.24gal/sk

Mix Water Volume: 140bbls

TOC @ 4500ft

Tail: 180 sacks Class C Cement + 63.5% Fresh Water, 14.8 ppg

Yield: 1.33 cf/sk

Water Requirement: 6.34 gal/sk

Mix Water Volume: 27bbls

3rd Stage DV Tool @ 4500ft
Lead: **675 sacks** Tuned Light Class C Based + 0.2 lb/sack HR-800 + 62.3 % Fresh Water, 11 ppg

Yield: 2.24 cf/sk

TOC @ surface

Water Requirement: 10.41 gal/sk

Mix Water Volume: 168bbls

TOC @ surface

Tail: 150 sacks Class C Cement + 63.5% Fresh Water, 14.8 ppg

Yield: 1.33 cf/sk

Water Requirement: 6.34 gal/sk

Mix Water Volume: 23bbls

See COA

5-1/2" Production

Lead #1: **265 sacks** (50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water, 11.9 ppg

Yield: 2.26 cf/sk

Water Requirement: 12.89 gal/sk

Mix Water Volume: 81bbls

TOC @ 7850ft

Tail: **1180 sacks** (50:50) Class H Cement: Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg

Sep COA

Yield: 1.22 cf/sk

Water Requirement: 5.38 gal/sk

Mix Water Volume: 152bbls

TOC for All Strings:

Surface: 900ft	0ft (500ft of Lead & 400ft of fill of Tail)
Intermediate#1: 4450ft	0ft (3450ft of fill of Lead & 1000 ft of fill of Tail)
Intermediate#2: 8350ft	0ft (6850ft of fill of Lead & 1500 ft of fill of Tail)
Intermediate#2 – 2 Stage 8350ft	5500ft Stage #1 (1850ft of fill of Lead & 1000 ft of fill of Tail) 0ft Stage #2 (5000ft of fill of Lead & 500 ft of fill of Tail)
Intermediate#2 – 3 Stage 8350ft	7000ft Stage #1 (850ft of fill of Lead & 500 ft of fill of Tail) 4500ft Stage #2 (2450ft of fill of Lead & 500 ft of fill of Tail) 0ft Stage #3 (4000ft of fill of Lead & 500 ft of fill of Tail)
Production: 15033ft	7850ft (2156ft of fill of Lead & 5027ft of fill of Tail)

ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.

Devon

HALLIBURTON
Sperry Drilling

Project: Eddy County, NM (NAD 83)
Site: Sec 25 T. 23S., R.31E.
Well: Aldabra 25 FED #2H
Wellbore: Wellbore #1
Plan: Plan#2 100913 RevA1 (Aldabra 25 FED #2H/Wellbore #1)
HP 223 25'KB

devon

WELL DETAILS: Aldabra 25 FED #2H

Ground Level: 3484.70

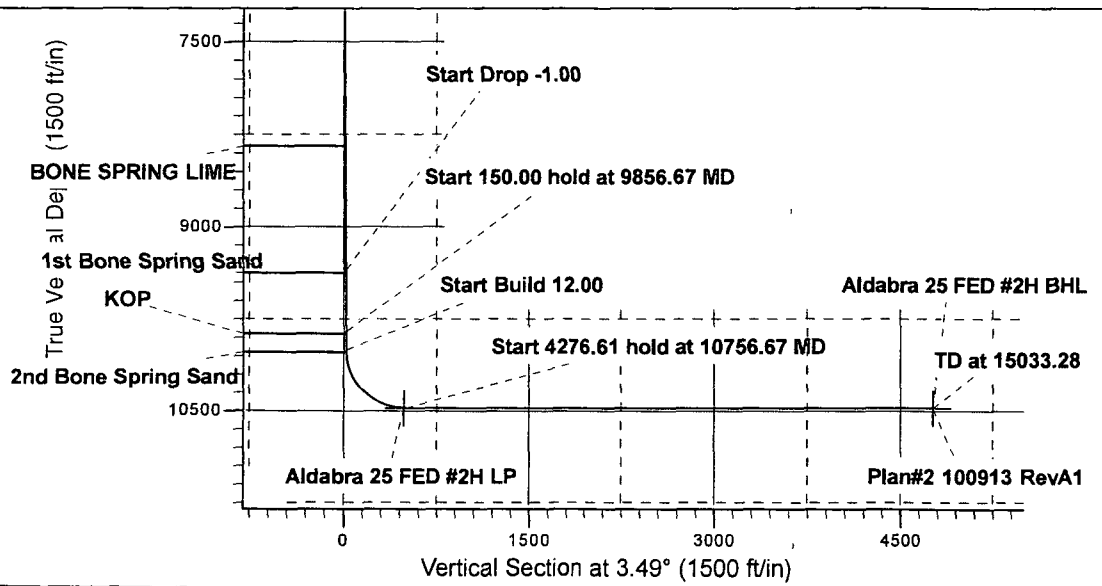
Northing	Easting	Latitude	Longitude
462005.94	725397.94	32° 16' 7.411 N	103° 44' 16.182 W

