

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**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.

OCD Hobbs

5. Lease Serial No.
NMLC063798

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

DEVON ENERGY PRODUCTION CO LP

Contact: DAVID H COOK

Email: david.cook@devn.com

8. Well Name and No.

BOOMSLANG 14-23 FED 9H

9. API Well No.

30-025-43032-00-X1

3a. Address

333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)

Ph: 405-552-7848

10. Field and Pool or Exploratory Area
RED HILLS

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

Sec 14 T24S R33E NWNW 200FNL 283FWL

11. County or Parish, State

LEA COUNTY, NM

12. CHECK THE 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	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recompleat 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 must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must 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 Co., L.P. respectfully requests to change the approved APD as follows:

1) Bottom hole location changed from Sec. 14, T24S, R33E, 330 FSL & 880 FWL, Unit M to Sec. 23, T24S, R33E, 330 FSL & 880 FWL, Unit M.

2) Change approved TVD/MD from 11,016'/15,502' to 11,051'/20,736'.

3) Change well name from BoomsLang 14 Fed 9H to BoomsLang 14-23 Fed 9H.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

Please see attached revised C-102, Drill Plan & Directional Survey.

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

**Electronic Submission #334141 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 03/30/2016 (16PP0481SE)**

Name (Printed/Typed) DAVID H COOK

Title REGULATORY SPECIALIST

Signature (Electronic Submission)

Date 03/18/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USEApproved By CHARLES NIMMER

Title PETROLEUM ENGINEER

Date 03/06/2017

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 Hobbs

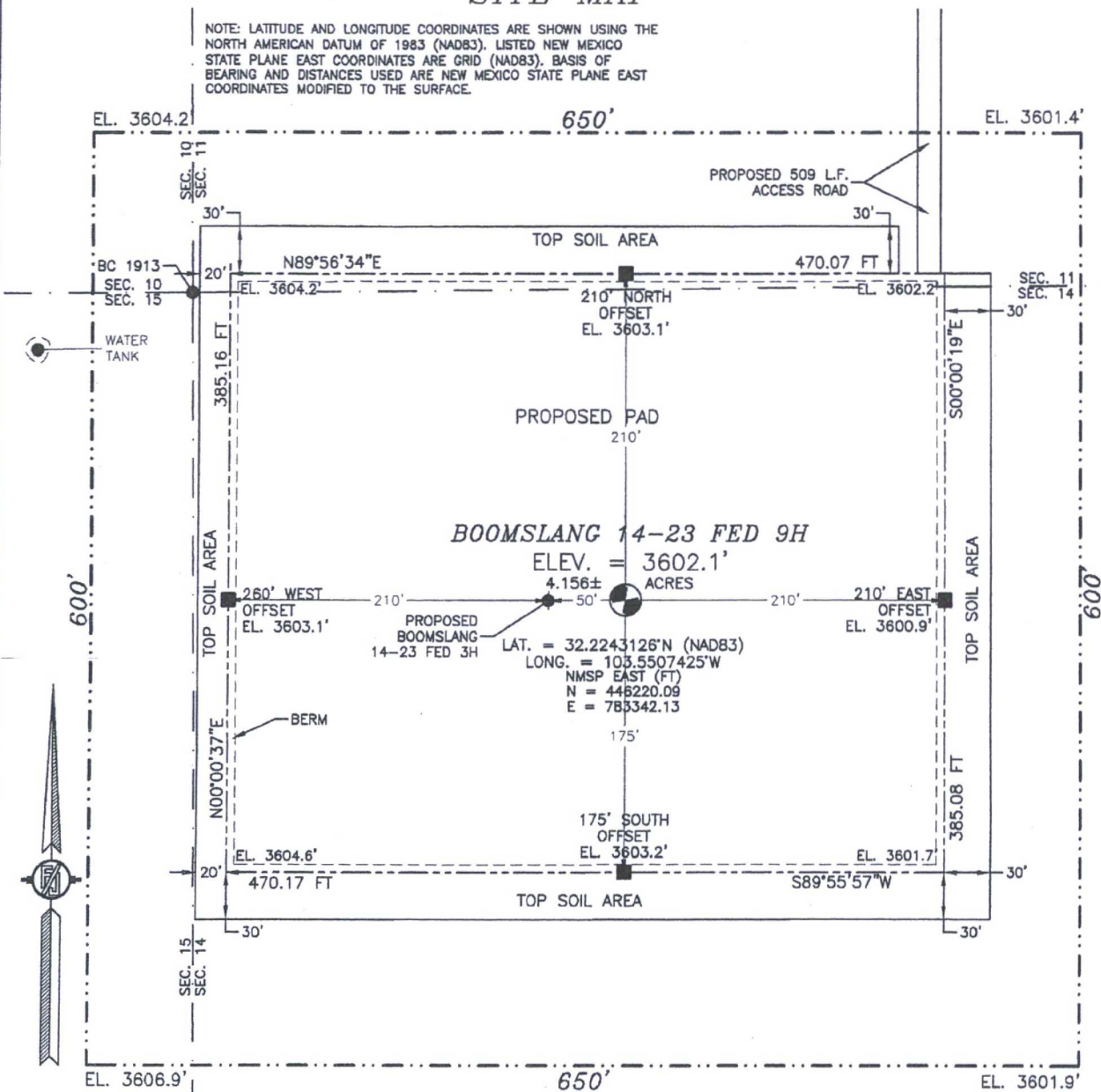
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED *****K4*

SECTION 14, TOWNSHIP 24 SOUTH, RANGE 33 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). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE.



010 50 100 200

SCALE 1" = 100'
DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HWY #128 AND BRININSTOOL ROAD (CR. J2) GO NORTH ON BRININSTOOL ROAD APPROX. 0.8 MILES TO A LEASE ROAD ON RIGHT (EAST) TURN EAST GO APPROX. 0.5 MILES ROAD TURNS LEFT (NORTH) GO NORTH APPROX. 0.3 MILES ROAD TURNS RIGHT (EAST) GO EAST APPROX. 0.5 MILES TO A ROAD LATH WITH RED AND WHITE FLAGGING ON RIGHT (SOUTH) OF ROAD GO SOUTH FOLLOW ROAD LATHS APPROX. 509 FT TO LOCATION

DEVON ENERGY PRODUCTION COMPANY, L.P.
BOOMSLANG 14-23 FED 9H
LOCATED 200 FT. FROM THE NORTH LINE
AND 283 FT. FROM THE WEST LINE OF
SECTION 14, TOWNSHIP 24 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

FEBRUARY 9, 2016

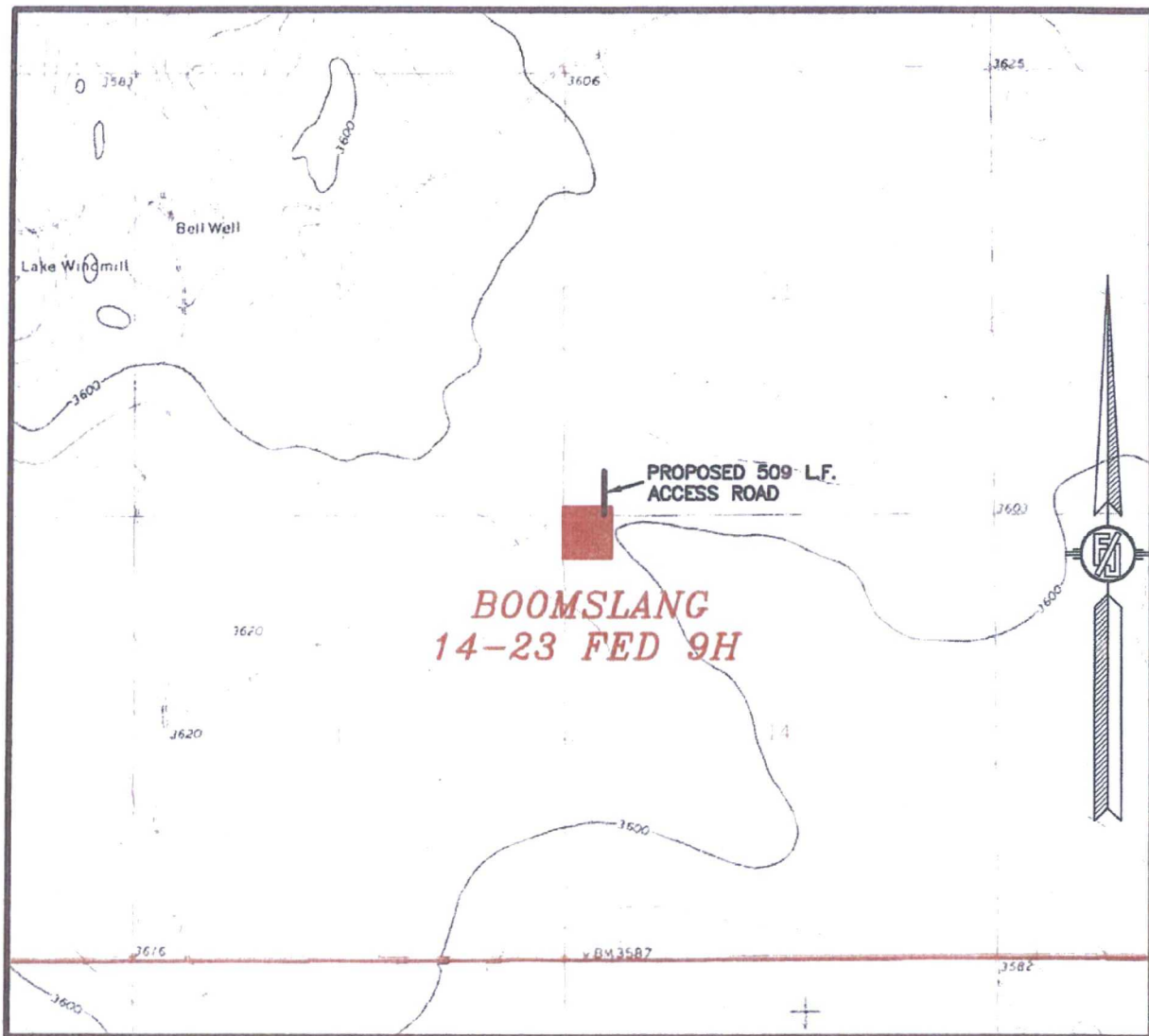
SURVEY NO. 4250A

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 14, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
BELL LAKE

NOT TO SCALE

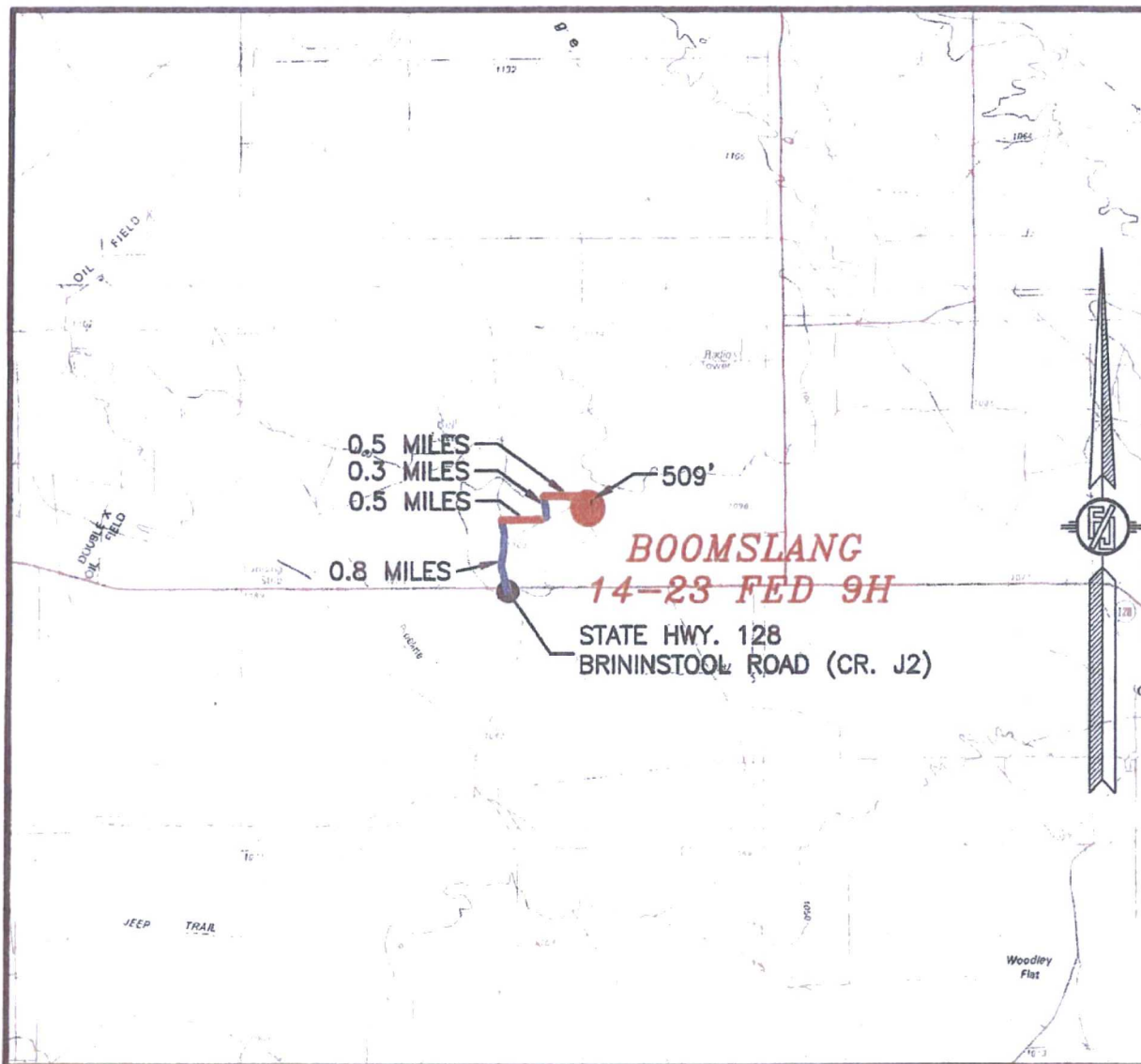
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MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 14, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

