

NM OIL CONSERVATION

ARTESIA DISTRICT

JUN 1 2015

ATS-15-89

Form 3160-3
(March 2012)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. BHL: NMNM96222 SHL: NMNM88134 NMNM85892
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Devon Energy Production Company, L.P.		7. If Unit or CA Agreement, Name and No.
3a. Address 333 West Sheridan Avenue Oklahoma City, Oklahoma 73102	3b. Phone No. (include area code) 405.228.7203	8. Lease Name and Well No. New Potato 11 Fed Com 1H
4. Location of well (Report location clearly and in accordance with any State requirements. *) At surface 2324 FNL & 641 FWL, Unit E, Sec. 11 PP: 2490 FNL & 660 FWL At proposed prod. zone 330 FSL & 660 FWL, Unit M, Sec. 14		9. API Well No. 30-015-43169
14. Distance in miles and direction from the nearest town or post office* Approximately 20 miles SE of Malaga, NM		10. Field and Pool, or Exploratory Cedar Canyon; Bone Spring (11520)
15. Distance from proposed* location to nearest property or lease line, ft. See attached map (Also to nearest drlg. unit line, if any)	16. No. of acres in lease NMNM96222 - 720 ac NMNM88134 - 560 ac NMNM85892 - 80 ac	17. Spacing Unit dedicated to this well 160 ac
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map	19. Proposed Depth TVD: 8,937' MD: 16,646'	20. BLM/ BIA Bond No. on file CO1104/NMB-000801
21. Elevations (Show whether DF, KDB, RT, GI., etc.) 3033.4' GL	22. Approximate date work will start* 5/1/2015	23. Estimated duration 45 Days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1 shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by existing bond on file (see item 20 above).
- Operator certification.
- Such other site specific information and/ or plans as may be required by the BLM.

25. Signature 	Name (Printed/ Typed) Trina C. Couch	Date 30-Sep-14
Title Regulatory Analyst		
Approved By (Signature) 	Name (Printed/ Typed) Steve Caffey	Date MAY 27 2015
Title FIELD MANAGER		
Office CARLSBAD FIELD OFFICE		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-102

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
311 S. First St., Artesia, NM 88210.
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

JUN 1 2015

Revised August 1, 2011

Submit one copy to appropriate

District Office

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ APL Number 30-015-43169	² Pool Code 11520	³ Pool Name Cedar Canyon; Bone Spring
⁴ Property Code 314888	⁵ Property Name NEW POTATO LI FED COM	
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁶ Well Number 1H
		⁹ Elevation 3033.4

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	11	24 S	29 E		2324	NORTH	641	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	14	24 S	29 E		330	SOUTH	660	WEST	EDDY

¹² Dedicated Acres 160 ac	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Trina C. Couch 10/2/14
Signature Date

Trina C. Couch, Regulatory Analyst
Printed Name

trina.couch@dmn.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true to the best of my belief.

AUGUST 2 2014 NEW MEXICO
Date of Survey (12797)

[Signature]
Signature and Seal of Professional Surveyor

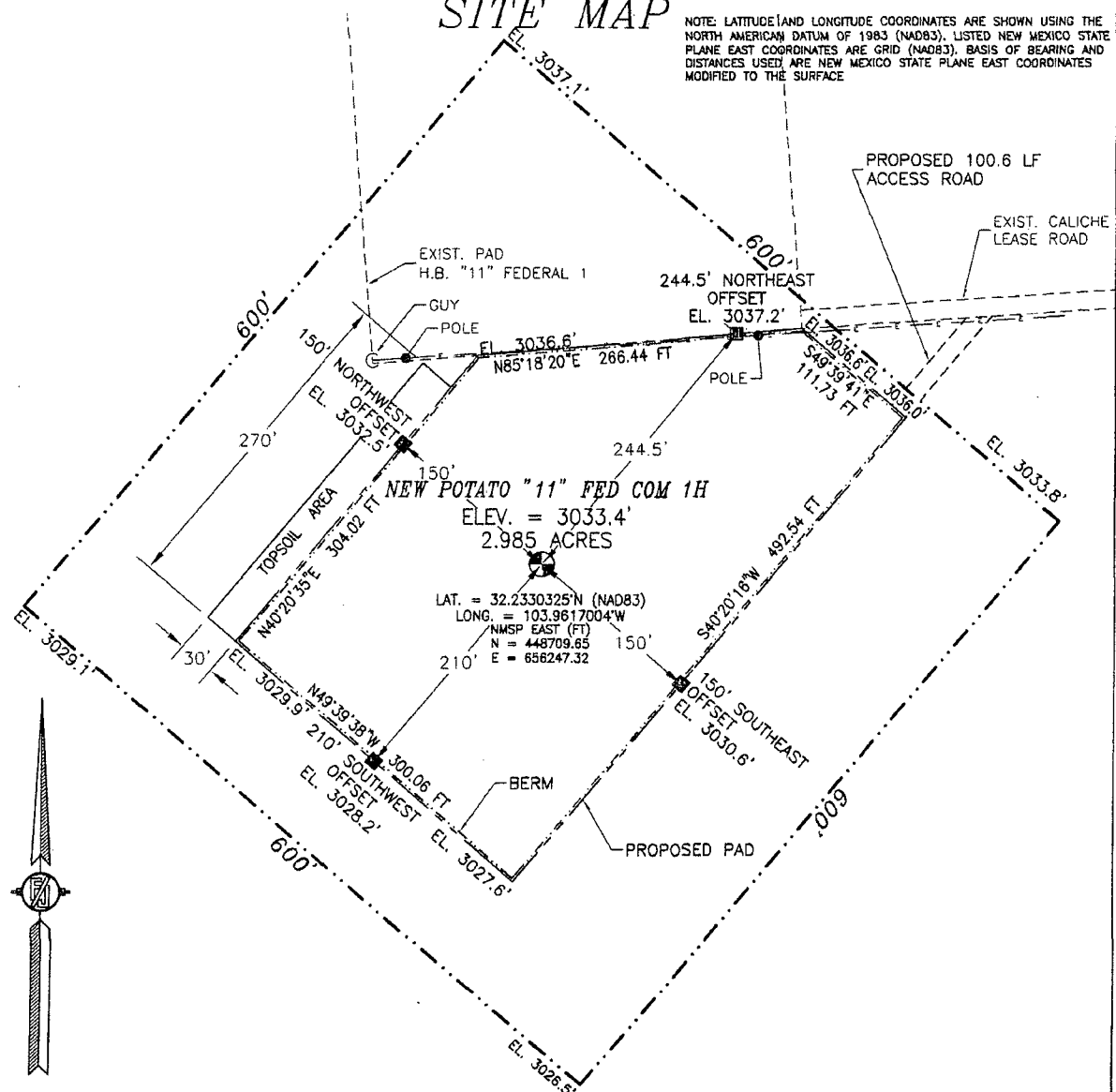
Certificate Number: P. J. JARAMILLO, PLS 12797

SURVEY NO. 3090A

SECTION 11, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY 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



0 12 60 120 240

SCALE 1" = 120'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF SR 31 AND SR 128 (JAL HIGHWAY) GO EAST ON SR 128 4.55 MILES TO CR 793 (RAWHIDE ROAD) TURN RIGHT ON CR 793, GO SOUTH ON CR 793 AT 4.1 MILES PAVEMENT ENDS, CONTINUE SOUTH ALONG MAIN CALICHE LEASE ROAD, AT 7.3 MILES YOU CROSS A CATTLE GUARD, CONTINUE SOUTH AT 8.7 MILES YOU TURN RIGHT ON A CALICHE LEASE ROAD, GO WEST 2.05 MILES JUST PAST A CATTLE GUARD, TURN LEFT AT CALICHE LEASE ROAD, GO WEST 0.63 MILES, SITE IS JUST SOUTH OF EXISTING PAD FOR H.B. "11" FEDERAL 1.

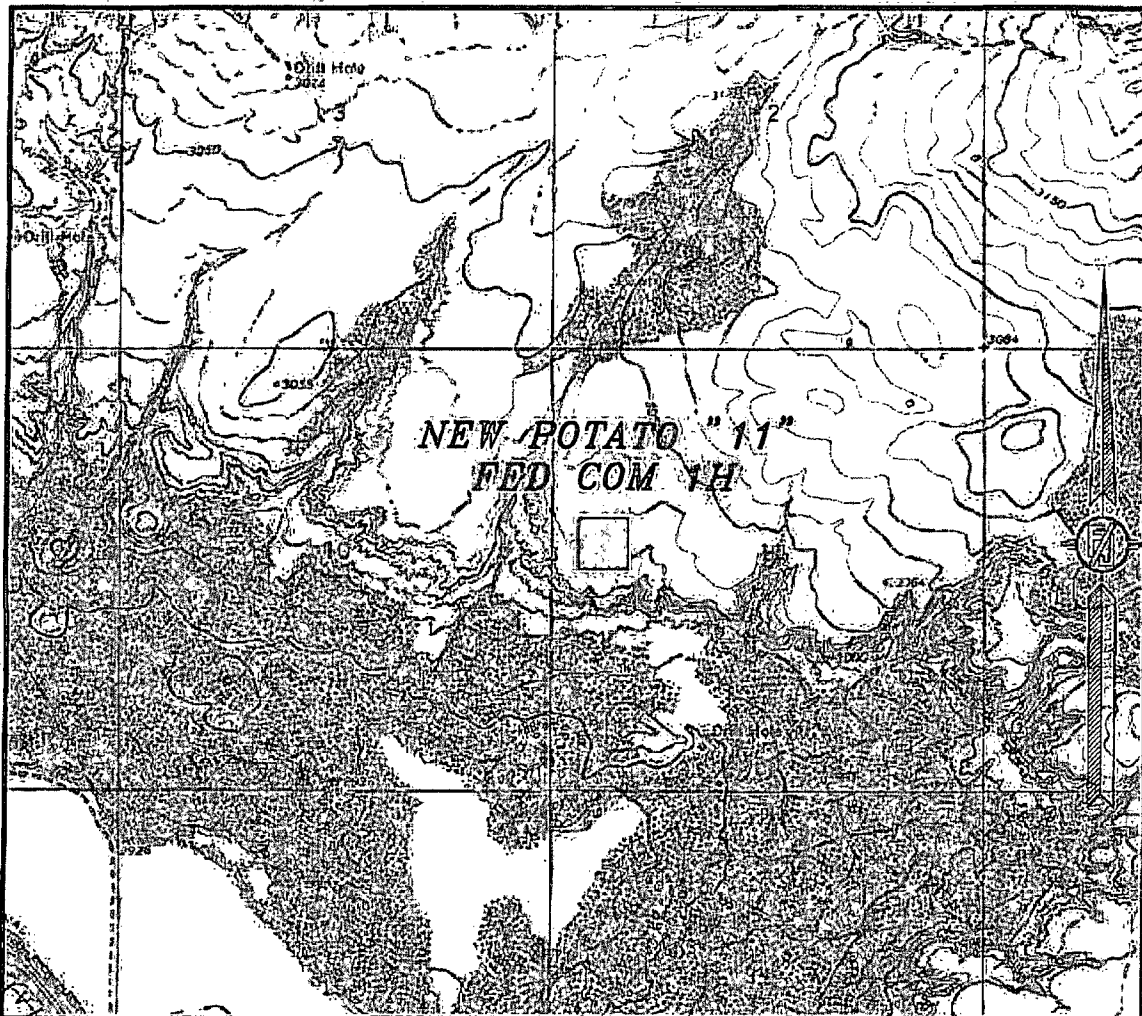
DEVON ENERGY PRODUCTION COMPANY, L.P.
NEW POTATO "11" FED COM 1H
LOCATED 2324 FT. FROM THE NORTH LINE
AND 641 FT. FROM THE WEST LINE OF
SECTION 11, TOWNSHIP 24 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