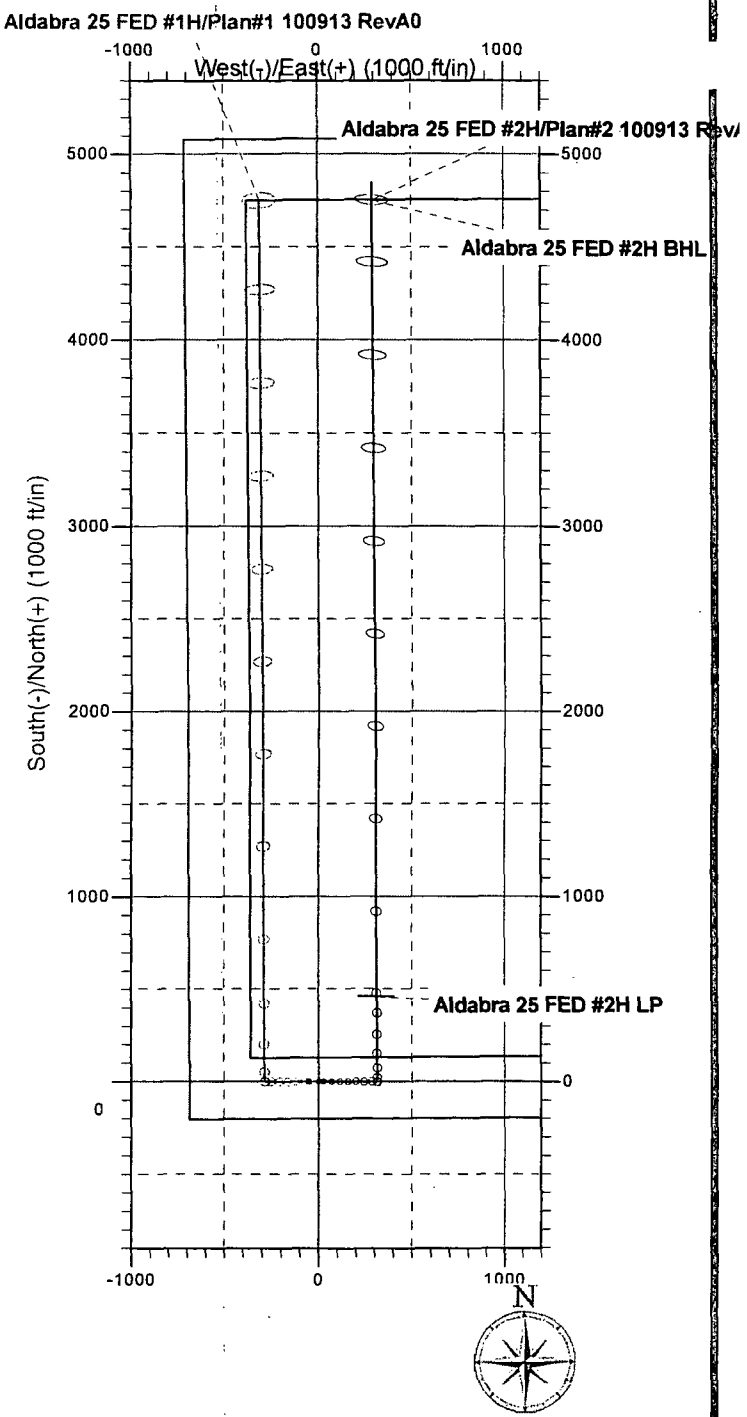
WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
Aldabra 25 FED #2H BHL	10471.00	4754.01	290.11	Point
Aldabra 25 FED #2H LP	10471.00	461.76	312.44	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5736.67	0.00	0.00	5736.67	0.00	0.00	0.00	0.00	0.00	
6236.67	5.00	90.00	6236.04	0.00	21.80	1.00	90.00	1.33	
9356.67	5.00	90.00	9344.16	0.00	293.73	0.00	0.00	17.89	
9856.67	0.00	0.00	9843.53	0.00	315.53	1.00	180.00	19.22	
10006.67	0.00	0.00	9993.53	0.00	315.53	0.00	0.00	19.22	
10756.67	90.00	359.69	10471.00	477.46	312.98	12.00	359.69	495.64	Aldabra 25 FED #2H BHL
15033.28	90.00	359.69	10471.00	4754.01	290.11	0.00	0.00	4762.85	Aldabra 25 FED #2H BHL