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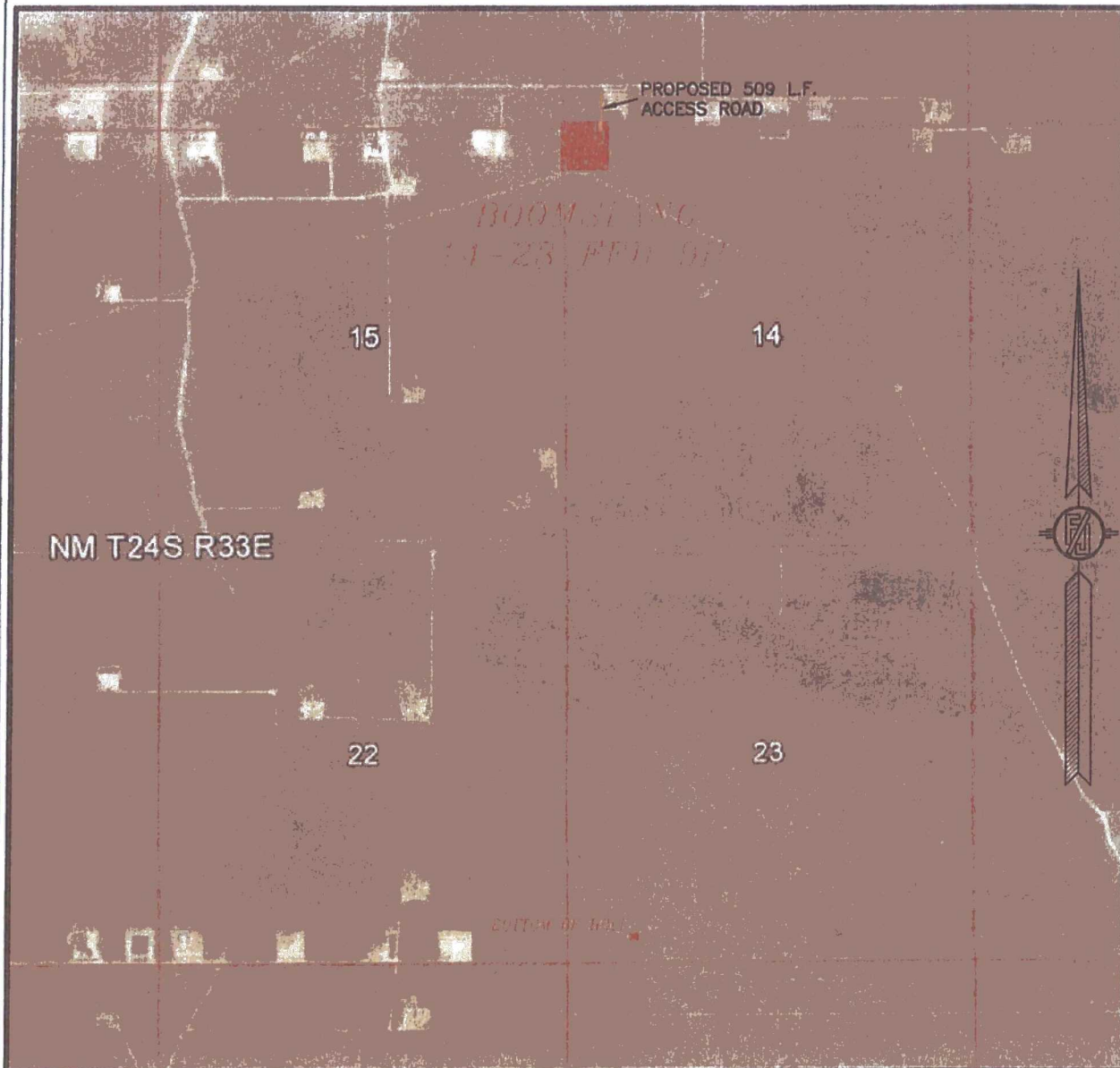
LEA COUNTY, STATE OF NEW MEXICO

FEBRUARY 9, 2016

SURVEY NO. 4250A

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

SECTION 14, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2014

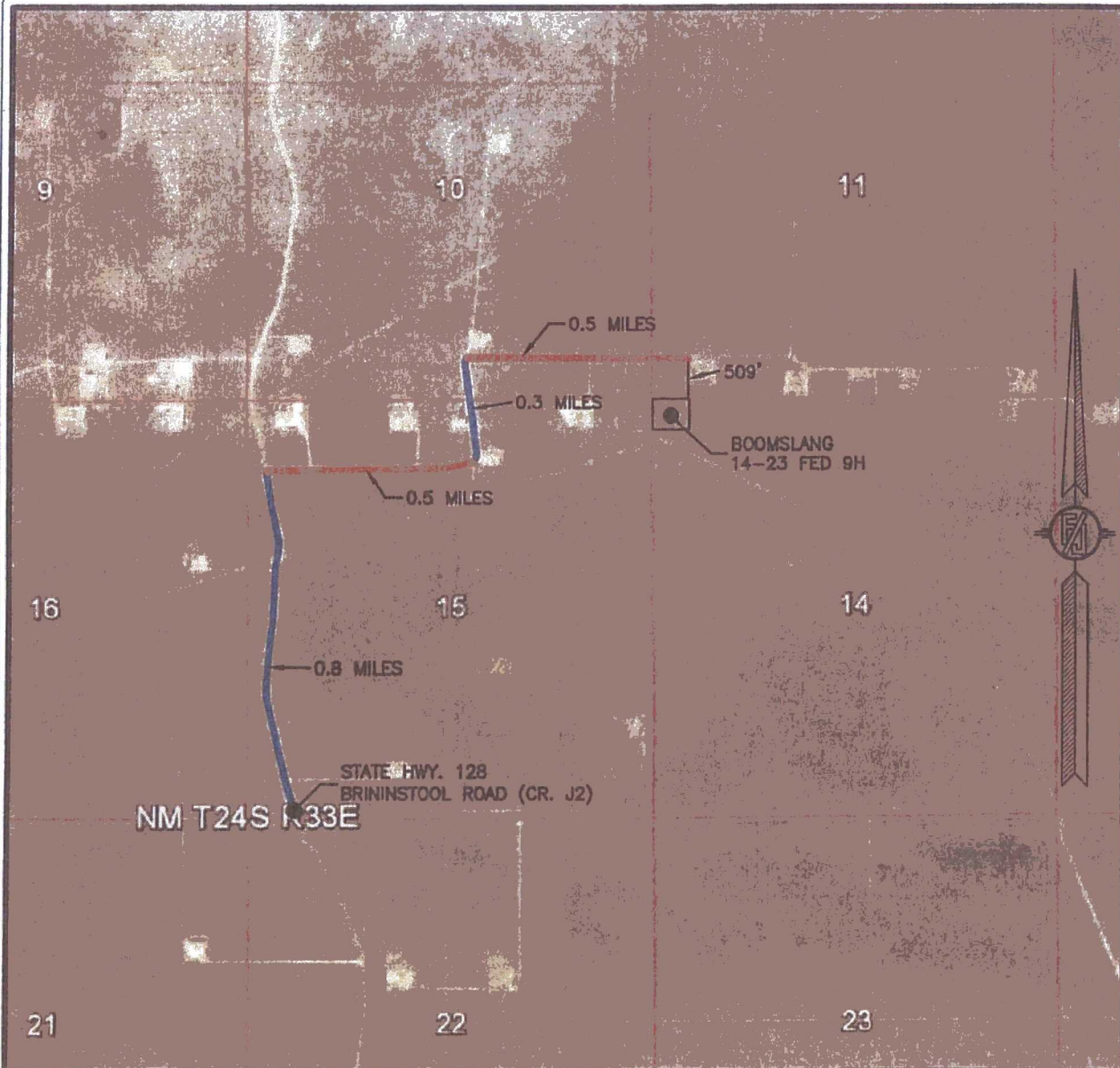
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LEA COUNTY, STATE OF NEW MEXICO

FEBRUARY 9, 2016

SURVEY NO. 4250A

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

SECTION 14, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.
BOOMSLANG 14-23 FED 9H
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LEA COUNTY, STATE OF NEW MEXICO

FEBRUARY 9, 2016

SURVEY NO. 4250A

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

Devon Energy, Boomslang 14-23 Fed 9H

1. Geologic Formations

TVD of target	11,051'	Pilot hole depth	N/A
MD at TD:	20,736'	Deepest expected fresh water:	90'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	1,297		
Top of Salt	1,557		
Base of Salt	5,192		
Delaware	5,260		
Cherry Canyon	6,050		
Lower Brushy Canyon	8,953		
1st Bone Spring Lime	9,115		
2nd Bone Spring Sand	10,845		
3 rd Bone Spring Lime	11,369		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Devon Energy, Boomslang 14-23 Fed 9H

* See COA 2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	1,350'	13.375"	54.5	J-55	BTC	1.81	1.98	5.60
12.25"	0	4,300'	9.625"	40	J-55	LTC	1.37	1.24	1.87
12.25"	4,300'	5,250'	9.625"	40	HCK-55	BTC	2.02	1.24	7.37
8.75"	0	20,736'	5.5"	17	P-110	BTC	1.18	1.41	2.09
BLM Minimum Safety Factor							1.125	1.00	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Devon Energy, Boomslang 14-23 Fed 9H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	H ₂ O gal/sk	Yld ft ³ / sack	500# Comp. Strength (hours)	Slurry Description
13-3/8" Surface	690	13.5	9.07	1.72	12	Lead: Class C Cement + 4% Bentonite Gel + 0.125 lbs/sack Poly-E-Flake
	550	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" Inter.	1110	12.9	9.81	1.85	17	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	430	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod.	520	10.9	20.6	3.31	24	Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	2710	14.5	5.31	1.2	25	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
5-1/2" Prod Two Stage	490	10.9	20.6	3.31	24	1 st Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	2710	14.5	5.31	1.2	25	1 st Stage Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
	DV Tool = 5300ft					
	20	10.9	20.6	3.31	24	2 nd Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	30	14.8	6.32	1.33	6	2 nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
13-3/8" Surface	0'	100%
9-5/8" Intermediate	0'	75%
5-1/2" Production Casing	5050'	25%
5-1/2" Production Casing (Two Stage)	1 st Stage = 5300' / 2 nd Stage = 5050'	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?

Devon Energy, Boomslang 14-23 Fed 9H

Y	A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon may use a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. • Wellhead will be installed by wellhead representatives. • If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. • Wellhead representative will install the test plug for the initial BOP test. • The wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. • If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. • Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. • Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the Uni-head wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. 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. Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns
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	See attached schematic.
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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1,350'	FW Gel	8.6-8.8	28-34	N/C
1,350'	5,250'	Saturated Brine	10.0-10.2	28-34	N/C
5,250'	15,502'	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned	Interval
Resistivity	Int. shoe to KOP
Density	Int. shoe to KOP
X CBL	Production casing
X Mud log	Intermediate shoe to TD
PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5344 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No.