SURVEY NO. 3090A

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

SECTION 11, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
PIERCE CANYON

NOT TO SCALE

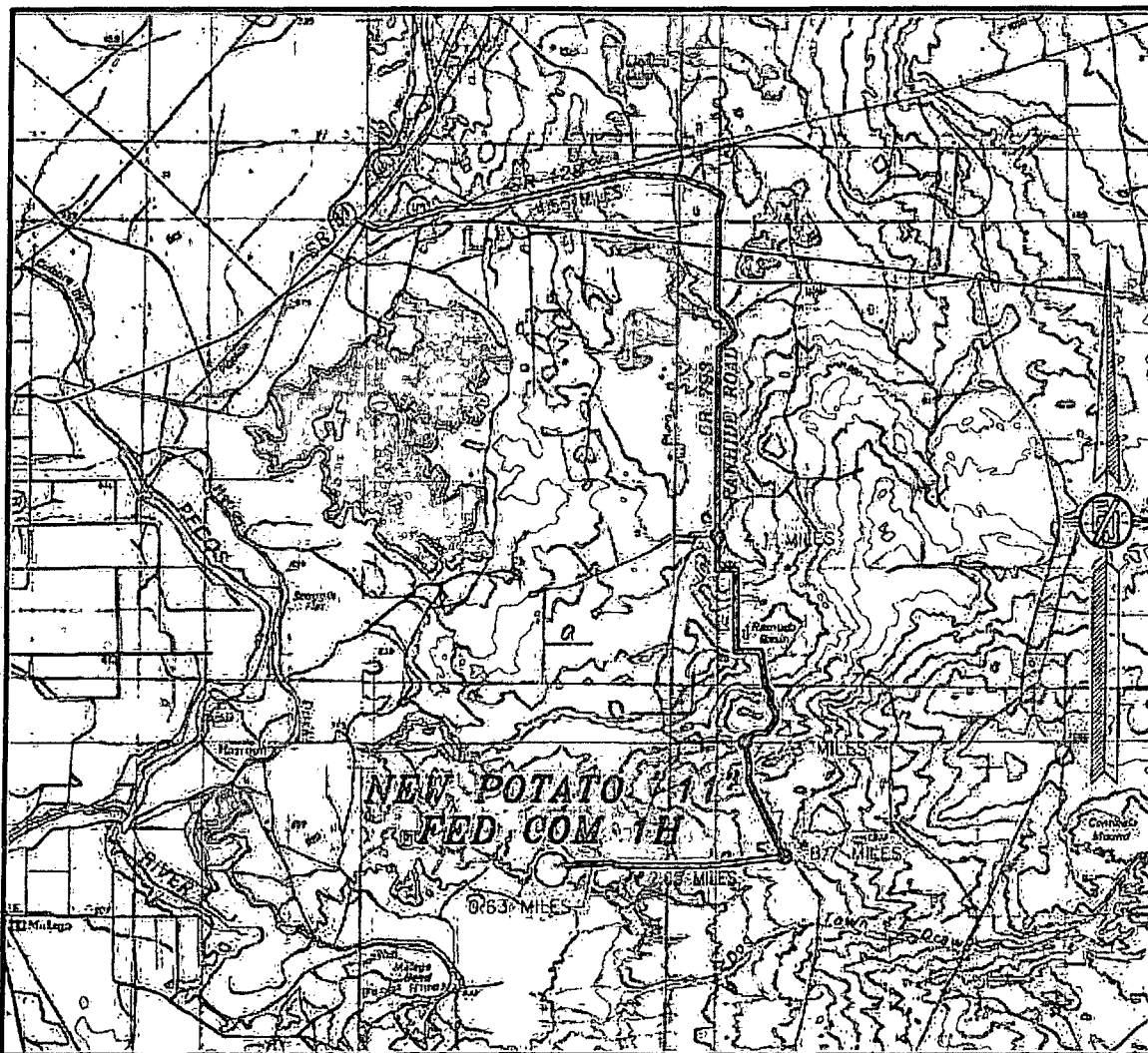
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EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

SURVEY NO. 3090A

SECTION 11, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

NEW POTATO "11" FED COM 1H

LOCATED 2324 FT. FROM THE NORTH LINE

AND 641 FT. FROM THE WEST LINE OF

SECTION 11, TOWNSHIP 24 SOUTH,

RANGE 29 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

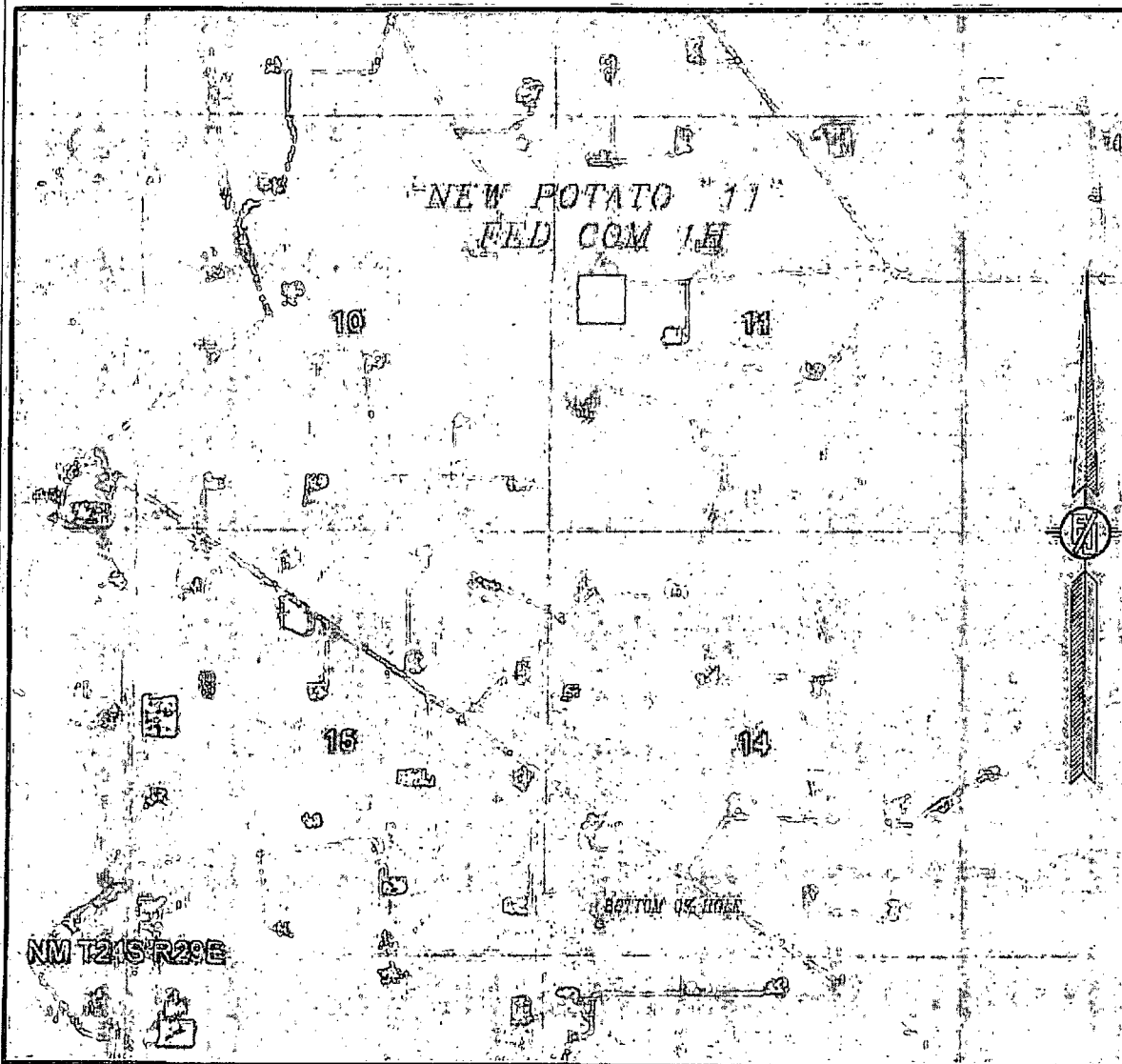
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SURVEY NO. 3090A

MADRON SURVEYING, INC. 301 SOUTH CANAL (975) 234-3341 CARLSBAD, NEW MEXICO

SECTION 11, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.

NEW POTATO "11" FED COM 1H

LOCATED 2324 FT. FROM THE NORTH LINE

AND 641 FT. FROM THE WEST LINE OF

SECTION 11, TOWNSHIP 24 SOUTH,

RANGE 29 EAST, N.M.P.M.

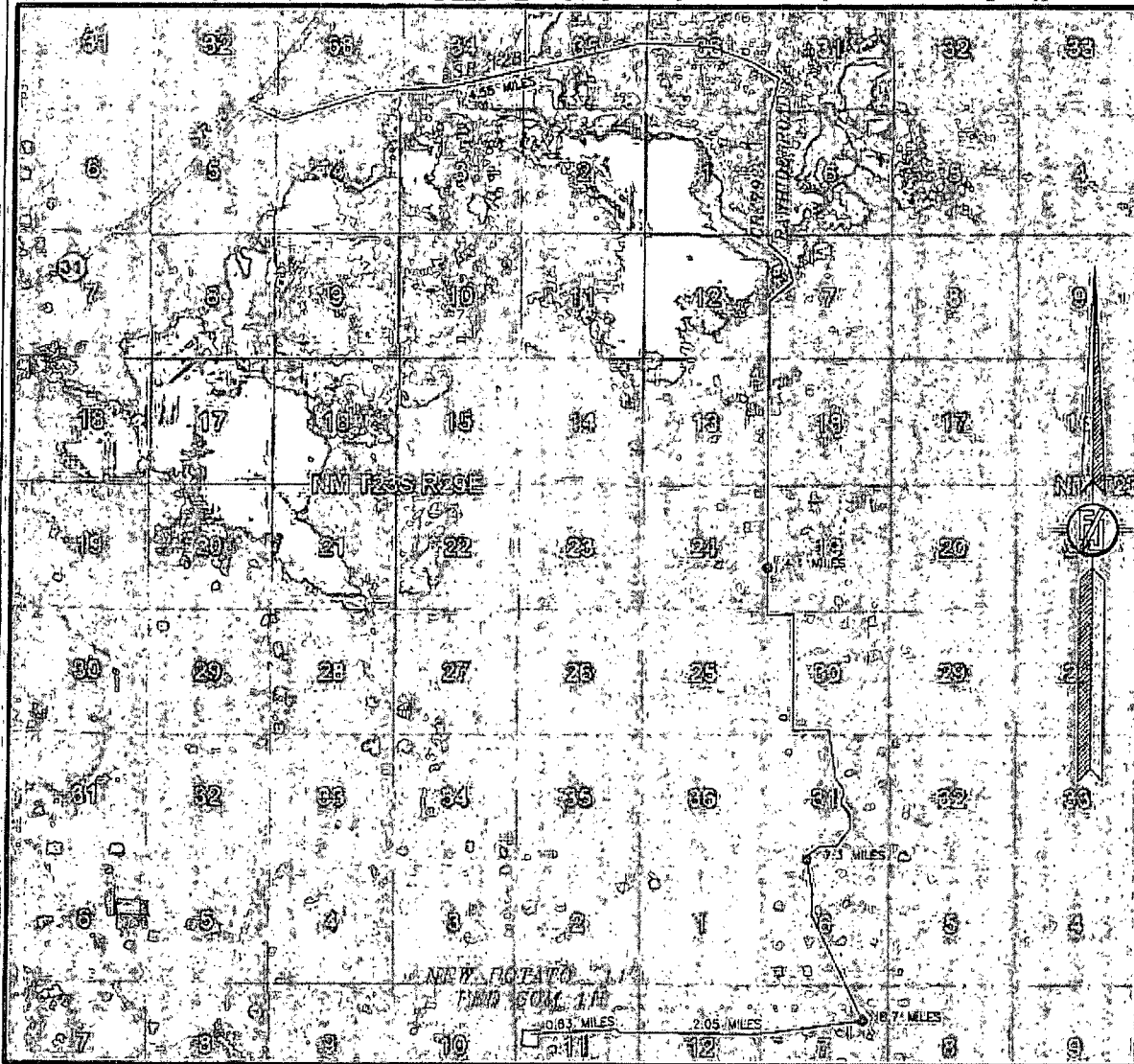
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