Job#
HP 223 25'KB

Devon

Eddy County, NM (NAD 83) Sec 25 T. 23S., R.31E.
API#

Aldabra 25 FED #2H (200' FSL & 685' FWL)

Wellbore #1

Plan: Plan#2 100913 RevA1

Sperry Drilling Services
Combo Report

16 October, 2013

Well Coordinates:	32° 16' 07.41" N 103° 44' 16.18" W	North American Datum 1983 New Mexico Eastern Zone 462,005.94 N 725,397.94 E
Ground Level: 3,484.70 ft		
Local Coordinate Origin:		Centered on Well Aldabra 25 FED #2H
Viewing Datum:		WELL @ 3509.70ft (HP 223 25'KB)
TVDs to System:		N
North Reference:		**Grid**
Unit System:		API US Survey Feet

Version: 5000.1 Build: 65

Report Version: Midcon Combo v1.30

HALLIBURTON

Plan Report for Aldabra 25 FED #2H - Plan#2 100913 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
0.00	0.00	0.00	-3,509.70	0.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
100.00	0.00	0.00	-3,409.70	100.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
200.00	0.00	0.00	-3,309.70	200.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
300.00	0.00	0.00	-3,209.70	300.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
400.00	0.00	0.00	-3,109.70	400.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
500.00	0.00	0.00	-3,009.70	500.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
600.00	0.00	0.00	-2,909.70	600.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
700.00	0.00	0.00	-2,809.70	700.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
800.00	0.00	0.00	-2,709.70	800.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
900.00	0.00	0.00	-2,609.70	900.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,000.00	0.00	0.00	-2,509.70	1,000.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,100.00	0.00	0.00	-2,409.70	1,100.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,200.00	0.00	0.00	-2,309.70	1,200.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,300.00	0.00	0.00	-2,209.70	1,300.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,400.00	0.00	0.00	-2,109.70	1,400.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,500.00	0.00	0.00	-2,009.70	1,500.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,600.00	0.00	0.00	-1,909.70	1,600.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,700.00	0.00	0.00	-1,809.70	1,700.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,800.00	0.00	0.00	-1,709.70	1,800.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
1,900.00	0.00	0.00	-1,609.70	1,900.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,000.00	0.00	0.00	-1,509.70	2,000.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,100.00	0.00	0.00	-1,409.70	2,100.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,200.00	0.00	0.00	-1,309.70	2,200.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,300.00	0.00	0.00	-1,209.70	2,300.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,400.00	0.00	0.00	-1,109.70	2,400.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,500.00	0.00	0.00	-1,009.70	2,500.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,600.00	0.00	0.00	-909.70	2,600.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,700.00	0.00	0.00	-809.70	2,700.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,800.00	0.00	0.00	-709.70	2,800.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
2,900.00	0.00	0.00	-609.70	2,900.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,000.00	0.00	0.00	-509.70	3,000.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,100.00	0.00	0.00	-409.70	3,100.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,200.00	0.00	0.00	-309.70	3,200.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,300.00	0.00	0.00	-209.70	3,300.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,400.00	0.00	0.00	-109.70	3,400.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,500.00	0.00	0.00	-9.70	3,500.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,600.00	0.00	0.00	90.30	3,600.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,700.00	0.00	0.00	190.30	3,700.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,800.00	0.00	0.00	290.30	3,800.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
3,900.00	0.00	0.00	390.30	3,900.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,000.00	0.00	0.00	490.30	4,000.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	