Will be pre-setting casing? No.

Attachments

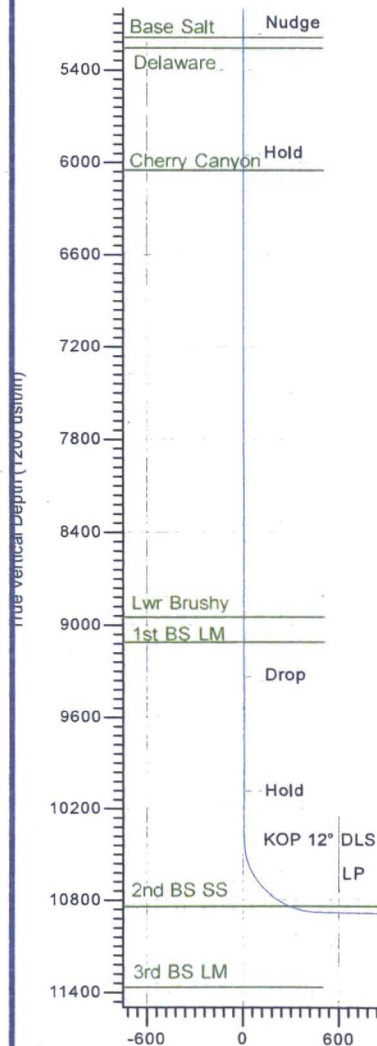
☒ Directional Plan
☐ Other, describe



Project: Lea County, NM (NAD-83)
 Site: Boomslang 14-23 Fed
 Well: 9H
 Wellbore: OH
 Design: APD Plan #1



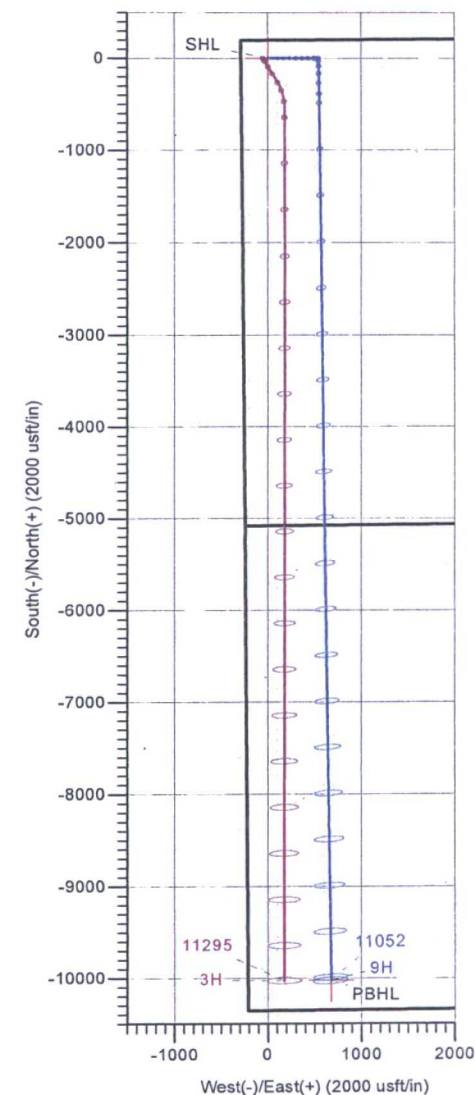
Azimuths to Grid North
 True North: -0.42°
 Magnetic North: 6.79°
 Magnetic Field
 Strength: 48180.3snT
 Dip Angle: 60.14°
 Date: 11/10/2015
 Model: BGGM2015



DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL (B14F 9H)	0.00	0.00	0.00	446220.09	783342.13
PBHL (B14F 9H)	11051.73	-10020.25	674.24	436199.84	784016.37

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	0.00	
5950.30	7.50	90.00	5948.15	0.00	49.06	1.00	90.00	0.63	
9368.25	7.50	90.00	9336.85	0.00	495.36	0.00	0.00	6.40	
10118.55	0.00	0.00	10085.00	0.00	544.42	1.00	180.00	7.03	
10441.16	0.00	0.00	10407.61	0.00	544.42	0.00	0.00	7.03	
11182.83	89.00	179.26	10885.00	-469.09	550.50	12.00	179.26	476.16	
20736.24	89.00	179.26	11051.73	-10020.25	674.24	0.00	0.00	10028.12	

PROJECT DETAILS: Lea County, NM (NAD-83)	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone



Vertical Section at 179.26° (1200 usft/in)

DEVON ENERGY

Lea County, NM (NAD-83)

Boomslang 14-23 Fed

9H

OH

Plan: APD Plan #1

Standard Planning Report

24 February, 2016

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Boomslang 14-23 Fed
Well: 9H
Wellbore: OH
Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Boomslang 14-23 Fed		
Site Position:		Northing:	446,243.13 usft
From:	Map	Easting:	786,353.47 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 27.535 N
		Longitude:	103° 32' 27.617 W
		Grid Convergence:	0.42 °

Well	9H		
Well Position	+N/-S	-23.04 usft	Northing: 446,220.09 usft
	+E/-W	-3,011.34 usft	Easting: 783,342.13 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,627.10 usft
		Latitude:	32° 13' 27.526 N
		Longitude:	103° 33' 2.673 W
		Ground Level:	3,602.10 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2015	11/10/2015	7.21
			Dip Angle (°)
			60.14
			Field Strength (nT)
			48,180

Design	APD Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			179.26

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	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	
5,950.30	7.50	90.00	5,948.15	0.00	49.06	1.00	1.00	0.00	90.00	
9,368.25	7.50	90.00	9,336.85	0.00	495.36	0.00	0.00	0.00	0.00	
10,118.55	0.00	0.00	10,085.00	0.00	544.42	1.00	-1.00	0.00	180.00	
10,441.16	0.00	0.00	10,407.61	0.00	544.42	0.00	0.00	0.00	0.00	
11,182.83	89.00	179.26	10,885.00	-469.09	550.50	12.00	12.00	24.17	179.26	
20,736.24	89.00	179.26	11,051.73	-10,020.25	674.24	0.00	0.00	0.00	0.00	PBHL (B14F 9H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: Boomslang 14-23 Fed
 Well: 9H
 Wellbore: OH
 Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
 TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (B14F 9H)									
100.00	0.00	0.00	100.00	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
300.00	0.00	0.00	300.00	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
500.00	0.00	0.00	500.00	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
700.00	0.00	0.00	700.00	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
900.00	0.00	0.00	900.00	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
1,100.00	0.00	0.00	1,100.00	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
1,297.00	0.00	0.00	1,297.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,300.00	0.00	0.00	1,300.00	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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,557.00	0.00	0.00	1,557.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
1,600.00	0.00	0.00	1,600.00	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
1,800.00	0.00	0.00	1,800.00	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
2,000.00	0.00	0.00	2,000.00	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
2,200.00	0.00	0.00	2,200.00	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
2,400.00	0.00	0.00	2,400.00	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
2,600.00	0.00	0.00	2,600.00	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
2,800.00	0.00	0.00	2,800.00	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
3,000.00	0.00	0.00	3,000.00	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
3,200.00	0.00	0.00	3,200.00	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
3,400.00	0.00	0.00	3,400.00	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
3,600.00	0.00	0.00	3,600.00	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
3,800.00	0.00	0.00	3,800.00	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
4,000.00	0.00	0.00	4,000.00	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
4,200.00	0.00	0.00	4,200.00	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
4,400.00	0.00	0.00	4,400.00	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
4,600.00	0.00	0.00	4,600.00	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

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Survey Calculation Method: Minimum Curvature

Planned Survey

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)
4,800.00	0.00	0.00	4,800.00	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
5,000.00	0.00	0.00	5,000.00	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
5,192.00	0.00	0.00	5,192.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge									
5,260.00	0.60	90.00	5,260.00	0.00	0.31	0.00	1.00	1.00	0.00
Delaware									
5,300.00	1.00	90.00	5,300.00	0.00	0.87	0.01	1.00	1.00	0.00
5,400.00	2.00	90.00	5,399.96	0.00	3.49	0.05	1.00	1.00	0.00
5,500.00	3.00	90.00	5,499.86	0.00	7.85	0.10	1.00	1.00	0.00
5,600.00	4.00	90.00	5,599.68	0.00	13.96	0.18	1.00	1.00	0.00
5,700.00	5.00	90.00	5,699.37	0.00	21.80	0.28	1.00	1.00	0.00
5,800.00	6.00	90.00	5,798.90	0.00	31.39	0.41	1.00	1.00	0.00
5,900.00	7.00	90.00	5,898.26	0.00	42.71	0.55	1.00	1.00	0.00
5,950.30	7.50	90.00	5,948.16	0.00	49.06	0.63	1.00	1.00	0.00
Hold									
6,000.00	7.50	90.00	5,997.43	0.00	55.55	0.72	0.00	0.00	0.00
6,053.02	7.50	90.00	6,050.00	0.00	62.47	0.81	0.00	0.00	0.00
Cherry Canyon									
6,100.00	7.50	90.00	6,096.58	0.00	68.60	0.89	0.00	0.00	0.00
6,200.00	7.50	90.00	6,195.72	0.00	81.66	1.05	0.00	0.00	0.00
6,300.00	7.50	90.00	6,294.86	0.00	94.72	1.22	0.00	0.00	0.00
6,400.00	7.50	90.00	6,394.01	0.00	107.78	1.39	0.00	0.00	0.00
6,500.00	7.50	90.00	6,493.15	0.00	120.83	1.56	0.00	0.00	0.00
6,600.00	7.50	90.00	6,592.29	0.00	133.89	1.73	0.00	0.00	0.00
6,700.00	7.50	90.00	6,691.44	0.00	146.95	1.90	0.00	0.00	0.00
6,800.00	7.50	90.00	6,790.58	0.00	160.01	2.07	0.00	0.00	0.00
6,900.00	7.50	90.00	6,889.73	0.00	173.07	2.24	0.00	0.00	0.00
7,000.00	7.50	90.00	6,988.87	0.00	186.12	2.40	0.00	0.00	0.00
7,100.00	7.50	90.00	7,088.01	0.00	199.18	2.57	0.00	0.00	0.00
7,200.00	7.50	90.00	7,187.16	0.00	212.24	2.74	0.00	0.00	0.00
7,300.00	7.50	90.00	7,286.30	0.00	225.30	2.91	0.00	0.00	0.00
7,400.00	7.50	90.00	7,385.45	0.00	238.35	3.08	0.00	0.00	0.00
7,500.00	7.50	90.00	7,484.59	0.00	251.41	3.25	0.00	0.00	0.00
7,600.00	7.50	90.00	7,583.73	0.00	264.47	3.42	0.00	0.00	0.00
7,700.00	7.50	90.00	7,682.88	0.00	277.53	3.58	0.00	0.00	0.00
7,800.00	7.50	90.00	7,782.02	0.00	290.59	3.75	0.00	0.00	0.00
7,900.00	7.50	90.00	7,881.16	0.00	303.64	3.92	0.00	0.00	0.00
8,000.00	7.50	90.00	7,980.31	0.00	316.70	4.09	0.00	0.00	0.00
8,100.00	7.50	90.00	8,079.45	0.00	329.76	4.26	0.00	0.00	0.00
8,200.00	7.50	90.00	8,178.60	0.00	342.82	4.43	0.00	0.00	0.00
8,300.00	7.50	90.00	8,277.74	0.00	355.87	4.60	0.00	0.00	0.00
8,400.00	7.50	90.00	8,376.88	0.00	368.93	4.76	0.00	0.00	0.00
8,500.00	7.50	90.00	8,476.03	0.00	381.99	4.93	0.00	0.00	0.00
8,600.00	7.50	90.00	8,575.17	0.00	395.05	5.10	0.00	0.00	0.00
8,700.00	7.50	90.00	8,674.32	0.00	408.11	5.27	0.00	0.00	0.00
8,800.00	7.50	90.00	8,773.46	0.00	421.16	5.44	0.00	0.00	0.00
8,900.00	7.50	90.00	8,872.60	0.00	434.22	5.61	0.00	0.00	0.00
8,981.09	7.50	90.00	8,953.00	0.00	444.81	5.74	0.00	0.00	0.00
Lwr Brushy									