SURVEY NO. 3090A

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

SECTION 11, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP



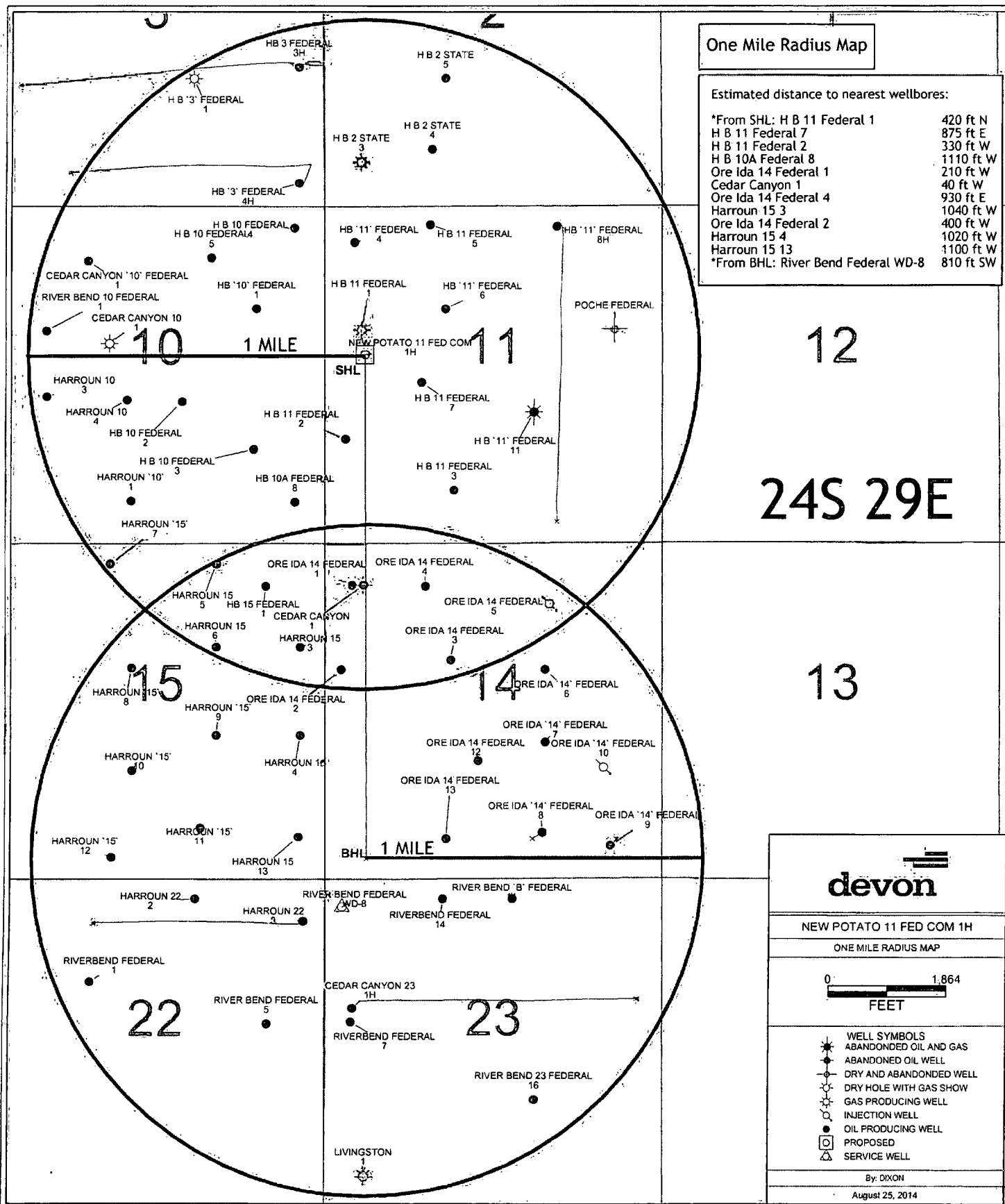
NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.
NEW POTATO "11" FED COM 1H
LOCATED 2324 FT. FROM THE NORTH LINE
AND 641 FT. FROM THE WEST LINE OF
SECTION 11, TOWNSHIP 24 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

SURVEY NO. 3090A

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



Devon Energy, New Potato 11 Fed Com 1H

1. Geologic Formations

TVD of target	8,937'	Pilot hole depth	N/A
MD at TD:	16,646'	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	385	Water	
Top of Salt	1,526	Salt	
Base of Salt	2,910	Salt	
Delaware	3,110	Barren	
Bell Canyon	3,160	Oil/Gas	
Cherry Canyon	4,030	Oil/Gas	
Brushy Canyon	5,560	Oil/Gas	
Bone Spring	6,840	Oil/Gas	
1 st Bone Spring Sand	7,890	Oil/Gas	
2 nd Bone Spring Sand	8,710	Target Zone	

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

Devon Energy, New Potato 11 Fed Com 1H

2. Casing Program: 7" x 5.5" Combination Production Casing

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	200' 500'	13.375"	48	H-40	STC	2.26	5.28	9.58
12.25"	0	3,000' 3100'	9.625"	40	J55	LTC	1.62	2.48	4.33
8.75"	0	8,307'	7"	29	P110	BTC	2.14	2.81	2.43
8.75"	8,307'	16,647'	5.5"	17	P110	BTC	1.73	2.46	3.85
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

Option: 5.5" Production Longstring Casing

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
8.75"	0	16,647'	5.5"	17	P110	BTC	1.73	2.46	1.93
BLM Minimum Safety Factor							1.125	1	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, New Potato 11 Fed Com 1H

3. Cementing Program

Casing	# Sks	Wt. lb/gal	H ₂ O gal/sk	Yld ft ³ /sack	500# Comp. Strength h (hours)	Slurry Description
Surf.	770	14.8	6.32	1.33	7	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
Inter. Single Stage Option	530	12.9	9.81	1.85	17	1 st Stage 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	1 st Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
Inter. Two Stage Option	520	12.9	9.81	1.85	17	1 st Stage Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	220	14.8	6.32	1.33	6	1 st Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
	DV Tool = 750ft					
	60	12.9	9.81	1.85	17	2 nd Stage Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	120	14.8	6.32	1.33	6	2 nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5.5" Prod. Two Stage Option	710	12.5	10.86	1.96	30	1 st Stage Lead: (65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake
	2270	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 = 4000ft					
	120	11	14.81	2.55	22	2 nd stage Lead: Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake
	120	14.8	6.32	1.33	6	2 nd stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
7 x 5.5" Comb. Prod.	350	10.4	16.9	3.17	16	Lead: Tuned Light® + 0.125 lb/sk Pol-E-Flake
	2270	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

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.

Devon Energy, New Potato 11 Fed Com 1H

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	75%
Intermediate Two Stage	1 st Stage =750' / 2 nd Stage =0'	75%
5.5" Production Two Stage	1 st Stage =4000' / 2 nd Stage =2500'	25%
7 x 5.5" Comb. Prod.	2500' <i>2600' (500' tieback)</i>	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
---	--

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

Devon Energy, New Potato 11 Fed Com 1H

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?
Y	A multibowl wellhead is being 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. A multibowl wellhead is being 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 proposes using a multi-bowl wellhead assembly (FMC Uni-head). 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 FMC's representatives. - If the welding is performed by a third party, the FMC's representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. - FMC representative will install the test plug for the initial BOP test. - FMC 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 5M, 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 FMC Uni-head wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test.

Devon Energy, New Potato 11 Fed Com 1H

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 FMC Uni-head. 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. See attached schematic.
--

5. Mud Program

See COA

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	700' 500'	FW Gel	8.4-9.0	28-34	N/C
700'	3,000' 3100'	Saturated Brine	10.0-10.2	28-34	N/C
3,000'	16,647'	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
---	-----------------------------

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

Devon Energy, New Potato 11 Fed Com 1H

	PEX	
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7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4022 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

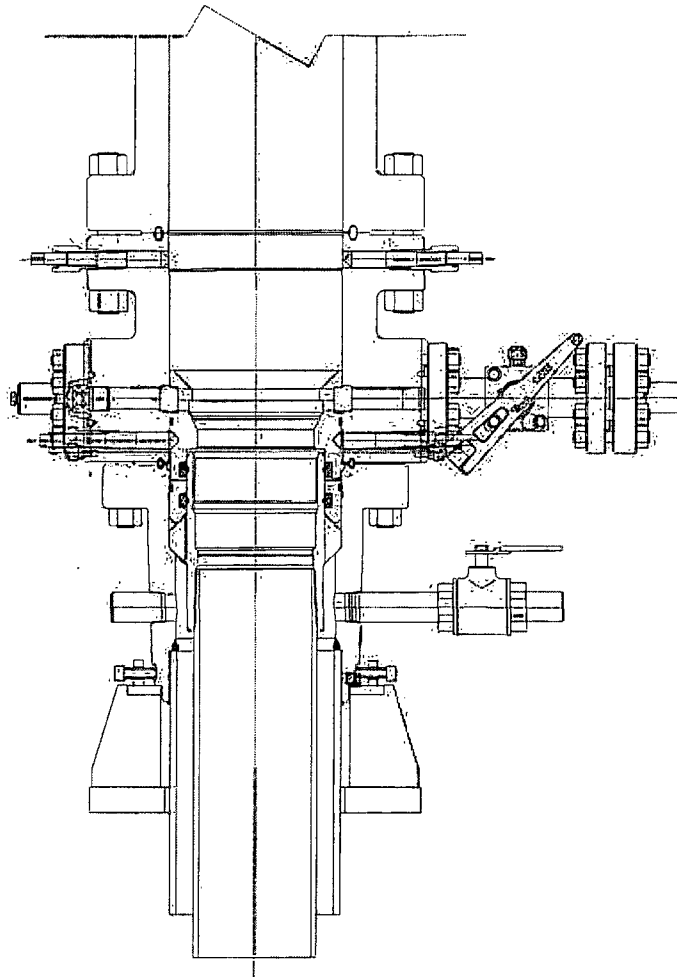
Is this a walking operation? No.

Will be pre-setting casing? No.

Attachments

☒ Directional Plan

☐ Other, describe



PRIMARY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

PRIVATE AND CONFIDENTIAL

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REVISIONS

A	05-08-13
B	1-22-14
C	5-13-14

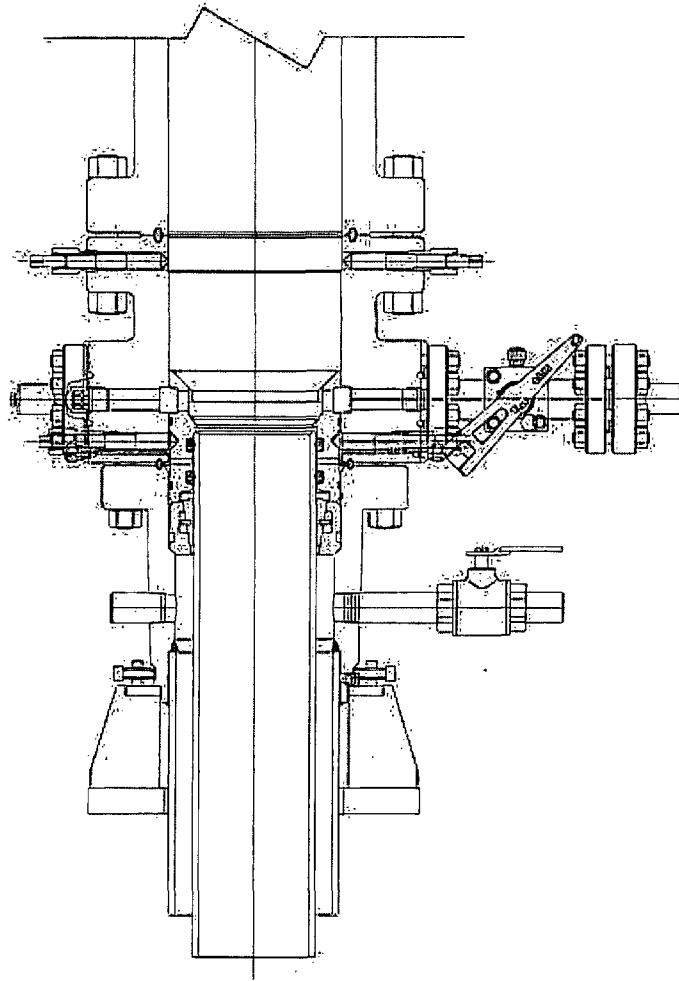
DESCRIPTION

SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1, SOW,
DEVON ENERGY, ODESSA

DRAWN BY	K. VU	05-08-13
DRAFTING REVIEW	Z. MARQUEZ	05-08-13
DESIGN REVIEW	K. TAHA	05-08-13
APPROVED BY	R. HAMILTON	05-08-13