Plan Report for Aldabra 25 FED #2H - Plan#2 100913 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
4,100.00	0.00	0.00	590.30	4,100.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,200.00	0.00	0.00	690.30	4,200.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,300.00	0.00	0.00	790.30	4,300.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,400.00	0.00	0.00	890.30	4,400.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,500.00	0.00	0.00	990.30	4,500.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,600.00	0.00	0.00	1,090.30	4,600.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,700.00	0.00	0.00	1,190.30	4,700.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,800.00	0.00	0.00	1,290.30	4,800.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
4,900.00	0.00	0.00	1,390.30	4,900.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,000.00	0.00	0.00	1,490.30	5,000.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,100.00	0.00	0.00	1,590.30	5,100.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,200.00	0.00	0.00	1,690.30	5,200.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,300.00	0.00	0.00	1,790.30	5,300.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,400.00	0.00	0.00	1,890.30	5,400.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,500.00	0.00	0.00	1,990.30	5,500.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,600.00	0.00	0.00	2,090.30	5,600.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,700.00	0.00	0.00	2,190.30	5,700.00	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	
5,736.67	0.00	0.00	2,226.97	5,736.67	0.00 N	0.00 E	462,005.94	725,397.94	0.00	0.00	Start Build 1.00
5,800.00	0.63	90.00	2,290.30	5,800.00	0.00 S	0.35 E	462,005.94	725,398.29	1.00	0.02	
5,900.00	1.63	90.00	2,390.28	5,899.98	0.00 S	2.33 E	462,005.94	725,400.27	1.00	0.14	
6,000.00	2.63	90.00	2,490.21	5,999.91	0.00 S	6.05 E	462,005.94	725,403.99	1.00	0.37	
6,100.00	3.63	90.00	2,590.06	6,099.76	0.00 S	11.52 E	462,005.94	725,409.46	1.00	0.70	
6,200.00	4.63	90.00	2,689.80	6,199.50	0.00 S	18.72 E	462,005.94	725,416.66	1.00	1.14	
6,236.67	5.00	90.00	2,726.34	6,236.04	0.00 S	21.80 E	462,005.94	725,419.74	1.00	1.33	Start 3120.00 hold at 6236.67 MD
6,300.00	5.00	90.00	2,789.42	6,299.12	0.00 S	27.32 E	462,005.94	725,425.26	0.00	1.66	
6,400.00	5.00	90.00	2,889.04	6,398.74	0.00 S	36.04 E	462,005.94	725,433.98	0.00	2.20	
6,500.00	5.00	90.00	2,988.66	6,498.36	0.00 S	44.75 E	462,005.94	725,442.69	0.00	2.73	
6,600.00	5.00	90.00	3,088.28	6,597.98	0.00 S	53.47 E	462,005.94	725,451.41	0.00	3.26	
6,700.00	5.00	90.00	3,187.90	6,697.60	0.00 S	62.18 E	462,005.94	725,460.12	0.00	3.79	
6,800.00	5.00	90.00	3,287.52	6,797.22	0.00 S	70.90 E	462,005.94	725,468.84	0.00	4.32	
6,900.00	5.00	90.00	3,387.14	6,896.84	0.00 S	79.62 E	462,005.94	725,477.56	0.00	4.85	
7,000.00	5.00	90.00	3,486.76	6,996.46	0.00 S	88.33 E	462,005.94	725,486.27	0.00	5.38	
7,100.00	5.00	90.00	3,586.38	7,096.08	0.00 S	97.05 E	462,005.94	725,494.99	0.00	5.91	
7,200.00	5.00	90.00	3,686.00	7,195.70	0.00 S	105.76 E	462,005.94	725,503.70	0.00	6.44	
7,300.00	5.00	90.00	3,785.62	7,295.32	0.00 S	114.48 E	462,005.94	725,512.42	0.00	6.97	
7,400.00	5.00	90.00	3,885.24	7,394.94	0.00 S	123.19 E	462,005.94	725,521.13	0.00	7.50	
7,500.00	5.00	90.00	3,984.86	7,494.56	0.00 S	131.91 E	462,005.94	725,529.85	0.00	8.03	
7,600.00	5.00	90.00	4,084.48	7,594.18	0.00 S	140.62 E	462,005.94	725,538.56	0.00	8.57	
7,700.00	5.00	90.00	4,184.10	7,693.80	0.00 S	149.34 E	462,005.94	725,547.28	0.00	9.10	
7,800.00	5.00	90.00	4,283.72	7,793.42	0.00 S	158.06 E	462,005.94	725,556.00	0.00	9.63	
7,900.00	5.00	90.00	4,383.34	7,893.04	0.00 S	166.77 E	462,005.94	725,564.71	0.00	10.16	