LEAM Drilling Systems LLC

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Planned Survey

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)
9,000.00	7.50	90.00	8,971.75	0.00	447.28	5.78	0.00	0.00	0.00
9,100.00	7.50	90.00	9,070.89	0.00	460.34	5.95	0.00	0.00	0.00
9,144.49	7.50	90.00	9,115.00	0.00	466.15	6.02	0.00	0.00	0.00
1st BS LM									
9,200.00	7.50	90.00	9,170.03	0.00	473.39	6.11	0.00	0.00	0.00
9,300.00	7.50	90.00	9,269.18	0.00	486.45	6.28	0.00	0.00	0.00
9,368.25	7.50	90.00	9,336.84	0.00	495.36	6.40	0.00	0.00	0.00
Drop									
9,400.00	7.19	90.00	9,368.33	0.00	499.42	6.45	1.00	-1.00	0.00
9,500.00	6.19	90.00	9,467.65	0.00	511.06	6.60	1.00	-1.00	0.00
9,600.00	5.19	90.00	9,567.16	0.00	520.97	6.73	1.00	-1.00	0.00
9,700.00	4.19	90.00	9,666.82	0.00	529.14	6.83	1.00	-1.00	0.00
9,800.00	3.19	90.00	9,766.62	0.00	535.57	6.92	1.00	-1.00	0.00
9,900.00	2.19	90.00	9,866.50	0.00	540.25	6.98	1.00	-1.00	0.00
10,000.00	1.19	90.00	9,966.46	0.00	543.19	7.02	1.00	-1.00	0.00
10,100.00	0.19	90.00	10,066.45	0.00	544.39	7.03	1.00	-1.00	0.00
10,118.55	0.00	0.00	10,085.00	0.00	544.42	7.03	1.00	-1.00	0.00
Hold									
10,200.00	0.00	0.00	10,166.45	0.00	544.42	7.03	0.00	0.00	0.00
10,300.00	0.00	0.00	10,266.45	0.00	544.42	7.03	0.00	0.00	0.00
10,400.00	0.00	0.00	10,366.45	0.00	544.42	7.03	0.00	0.00	0.00
10,441.16	0.00	0.00	10,407.61	0.00	544.42	7.03	0.00	0.00	0.00
KOP 12° DLS									
10,450.00	1.06	179.26	10,416.45	-0.08	544.42	7.11	12.00	12.00	0.00
10,475.00	4.06	179.26	10,441.42	-1.20	544.44	8.23	12.00	12.00	0.00
10,500.00	7.06	179.26	10,466.30	-3.62	544.47	10.65	12.00	12.00	0.00
10,525.00	10.06	179.26	10,491.02	-7.34	544.52	14.37	12.00	12.00	0.00
10,550.00	13.06	179.26	10,515.51	-12.35	544.58	19.38	12.00	12.00	0.00
10,575.00	16.06	179.26	10,539.71	-18.63	544.66	25.67	12.00	12.00	0.00
10,600.00	19.06	179.26	10,563.54	-26.18	544.76	33.21	12.00	12.00	0.00
10,625.00	22.06	179.26	10,586.94	-34.95	544.87	41.99	12.00	12.00	0.00
10,650.00	25.06	179.26	10,609.86	-44.95	545.00	51.98	12.00	12.00	0.00
10,675.00	28.06	179.26	10,632.21	-56.12	545.15	63.16	12.00	12.00	0.00
10,700.00	31.06	179.26	10,653.96	-68.45	545.31	75.49	12.00	12.00	0.00
10,725.00	34.06	179.26	10,675.03	-81.91	545.48	88.94	12.00	12.00	0.00
10,750.00	37.06	179.26	10,695.36	-96.44	545.67	103.48	12.00	12.00	0.00
10,775.00	40.06	179.26	10,714.91	-112.02	545.87	119.06	12.00	12.00	0.00
10,800.00	43.06	179.26	10,733.61	-128.60	546.09	135.65	12.00	12.00	0.00
10,825.00	46.06	179.26	10,751.42	-146.14	546.31	153.19	12.00	12.00	0.00
10,850.00	49.06	179.26	10,768.29	-164.59	546.55	171.63	12.00	12.00	0.00
10,875.00	52.06	179.26	10,784.17	-183.89	546.80	190.94	12.00	12.00	0.00
10,900.00	55.06	179.26	10,799.02	-204.00	547.06	211.05	12.00	12.00	0.00
10,925.00	58.06	179.26	10,812.79	-224.86	547.33	231.91	12.00	12.00	0.00
10,950.00	61.06	179.26	10,825.46	-246.41	547.61	253.46	12.00	12.00	0.00
10,975.00	64.06	179.26	10,836.97	-268.59	547.90	275.65	12.00	12.00	0.00
10,994.14	66.36	179.26	10,845.00	-285.97	548.12	293.02	12.00	12.00	0.00
2nd BS SS									
11,000.00	67.06	179.26	10,847.32	-291.35	548.19	298.40	12.00	12.00	0.00
11,025.00	70.06	179.26	10,856.45	-314.61	548.50	321.67	12.00	12.00	0.00
11,050.00	73.06	179.26	10,864.36	-338.32	548.80	345.38	12.00	12.00	0.00
11,075.00	76.06	179.26	10,871.01	-362.42	549.12	369.48	12.00	12.00	0.00
11,100.00	79.06	179.26	10,876.40	-386.83	549.43	393.89	12.00	12.00	0.00
11,125.00	82.06	179.26	10,880.50	-411.48	549.75	418.55	12.00	12.00	0.00

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Local Co-ordinate Reference: Well 9H
TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

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)
11,150.00	85.06	179.26	10,883.30	-436.32	550.07	443.39	12.00	12.00	0.00
11,175.00	88.06	179.26	10,884.80	-461.27	550.40	468.34	12.00	12.00	0.00
11,182.83	89.00	179.26	10,885.00	-469.10	550.50	476.17	11.99	11.99	0.00
LP									
11,200.00	89.00	179.26	10,885.30	-486.26	550.72	493.33	0.00	0.00	0.00
11,300.00	89.00	179.26	10,887.05	-586.24	552.02	593.32	0.00	0.00	0.00
11,400.00	89.00	179.26	10,888.79	-686.22	553.31	693.30	0.00	0.00	0.00
11,500.00	89.00	179.26	10,890.54	-786.19	554.61	793.29	0.00	0.00	0.00
11,600.00	89.00	179.26	10,892.28	-886.17	555.90	893.27	0.00	0.00	0.00
11,700.00	89.00	179.26	10,894.03	-986.14	557.20	993.26	0.00	0.00	0.00
11,800.00	89.00	179.26	10,895.77	-1,086.12	558.49	1,093.24	0.00	0.00	0.00
11,900.00	89.00	179.26	10,897.52	-1,186.10	559.79	1,193.23	0.00	0.00	0.00
12,000.00	89.00	179.26	10,899.26	-1,286.07	561.08	1,293.21	0.00	0.00	0.00
12,100.00	89.00	179.26	10,901.01	-1,386.05	562.38	1,393.20	0.00	0.00	0.00
12,200.00	89.00	179.26	10,902.75	-1,486.03	563.67	1,493.18	0.00	0.00	0.00
12,300.00	89.00	179.26	10,904.50	-1,586.00	564.97	1,593.17	0.00	0.00	0.00
12,400.00	89.00	179.26	10,906.24	-1,685.98	566.26	1,693.15	0.00	0.00	0.00
12,500.00	89.00	179.26	10,907.99	-1,785.96	567.56	1,793.14	0.00	0.00	0.00
12,600.00	89.00	179.26	10,909.74	-1,885.93	568.85	1,893.12	0.00	0.00	0.00
12,700.00	89.00	179.26	10,911.48	-1,985.91	570.15	1,993.11	0.00	0.00	0.00
12,800.00	89.00	179.26	10,913.23	-2,085.88	571.44	2,093.09	0.00	0.00	0.00
12,900.00	89.00	179.26	10,914.97	-2,185.86	572.74	2,193.08	0.00	0.00	0.00
13,000.00	89.00	179.26	10,916.72	-2,285.84	574.03	2,293.06	0.00	0.00	0.00
13,100.00	89.00	179.26	10,918.46	-2,385.81	575.33	2,393.05	0.00	0.00	0.00
13,200.00	89.00	179.26	10,920.21	-2,485.79	576.63	2,493.03	0.00	0.00	0.00
13,300.00	89.00	179.26	10,921.95	-2,585.77	577.92	2,593.01	0.00	0.00	0.00
13,400.00	89.00	179.26	10,923.70	-2,685.74	579.22	2,693.00	0.00	0.00	0.00
13,500.00	89.00	179.26	10,925.44	-2,785.72	580.51	2,792.98	0.00	0.00	0.00
13,600.00	89.00	179.26	10,927.19	-2,885.70	581.81	2,892.97	0.00	0.00	0.00
13,700.00	89.00	179.26	10,928.93	-2,985.67	583.10	2,992.95	0.00	0.00	0.00
13,800.00	89.00	179.26	10,930.68	-3,085.65	584.40	3,092.94	0.00	0.00	0.00
13,900.00	89.00	179.26	10,932.42	-3,185.62	585.69	3,192.92	0.00	0.00	0.00
14,000.00	89.00	179.26	10,934.17	-3,285.60	586.99	3,292.91	0.00	0.00	0.00
14,100.00	89.00	179.26	10,935.91	-3,385.58	588.28	3,392.89	0.00	0.00	0.00
14,200.00	89.00	179.26	10,937.66	-3,485.55	589.58	3,492.88	0.00	0.00	0.00
14,300.00	89.00	179.26	10,939.40	-3,585.53	590.87	3,592.86	0.00	0.00	0.00
14,400.00	89.00	179.26	10,941.15	-3,685.51	592.17	3,692.85	0.00	0.00	0.00
14,500.00	89.00	179.26	10,942.89	-3,785.48	593.46	3,792.83	0.00	0.00	0.00
14,600.00	89.00	179.26	10,944.64	-3,885.46	594.76	3,892.82	0.00	0.00	0.00
14,700.00	89.00	179.26	10,946.38	-3,985.44	596.05	3,992.80	0.00	0.00	0.00
14,800.00	89.00	179.26	10,948.13	-4,085.41	597.35	4,092.79	0.00	0.00	0.00
14,900.00	89.00	179.26	10,949.88	-4,185.39	598.64	4,192.77	0.00	0.00	0.00
15,000.00	89.00	179.26	10,951.62	-4,285.37	599.94	4,292.76	0.00	0.00	0.00
15,100.00	89.00	179.26	10,953.37	-4,385.34	601.24	4,392.74	0.00	0.00	0.00
15,200.00	89.00	179.26	10,955.11	-4,485.32	602.53	4,492.73	0.00	0.00	0.00
15,300.00	89.00	179.26	10,956.86	-4,585.29	603.83	4,592.71	0.00	0.00	0.00
15,400.00	89.00	179.26	10,958.60	-4,685.27	605.12	4,692.70	0.00	0.00	0.00
15,500.00	89.00	179.26	10,960.35	-4,785.25	606.42	4,792.68	0.00	0.00	0.00
15,600.00	89.00	179.26	10,962.09	-4,885.22	607.71	4,892.66	0.00	0.00	0.00
15,700.00	89.00	179.26	10,963.84	-4,985.20	609.01	4,992.65	0.00	0.00	0.00
15,800.00	89.00	179.26	10,965.58	-5,085.18	610.30	5,092.63	0.00	0.00	0.00
15,900.00	89.00	179.26	10,967.33	-5,185.15	611.60	5,192.62	0.00	0.00	0.00
16,000.00	89.00	179.26	10,969.07	-5,285.13	612.89	5,292.60	0.00	0.00	0.00
16,100.00	89.00	179.26	10,970.82	-5,385.11	614.19	5,392.59	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Boomslang 14-23 Fed
Well: 9H
Wellbore: OH
Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