FMC Technologies

DRAWING NUMBER
DM100161771-2A



CONTINGENCY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

PRIVATE AND CONFIDENTIAL THIS DOCUMENT AND ALL THE INFORMATION CONTAINED HEREIN ARE THE CONFIDENTIAL AND EXCLUSIVE PROPERTY OF FMC TECHNOLOGIES AND MAY NOT BE REPRODUCED, USED, DISCLOSED, OR MADE PUBLIC IN ANY MANNER PRIOR TO EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES. THIS DOCUMENT IS ACCEPTED BY RECIPIENT PURSUANT TO AGREEMENT TO THE FOREGOING, AND MUST BE RETURNED UPON DEMAND. MANUFACTURER AGREES THAT ARTICLES MADE IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CONSIDERED FMC TECHNOLOGIES' DESIGN AND THAT IDENTICAL ARTICLES OR PARTS THEREOF SHALL NOT BE MANUFACTURED FOR THE USE OR SALE BY MANUFACTURER OR ANY OTHER PERSON WITHOUT THE PRIOR EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES	REVISIONS	DESCRIPTION	DESIGNED BY	DATE	FMC Technologies DRAWING NUMBER DM100161771-2B
	A	05-08-13	K. VU	05-08-13	
	B	1-22-14	Z. MARQUEZ	05-08-13	
	C	5-13-14	K. TAHA	05-08-13	
			R. HAMILTON	05-08-13	

SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1, SOW,
DEVON ENERGY, ODESSA

DEVON ENERGY

Project: Eddy County, NM (NAD-83)
Site: New Potato 11 Fed Com
Well: 1H
Wellbore: 1H OH
Design: Plan #1



Azimuths to Grid North
True North: -0.20°
Magnetic North: 7.33°

Magnetic Field
Strength: 48212.8nT
Dip Angle: 60.04°
Date: 9/15/2014
Model: BGGM2014

devon

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

DESIGN TARGET DETAILS

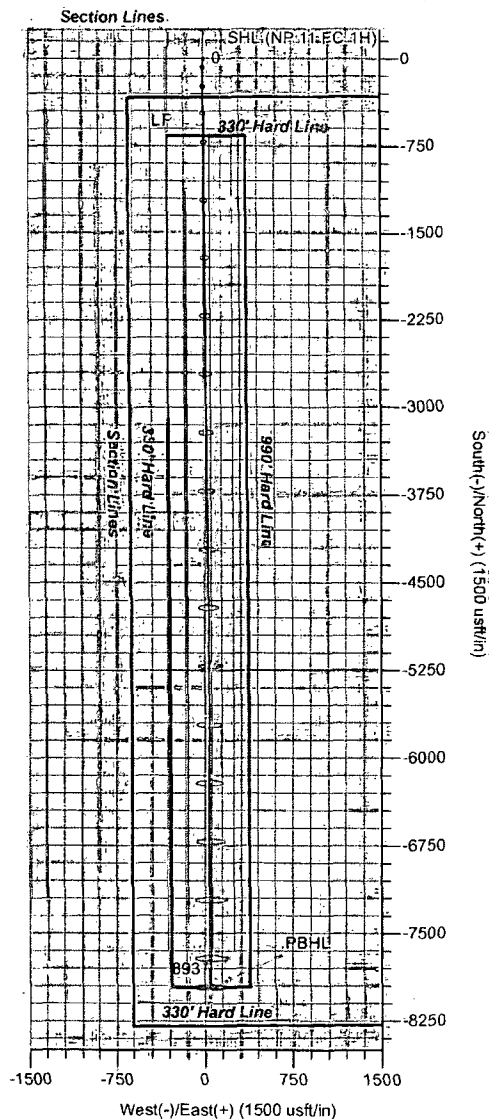
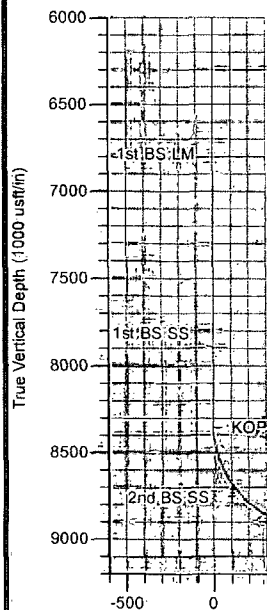
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (NP 11 FC 1H)	0.00	0.00	0.00	448709.65	656247.32	32° 13' 58.917 N	103° 57' 42.121 W
PBHL (NP 11 FC 1H)	8937.00	-7962.58	53.74	440747.07	656301.06	32° 12' 40.119 N	103° 57' 41.816 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8357.04	0.00	0.00	8357.04	0.00	0.00	0.00	0.00	0.00	KOP 10° DLS
3	9256.50	89.95	179.61	8930.00	-572.40	3.86	10.00	179.61	572.41	LP
4	16646.85	89.95	179.61	8937.00	-7962.58	53.74	0.00	0.00	7962.76	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
385.00	385.00	Rustler	0.00	
1526.00	1526.00	Top Salt	0.00	
2910.00	2910.00	Base Salt	0.00	
3110.00	3110.00	Delaware	0.00	
3160.00	3160.00	Bell Canyon	0.00	
4030.00	4030.00	Cherry Canyon	0.00	
5560.00	5560.00	Brushy Canyon	0.00	
6840.00	6840.00	1st BS:LM	0.00	
7890.00	7890.00	1st BS:SS	0.00	
8710.00	8737.31	2nd BS:SS	0.00	



Vertical Section at: 179.61° (1000 usft/in)



LEAM DRILLING SYSTEMS LLC
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax 936/756-7595

Plan: Plan #1 (1H/1H OH)
New Potato 11 Fed Com
Created By: Brady Deaver
Date: 10/10, September 15 2014
Approved: _____ Date: _____

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 1 2015

RECEIVED

DEVON ENERGY

Eddy County, NM (NAD-83)

New Potato 11 Fed Com

1H

1H OH

Plan: Plan #1

Standard Planning Report

15 September, 2014

LEAM Drilling Systems LLC
Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	3033.4' GL+ 25' RKB @ 3058.40usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3033.4' GL+ 25' RKB @ 3058.40usft
Site:	New Potato 11 Fed Com	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H OH		
Design:	Plan #1		

Project	Eddy 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	New Potato 11 Fed Com		
Site Position:	From: Map	Northing: 448,709.65 usft	Latitude: 32° 13' 58.917 N
		Easting: 656,247.32 usft	Longitude: 103° 57' 42.121 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.20 °

Well	1H, 2nd BS SS		
Well Position	+N/-S 0.00 usft	Northing: 448,709.65 usft	Latitude: 32° 13' 58.917 N
	+E/-W 0.00 usft	Easting: 656,247.32 usft	Longitude: 103° 57' 42.121 W
Position Uncertainty	0.00 usft	Wellhead Elevation: 3,058.40 usft	Ground Level: 3,033.40 usft

Wellbore	1H OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	9/15/2014	7.53	60.04	48,213

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie-On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	179.63

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	
8,357.04	0.00	0.00	8,357.04	0.00	0.00	0.00	0.00	0.00	0.00	
9,256.52	89.95	179.63	8,930.00	-572.43	3.72	10.00	10.00	19.97	179.63	
16,963.44	89.95	179.63	8,937.00	-8,279.18	53.74	0.00	0.00	0.00	0.00	PBHL (NP 11 FC 1H)

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: 1H
Company:	DEVON ENERGY	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site:	New Potato 11 Fed Com	North Reference:	Gnd
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H OH		
Design:	Plan #1		

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 (NP 11 FC 1H)									
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
385.00	0.00	0.00	385.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,300.00	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
1,526.00	0.00	0.00	1,526.00	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
2,910.00	0.00	0.00	2,910.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
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
3,110.00	0.00	0.00	3,110.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
3,160.00	0.00	0.00	3,160.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
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
4,030.00	0.00	0.00	4,030.00	0.00	0.00	0.00	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Project:	Eddy County NM (NAD-83)	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site:	New Potato 11 Fed Com	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H OH		
Design:	Plan #1		

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)
Cherry Canyon									
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
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
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,560.00	0.00	0.00	5,560.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,840.00	0.00	0.00	6,840.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS LM									
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,890.00	0.00	0.00	7,890.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS SS									
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,357.04	0.00	0.00	8,357.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10' DLS									
8,400.00	4.30	179.63	8,399.96	-1.61	0.01	1.61	10.00	10.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: 1H
Company:	DEVON ENERGY	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site:	New Potato 11 Fed Com	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H OH		
Design:	Plan #1		