Plan Report for Aldabra 25 FED #2H - Plan#2 100913 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
8,000.00	5.00	90.00	4,482.96	7,992.66	0.00 S	175.49 E	462,005.94	725,573.43	0.00	10.69	
8,100.00	5.00	90.00	4,582.58	8,092.28	0.00 S	184.20 E	462,005.94	725,582.14	0.00	11.22	
8,200.00	5.00	90.00	4,682.19	8,191.89	0.00 S	192.92 E	462,005.94	725,590.86	0.00	11.75	
8,300.00	5.00	90.00	4,781.81	8,291.51	0.00 S	201.63 E	462,005.94	725,599.57	0.00	12.28	
8,400.00	5.00	90.00	4,881.43	8,391.13	0.00 S	210.35 E	462,005.94	725,608.29	0.00	12.81	
8,500.00	5.00	90.00	4,981.05	8,490.75	0.00 S	219.06 E	462,005.94	725,617.00	0.00	13.34	
8,600.00	5.00	90.00	5,080.67	8,590.37	0.00 S	227.78 E	462,005.94	725,625.72	0.00	13.87	
8,700.00	5.00	90.00	5,180.29	8,689.99	0.00 S	236.50 E	462,005.94	725,634.44	0.00	14.41	
8,800.00	5.00	90.00	5,279.91	8,789.61	0.00 S	245.21 E	462,005.94	725,643.15	0.00	14.94	
8,900.00	5.00	90.00	5,379.53	8,889.23	0.00 S	253.93 E	462,005.94	725,651.87	0.00	15.47	
9,000.00	5.00	90.00	5,479.15	8,988.85	0.00 S	262.64 E	462,005.94	725,660.58	0.00	16.00	
9,100.00	5.00	90.00	5,578.77	9,088.47	0.00 S	271.36 E	462,005.94	725,669.30	0.00	16.53	
9,200.00	5.00	90.00	5,678.39	9,188.09	0.00 S	280.07 E	462,005.94	725,678.01	0.00	17.06	
9,300.00	5.00	90.00	5,778.01	9,287.71	0.00 S	288.79 E	462,005.94	725,686.73	0.00	17.59	
9,356.67	5.00	90.00	5,834.46	9,344.16	0.00 S	293.73 E	462,005.94	725,691.67	0.00	17.89	Start Drop -1.00
9,400.00	4.57	90.00	5,877.64	9,387.34	0.00 S	297.34 E	462,005.94	725,695.28	1.00	18.11	
9,500.00	3.57	90.00	5,977.39	9,487.09	0.00 S	304.43 E	462,005.94	725,702.37	1.00	18.54	
9,600.00	2.57	90.00	6,077.24	9,586.94	0.00 S	309.78 E	462,005.94	725,707.72	1.00	18.87	
9,700.00	1.57	90.00	6,177.18	9,686.88	0.00 S	313.39 E	462,005.94	725,711.33	1.00	19.09	
9,800.00	0.57	90.00	6,277.16	9,786.86	0.00 S	315.25 E	462,005.94	725,713.19	1.00	19.20	
9,856.67	0.00	0.00	6,333.83	9,843.53	0.00 S	315.53 E	462,005.94	725,713.47	1.00	19.22	Start 150.00 hold at 9856.67 MD
9,900.00	0.00	0.00	6,377.16	9,886.86	0.00 S	315.53 E	462,005.94	725,713.47	0.00	19.22	
10,000.00	0.00	0.00	6,477.16	9,986.86	0.00 S	315.53 E	462,005.94	725,713.47	0.00	19.22	
10,006.67	0.00	0.00	6,483.83	9,993.53	0.00 S	315.53 E	462,005.94	725,713.47	0.00	19.22	Start Build 12.00
10,100.00	11.20	359.69	6,576.57	10,086.27	9.09 N	315.48 E	462,015.03	725,713.42	12.00	28.29	
10,200.00	23.20	359.69	6,671.92	10,181.62	38.61 N	315.33 E	462,044.55	725,713.26	12.00	57.74	
10,300.00	35.20	359.69	6,759.05	10,268.75	87.30 N	315.06 E	462,093.24	725,713.00	12.00	106.33	
10,400.00	47.20	359.69	6,834.16	10,343.86	153.05 N	314.71 E	462,158.99	725,712.65	12.00	171.93	
10,500.00	59.20	359.69	6,893.95	10,403.65	232.97 N	314.29 E	462,238.91	725,712.23	12.00	251.69	
10,600.00	71.20	359.69	6,935.82	10,445.52	323.58 N	313.80 E	462,329.52	725,711.74	12.00	342.10	
10,700.00	83.20	359.69	6,957.94	10,467.64	420.92 N	313.28 E	462,426.86	725,711.22	12.00	439.22	
10,756.67	90.00	359.69	6,961.30	10,471.00	477.46 N	312.98 E	462,483.40	725,710.92	12.00	495.64	Start 4276.61 hold at 10756.67 MD
10,800.00	90.00	359.69	6,961.30	10,471.00	520.79 N	312.75 E	462,526.72	725,710.69	0.00	538.87	
10,900.00	90.00	359.69	6,961.30	10,471.00	620.78 N	312.21 E	462,626.72	725,710.15	0.00	638.65	
11,000.00	90.00	359.69	6,961.30	10,471.00	720.78 N	311.68 E	462,726.72	725,709.62	0.00	738.43	
11,100.00	90.00	359.69	6,961.30	10,471.00	820.78 N	311.14 E	462,826.72	725,709.08	0.00	838.21	
11,200.00	90.00	359.69	6,961.30	10,471.00	920.78 N	310.61 E	462,926.72	725,708.55	0.00	937.99	
11,300.00	90.00	359.69	6,961.30	10,471.00	1,020.78 N	310.07 E	463,026.72	725,708.01	0.00	1,037.77	
11,400.00	90.00	359.69	6,961.30	10,471.00	1,120.78 N	309.54 E	463,126.71	725,707.48	0.00	1,137.55	
11,500.00	90.00	359.69	6,961.30	10,471.00	1,220.78 N	309.00 E	463,226.71	725,706.94	0.00	1,237.33	
11,600.00	90.00	359.69	6,961.30	10,471.00	1,320.77 N	308.47 E	463,326.71	725,706.41	0.00	1,337.11	