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)
16,200.00	89.00	179.26	10,972.56	-5,485.08	615.48	5,492.57	0.00	0.00	0.00
16,300.00	89.00	179.26	10,974.31	-5,585.06	616.78	5,592.56	0.00	0.00	0.00
16,400.00	89.00	179.26	10,976.05	-5,685.03	618.07	5,692.54	0.00	0.00	0.00
16,500.00	89.00	179.26	10,977.80	-5,785.01	619.37	5,792.53	0.00	0.00	0.00
16,600.00	89.00	179.26	10,979.54	-5,884.99	620.66	5,892.51	0.00	0.00	0.00
16,700.00	89.00	179.26	10,981.29	-5,984.96	621.96	5,992.50	0.00	0.00	0.00
16,800.00	89.00	179.26	10,983.03	-6,084.94	623.26	6,092.48	0.00	0.00	0.00
16,900.00	89.00	179.26	10,984.78	-6,184.92	624.55	6,192.47	0.00	0.00	0.00
17,000.00	89.00	179.26	10,986.52	-6,284.89	625.85	6,292.45	0.00	0.00	0.00
17,100.00	89.00	179.26	10,988.27	-6,384.87	627.14	6,392.44	0.00	0.00	0.00
17,200.00	89.00	179.26	10,990.02	-6,484.85	628.44	6,492.42	0.00	0.00	0.00
17,300.00	89.00	179.26	10,991.76	-6,584.82	629.73	6,592.41	0.00	0.00	0.00
17,400.00	89.00	179.26	10,993.51	-6,684.80	631.03	6,692.39	0.00	0.00	0.00
17,500.00	89.00	179.26	10,995.25	-6,784.77	632.32	6,792.38	0.00	0.00	0.00
17,600.00	89.00	179.26	10,997.00	-6,884.75	633.62	6,892.36	0.00	0.00	0.00
17,700.00	89.00	179.26	10,998.74	-6,984.73	634.91	6,992.34	0.00	0.00	0.00
17,800.00	89.00	179.26	11,000.49	-7,084.70	636.21	7,092.33	0.00	0.00	0.00
17,900.00	89.00	179.26	11,002.23	-7,184.68	637.50	7,192.31	0.00	0.00	0.00
18,000.00	89.00	179.26	11,003.98	-7,284.66	638.80	7,292.30	0.00	0.00	0.00
18,100.00	89.00	179.26	11,005.72	-7,384.63	640.09	7,392.28	0.00	0.00	0.00
18,200.00	89.00	179.26	11,007.47	-7,484.61	641.39	7,492.27	0.00	0.00	0.00
18,300.00	89.00	179.26	11,009.21	-7,584.59	642.68	7,592.25	0.00	0.00	0.00
18,400.00	89.00	179.26	11,010.96	-7,684.56	643.98	7,692.24	0.00	0.00	0.00
18,500.00	89.00	179.26	11,012.70	-7,784.54	645.27	7,792.22	0.00	0.00	0.00
18,600.00	89.00	179.26	11,014.45	-7,884.51	646.57	7,892.21	0.00	0.00	0.00
18,700.00	89.00	179.26	11,016.19	-7,984.49	647.87	7,992.19	0.00	0.00	0.00
18,800.00	89.00	179.26	11,017.94	-8,084.47	649.16	8,092.18	0.00	0.00	0.00
18,900.00	89.00	179.26	11,019.68	-8,184.44	650.46	8,192.16	0.00	0.00	0.00
19,000.00	89.00	179.26	11,021.43	-8,284.42	651.75	8,292.15	0.00	0.00	0.00
19,100.00	89.00	179.26	11,023.17	-8,384.40	653.05	8,392.13	0.00	0.00	0.00
19,200.00	89.00	179.26	11,024.92	-8,484.37	654.34	8,492.12	0.00	0.00	0.00
19,300.00	89.00	179.26	11,026.66	-8,584.35	655.64	8,592.10	0.00	0.00	0.00
19,400.00	89.00	179.26	11,028.41	-8,684.33	656.93	8,692.09	0.00	0.00	0.00
19,500.00	89.00	179.26	11,030.16	-8,784.30	658.23	8,792.07	0.00	0.00	0.00
19,600.00	89.00	179.26	11,031.90	-8,884.28	659.52	8,892.06	0.00	0.00	0.00
19,700.00	89.00	179.26	11,033.65	-8,984.26	660.82	8,992.04	0.00	0.00	0.00
19,800.00	89.00	179.26	11,035.39	-9,084.23	662.11	9,092.03	0.00	0.00	0.00
19,900.00	89.00	179.26	11,037.14	-9,184.21	663.41	9,192.01	0.00	0.00	0.00
20,000.00	89.00	179.26	11,038.88	-9,284.18	664.70	9,291.99	0.00	0.00	0.00
20,100.00	89.00	179.26	11,040.63	-9,384.16	666.00	9,391.98	0.00	0.00	0.00
20,200.00	89.00	179.26	11,042.37	-9,484.14	667.29	9,491.96	0.00	0.00	0.00
20,300.00	89.00	179.26	11,044.12	-9,584.11	668.59	9,591.95	0.00	0.00	0.00
20,400.00	89.00	179.26	11,045.86	-9,684.09	669.88	9,691.93	0.00	0.00	0.00
20,500.00	89.00	179.26	11,047.61	-9,784.07	671.18	9,791.92	0.00	0.00	0.00
20,600.00	89.00	179.26	11,049.35	-9,884.04	672.48	9,891.90	0.00	0.00	0.00
20,700.00	89.00	179.26	11,051.10	-9,984.02	673.77	9,991.89	0.00	0.00	0.00
20,736.24	89.00	179.26	11,051.73	-10,020.25	674.24	10,028.12	0.00	0.00	0.00

TD - PBHL (B14F 9H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: Boomslang 14-23 Fed
 Well: 9H
 Wellbore: OH
 Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
 TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (B14F 9H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	446,220.09	783,342.13	32° 13' 27.526 N	103° 33' 2.673 W
PBHL (B14F 9H) - plan hits target center - Point	0.00	0.00	11,051.73	-10,020.25	674.24	436,199.84	784,016.37	32° 11' 48.325 N	103° 32' 55.676 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,297.00	1,297.00	Rustler		0.00	
1,557.00	1,557.00	Top Salt		0.00	
5,192.00	5,192.00	Base Salt		0.00	
5,260.00	5,260.00	Delaware		0.00	
6,053.02	6,050.00	Cherry Canyon		0.00	
8,981.09	8,953.00	Lwr Brushy		0.00	
9,144.49	9,115.00	1st BS LM		0.00	
10,994.14	10,845.00	2nd BS SS		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,200.00	5,200.00	0.00	0.00	Nudge
5,950.30	5,948.16	0.00	49.06	Hold
9,368.25	9,336.84	0.00	495.36	Drop
10,118.55	10,085.00	0.00	544.42	Hold
10,441.16	10,407.61	0.00	544.42	KOP 12° DLS
11,182.83	10,885.00	-469.10	550.50	LP
20,736.24	11,051.73	-10,020.25	674.24	TD

DEVON ENERGY

Lea County, NM (NAD-83)

Boomslang 14-23 Fed

9H

OH

APD Plan #1

Anticollision Report

24 February, 2016

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 9H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3602.1' GE + 25' KB @ 3627.10usft
Reference Site:	Boomslang 14-23 Fed	MD Reference:	3602.1' GE + 25' KB @ 3627.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	APD Plan #1	Offset TVD Reference:	Offset Datum

Reference	APD Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 2/24/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	20,736.10	APD Plan #1 (OH)	LEAM MWD-ADJ	MWD - Standard

Summary							
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
Offset Well - Wellbore - Design							
Boomslang 14-23 Fed							
3H - OH - APD Plan #1	5,200.00	5,200.60	50.03	26.94	2.166 CC, ES		
3H - OH - APD Plan #1	20,736.99	20,975.83	555.82	216.78	1.639 SF		

Offset Design	Boomslang 14-23 Fed - 3H - OH - APD Plan #1										Offset Site Error:	0.00 usft
Survey Program:	0-LEAM MWD-ADJ										Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	
0.00	0.00	0.60	0.60	0.00	0.00	-90.49	-0.43	-50.03	50.03			
100.00	100.00	100.60	100.60	0.08	0.09	-90.49	-0.43	-50.03	50.03	49.86	0.17	294.438
200.00	200.00	200.60	200.60	0.31	0.31	-90.49	-0.43	-50.03	50.03	49.41	0.62	80.767
300.00	300.00	300.60	300.60	0.53	0.54	-90.49	-0.43	-50.03	50.03	48.96	1.07	46.803
400.00	400.00	400.60	400.60	0.76	0.76	-90.49	-0.43	-50.03	50.03	48.51	1.52	32.948
500.00	500.00	500.60	500.60	0.98	0.98	-90.49	-0.43	-50.03	50.03	48.06	1.97	25.422
600.00	600.00	600.60	600.60	1.21	1.21	-90.49	-0.43	-50.03	50.03	47.61	2.42	20.695
700.00	700.00	700.60	700.60	1.43	1.43	-90.49	-0.43	-50.03	50.03	47.16	2.87	17.450
800.00	800.00	800.60	800.60	1.66	1.66	-90.49	-0.43	-50.03	50.03	46.72	3.32	15.085
900.00	900.00	900.60	900.60	1.88	1.88	-90.49	-0.43	-50.03	50.03	46.27	3.77	13.285
1,000.00	1,000.00	1,000.60	1,000.60	2.11	2.11	-90.49	-0.43	-50.03	50.03	45.82	4.22	11.868
1,100.00	1,100.00	1,100.60	1,100.60	2.33	2.33	-90.49	-0.43	-50.03	50.03	45.37	4.67	10.724
1,200.00	1,200.00	1,200.60	1,200.60	2.56	2.56	-90.49	-0.43	-50.03	50.03	44.92	5.11	9.782
1,300.00	1,300.00	1,300.60	1,300.60	2.78	2.78	-90.49	-0.43	-50.03	50.03	44.47	5.56	8.992
1,400.00	1,400.00	1,400.60	1,400.60	3.01	3.01	-90.49	-0.43	-50.03	50.03	44.02	6.01	8.319
1,500.00	1,500.00	1,500.60	1,500.60	3.23	3.23	-90.49	-0.43	-50.03	50.03	43.57	6.46	7.741
1,600.00	1,600.00	1,600.60	1,600.60	3.46	3.46	-90.49	-0.43	-50.03	50.03	43.12	6.91	7.237
1,700.00	1,700.00	1,700.60	1,700.60	3.68	3.68	-90.49	-0.43	-50.03	50.03	42.67	7.36	6.796
1,800.00	1,800.00	1,800.60	1,800.60	3.91	3.91	-90.49	-0.43	-50.03	50.03	42.22	7.81	6.405
1,900.00	1,900.00	1,900.60	1,900.60	4.13	4.13	-90.49	-0.43	-50.03	50.03	41.77	8.26	6.056
2,000.00	2,000.00	2,000.60	2,000.60	4.35	4.36	-90.49	-0.43	-50.03	50.03	41.32	8.71	5.744
2,100.00	2,100.00	2,100.60	2,100.60	4.58	4.58	-90.49	-0.43	-50.03	50.03	40.87	9.16	5.462
2,200.00	2,200.00	2,200.60	2,200.60	4.80	4.81	-90.49	-0.43	-50.03	50.03	40.42	9.61	5.206
2,300.00	2,300.00	2,300.60	2,300.60	5.03	5.03	-90.49	-0.43	-50.03	50.03	39.97	10.06	4.974
2,400.00	2,400.00	2,400.60	2,400.60	5.25	5.26	-90.49	-0.43	-50.03	50.03	39.52	10.51	4.761