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)
8,450.00	9.30	179.63	8,449.59	-7.52	0.05	7.52	10.00	10.00	0.00
8,500.00	14.30	179.63	8,498.52	-17.74	0.12	17.74	10.00	10.00	0.00
8,550.00	19.30	179.63	8,546.37	-32.19	0.21	32.19	10.00	10.00	0.00
8,600.00	24.30	179.63	8,592.78	-50.74	0.33	50.75	10.00	10.00	0.00
8,650.00	29.30	179.63	8,637.40	-73.28	0.48	73.28	10.00	10.00	0.00
8,700.00	34.30	179.63	8,679.88	-99.61	0.65	99.62	10.00	10.00	0.00
8,737.31	38.03	179.63	8,710.00	-121.62	0.79	121.63	10.00	10.00	0.00
2nd BS SS									
8,750.00	39.30	179.63	8,719.91	-129.55	0.84	129.55	10.00	10.00	0.00
8,800.00	44.30	179.63	8,757.17	-162.86	1.06	162.87	10.00	10.00	0.00
8,850.00	49.30	179.63	8,791.39	-199.30	1.29	199.30	10.00	10.00	0.00
8,900.00	54.30	179.63	8,822.31	-238.58	1.55	238.58	10.00	10.00	0.00
8,950.00	59.30	179.63	8,849.68	-280.40	1.82	280.40	10.00	10.00	0.00
9,000.00	64.30	179.63	8,873.30	-324.45	2.11	324.45	10.00	10.00	0.00
9,050.00	69.30	179.63	8,893.00	-370.39	2.40	370.39	10.00	10.00	0.00
9,100.00	74.30	179.63	8,908.61	-417.87	2.71	417.88	10.00	10.00	0.00
9,150.00	79.30	179.63	8,920.03	-466.53	3.03	466.54	10.00	10.00	0.00
9,200.00	84.30	179.63	8,927.16	-516.00	3.35	516.01	10.00	10.00	0.00
9,250.00	89.30	179.63	8,929.95	-565.91	3.67	565.92	10.00	10.00	0.00
9,256.52	89.95	179.63	8,930.00	-572.43	3.72	572.44	10.00	10.00	0.00
LP									
9,300.00	89.95	179.63	8,930.04	-615.90	4.00	615.92	0.00	0.00	0.00
9,400.00	89.95	179.63	8,930.13	-715.90	4.65	715.92	0.00	0.00	0.00
9,500.00	89.95	179.63	8,930.22	-815.90	5.30	815.92	0.00	0.00	0.00
9,600.00	89.95	179.63	8,930.31	-915.90	5.95	915.92	0.00	0.00	0.00
9,700.00	89.95	179.63	8,930.40	-1,015.90	6.59	1,015.92	0.00	0.00	0.00
9,800.00	89.95	179.63	8,930.49	-1,115.89	7.24	1,115.92	0.00	0.00	0.00
9,900.00	89.95	179.63	8,930.58	-1,215.89	7.89	1,215.92	0.00	0.00	0.00
10,000.00	89.95	179.63	8,930.67	-1,315.89	8.54	1,315.92	0.00	0.00	0.00
10,100.00	89.95	179.63	8,930.76	-1,415.89	9.19	1,415.92	0.00	0.00	0.00
10,200.00	89.95	179.63	8,930.85	-1,515.89	9.84	1,515.92	0.00	0.00	0.00
10,300.00	89.95	179.63	8,930.95	-1,615.88	10.49	1,615.92	0.00	0.00	0.00
10,400.00	89.95	179.63	8,931.04	-1,715.88	11.14	1,715.92	0.00	0.00	0.00
10,500.00	89.95	179.63	8,931.13	-1,815.88	11.79	1,815.92	0.00	0.00	0.00
10,600.00	89.95	179.63	8,931.22	-1,915.88	12.44	1,915.92	0.00	0.00	0.00
10,700.00	89.95	179.63	8,931.31	-2,015.87	13.09	2,015.92	0.00	0.00	0.00
10,800.00	89.95	179.63	8,931.40	-2,115.87	13.73	2,115.92	0.00	0.00	0.00
10,900.00	89.95	179.63	8,931.49	-2,215.87	14.38	2,215.92	0.00	0.00	0.00
11,000.00	89.95	179.63	8,931.58	-2,315.87	15.03	2,315.92	0.00	0.00	0.00
11,100.00	89.95	179.63	8,931.67	-2,415.87	15.68	2,415.92	0.00	0.00	0.00
11,200.00	89.95	179.63	8,931.76	-2,515.86	16.33	2,515.92	0.00	0.00	0.00
11,300.00	89.95	179.63	8,931.85	-2,615.86	16.98	2,615.92	0.00	0.00	0.00
11,400.00	89.95	179.63	8,931.95	-2,715.86	17.63	2,715.92	0.00	0.00	0.00
11,500.00	89.95	179.63	8,932.04	-2,815.86	18.28	2,815.92	0.00	0.00	0.00
11,600.00	89.95	179.63	8,932.13	-2,915.86	18.93	2,915.92	0.00	0.00	0.00
11,700.00	89.95	179.63	8,932.22	-3,015.85	19.58	3,015.92	0.00	0.00	0.00
11,800.00	89.95	179.63	8,932.31	-3,115.85	20.22	3,115.92	0.00	0.00	0.00
11,900.00	89.95	179.63	8,932.40	-3,215.85	20.87	3,215.92	0.00	0.00	0.00
12,000.00	89.95	179.63	8,932.49	-3,315.85	21.52	3,315.92	0.00	0.00	0.00
12,100.00	89.95	179.63	8,932.58	-3,415.84	22.17	3,415.92	0.00	0.00	0.00
12,200.00	89.95	179.63	8,932.67	-3,515.84	22.82	3,515.92	0.00	0.00	0.00
12,300.00	89.95	179.63	8,932.76	-3,615.84	23.47	3,615.92	0.00	0.00	0.00
12,400.00	89.95	179.63	8,932.85	-3,715.84	24.12	3,715.92	0.00	0.00	0.00
12,500.00	89.95	179.63	8,932.94	-3,815.84	24.77	3,815.92	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User.Db	Local Co-ordinate Reference:	Well: 1H
Company:	DEVON ENERGY	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Project:	Eddy County: NM (NAD-83)	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site:	New Potato 11: Fed Com	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Burid Rate (°/100usft)	Turn Rate (°/100usft)	
12,600.00	89.95	179.63	8,933.04	-3,915.83	25.42	3,915.92	0.00	0.00	0.00	
12,700.00	89.95	179.63	8,933.13	-4,015.83	26.07	4,015.92	0.00	0.00	0.00	
12,800.00	89.95	179.63	8,933.22	-4,115.83	26.72	4,115.92	0.00	0.00	0.00	
12,900.00	89.95	179.63	8,933.31	-4,215.83	27.36	4,215.92	0.00	0.00	0.00	
13,000.00	89.95	179.63	8,933.40	-4,315.83	28.01	4,315.92	0.00	0.00	0.00	
13,100.00	89.95	179.63	8,933.49	-4,415.82	28.66	4,415.92	0.00	0.00	0.00	
13,200.00	89.95	179.63	8,933.58	-4,515.82	29.31	4,515.92	0.00	0.00	0.00	
13,300.00	89.95	179.63	8,933.67	-4,615.82	29.96	4,615.92	0.00	0.00	0.00	
13,400.00	89.95	179.63	8,933.76	-4,715.82	30.61	4,715.92	0.00	0.00	0.00	
13,500.00	89.95	179.63	8,933.85	-4,815.81	31.26	4,815.92	0.00	0.00	0.00	
13,600.00	89.95	179.63	8,933.94	-4,915.81	31.91	4,915.92	0.00	0.00	0.00	
13,700.00	89.95	179.63	8,934.04	-5,015.81	32.56	5,015.92	0.00	0.00	0.00	
13,800.00	89.95	179.63	8,934.13	-5,115.81	33.21	5,115.92	0.00	0.00	0.00	
13,900.00	89.95	179.63	8,934.22	-5,215.81	33.86	5,215.92	0.00	0.00	0.00	
14,000.00	89.95	179.63	8,934.31	-5,315.80	34.50	5,315.92	0.00	0.00	0.00	
14,100.00	89.95	179.63	8,934.40	-5,415.80	35.15	5,415.92	0.00	0.00	0.00	
14,200.00	89.95	179.63	8,934.49	-5,515.80	35.80	5,515.92	0.00	0.00	0.00	
14,300.00	89.95	179.63	8,934.58	-5,615.80	36.45	5,615.92	0.00	0.00	0.00	
14,400.00	89.95	179.63	8,934.67	-5,715.80	37.10	5,715.92	0.00	0.00	0.00	
14,500.00	89.95	179.63	8,934.76	-5,815.79	37.75	5,815.92	0.00	0.00	0.00	
14,600.00	89.95	179.63	8,934.85	-5,915.79	38.40	5,915.92	0.00	0.00	0.00	
14,700.00	89.95	179.63	8,934.94	-6,015.79	39.05	6,015.92	0.00	0.00	0.00	
14,800.00	89.95	179.63	8,935.03	-6,115.79	39.70	6,115.92	0.00	0.00	0.00	
14,900.00	89.95	179.63	8,935.13	-6,215.78	40.35	6,215.92	0.00	0.00	0.00	
15,000.00	89.95	179.63	8,935.22	-6,315.78	41.00	6,315.92	0.00	0.00	0.00	
15,100.00	89.95	179.63	8,935.31	-6,415.78	41.64	6,415.92	0.00	0.00	0.00	
15,200.00	89.95	179.63	8,935.40	-6,515.78	42.29	6,515.92	0.00	0.00	0.00	
15,300.00	89.95	179.63	8,935.49	-6,615.78	42.94	6,615.92	0.00	0.00	0.00	
15,400.00	89.95	179.63	8,935.58	-6,715.77	43.59	6,715.92	0.00	0.00	0.00	
15,500.00	89.95	179.63	8,935.67	-6,815.77	44.24	6,815.92	0.00	0.00	0.00	
15,600.00	89.95	179.63	8,935.76	-6,915.77	44.89	6,915.92	0.00	0.00	0.00	
15,700.00	89.95	179.63	8,935.85	-7,015.77	45.54	7,015.92	0.00	0.00	0.00	
15,800.00	89.95	179.63	8,935.94	-7,115.77	46.19	7,115.92	0.00	0.00	0.00	
15,900.00	89.95	179.63	8,936.03	-7,215.76	46.84	7,215.92	0.00	0.00	0.00	
16,000.00	89.95	179.63	8,936.12	-7,315.76	47.49	7,315.92	0.00	0.00	0.00	
16,100.00	89.95	179.63	8,936.22	-7,415.76	48.14	7,415.92	0.00	0.00	0.00	
16,200.00	89.95	179.63	8,936.31	-7,515.76	48.78	7,515.92	0.00	0.00	0.00	
16,300.00	89.95	179.63	8,936.40	-7,615.75	49.43	7,615.92	0.00	0.00	0.00	
16,400.00	89.95	179.63	8,936.49	-7,715.75	50.08	7,715.92	0.00	0.00	0.00	
16,500.00	89.95	179.63	8,936.58	-7,815.75	50.73	7,815.91	0.00	0.00	0.00	
16,600.00	89.95	179.63	8,936.67	-7,915.75	51.38	7,915.91	0.00	0.00	0.00	
16,700.00	89.95	179.63	8,936.76	-8,015.75	52.03	8,015.91	0.00	0.00	0.00	
16,800.00	89.95	179.63	8,936.85	-8,115.74	52.68	8,115.91	0.00	0.00	0.00	
16,900.00	89.95	179.63	8,936.94	-8,215.74	53.33	8,215.91	0.00	0.00	0.00	
16,963.44	89.95	179.63	8,937.00	-8,279.18	53.74	8,279.35	0.00	0.00	0.00	
TD: PBHL (NP,11' FC 1H)										

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site:	New Potato 11 Fed Com	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H OH		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/ S	+E/ W	Northing	Easting	Latitude	Longitude
hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Shape									
SHL (NP 11 FC 1H)	0.00	0.00	0.00	0.00	0.00	448,709.65	656,247.32	32° 13' 58.917 N	103° 57' 42.121 W
- plan hits target center									
- Point									
PBHL (NP 11 FC 1H)	0.00	0.00	8,937.00	-8,279.18	53.74	440,430.47	656,301.06	32° 12' 36.986 N	103° 57' 41.829 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
385.00	385.00	Rustler		0.00		
1,526.00	1,526.00	Top Salt		0.00		
2,910.00	2,910.00	Base Salt		0.00		
3,110.00	3,110.00	Delaware		0.00		
3,160.00	3,160.00	Bell Canyon		0.00		
4,030.00	4,030.00	Cherry Canyon		0.00		
5,560.00	5,560.00	Brushy Canyon		0.00		
6,840.00	6,840.00	1st BS LM		0.00		
7,890.00	7,890.00	1st BS SS		0.00		
8,737.31	8,710.00	2nd BS SS		0.00		

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/ S	+E/ W	
(usft)	(usft)	(usft)	(usft)	
8,357.04	8,357.04	0.00	0.00	KOP 10° DLS
9,256.52	8,930.00	-572.43	3.72	LP
16,963.44	8,937.00	-8,279.18	53.74	TD

NM OIL CONSERVATION

ARTESIA DISTRICT

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DEVON ENERGY

Eddy County, NM (NAD-83)

New Potato 11 Fed Com

1H

1H OH

Plan #1

Anticollision Report

14 May, 2015

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference:	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	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	5/14/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	16,646.85	Plan #1 (1H 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						
New Potato 11 Fed Com						
HB 11 Fed 2 (offset) - 2 - 2	10,005.41	8,200.00	771.76	541.01	3.345	CC, ES, SF
Ore Ida 14 Fed 1 (offset) - 1 - 1	12,315.40	8,100.00	850.93	709.84	6.031	CC, ES, SF
Ore Ida 14 Fed 2 (offset) - 2 - 2	13,635.47	8,350.00	670.06	283.49	1.733	CC, ES, SF

New Potato 11 Fed Com - HB 11 Fed 2 (offset) - 2 - 2												Offset Site Error:	0.00 usft		
Survey Program: 90-INC														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		
0.00	0.00	0.00	0.00	0.00	0.00	-169.87	-1,323.65	-236.57	1,344.62						
100.00	100.00	100.00	100.00	0.08	1.83	-169.87	-1,323.65	-236.57	1,344.62	1,343.06	1.56	863.733			
200.00	200.00	200.00	200.00	0.31	6.68	-169.87	-1,323.65	-236.57	1,344.62	1,340.14	4.48	299.948			
300.00	300.00	300.00	300.00	0.53	11.52	-169.87	-1,323.65	-236.57	1,344.62	1,337.21	7.41	181.387			
400.00	400.00	400.00	400.00	0.76	16.36	-169.87	-1,323.65	-236.57	1,344.62	1,334.28	10.34	129.994			
500.00	500.00	500.00	500.00	0.98	21.21	-169.87	-1,323.65	-236.57	1,344.62	1,331.35	13.27	101.292			
600.00	600.00	600.00	600.00	1.21	26.05	-169.87	-1,323.65	-236.57	1,344.62	1,328.42	16.21	82.972			
700.00	700.00	700.00	700.00	1.43	30.89	-169.87	-1,323.65	-236.57	1,344.62	1,325.48	19.14	70.264			
800.00	800.00	800.00	800.00	1.66	35.73	-169.87	-1,323.65	-236.57	1,344.62	1,322.55	22.07	60.931			
900.00	900.00	900.00	900.00	1.88	40.79	-169.87	-1,323.65	-236.57	1,344.62	1,319.67	24.95	53.896			
1,000.00	1,000.00	1,000.00	1,000.00	2.11	47.72	-169.87	-1,323.65	-236.57	1,344.62	1,317.24	27.38	49.113			
1,100.00	1,100.00	1,100.00	1,100.00	2.33	54.68	-169.87	-1,323.65	-236.57	1,344.62	1,314.80	29.82	45.091			
1,200.00	1,200.00	1,200.00	1,200.00	2.56	61.60	-169.87	-1,323.65	-236.57	1,344.62	1,312.35	32.27	41.687			
1,300.00	1,300.00	1,300.00	1,300.00	2.78	68.53	-169.87	-1,323.65	-236.57	1,344.62	1,309.89	34.73	38.719			
1,400.00	1,400.00	1,400.04	1,400.00	3.01	76.28	-169.87	-1,323.65	-236.57	1,344.62	1,307.36	37.26	36.084			
1,500.00	1,500.00	1,500.04	1,500.00	3.23	85.91	-169.87	-1,323.65	-236.57	1,344.62	1,304.64	39.98	33.631			
1,600.00	1,600.00	1,600.04	1,600.00	3.46	95.54	-169.87	-1,323.65	-236.57	1,344.62	1,301.91	42.71	31.479			
1,700.00	1,700.00	1,700.04	1,700.00	3.68	105.16	-169.87	-1,323.65	-236.57	1,344.62	1,299.16	45.48	29.578			
1,800.00	1,800.00	1,800.04	1,800.00	3.91	114.79	-169.87	-1,323.65	-236.57	1,344.62	1,296.40	48.22	27.886			
1,900.00	1,900.00	1,900.08	1,900.00	4.13	124.67	-169.87	-1,323.65	-236.57	1,344.62	1,293.66	50.96	26.388			
2,000.00	2,000.00	2,020.00	2,019.88	4.35	137.03	-169.87	-1,323.65	-236.57	1,344.77	1,290.62	54.15	24.833			
2,041.60	2,041.60	2,041.72	2,041.60	4.45	138.43	-169.87	-1,323.65	-236.57	1,344.62	1,289.89	54.73	24.569			
2,100.00	2,100.00	2,100.12	2,100.00	4.58	142.20	-169.87	-1,323.65	-236.57	1,344.62	1,288.46	56.16	23.944			
2,200.00	2,200.00	2,200.12	2,200.00	4.80	148.66	-169.87	-1,323.65	-236.57	1,344.62	1,286.02	58.60	22.944			