Plan Report for Aldabra 25 FED #2H - Plan#2 100913 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
11,700.00	90.00	359.69	6,961.30	10,471.00	1,420.77 N	307.93 E	463,426.71	725,705.87	0.00	1,436.89	
11,800.00	90.00	359.69	6,961.30	10,471.00	1,520.77 N	307.40 E	463,526.71	725,705.34	0.00	1,536.67	
11,900.00	90.00	359.69	6,961.30	10,471.00	1,620.77 N	306.86 E	463,626.71	725,704.80	0.00	1,636.45	
12,000.00	90.00	359.69	6,961.30	10,471.00	1,720.77 N	306.33 E	463,726.70	725,704.27	0.00	1,736.23	
12,100.00	90.00	359.69	6,961.30	10,471.00	1,820.77 N	305.80 E	463,826.70	725,703.73	0.00	1,836.01	
12,200.00	90.00	359.69	6,961.30	10,471.00	1,920.77 N	305.26 E	463,926.70	725,703.20	0.00	1,935.79	
12,300.00	90.00	359.69	6,961.30	10,471.00	2,020.76 N	304.73 E	464,026.70	725,702.67	0.00	2,035.57	
12,400.00	90.00	359.69	6,961.30	10,471.00	2,120.76 N	304.19 E	464,126.70	725,702.13	0.00	2,135.35	
12,500.00	90.00	359.69	6,961.30	10,471.00	2,220.76 N	303.66 E	464,226.70	725,701.60	0.00	2,235.13	
12,600.00	90.00	359.69	6,961.30	10,471.00	2,320.76 N	303.12 E	464,326.70	725,701.06	0.00	2,334.91	
12,700.00	90.00	359.69	6,961.30	10,471.00	2,420.76 N	302.59 E	464,426.69	725,700.53	0.00	2,434.69	
12,800.00	90.00	359.69	6,961.30	10,471.00	2,520.76 N	302.05 E	464,526.69	725,699.99	0.00	2,534.47	
12,900.00	90.00	359.69	6,961.30	10,471.00	2,620.76 N	301.52 E	464,626.69	725,699.46	0.00	2,634.26	
13,000.00	90.00	359.69	6,961.30	10,471.00	2,720.75 N	300.98 E	464,726.69	725,698.92	0.00	2,734.04	
13,100.00	90.00	359.69	6,961.30	10,471.00	2,820.75 N	300.45 E	464,826.69	725,698.39	0.00	2,833.82	
13,200.00	90.00	359.69	6,961.30	10,471.00	2,920.75 N	299.91 E	464,926.69	725,697.85	0.00	2,933.60	
13,300.00	90.00	359.69	6,961.30	10,471.00	3,020.75 N	299.38 E	465,026.68	725,697.32	0.00	3,033.38	
13,400.00	90.00	359.69	6,961.30	10,471.00	3,120.75 N	298.84 E	465,126.68	725,696.78	0.00	3,133.16	
13,500.00	90.00	359.69	6,961.30	10,471.00	3,220.75 N	298.31 E	465,226.68	725,696.25	0.00	3,232.94	
13,600.00	90.00	359.69	6,961.30	10,471.00	3,320.75 N	297.77 E	465,326.68	725,695.71	0.00	3,332.72	
13,700.00	90.00	359.69	6,961.30	10,471.00	3,420.74 N	297.24 E	465,426.68	725,695.18	0.00	3,432.50	
13,800.00	90.00	359.69	6,961.30	10,471.00	3,520.74 N	296.71 E	465,526.68	725,694.64	0.00	3,532.28	
13,900.00	90.00	359.69	6,961.30	10,471.00	3,620.74 N	296.17 E	465,626.67	725,694.11	0.00	3,632.06	
14,000.00	90.00	359.69	6,961.30	10,471.00	3,720.74 N	295.64 E	465,726.67	725,693.58	0.00	3,731.84	
14,100.00	90.00	359.69	6,961.30	10,471.00	3,820.74 N	295.10 E	465,826.67	725,693.04	0.00	3,831.62	
14,200.00	90.00	359.69	6,961.30	10,471.00	3,920.74 N	294.57 E	465,926.67	725,692.51	0.00	3,931.40	
14,300.00	90.00	359.69	6,961.30	10,471.00	4,020.74 N	294.03 E	466,026.67	725,691.97	0.00	4,031.18	
14,400.00	90.00	359.69	6,961.30	10,471.00	4,120.73 N	293.50 E	466,126.67	725,691.44	0.00	4,130.96	
14,500.00	90.00	359.69	6,961.30	10,471.00	4,220.73 N	292.96 E	466,226.66	725,690.90	0.00	4,230.74	
14,600.00	90.00	359.69	6,961.30	10,471.00	4,320.73 N	292.43 E	466,326.66	725,690.37	0.00	4,330.52	
14,700.00	90.00	359.69	6,961.30	10,471.00	4,420.73 N	291.89 E	466,426.66	725,689.83	0.00	4,430.30	
14,800.00	90.00	359.69	6,961.30	10,471.00	4,520.73 N	291.36 E	466,526.66	725,689.30	0.00	4,530.08	
14,900.00	90.00	359.69	6,961.30	10,471.00	4,620.73 N	290.82 E	466,626.66	725,688.76	0.00	4,629.86	
15,000.00	90.00	359.69	6,961.30	10,471.00	4,720.73 N	290.29 E	466,726.66	725,688.23	0.00	4,729.64	
15,033.28	90.00	359.69	6,961.30	10,471.00	4,754.01 N	290.11 E	466,759.94	725,688.05	0.00	4,762.85	TD at 15033.28