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Reference Site: Boomslang 14-23 Fed
 Site Error: 0.00 usft
 Reference Well: 9H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
 TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design Boomslang 14-23 Fed - 3H - OH - APD Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference	Offset		Semi Major Axis		Distance		Minimum		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Separation Factor	
2,500.00	2,500.00	2,500.60	2,500.60	5.48	5.48	-90.49	-0.43	-50.03	50.03	39.07	10.96	4.565	
2,600.00	2,600.00	2,600.60	2,600.60	5.70	5.70	-90.49	-0.43	-50.03	50.03	38.62	11.41	4.386	
2,700.00	2,700.00	2,700.60	2,700.60	5.93	5.93	-90.49	-0.43	-50.03	50.03	38.17	11.86	4.219	
2,800.00	2,800.00	2,800.60	2,800.60	6.15	6.15	-90.49	-0.43	-50.03	50.03	37.72	12.31	4.065	
2,900.00	2,900.00	2,900.60	2,900.60	6.38	6.38	-90.49	-0.43	-50.03	50.03	37.28	12.76	3.922	
3,000.00	3,000.00	3,000.60	3,000.60	6.60	6.60	-90.49	-0.43	-50.03	50.03	36.83	13.21	3.788	
3,100.00	3,100.00	3,100.60	3,100.60	6.83	6.83	-90.49	-0.43	-50.03	50.03	36.38	13.66	3.664	
3,200.00	3,200.00	3,200.60	3,200.60	7.05	7.05	-90.49	-0.43	-50.03	50.03	35.93	14.11	3.547	
3,300.00	3,300.00	3,300.60	3,300.60	7.28	7.28	-90.49	-0.43	-50.03	50.03	35.48	14.55	3.437	
3,400.00	3,400.00	3,400.60	3,400.60	7.50	7.50	-90.49	-0.43	-50.03	50.03	35.03	15.00	3.334	
3,500.00	3,500.00	3,500.60	3,500.60	7.73	7.73	-90.49	-0.43	-50.03	50.03	34.58	15.45	3.237	
3,600.00	3,600.00	3,600.60	3,600.60	7.95	7.95	-90.49	-0.43	-50.03	50.03	34.13	15.90	3.146	
3,700.00	3,700.00	3,700.60	3,700.60	8.18	8.18	-90.49	-0.43	-50.03	50.03	33.68	16.35	3.059	
3,800.00	3,800.00	3,800.60	3,800.60	8.40	8.40	-90.49	-0.43	-50.03	50.03	33.23	16.80	2.978	
3,900.00	3,900.00	3,900.60	3,900.60	8.63	8.63	-90.49	-0.43	-50.03	50.03	32.78	17.25	2.900	
4,000.00	4,000.00	4,000.60	4,000.60	8.85	8.85	-90.49	-0.43	-50.03	50.03	32.33	17.70	2.826	
4,100.00	4,100.00	4,100.60	4,100.60	9.07	9.08	-90.49	-0.43	-50.03	50.03	31.88	18.15	2.756	
4,200.00	4,200.00	4,200.60	4,200.60	9.30	9.30	-90.49	-0.43	-50.03	50.03	31.43	18.60	2.690	
4,300.00	4,300.00	4,300.60	4,300.60	9.52	9.53	-90.49	-0.43	-50.03	50.03	30.98	19.05	2.626	
4,400.00	4,400.00	4,400.60	4,400.60	9.75	9.75	-90.49	-0.43	-50.03	50.03	30.53	19.50	2.566	
4,500.00	4,500.00	4,500.60	4,500.60	9.97	9.98	-90.49	-0.43	-50.03	50.03	30.08	19.95	2.508	
4,600.00	4,600.00	4,600.60	4,600.60	10.20	10.20	-90.49	-0.43	-50.03	50.03	29.63	20.40	2.453	
4,700.00	4,700.00	4,700.60	4,700.60	10.42	10.42	-90.49	-0.43	-50.03	50.03	29.18	20.85	2.400	
4,800.00	4,800.00	4,800.60	4,800.60	10.65	10.65	-90.49	-0.43	-50.03	50.03	28.73	21.30	2.349	
4,900.00	4,900.00	4,900.60	4,900.60	10.87	10.87	-90.49	-0.43	-50.03	50.03	28.28	21.75	2.301	
5,000.00	5,000.00	5,000.60	5,000.60	11.10	11.10	-90.49	-0.43	-50.03	50.03	27.83	22.20	2.254	
5,100.00	5,100.00	5,100.60	5,100.60	11.32	11.32	-90.49	-0.43	-50.03	50.03	27.39	22.65	2.209	
5,200.00	5,200.00	5,200.60	5,200.60	11.55	11.55	-90.49	-0.43	-50.03	50.03	26.94	23.10	2.166 CC, ES	
5,300.00	5,300.00	5,300.60	5,300.60	11.76	11.77	179.52	-0.43	-50.03	50.90	27.38	23.53	2.164	
5,400.00	5,399.96	5,400.56	5,400.56	11.96	12.00	179.54	-0.43	-50.03	53.52	29.58	23.94	2.236	
5,500.00	5,499.86	5,500.46	5,500.46	12.16	12.22	179.57	-0.43	-50.03	57.88	33.54	24.34	2.378	
5,600.00	5,599.68	5,600.28	5,600.28	12.36	12.45	179.61	-0.43	-50.03	63.99	39.25	24.74	2.586	
5,700.00	5,699.37	5,699.97	5,699.97	12.56	12.67	179.66	-0.43	-50.03	71.83	46.70	25.13	2.858	
5,800.00	5,798.90	5,799.50	5,799.50	12.77	12.89	179.70	-0.43	-50.03	81.42	55.90	25.52	3.191	
5,900.00	5,898.26	5,898.86	5,898.86	12.99	13.12	179.73	-0.43	-50.03	92.74	66.84	25.89	3.582	
6,000.00	5,997.43	5,998.03	5,998.03	13.21	13.34	179.76	-0.43	-50.03	105.58	79.29	26.29	4.016	
6,100.00	6,096.58	6,097.18	6,097.18	13.43	13.56	179.79	-0.43	-50.03	118.63	91.92	26.72	4.440	
6,200.00	6,195.72	6,196.32	6,196.32	13.66	13.79	179.81	-0.43	-50.03	131.69	104.55	27.14	4.852	
6,300.00	6,294.86	6,295.46	6,295.46	13.90	14.01	179.83	-0.43	-50.03	144.75	117.18	27.57	5.250	
6,400.00	6,394.01	6,394.61	6,394.61	14.13	14.23	179.84	-0.43	-50.03	157.81	129.81	28.00	5.636	
6,500.00	6,493.15	6,493.75	6,493.75	14.37	14.46	179.85	-0.43	-50.03	170.87	142.44	28.43	6.010	
6,600.00	6,592.29	6,592.89	6,592.89	14.62	14.68	179.86	-0.43	-50.03	183.92	155.06	28.86	6.373	
6,700.00	6,691.44	6,692.04	6,692.04	14.86	14.90	179.87	-0.43	-50.03	196.98	167.69	29.29	6.724	
6,800.00	6,790.58	6,791.18	6,791.18	15.11	15.12	179.88	-0.43	-50.03	210.04	180.31	29.73	7.065	
6,900.00	6,889.73	6,890.33	6,890.33	15.37	15.35	179.89	-0.43	-50.03	223.10	192.93	30.16	7.397	
7,000.00	6,988.87	6,989.47	6,989.47	15.62	15.57	179.89	-0.43	-50.03	236.15	205.56	30.60	7.718	
7,100.00	7,088.01	7,088.61	7,088.61	15.88	15.79	179.90	-0.43	-50.03	249.21	218.18	31.03	8.030	
7,200.00	7,187.16	7,187.76	7,187.76	16.14	16.02	179.91	-0.43	-50.03	262.27	230.80	31.47	8.334	
7,300.00	7,286.30	7,286.90	7,286.90	16.40	16.24	179.91	-0.43	-50.03	275.33	243.42	31.91	8.629	
7,400.00	7,385.45	7,386.05	7,386.05	16.67	16.46	179.91	-0.43	-50.03	288.38	256.04	32.35	8.915	
7,500.00	7,484.59	7,485.19	7,485.19	16.94	16.68	179.92	-0.43	-50.03	301.44	268.66	32.79	9.194	
7,600.00	7,583.73	7,584.33	7,584.33	17.21	16.91	179.92	-0.43	-50.03	314.50	281.27	33.23	9.465	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 9H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3602.1' GE + 25' KB @ 3627.10usft
Reference Site:	Boomslang 14-23 Fed	MD Reference:	3602.1' GE + 25' KB @ 3627.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	APD Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Boomslang 14-23 Fed - 3H - OH - APD Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N-S (usft)	+E-W (usft)						
7,700.00	7,682.88	7,683.48	7,683.48	17.48	17.13	179.92	-0.43	-50.03	327.56	293.89	33.67	9.729		
7,800.00	7,782.02	7,782.62	7,782.62	17.75	17.35	179.93	-0.43	-50.03	340.62	306.51	34.11	9.986		
7,900.00	7,881.16	7,881.76	7,881.76	18.03	17.58	179.93	-0.43	-50.03	353.67	319.12	34.55	10.236		
8,000.00	7,980.31	7,980.91	7,980.91	18.30	17.80	179.93	-0.43	-50.03	366.73	331.74	35.00	10.479		
8,100.00	8,079.45	8,080.05	8,080.05	18.58	18.02	179.93	-0.43	-50.03	379.79	344.35	35.44	10.716		
8,200.00	8,178.60	8,179.20	8,179.20	18.86	18.24	179.94	-0.43	-50.03	392.85	356.96	35.88	10.948		
8,300.00	8,277.74	8,278.34	8,278.34	19.14	18.47	179.94	-0.43	-50.03	405.90	369.58	36.33	11.173		
8,400.00	8,376.88	8,377.48	8,377.48	19.43	18.69	179.94	-0.43	-50.03	418.96	382.19	36.77	11.393		
8,500.00	8,476.03	8,476.63	8,476.63	19.71	18.91	179.94	-0.43	-50.03	432.02	394.80	37.22	11.607		
8,600.00	8,575.17	8,575.77	8,575.77	20.00	19.13	179.94	-0.43	-50.03	445.08	407.41	37.67	11.816		
8,700.00	8,674.32	8,674.92	8,674.92	20.28	19.36	179.95	-0.43	-50.03	458.14	420.02	38.11	12.020		
8,800.00	8,773.46	8,774.06	8,774.06	20.57	19.58	179.95	-0.43	-50.03	471.19	432.63	38.56	12.219		
8,900.00	8,872.60	8,873.20	8,873.20	20.86	19.80	179.95	-0.43	-50.03	484.25	445.24	39.01	12.414		
9,000.00	8,971.75	8,972.35	8,972.35	21.15	20.03	179.95	-0.43	-50.03	497.31	457.85	39.46	12.604		
9,100.00	9,070.89	9,071.49	9,071.49	21.44	20.25	179.95	-0.43	-50.03	510.37	470.46	39.91	12.789		
9,200.00	9,170.03	9,170.63	9,170.63	21.73	20.47	179.95	-0.43	-50.03	523.42	483.07	40.36	12.970		
9,300.00	9,269.18	9,269.78	9,269.78	22.03	20.69	179.95	-0.43	-50.03	536.48	495.68	40.81	13.147		
9,400.00	9,368.33	9,368.93	9,368.93	22.31	20.92	179.95	-0.43	-50.03	549.45	508.18	41.27	13.314		
9,500.00	9,467.48	9,468.08	9,468.08	22.55	21.14	179.96	-0.43	-50.03	561.09	519.35	41.74	13.441		
9,600.00	9,567.16	9,567.76	9,567.76	22.78	21.36	179.96	-0.43	-50.03	571.00	528.79	42.21	13.528		
9,700.00	9,666.82	9,667.42	9,667.42	22.99	21.59	179.96	-0.43	-50.03	579.17	536.51	42.66	13.575		
9,800.00	9,766.62	9,767.22	9,767.22	23.20	21.81	179.96	-0.43	-50.03	585.60	542.49	43.11	13.584		
9,900.00	9,866.50	9,867.10	9,867.10	23.41	22.04	179.96	-0.43	-50.03	590.28	546.74	43.54	13.557		
10,000.00	9,966.46	9,967.06	9,967.06	23.60	22.26	179.96	-0.43	-50.03	593.22	549.26	43.96	13.493		
10,100.00	10,066.45	10,067.05	10,067.05	23.78	22.49	179.96	-0.43	-50.03	594.42	550.04	44.38	13.395		
10,200.00	10,166.45	10,167.05	10,167.05	23.96	22.71	-90.04	-0.43	-50.03	594.45	549.65	44.80	13.270		
10,300.00	10,266.45	10,267.05	10,267.05	24.16	22.94	-90.04	-0.43	-50.03	594.45	549.21	45.24	13.141		
10,400.00	10,366.45	10,367.05	10,367.05	24.36	23.16	-90.04	-0.43	-50.03	594.45	548.77	45.68	13.014		
10,428.93	10,395.37	10,395.97	10,395.97	24.42	23.23	90.75	-0.43	-50.03	594.46	548.66	45.80	12.979		
10,500.00	10,466.30	10,466.90	10,466.90	24.55	23.39	91.04	-0.43	-50.03	594.51	548.40	46.10	12.896		
10,600.00	10,563.54	10,564.14	10,564.14	24.73	23.60	93.04	-0.43	-50.03	595.35	548.85	46.50	12.804		
10,700.00	10,653.96	10,739.01	10,737.98	24.91	23.95	99.47	-11.79	-43.34	597.22	550.30	46.92	12.727		
10,800.00	10,733.61	11,118.92	11,036.18	25.12	24.84	108.27	-200.46	67.80	570.18	522.94	47.24	12.070		
10,900.00	10,799.02	11,250.00	11,088.17	25.37	25.48	113.39	-304.55	127.40	519.12	472.21	46.92	11.065		
11,000.00	10,847.32	11,315.43	11,105.78	25.68	25.85	118.03	-362.70	151.54	478.46	432.22	46.24	10.347		
11,100.00	10,876.40	11,384.38	11,119.36	26.10	26.27	121.29	-427.78	169.60	452.43	406.43	46.00	9.836		
11,200.00	10,885.30	11,456.75	11,127.79	26.63	26.73	123.10	-498.83	180.01	442.82	396.24	46.58	9.507		
11,245.55	10,886.10	11,490.37	11,129.62	26.91	26.95	123.33	-532.35	181.80	442.21	395.23	46.98	9.413		
11,300.00	10,887.05	11,539.74	11,130.60	27.27	27.28	123.31	-581.70	181.94	442.72	395.11	47.61	9.299		
11,400.00	10,888.79	11,639.73	11,132.35	28.02	28.00	123.21	-681.68	181.86	443.87	394.90	48.98	9.063		
11,500.00	10,890.54	11,739.72	11,134.09	28.87	28.82	123.11	-781.65	181.78	445.02	394.52	50.51	8.811		
11,600.00	10,892.28	11,839.71	11,135.84	29.81	29.73	123.01	-881.63	181.70	446.18	393.99	52.19	8.550		
11,700.00	10,894.03	11,939.70	11,137.59	30.83	30.72	122.92	-981.60	181.62	447.33	393.33	54.01	8.283		
11,800.00	10,895.77	12,039.69	11,139.33	31.92	31.79	122.82	-1,081.58	181.54	448.49	392.53	55.95	8.015		
11,900.00	10,897.52	12,139.68	11,141.08	33.08	32.92	122.73	-1,181.55	181.46	449.64	391.63	58.01	7.751		
12,000.00	10,899.26	12,239.67	11,142.82	34.30	34.11	122.63	-1,281.53	181.38	450.80	390.62	60.18	7.491		