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	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
New Potato 11 Fed Com - HB 11 Fed 2 (offset) - 2 - 2												Offset Well Error:	0.00 usft
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
2,300.00	2,300.00	2,300.15	2,300.00	5.03	155.11	-169.87	-1,323.65	-236.57	1,344.62	1,283.59	61.03	22.031	
2,400.00	2,400.00	2,400.15	2,400.00	5.25	161.55	-169.87	-1,323.65	-236.57	1,344.62	1,281.18	63.44	21.196	
2,500.00	2,500.00	2,500.15	2,500.00	5.48	168.00	-169.87	-1,323.65	-236.57	1,344.62	1,278.78	65.84	20.422	
2,600.00	2,600.00	2,600.16	2,600.00	5.70	176.37	-169.87	-1,323.65	-236.57	1,344.62	1,276.17	68.45	19.845	
2,700.00	2,700.00	2,700.17	2,700.00	5.93	187.24	-169.87	-1,323.65	-236.57	1,344.62	1,273.29	71.33	18.852	
2,800.00	2,800.00	2,800.17	2,800.00	6.15	199.61	-169.87	-1,323.65	-236.57	1,344.62	1,270.23	74.39	18.075	
2,900.00	2,900.00	2,900.17	2,900.00	6.38	211.98	-169.87	-1,323.65	-236.57	1,344.62	1,267.15	77.47	17.358	
3,000.00	3,000.00	3,000.24	3,000.00	6.60	222.81	-169.87	-1,323.65	-236.57	1,344.62	1,264.24	80.38	16.729	
3,100.00	3,100.00	3,100.24	3,100.00	6.83	231.91	-169.87	-1,323.65	-236.57	1,344.62	1,261.53	83.09	16.182	
3,200.00	3,200.00	3,200.24	3,200.00	7.05	241.00	-169.87	-1,323.65	-236.57	1,344.62	1,258.81	85.81	15.670	
3,300.00	3,300.00	3,300.24	3,300.00	7.28	250.09	-169.87	-1,323.65	-236.57	1,344.62	1,256.09	88.53	15.188	
3,400.00	3,400.00	3,400.24	3,400.00	7.50	259.18	-169.87	-1,323.65	-236.57	1,344.62	1,253.37	91.25	14.736	
3,500.00	3,500.00	3,500.37	3,500.00	7.73	265.92	-169.87	-1,323.65	-236.57	1,344.62	1,250.84	93.78	14.337	
3,600.00	3,600.00	3,600.37	3,600.00	7.95	271.09	-169.87	-1,323.65	-236.57	1,344.62	1,248.43	96.19	13.978	
3,700.00	3,700.00	3,700.37	3,700.00	8.18	276.26	-169.87	-1,323.65	-236.57	1,344.62	1,246.02	98.60	13.637	
3,800.00	3,800.00	3,800.37	3,800.00	8.40	281.44	-169.87	-1,323.65	-236.57	1,344.62	1,243.61	101.01	13.311	
3,900.00	3,900.00	3,900.37	3,900.00	8.63	286.61	-169.87	-1,323.65	-236.57	1,344.62	1,241.20	103.42	13.001	
4,000.00	4,000.00	4,000.39	4,000.00	8.85	290.73	-169.87	-1,323.65	-236.57	1,344.62	1,238.89	105.73	12.717	
4,100.00	4,100.00	4,100.39	4,100.00	9.07	294.60	-169.87	-1,323.65	-236.57	1,344.62	1,236.61	108.02	12.448	
4,200.00	4,200.00	4,200.39	4,200.00	9.30	298.47	-169.87	-1,323.65	-236.57	1,344.62	1,234.32	110.30	12.190	
4,300.00	4,300.00	4,300.39	4,300.00	9.52	302.33	-169.87	-1,323.65	-236.57	1,344.62	1,232.03	112.59	11.943	
4,400.00	4,400.00	4,400.39	4,400.00	9.75	306.20	-169.87	-1,323.65	-236.57	1,344.62	1,229.74	114.88	11.705	
4,500.00	4,500.00	4,500.41	4,500.00	9.97	311.65	-169.87	-1,323.65	-236.57	1,344.62	1,227.35	117.27	11.466	
4,600.00	4,600.00	4,600.41	4,600.00	10.20	317.47	-169.87	-1,323.65	-236.57	1,344.62	1,224.94	119.69	11.235	
4,700.00	4,700.00	4,700.41	4,700.00	10.42	323.28	-169.87	-1,323.65	-236.57	1,344.62	1,222.52	122.10	11.012	
4,800.00	4,800.00	4,800.41	4,800.00	10.65	329.10	-169.87	-1,323.65	-236.57	1,344.62	1,220.11	124.51	10.799	
4,900.00	4,900.00	4,900.41	4,900.00	10.87	335.59	-169.87	-1,323.65	-236.57	1,344.62	1,217.61	127.01	10.587	
5,000.00	5,000.00	5,000.41	5,000.00	11.10	344.70	-169.87	-1,323.65	-236.57	1,344.62	1,214.81	129.81	10.359	
5,100.00	5,100.00	5,100.41	5,100.00	11.32	353.81	-169.87	-1,323.65	-236.57	1,344.62	1,212.01	132.61	10.140	
5,200.00	5,200.00	5,200.41	5,200.00	11.55	362.92	-169.87	-1,323.65	-236.57	1,344.62	1,209.21	135.41	9.930	
5,300.00	5,300.00	5,300.41	5,300.00	11.77	372.04	-169.87	-1,323.65	-236.57	1,344.62	1,206.41	138.21	9.729	
5,400.00	5,400.00	5,400.47	5,400.00	12.00	381.15	-169.87	-1,323.65	-236.57	1,344.62	1,203.61	141.01	9.536	
5,500.00	5,500.00	5,500.47	5,500.00	12.22	390.25	-169.87	-1,323.65	-236.57	1,344.62	1,200.86	143.78	9.353	
5,600.00	5,600.00	5,600.47	5,600.00	12.45	399.35	-169.87	-1,323.65	-236.57	1,344.62	1,198.12	146.51	9.178	
5,700.00	5,700.00	5,700.47	5,700.00	12.67	408.44	-169.87	-1,323.65	-236.57	1,344.62	1,195.37	149.25	9.009	
5,800.00	5,800.00	5,800.47	5,800.00	12.90	417.54	-169.87	-1,323.65	-236.57	1,344.62	1,192.62	152.00	8.846	
5,900.00	5,900.00	5,900.54	5,900.00	13.12	425.99	-169.87	-1,323.65	-236.57	1,344.62	1,189.90	154.72	8.691	
6,000.00	6,000.00	6,000.54	6,000.00	13.35	433.80	-169.87	-1,323.65	-236.57	1,344.62	1,187.23	157.39	8.543	
6,100.00	6,100.00	6,100.54	6,100.00	13.57	441.60	-169.87	-1,323.65	-236.57	1,344.62	1,184.56	160.06	8.401	
6,200.00	6,200.00	6,200.54	6,200.00	13.80	449.41	-169.87	-1,323.65	-236.57	1,344.62	1,181.88	162.74	8.263	
6,300.00	6,300.00	6,328.00	6,327.40	14.02	459.35	-169.87	-1,323.65	-236.57	1,344.90	1,178.82	166.08	8.098	
6,345.92	6,345.92	6,346.51	6,345.92	14.12	460.80	-169.87	-1,323.65	-236.57	1,344.62	1,177.99	166.63	8.069	
6,400.00	6,400.00	6,400.60	6,400.00	14.24	465.01	-169.87	-1,323.65	-236.57	1,344.62	1,176.57	168.05	8.001	
6,500.00	6,500.00	6,500.60	6,500.00	14.47	472.80	-169.87	-1,323.65	-236.57	1,344.62	1,173.94	170.68	7.878	
6,600.00	6,600.00	6,600.60	6,600.00	14.69	480.59	-169.87	-1,323.65	-236.57	1,344.62	1,171.32	173.30	7.759	
6,700.00	6,700.00	6,700.60	6,700.00	14.92	488.38	-169.87	-1,323.65	-236.57	1,344.62	1,168.69	175.93	7.643	
6,800.00	6,800.00	6,800.63	6,800.00	15.14	496.18	-169.87	-1,323.65	-236.57	1,344.62	1,166.06	178.56	7.530	
6,900.00	6,900.00	6,900.63	6,900.00	15.37	502.63	-169.87	-1,323.65	-236.57	1,344.62	1,163.57	181.06	7.427	
7,000.00	7,000.00	7,000.63	7,000.00	15.59	509.11	-169.87	-1,323.65	-236.57	1,344.62	1,161.07	183.55	7.326	
7,100.00	7,100.00	7,100.66	7,100.00	15.82	515.25	-169.87	-1,323.65	-236.57	1,344.62	1,158.60	186.02	7.228	
7,200.00	7,200.00	7,200.68	7,200.00	16.04	521.07	-169.87	-1,323.65	-236.57	1,344.62	1,156.17	188.45	7.135	
7,300.00	7,300.00	7,300.67	7,300.00	16.27	529.83	-169.87	-1,323.65	-236.57	1,344.62	1,153.43	191.19	7.033	