Plan Report for Aldabra 25 FED #2H - Plan#2 100913 RevA1

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
5,736.67	5,736.67	0.00	0.00	Start Build 1.00
6,236.67	6,236.04	0.00	21.80	Start 3120.00 hold at 6236.67 MD
9,356.67	9,344.16	0.00	293.73	Start Drop -1.00
9,856.67	9,843.53	0.00	315.53	Start 150.00 hold at 9856.67 MD
10,006.67	9,993.53	0.00	315.53	Start Build 12.00
10,756.67	10,471.00	477.46	312.98	Start 4276.61 hold at 10756.67 MD
15,033.28	10,471.00	4,754.01	290.11	TD at 15033.28

Vertical Section Information

	Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
TD		No Target (Freehand)	3.49	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	15,033.20	Plan#2 100913 RevA1	MWD

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	TVDSS (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
843.70	843.70	-2,666.00	RUSTLER		0.00	
1,172.70	1,172.70	-2,337.00	TOP SALT		0.00	
4,270.70	4,270.70	761.00	BASE SALT		0.00	
4,500.70	4,500.70	991.00	DELAWARE		0.00	
4,541.70	4,541.70	1,032.00	Bell Canyon		0.00	
5,419.70	5,419.70	1,910.00	Cherry Canyon		0.00	
6,681.03	6,678.70	3,169.00	Brushy Canyon		0.00	
8,349.37	8,340.70	4,831.00	BONE SPRING LIME		0.00	
9,385.31	9,372.70	5,863.00	1st Bone Spring Sand		0.00	
9,881.84	9,868.70	6,359.00	KOP		0.00	
10,028.85	10,015.70	6,506.00	2nd Bone Spring Sand		0.00	