12,100.00	10,901.01	12,339.66	11,144.57	35.57	35.36	122.54	-1,381.50	181.30	451.96	389.53	62.44	7.239		
12,200.00	10,902.75	12,439.65	11,146.31	36.89	36.66	122.45	-1,481.48	181.22	453.12	388.34	64.78	6.995		
12,300.00	10,904.50	12,539.64	11,148.06	38.25	38.00	122.35	-1,581.45	181.14	454.28	387.09	67.20	6.761		
12,400.00	10,906.24	12,639.63	11,149.80	39.65	39.38	122.26	-1,681.43	181.06	455.45	385.76	69.68	6.536		
12,500.00	10,907.99	12,739.62	11,151.55	41.08	40.79	122.17	-1,781.40	180.98	456.61	384.38	72.23	6.321		
12,600.00	10,909.74	12,839.61	11,153.29	42.54	42.24	122.08	-1,881.38	180.90	457.78	382.94	74.84	6.117		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Reference Site: Boomslang 14-23 Fed
 Site Error: 0.00 usft
 Reference Well: 9H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
 TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design Boomslang 14-23 Fed - 3H - OH - APD Plan #1														Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD-ADJ														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
12,700.00	10,911.48	12,939.60	11,155.04	44.04	43.71	121.99	-1,981.35	180.82	458.94	381.44	77.50	5.922			
12,800.00	10,913.23	13,039.60	11,156.78	45.55	45.21	121.89	-2,081.33	180.74	460.11	379.91	80.20	5.737			
12,900.00	10,914.97	13,139.59	11,158.53	47.09	46.74	121.80	-2,181.30	180.66	461.28	378.33	82.95	5.561			
13,000.00	10,916.72	13,239.58	11,160.27	48.65	48.28	121.71	-2,281.28	180.58	462.45	376.71	85.74	5.394			
13,100.00	10,918.46	13,339.57	11,162.02	50.23	49.85	121.63	-2,381.26	180.50	463.62	375.06	88.56	5.235			
13,200.00	10,920.21	13,439.56	11,163.76	51.82	51.43	121.54	-2,481.23	180.42	464.79	373.37	91.42	5.084			
13,300.00	10,921.95	13,539.55	11,165.51	53.43	53.02	121.45	-2,581.21	180.33	465.96	371.66	94.30	4.941			
13,400.00	10,923.70	13,639.54	11,167.25	55.05	54.64	121.36	-2,681.18	180.25	467.14	369.92	97.22	4.805			
13,500.00	10,925.44	13,739.53	11,169.00	56.69	56.26	121.27	-2,781.16	180.17	468.31	368.16	100.16	4.676			
13,600.00	10,927.19	13,839.52	11,170.74	58.33	57.90	121.19	-2,881.13	180.09	469.49	366.37	103.12	4.553			
13,700.00	10,928.93	13,939.51	11,172.49	59.99	59.55	121.10	-2,981.11	180.01	470.67	364.56	106.11	4.436			
13,800.00	10,930.68	14,039.50	11,174.23	61.66	61.20	121.01	-3,081.08	179.93	471.85	362.73	109.12	4.324			
13,900.00	10,932.42	14,139.49	11,175.98	63.34	62.87	120.93	-3,181.06	179.85	473.03	360.88	112.15	4.218			
14,000.00	10,934.17	14,239.48	11,177.72	65.02	64.55	120.84	-3,281.03	179.77	474.21	359.01	115.20	4.117			
14,100.00	10,935.91	14,339.47	11,179.47	66.71	66.23	120.76	-3,381.01	179.69	475.39	357.13	118.26	4.020			
14,200.00	10,937.66	14,439.46	11,181.21	68.41	67.92	120.67	-3,480.98	179.61	476.57	355.23	121.34	3.928			
14,300.00	10,939.40	14,539.45	11,182.96	70.12	69.62	120.59	-3,580.96	179.53	477.76	353.32	124.43	3.839			
14,400.00	10,941.15	14,639.44	11,184.70	71.83	71.33	120.50	-3,680.93	179.45	478.94	351.40	127.54	3.755			
14,500.00	10,942.89	14,739.43	11,186.45	73.55	73.04	120.42	-3,780.91	179.37	480.13	349.46	130.67	3.674			
14,600.00	10,944.64	14,839.42	11,188.20	75.28	74.75	120.34	-3,880.88	179.29	481.31	347.51	133.81	3.597			
14,700.00	10,946.38	14,939.42	11,189.94	77.00	76.47	120.26	-3,980.86	179.21	482.50	345.55	136.95	3.523			
14,800.00	10,948.13	15,039.41	11,191.69	78.74	78.20	120.17	-4,080.84	179.13	483.69	343.58	140.11	3.452			
14,900.00	10,949.88	15,139.40	11,193.43	80.48	79.93	120.09	-4,180.81	179.05	484.88	341.59	143.29	3.384			
15,000.00	10,951.62	15,239.39	11,195.18	82.22	81.66	120.01	-4,280.79	178.97	486.07	339.60	146.47	3.319			
15,100.00	10,953.37	15,339.38	11,196.92	83.96	83.40	119.93	-4,380.76	178.89	487.26	337.60	149.66	3.256			
15,200.00	10,955.11	15,439.37	11,198.67	85.71	85.15	119.85	-4,480.74	178.81	488.46	335.59	152.86	3.195			
15,300.00	10,956.86	15,539.36	11,200.41	87.46	86.89	119.77	-4,580.71	178.73	489.65	333.57	156.08	3.137			
15,400.00	10,958.60	15,639.35	11,202.16	89.22	88.64	119.69	-4,680.69	178.65	490.85	331.55	159.30	3.081			
15,500.00	10,960.35	15,739.34	11,203.90	90.98	90.39	119.61	-4,780.66	178.57	492.04	329.51	162.53	3.027			
15,600.00	10,962.09	15,839.33	11,205.65	92.74	92.15	119.53	-4,880.64	178.49	493.24	327.47	165.76	2.976			
15,700.00	10,963.84	15,939.32	11,207.39	94.50	93.91	119.45	-4,980.61	178.41	494.44	325.43	169.01	2.925			
15,800.00	10,965.58	16,039.31	11,209.14	96.27	95.67	119.37	-5,080.59	178.32	495.63	323.37	172.26	2.877			
15,900.00	10,967.33	16,139.30	11,210.88	98.04	97.43	119.30	-5,180.56	178.24	496.83	321.31	175.52	2.831			
16,000.00	10,969.07	16,239.29	11,212.63	99.81	99.19	119.22	-5,280.54	178.16	498.03	319.24	178.79	2.786			
16,100.00	10,970.82	16,339.28	11,214.37	101.58	100.96	119.14	-5,380.51	178.08	499.23	317.17	182.07	2.742			
16,200.00	10,972.56	16,439.27	11,216.12	103.36	102.73	119.07	-5,480.49	178.00	500.44	315.09	185.35	2.700			
16,300.00	10,974.31	16,539.26	11,217.86	105.14	104.50	118.99	-5,580.46	177.92	501.64	313.00	188.64	2.659			
16,400.00	10,976.05	16,639.25	11,219.61	106.91	106.27	118.91	-5,680.44	177.84	502.84	310.91	191.93	2.620			
16,500.00	10,977.80	16,739.24	11,221.35	108.69	108.05	118.84	-5,780.41	177.76	504.05	308.82	195.23	2.582			
16,600.00	10,979.54	16,839.24	11,223.10	110.48	109.83	118.76	-5,880.39	177.68	505.25	306.72	198.54	2.545			
16,700.00	10,981.29	16,939.23	11,224.84	112.26	111.60	118.69	-5,980.37	177.60	506.46	304.61	201.85	2.509			
16,800.00	10,983.03	17,039.22	11,226.59	114.05	113.38	118.61	-6,080.34	177.52	507.67	302.50	205.17	2.474			
16,900.00	10,984.78	17,139.21	11,228.33	115.83	115.17	118.54	-6,180.32	177.44	508.88	300.39	208.49	2.441			
17,000.00	10,986.52	17,239.20	11,230.08	117.62	116.95	118.46	-6,280.29	177.36	510.09	298.27	211.82	2.408			
17,100.00	10,988.27	17,339.19	11,231.82	119.41	118.73	118.39	-6,380.27	177.28	511.30	296.15	215.15	2.376			
17,200.00	10,990.02	17,439.18	11,233.57	121.20	120.52	118.32	-6,480.24	177.20	512.51	294.02	218.49	2.346			
17,300.00	10,991.76	17,539.17	11,235.32	122.99	122.30	118.25	-6,580.22	177.12	513.72	291.89	221.83	2.316			
17,400.00	10,993.51	17,639.16	11,237.06	124.79	124.09	118.17	-6,680.19	177.04	514.93	289.75	225.18	2.287			
17,500.00	10,995.25	17,739.15	11,238.81	126.58	125.88	118.10	-6,780.17	176.96	516.14	287.61	228.53	2.259			
17,600.00	10,997.00	17,839.14	11,240.55	128.38	127.67	118.03	-6,880.14	176.88	517.36	285.47	231.89	2.231			
17,700.00	10,998.74	17,939.13	11,242.30	130.17	129.46	117.96	-6,980.12	176.80	518.57	283.32	235.25	2.204			
17,800.00	11,000.49	18,039.12	11,244.04	131.97	131.25	117.89	-7,080.09	176.72	519.79	281.17	238.62	2.178			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 9H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3602.1' GE + 25' KB @ 3627.10usft
Reference Site:	Boomslang 14-23 Fed	MD Reference:	3602.1' GE + 25' KB @ 3627.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	APD Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Boomslang 14-23 Fed - 3H - OH - APD Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
17,900.00	11,002.23	18,139.11	11,245.79	133.77	133.05	117.82	-7,180.07	176.64	521.00	279.02	241.99	2.153		
18,000.00	11,003.98	18,239.10	11,247.53	135.57	134.84	117.75	-7,280.04	176.56	522.22	276.86	245.36	2.128		
18,100.00	11,005.72	18,339.09	11,249.28	137.37	136.63	117.68	-7,380.02	176.48	523.44	274.70	248.74	2.104		
18,200.00	11,007.47	18,439.08	11,251.02	139.17	138.43	117.61	-7,479.99	176.40	524.66	272.54	252.12	2.081		
18,300.00	11,009.21	18,539.07	11,252.77	140.97	140.23	117.54	-7,579.97	176.32	525.88	270.37	255.51	2.058		
18,400.00	11,010.96	18,639.07	11,254.51	142.77	142.02	117.47	-7,679.94	176.23	527.10	268.20	258.90	2.036		
18,500.00	11,012.70	18,739.06	11,256.26	144.57	143.82	117.40	-7,779.92	176.15	528.32	266.03	262.29	2.014		
18,600.00	11,014.45	18,839.05	11,258.00	146.38	145.62	117.33	-7,879.90	176.07	529.54	263.85	265.69	1.993		
18,700.00	11,016.19	18,939.04	11,259.75	148.18	147.42	117.26	-7,979.87	175.99	530.76	261.68	269.09	1.972		
18,800.00	11,017.94	19,039.03	11,261.49	149.99	149.22	117.19	-8,079.85	175.91	531.99	259.49	272.49	1.952		
18,900.00	11,019.68	19,139.02	11,263.24	151.79	151.02	117.13	-8,179.82	175.83	533.21	257.31	275.90	1.933		
19,000.00	11,021.43	19,239.01	11,264.98	153.60	152.82	117.06	-8,279.80	175.75	534.44	255.12	279.31	1.913		
19,100.00	11,023.17	19,339.00	11,266.73	155.40	154.62	116.99	-8,379.77	175.67	535.66	252.93	282.73	1.895		
19,200.00	11,024.92	19,438.99	11,268.47	157.21	156.42	116.93	-8,479.75	175.59	536.89	250.74	286.15	1.876		
19,300.00	11,026.66	19,538.98	11,270.22	159.02	158.23	116.86	-8,579.72	175.51	538.12	248.55	289.57	1.858		
19,400.00	11,028.41	19,638.97	11,271.96	160.83	160.03	116.79	-8,679.70	175.43	539.34	246.35	292.99	1.841		
19,500.00	11,030.16	19,738.96	11,273.71	162.64	161.83	116.73	-8,779.67	175.35	540.57	244.15	296.42	1.824		
19,600.00	11,031.90	19,838.95	11,275.45	164.45	163.64	116.66	-8,879.65	175.27	541.80	241.95	299.85	1.807		
19,700.00	11,033.65	19,938.94	11,277.20	166.26	165.44	116.60	-8,979.62	175.19	543.03	239.75	303.28	1.791		
19,800.00	11,035.39	20,038.93	11,278.94	168.07	167.25	116.53	-9,079.60	175.11	544.26	237.54	306.72	1.774		
19,900.00	11,037.14	20,138.92	11,280.69	169.88	169.06	116.47	-9,179.57	175.03	545.49	235.34	310.16	1.759		
20,000.00	11,038.88	20,238.91	11,282.43	171.69	170.86	116.40	-9,279.55	174.95	546.72	233.13	313.60	1.743		
20,100.00	11,040.63	20,338.90	11,284.18	173.50	172.67	116.34	-9,379.52	174.87	547.96	230.91	317.04	1.728		
20,200.00	11,042.37	20,438.89	11,285.93	175.31	174.48	116.28	-9,479.50	174.79	549.19	228.70	320.49	1.714		
20,300.00	11,044.12	20,538.89	11,287.67	177.12	176.28	116.21	-9,579.48	174.71	550.42	226.48	323.94	1.699		
20,400.00	11,045.86	20,638.88	11,289.42	178.94	178.09	116.15	-9,679.45	174.63	551.66	224.26	327.40	1.685		
20,500.00	11,047.61	20,738.87	11,291.16	180.75	179.90	116.09	-9,779.43	174.55	552.89	222.04	330.85	1.671		
20,600.00	11,049.35	20,838.86	11,292.91	182.56	181.71	116.02	-9,879.40	174.47	554.13	219.82	334.31	1.658		
20,700.00	11,051.10	20,938.85	11,294.65	184.38	183.52	115.96	-9,979.38	174.39	555.37	217.60	337.77	1.644		
20,736.99	11,051.74	20,975.83	11,295.30	185.05	184.19	115.94	-10,016.35	174.36	555.82	216.78	339.05	1.639 SF		