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	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
New Potato 11 Fed Com - HB 11 Fed 2 (offset) - 2 - 2													0.00 usft
Survey Program: 90-INC													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	Warning
7,400.00	7,400.00	7,426.00	7,425.32	16.49	546.20	-169.87	-1,323.65	-236.57	1,344.86	1,149.74	195.12	6.893	
7,426.74	7,428.74	7,429.42	7,428.74	16.56	546.80	-169.87	-1,323.65	-236.57	1,344.62	1,149.32	195.30	6.885	
7,500.00	7,500.00	7,516.00	7,515.26	16.72	562.10	-169.87	-1,323.65	-236.57	1,344.71	1,146.28	198.42	6.777	
7,528.25	7,528.25	7,528.98	7,528.25	16.78	563.97	-169.87	-1,323.65	-236.57	1,344.82	1,145.73	198.89	6.781	
7,600.00	7,600.00	7,609.00	7,608.22	16.94	575.49	-169.87	-1,323.65	-236.57	1,344.65	1,143.11	201.63	6.672	
7,608.37	7,608.37	7,609.15	7,608.37	16.96	575.51	-169.87	-1,323.65	-236.57	1,344.62	1,143.08	201.56	6.671	
7,700.00	7,700.00	7,760.00	7,759.18	17.17	596.23	-169.87	-1,323.65	-236.57	1,345.92	1,139.58	206.34	6.523	
7,781.68	7,781.68	7,782.50	7,781.68	17.35	599.47	-169.87	-1,323.65	-236.57	1,344.62	1,137.40	207.22	6.489	
7,800.00	7,800.00	7,800.82	7,800.00	17.39	602.11	-169.87	-1,323.65	-236.57	1,344.62	1,136.79	207.83	6.470	
7,900.00	7,900.00	7,900.87	7,900.00	17.82	616.44	-169.87	-1,323.65	-236.57	1,344.82	1,133.46	211.18	6.368	
8,000.00	8,000.00	8,000.87	8,000.00	17.84	630.19	-169.87	-1,323.65	-236.57	1,344.62	1,130.18	214.44	6.270	
8,100.00	8,100.00	8,100.87	8,100.00	18.07	643.95	-169.87	-1,323.65	-236.57	1,344.62	1,126.90	217.72	6.178	
8,166.34	8,166.34	8,167.21	8,166.34	18.21	653.07	-169.87	-1,323.65	-236.57	1,344.62	1,124.73	219.89	6.115	
8,200.00	8,200.00	8,200.00	8,199.03	18.29	657.58	-169.87	-1,323.65	-236.57	1,344.62	1,123.65	220.97	6.085	
8,300.00	8,300.00	8,200.00	8,199.03	18.52	657.58	-169.87	-1,323.65	-236.57	1,348.41	1,127.21	221.20	6.096	
8,357.04	8,357.04	8,200.00	8,199.03	18.84	657.58	-169.87	-1,323.65	-236.57	1,353.87	1,132.55	221.33	6.117	
8,400.00	8,399.96	8,200.00	8,199.03	18.73	657.58	10.44	-1,323.65	-236.57	1,357.98	1,139.25	218.73	6.208	
8,450.00	8,449.59	8,200.00	8,199.03	18.81	657.58	10.40	-1,323.65	-236.57	1,360.49	1,142.97	217.53	6.254	
8,500.00	8,498.52	8,200.00	8,199.03	18.90	657.58	10.40	-1,323.65	-236.57	1,360.55	1,145.04	215.51	6.313	
8,550.00	8,546.37	8,200.00	8,199.03	18.98	657.58	10.44	-1,323.65	-236.57	1,358.15	1,145.42	212.73	6.384	
8,600.00	8,592.78	8,200.00	8,199.03	19.06	657.58	10.53	-1,323.65	-236.57	1,353.31	1,144.03	209.28	6.466	
8,650.00	8,637.40	8,200.00	8,199.03	19.15	657.58	10.67	-1,323.65	-236.57	1,346.03	1,140.74	205.29	6.557	
8,700.00	8,679.88	8,200.00	8,199.03	19.23	657.58	10.85	-1,323.65	-236.57	1,336.32	1,135.40	200.92	6.651	
8,750.00	8,719.91	8,200.00	8,199.03	19.35	657.58	11.09	-1,323.65	-236.57	1,324.22	1,127.82	196.40	6.743	
8,800.00	8,757.17	8,200.00	8,199.03	19.48	657.58	11.38	-1,323.65	-236.57	1,309.74	1,117.74	192.00	6.821	
8,850.00	8,791.39	8,200.00	8,199.03	19.63	657.58	11.74	-1,323.65	-236.57	1,292.92	1,104.85	188.07	6.875	
8,900.00	8,822.31	8,200.00	8,199.03	19.81	657.58	12.17	-1,323.65	-236.57	1,273.80	1,088.80	185.00	6.885	
8,950.00	8,849.68	8,200.00	8,199.03	20.01	657.58	12.68	-1,323.65	-236.57	1,252.43	1,069.20	183.23	6.835	
9,000.00	8,873.30	8,200.00	8,199.03	20.25	657.58	13.28	-1,323.65	-236.57	1,228.84	1,045.61	183.23	6.707	
9,050.00	8,893.00	8,200.00	8,199.03	20.52	657.58	13.99	-1,323.65	-236.57	1,203.10	1,017.62	185.47	6.487	
9,100.00	8,908.61	8,200.00	8,199.03	20.83	657.58	14.82	-1,323.65	-236.57	1,175.26	984.88	190.41	6.172	
9,150.00	8,920.03	8,200.00	8,199.03	21.17	657.58	15.80	-1,323.65	-236.57	1,145.40	946.99	198.41	5.773	
9,200.00	8,927.16	8,200.00	8,199.03	21.54	657.58	16.97	-1,323.65	-236.57	1,113.59	903.81	209.79	5.308	
9,250.00	8,929.95	8,200.00	8,199.03	21.93	657.58	18.35	-1,323.65	-236.57	1,079.91	855.11	224.80	4.804	
9,256.50	8,930.00	8,200.00	8,199.03	21.99	657.58	18.55	-1,323.65	-236.57	1,075.40	848.37	227.03	4.737	
9,300.00	8,930.04	8,200.00	8,199.03	22.36	657.58	18.55	-1,323.65	-236.57	1,045.57	818.39	227.18	4.602	
9,400.00	8,930.13	8,200.00	8,199.03	23.29	657.58	18.55	-1,323.65	-236.57	980.88	753.33	227.56	4.311	
9,500.00	8,930.23	8,200.00	8,199.03	24.33	657.58	18.55	-1,323.65	-236.57	922.53	694.54	227.98	4.046	
9,600.00	8,930.32	8,200.00	8,199.03	25.45	657.58	18.55	-1,323.65	-236.57	871.76	643.31	228.45	3.816	
9,700.00	8,930.42	8,200.00	8,199.03	26.66	657.58	18.55	-1,323.65	-236.57	829.99	601.03	228.97	3.625	
9,800.00	8,930.51	8,200.00	8,199.03	27.93	657.58	18.55	-1,323.65	-236.57	798.63	569.11	229.52	3.480	
9,900.00	8,930.61	8,200.00	8,199.03	29.26	657.58	18.55	-1,323.65	-236.57	778.93	548.82	230.11	3.365	
10,000.00	8,930.70	8,200.00	8,199.03	30.64	657.58	18.55	-1,323.65	-236.57	771.78	541.06	230.72	3.345	
10,005.41	8,930.71	8,200.00	8,199.03	30.72	657.58	18.55	-1,323.65	-236.57	771.76	541.01	230.75	3.345 CC, ES, SF	
10,100.00	8,930.80	8,200.00	8,199.03	32.07	657.58	18.55	-1,323.65	-236.57	777.54	546.17	231.36	3.361	
10,200.00	8,930.89	8,200.00	8,199.03	33.54	657.58	18.55	-1,323.65	-236.57	795.91	563.89	232.03	3.430	
10,300.00	8,930.99	8,200.00	8,199.03	35.04	657.58	18.55	-1,323.65	-236.57	826.07	593.36	232.71	3.550	
10,400.00	8,931.08	8,200.00	8,199.03	36.57	657.58	18.55	-1,323.65	-236.57	868.79	633.37	233.42	3.713	
10,500.00	8,931.18	8,200.00	8,199.03	38.12	657.58	18.55	-1,323.65	-236.57	916.64	682.50	234.14	3.915	
10,600.00	8,931.27	8,200.00	8,199.03	39.71	657.58	18.55	-1,323.65	-236.57	974.24	739.37	234.88	4.148	
10,700.00	8,931.37	8,200.00	8,199.03	41.31	657.58	18.55	-1,323.65	-236.57	1,038.30	802.68	235.83	4.407	
10,800.00	8,931.46	8,200.00	8,199.03	42.93	657.58	18.55	-1,323.65	-236.57	1,107.70	871.31	236.39	4.686	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 usft
Survey Program: 90-INC														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)	Separation Factor	Warning		
10,900.00	8,931.55	8,200.00	8,199.03	44.56	657.58	18.55	-1,323.65	-236.57	1,181.49	944.33	237.16	4.982			
11,000.00	8,931.65	8,200.00	8,199.03	46.21	657.58	18.55	-1,323.65	-236.57	1,258.90	1,020.96	237.94	5.291			
11,100.00	8,931.74	8,200.00	8,199.03	47.88	657.58	18.55	-1,323.65	-236.57	1,339.31	1,100.57	238.73	5.610			
11,200.00	8,931.84	8,200.00	8,199.03	49.55	657.58	18.55	-1,323.65	-236.57	1,422.20	1,182.67	239.53	5.937			
11,300.00	8,931.93	8,200.00	8,199.03	51.24	657.58	18.55	-1,323.65	-236.57	1,507.18	1,266.84	240.34	6.271			
11,400.00	8,932.03	8,200.00	8,199.03	52.93	657.58	18.55	-1,323.65	-236.57	1,593.89	1,352.74	241.15	6.610			
11,500.00	8,932.12	8,200.00	8,199.03	54.64	657.58	18.55	-1,323.65	-236.57	1,682.09	1,440.12	241.97	6.952			
11,600.00	8,932.22	8,200.00	8,199.03	56.35	657.58	18.55	-1,323.65	-236.57	1,771.53	1,528.74	242.79	7.297			
11,700.00	8,932.31	8,200.00	8,199.03	58.07	657.58	18.55	-1,323.65	-236.57	1,862.06	1,618.44	243.62	7.643			
11,800.00	8,932.41	8,200.00	8,199.03	59.80	657.58	18.55	-1,323.65	-236.57	1,953.50	1,709.05	244.45	7.991			
11,900.00	8,932.50	8,200.00	8,199.03	61.53	657.58	18.55	-1,323.65	-236.57	2,045.75	1,800.46	245.29	8.340			
12,000.00	8,932.60	8,200.00	8,199.03	63.27	657.58	18.55	-1,323.65	-236.57	2,138.69	1,892.56	246.13	8.689			
12,100.00	8,932.69	8,200.00	8,199.03	65.01	657.58	18.55	-1,323.65	-236.57	2,232.25	1,985.27	246.98	9.038			
12,200.00	8,932.79	8,200.00	8,199.03	66.76	657.58	18.55	-1,323.65	-236.57	2,326.34	2,078.51	247.82	9.387			
12,300.00	8,932.88	8,200.00	8,199.03	68.51	657.58	18.55	-1,323.65	-236.57	2,420.90	2,172.23	248.67	9.735			
12,400.00	8,932.98	8,200.00	8,199.03	70.26	657.58	18.55	-1,323.65	-236.57	2,515.89	2,268.38	249.53	10.083			
12,500.00	8,933.07	8,200.00	8,199.03	72.02	657.58	18.55	-1,323.65	-236.57	2,611.24	2,360.86	250.38	10.429			
12,600.00	8,933.17	8,200.00	8,199.03	73.79	657.58	18.55	-1,323.65	-236.57	2,706.94	2,455.70	251.24	10.774			
12,700.00	8,933.26	8,200.00	8,199.03	75.55	657.58	18.55	-1,323.65	-236.57	2,802.93	2,550.83	252.10	11.118			
12,800.00	8,933.36	8,200.00	8,199.03	77.32	657.58	18.55	-1,323.65	-236.57	2,899.20	2,646.23	252.97	11.461			
12,900.00	8,933.45	8,200.00	8,199.03	79.09	657.58	18.55	-1,323.65	-236.57	2,995.71	2,741.88	253.83	11.802			
13,000.00	8,933.54	8,200.00	8,199.03	80.87	657.58	18.55	-1,323.65	-236.57	3,092.44	2,837.74	254.70	12.142			
13,100.00	8,933.64	8,200.00	8,199.03	82.65	657.58	18.55	-1,323.65	-236.57	3,189.37	2,933.81	255.57	12.480			
13,200.00	8,933.73	8,200.00	8,199.03	84.42	657.58	18.55	-1,323.65	-236.57	3,286.49	3,030.05	256.44	12.816			
13,300.00	8,933.83	8,200.00	8,199.03	86.21	657.58	18.55	-1,323.65	-236.57	3,383.78	3,126.47	257.31	13.151			
13,400.00	8,933.92	8,200.00	8,199.03	87.99	657.58	18.55	-1,323.65	-236.57	3,481.22	3,223.03	258.18	13.484			
13,500.00	8,934.02	8,200.00	8,199.03	89.78	657.58	18.55	-1,323.65	-236.57	3,578.80	3,319.74	259.06	13.815			
13,600.00	8,934.11	8,200.00	8,199.03	91.56	657.58	18.55	-1,323.65	-236.57	3,676.51	3,416.57	259.93	14.144			
13,700.00	8,934.21	8,200.00	8,199.03	93.35	657.58	18.55	-1,323.65	-236.57	3,774.34	3,513.53	260.81	14.472			
13,800.00	8,934.30	8,200.00	8,199.03	95.14	657.58	18.55	-1,323.65	-236.57	3,872.28	3,610.59	261.69	14.797			
13,900.00	8,934.40	8,200.00	8,199.03	96.93	657.58	18.55	-1,323.65	-236.57	3,970.32	3,707.76	262.57	15.121			
14,000.00	8,934.49	8,200.00	8,199.03	98.73	657.58	18.55	-1,323.65	-236.57	4,068.46	3,805.01	263.45	15.443			
14,100.00	8,934.59	8,200.00	8,199.03	100.52	657.58	18.55	-1,323.65	-236.57	4,166.69	3,902.38	264.33	15.763			
14,200.00	8,934.68	8,200.00	8,199.03	102.32	657.58	18.55	-1,323.65	-236.57	4,265.00	3,999.79	265.21	16.082			
14,300.00	8,934.78	8,200.00	8,199.03	104.11	657.58	18.55	-1,323.65	-236.57	4,363.38	4,097.29	266.09	16.398			
14,400.00	8,934.87	8,200.00	8,199.03	105.91	657.58	18.55	-1,323.65	-236.57	4,461.84	4,194.87	266.97	16.713			
14,500.00	8,934.97	8,200.00	8,199.03	107.71	657.58	18.55	-1,323.65	-236.57	4,560.37	4,292.51	267.86	17.025			
14,600.00	8,935.06	8,200.00	8,199.03	109.51	657.58	18.55	-1,323.65	-236.57	4,658.96	4,390.21	268.74	17.336			
14,700.00	8,935.16	8,200.00	8,199.03	111.31	657.58	18.55	-1,323.65	-236.57	4,757.60	4,487.97	269.63	17.645			
14,800.00	8,935.25	8,200.00	8,199.03	113.12	657.58	18.55	-1,323.65	-236.57	4,856.31	4,585.79	270.52	17.952			
14,900.00	8,935.35	8,200.00	8,199.03	114.92	657.58	18.55	-1,323.65	-236.57	4,955.06	4,683.66	271.40	18.257			
15,000.00	8,935.44	8,200.00	8,199.03	116.72	657.58	18.55	-1,323.65	-236.57	5,053.86	4,781.57	272.29	18.561			
15,100.00	8,935.53	8,200.00	8,199.03	118.53	657.58	18.55	-1,323.65	-236.57	5,152.71	4,879.54	273.18	18.862			
15,200.00	8,935.63	8,200.00	8,199.03	120.33	657.58	18.55	-1,323.65	-236.57	5,251.61	4,977.54	274.07	19.162			
15,300.00	8,935.72	8,200.00	8,199.03	122.14	657.58	18.55	-1,323.65	-236.57	5,350.54	5,075.59	274.96	19.460			
15,400.00	8,935.82	8,200.00	8,199.03	123.95	657.58	18.55	-1,323.65	-236.57	5,449.52	5,173.67	275.85	19.756			
15,500.00	8,935.91	8,200.00	8,199.03	125.76	657.58	18.55	-1,323.65	-236.57	5,548.53	5,271.79	276.74	20.050			
15,600.00	8,936.01	8,200.00	8,199.03	127.56	657.58	18.55	-1,323.65	-236.57	5,647.57	5,369.94	277.63	20.342			
15,700.00	8,936.10	8,200.00	8,199.03	129.37	657.58	18.55	-1,323.65	-236.57	5,746.65	5,468.13	278.52	20.633			
15,800.00	8,936.20	8,200.00	8,199.03	131.18	657.58	18.55	-1,323.65	-236.57	5,845.76	5,566.35	279.41	20.922			
15,900.00	8,936.29	8,200.00	8,199.03	132.99	657.58	18.55	-1,323.65	-236.57	5,944.90	5,664.60	280.30	21.209			
16,000.00	8,936.39	8,200.00	8,199.03	134.80	657.58	18.55	-1,323.65	-236.57	6,044.07	5,762.87	281.20	21.494			