Plan Report for Aldabra 25 FED #2H - Plan#2 100913 RevA1

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Aldabra 25 FED #2H LP ()									
	0.00	0.00	10,471.00	461.76	312.44	462,467.70	725,710.38	32° 16' 11.963 N	103° 44' 12.513 W
- plan misses target center by 0.67ft at 10741.00ft MD (10470.74 TVD, 461.79 N, 313.06 E)									
- Point									
Aldabra 25 FED #2H BHL ()									
	0.00	0.00	10,471.00	4,754.01	290.11	466,759.94	725,688.05	32° 16' 54.438 N	103° 44' 12.495 W
- plan hits target center									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.67 °/100usft	Maximum Dogleg over Survey:	12.00 °/100usft at 10,756.67 ft
Net Tortousity applicable to Plans:	0.67 °/100usft	Directional Difficulty Index:	6.083

Audit Info

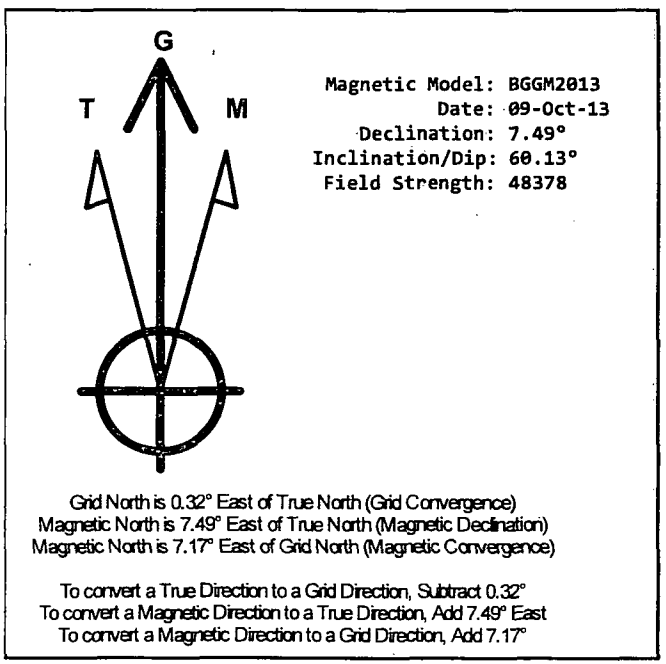
North Reference Sheet for Sec 25 T. 23S., R.31E. - Aldabra 25 FED #2H - Wellbore #1

All data is in Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to WELL @ 3509.70ft (HP 223 25'KB). Northing and Easting are relative to Aldabra 25 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° 20' 0.000 W°, 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: 0.99994789

Grid Coordinates of Well: 462,005.94 usft N, 725,397.94 usft E
Geographical Coordinates of Well: 32° 16' 07.41" N, 103° 44' 16.18" W
Grid Convergence at Surface is: 0.32°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,033.28ft
the Bottom Hole Displacement is 4,762.85ft in the Direction of 3.49° (Grid).
Magnetic Convergence at surface is: -7.17° (9 October 2013, , BGGM2013)



PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY COMPANY
LEASE NO.:	NM0405444A
WELL NAME & NO.:	2H-ALDABRA 25 FEDERAL
SURFACE HOLE FOOTAGE:	0200'/S. & 0635'/W.
BOTTOM HOLE FOOTAGE	0330'/N. & 1000'/W.
LOCATION:	Section 25, T. 23 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico
API:	30-015-38613

COAs from 07/27/2012 still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **A Hydrogen Sulfide (H2S) Drilling Plan shall be activated prior to drilling out the surface shoe. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Secretary's Potash
Possible lost circulation in the Delaware and Bone Spring.
Possible water and brine flows in the Salado, Castile, Delaware and Bone Spring.

1. The **20** inch surface casing shall be set at approximately **900** feet **(below the Magenta Dolomite of the Rustler Anhydrite and above the salt)** and cemented to the surface. **Freshwater mud to be used to setting depth.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

Contingency cement for the 9-5/8 inch casing if lost circulation is encountered:

Operator has proposed two DV tools at depths of 7000' and 4500', but will adjust cement proportionately if moved. DV tool at 4500' shall be set a minimum of 50' below previous shoe and DV tool at 7000' a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with third stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

c. Third stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash. Additional cement may be required as excess calculates to 13%.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required as excess calculates to 23%.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 1st intermediate casing shoe shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

6. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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