LEAM Drilling Systems LLC

Anticollision Report

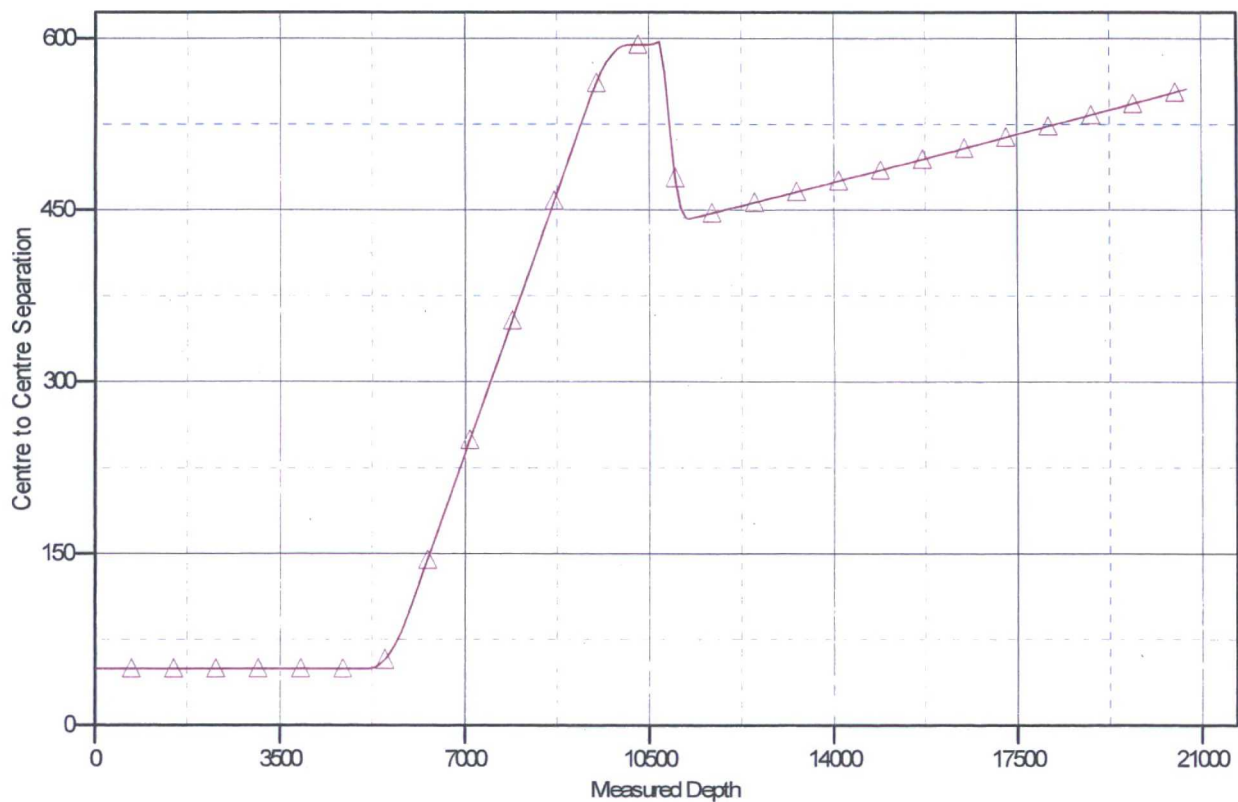
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Boomslang 14-23 Fed
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to 3602.1' GE + 25' KB @ 3627.10usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 9H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.42°

Ladder Plot



LEGEND

 3H, OH, APD Plan #1 V0

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

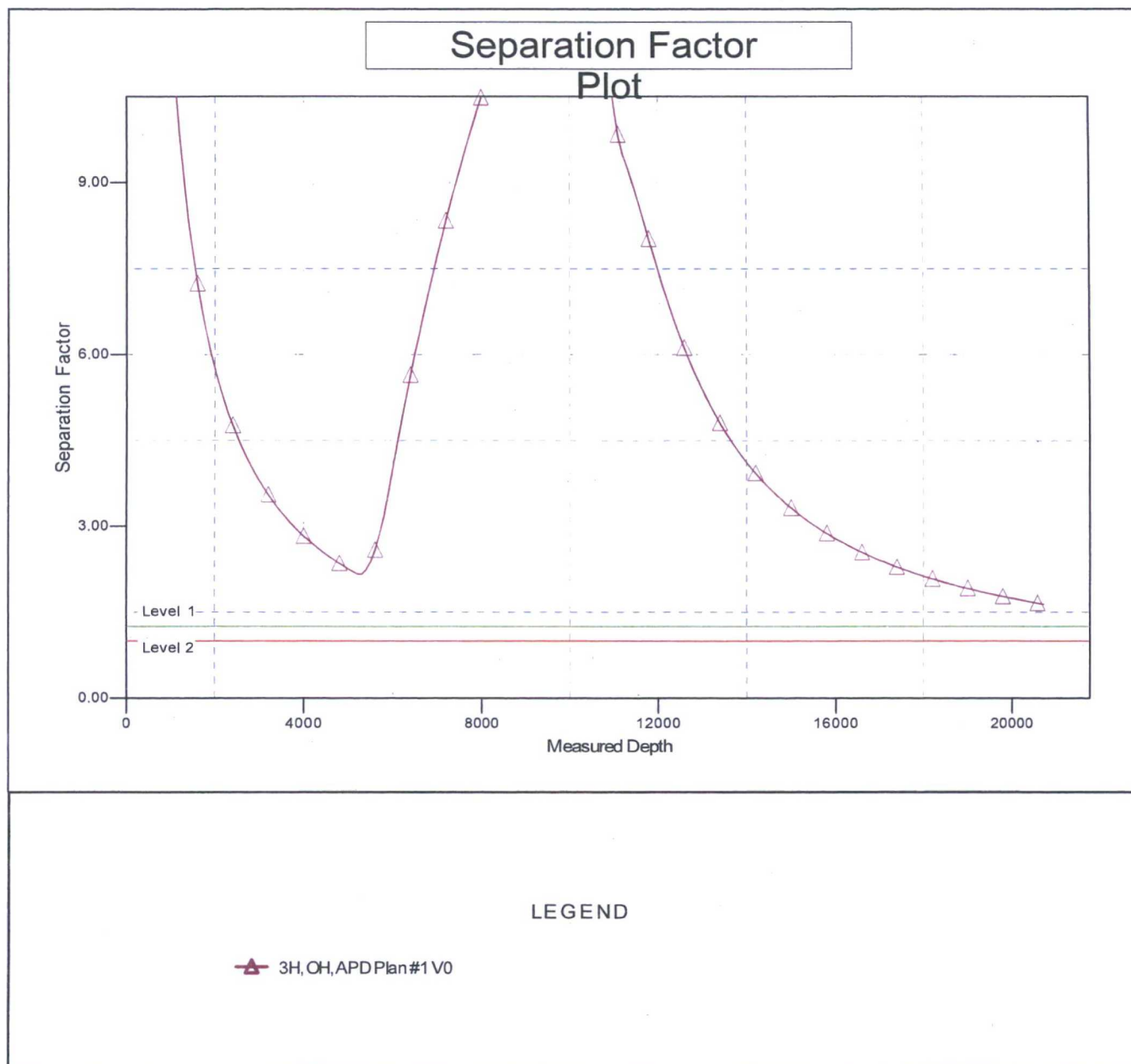
Anticollision Report

Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Boomslang 14-23 Fed
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: APD Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3602.1' GE + 25' KB @ 3627.10usft
MD Reference: 3602.1' GE + 25' KB @ 3627.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to 3602.1' GE + 25' KB @ 3627.10usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 9H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.42°



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	LC063798
WELL NAME & NO.:	9H-Boomslang 14 Fed
SURFACE HOLE FOOTAGE:	200'/N & 283'/W
BOTTOM HOLE FOOTAGE:	330'/S & 880'/W
LOCATION:	Section 14, T. 24 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

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)

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, 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 or are Non-API. 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.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. 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.

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

1. The 13-3/8 inch surface casing shall be set at approximately 1390 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface.
 - 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 **9-5/8** inch intermediate casing is:
- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

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

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

Option #1 (Single Stage):

- ☒ Cement as proposed by operator. Operator shall provide method of verification.

Option #2 (Two Stage):

Operator has proposed DV tool at depth of 5250', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

- 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 approved top of cement on the next stage.
 - b. Second stage above DV tool:
 - ☒ Cement as proposed by operator. Operator shall provide method of verification.
4. 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 53.
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. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
 - e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, 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. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- 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. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two 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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