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	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		New Potato 11 Fed Com - HB 11 Fed 2 (offset) - 2 - 2										Offset Site Error:	0.00 usft
Survey Program:		90-INC										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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,100.00	8,936.48	8,200.00	8,199.03	136.62	657.58	18.55	-1,323.65	-236.57	6,143.26	5,861.17	282.09	21.778	
16,200.00	8,936.58	8,200.00	8,199.03	138.43	657.58	18.55	-1,323.65	-236.57	6,242.48	5,959.50	282.98	22.060	
16,300.00	8,936.67	8,200.00	8,199.03	140.24	657.58	18.55	-1,323.65	-236.57	6,341.73	6,057.85	283.87	22.340	
16,400.00	8,936.77	8,200.00	8,199.03	142.05	657.58	18.55	-1,323.65	-236.57	6,440.99	6,156.23	284.77	22.618	
16,500.00	8,936.86	8,200.00	8,199.03	143.87	657.58	18.55	-1,323.65	-236.57	6,540.28	6,254.62	285.66	22.895	
16,600.00	8,936.96	8,200.00	8,199.03	145.68	657.58	18.55	-1,323.65	-236.57	6,639.60	6,353.04	286.56	23.170	
16,646.85	8,937.00	8,200.00	8,199.03	146.53	657.58	18.55	-1,323.65	-236.57	6,686.13	6,399.15	286.98	23.299	

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db.
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

New Potato 11 Fed Com - Ore Ida 14 Fed 1 (offset) - 1 - 1												Offset Site Error:	0.00 usft
Survey Program: 373-INC												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	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-177.69	-3,633.18	-146.73	3,636.14				
100.00	100.00	100.00	100.00	0.08	3.05	-177.69	-3,633.18	-146.73	3,636.14	3,634.72	1.42	2,556.222	
200.00	200.00	200.00	200.00	0.31	6.10	-177.69	-3,633.18	-146.73	3,636.14	3,633.16	2.99	1,218.051	
300.00	300.00	300.00	300.00	0.53	9.14	-177.69	-3,633.18	-146.73	3,636.14	3,631.60	4.55	799.511	
400.00	400.00	400.00	400.00	0.76	12.58	-177.69	-3,633.18	-146.73	3,636.14	3,629.89	6.25	581.776	
500.00	500.00	500.00	500.00	0.98	17.09	-177.69	-3,633.18	-146.73	3,636.14	3,627.81	8.33	436.564	
600.00	600.00	600.00	600.00	1.21	21.60	-177.69	-3,633.18	-146.73	3,636.14	3,625.74	10.41	349.362	
700.00	700.00	700.00	700.00	1.43	26.10	-177.69	-3,633.18	-146.73	3,636.14	3,623.66	12.49	291.197	
800.00	800.00	800.00	800.00	1.66	30.61	-177.69	-3,633.18	-146.73	3,636.14	3,621.58	14.57	249.635	
900.00	900.00	900.00	900.00	1.88	35.13	-177.69	-3,633.18	-146.73	3,636.14	3,619.46	16.88	217.959	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	39.70	-177.69	-3,633.18	-146.73	3,636.14	3,617.24	18.91	192.334	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	44.27	-177.69	-3,633.18	-146.73	3,636.14	3,615.02	21.13	172.100	
1,200.00	1,200.00	1,200.00	1,200.00	2.56	48.83	-177.69	-3,633.18	-146.73	3,636.14	3,612.79	23.35	155.718	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	53.40	-177.69	-3,633.18	-146.73	3,636.14	3,610.57	25.57	142.184	
1,400.00	1,400.00	1,400.00	1,400.00	3.01	57.97	-177.69	-3,633.18	-146.73	3,636.14	3,608.35	27.80	130.814	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	62.54	-177.69	-3,633.18	-146.73	3,636.14	3,606.12	30.02	121.128	
1,600.00	1,600.00	1,600.00	1,600.00	3.46	67.10	-177.69	-3,633.18	-146.73	3,636.14	3,603.90	32.24	112.778	
1,700.00	1,700.00	1,700.00	1,700.00	3.68	71.67	-177.69	-3,633.18	-146.73	3,636.14	3,601.68	34.46	105.504	
1,800.00	1,800.00	1,857.00	1,856.96	3.91	76.24	-177.69	-3,633.18	-146.73	3,636.59	3,598.76	37.83	96.141	
1,877.45	1,877.45	1,877.49	1,877.45	4.08	80.05	-177.69	-3,633.18	-146.73	3,636.14	3,597.69	38.45	94.572	
1,900.00	1,900.00	1,900.04	1,900.00	4.13	81.37	-177.69	-3,633.18	-146.73	3,636.14	3,597.15	38.99	93.252	
2,000.00	2,000.00	2,000.04	2,000.00	4.35	87.26	-177.69	-3,633.18	-146.73	3,636.14	3,594.74	41.41	87.814	
2,100.00	2,100.00	2,100.04	2,100.00	4.58	93.15	-177.69	-3,633.18	-146.73	3,636.14	3,592.32	43.82	82.976	
2,200.00	2,200.00	2,200.04	2,200.00	4.80	99.04	-177.69	-3,633.18	-146.73	3,636.14	3,589.91	46.24	78.643	
2,300.00	2,300.00	2,353.00	2,352.94	5.03	108.05	-177.69	-3,633.18	-146.73	3,636.53	3,586.72	49.81	73.007	
2,370.83	2,370.83	2,370.89	2,370.83	5.19	109.21	-177.69	-3,633.18	-146.73	3,636.14	3,585.79	50.35	72.217	
2,400.00	2,400.00	2,400.06	2,400.00	5.25	111.11	-177.69	-3,633.18	-146.73	3,636.14	3,585.11	51.04	71.247	
2,500.00	2,500.00	2,500.06	2,500.00	5.48	117.60	-177.69	-3,633.18	-146.73	3,636.14	3,582.76	53.39	68.110	
2,600.00	2,600.00	2,600.06	2,600.00	5.70	124.10	-177.69	-3,633.18	-146.73	3,636.14	3,580.41	55.74	65.237	
2,700.00	2,700.00	2,700.06	2,700.00	5.93	130.59	-177.69	-3,633.18	-146.73	3,636.14	3,578.05	58.09	62.597	
2,800.00	2,800.00	2,826.00	2,825.91	6.15	138.77	-177.69	-3,633.18	-146.73	3,636.24	3,575.24	60.99	59.618	
2,844.99	2,844.99	2,845.08	2,844.99	6.25	140.25	-177.69	-3,633.18	-146.73	3,636.14	3,574.66	61.48	59.143	
2,900.00	2,900.00	2,900.09	2,900.00	6.38	144.50	-177.69	-3,633.18	-146.73	3,636.14	3,573.42	62.72	57.971	
3,000.00	3,000.00	3,000.10	3,000.00	6.60	152.23	-177.69	-3,633.18	-146.73	3,636.14	3,571.16	64.98	55.955	
3,100.00	3,100.00	3,100.10	3,100.00	6.83	158.05	-177.69	-3,633.18	-146.73	3,636.14	3,568.95	67.19	54.115	
3,200.00	3,200.00	3,200.10	3,200.00	7.05	163.87	-177.69	-3,633.18	-146.73	3,636.14	3,566.74	69.40	52.392	
3,300.00	3,300.00	3,300.10	3,300.00	7.28	169.69	-177.69	-3,633.18	-146.73	3,636.14	3,564.53	71.61	50.775	
3,400.00	3,400.00	3,400.10	3,400.00	7.50	175.51	-177.69	-3,633.18	-146.73	3,636.14	3,562.32	73.82	49.255	
3,500.00	3,500.00	3,500.16	3,500.00	7.73	181.09	-177.69	-3,633.18	-146.73	3,636.14	3,560.11	76.03	47.822	
3,600.00	3,600.00	3,600.16	3,600.00	7.95	185.64	-177.69	-3,633.18	-146.73	3,636.14	3,557.90	78.25	46.470	
3,700.00	3,700.00	3,700.16	3,700.00	8.18	190.20	-177.69	-3,633.18	-146.73	3,636.14	3,555.68	80.46	45.191	
3,800.00	3,800.00	3,800.16	3,800.00	8.40	194.75	-177.69	-3,633.18	-146.73	3,636.14	3,553.47	82.67	43.982	
3,900.00	3,900.00	3,900.16	3,900.00	8.63	199.31	-177.69	-3,633.18	-146.73	3,636.14	3,551.26	84.89	42.835	
4,000.00	4,000.00	4,000.16	4,000.00	8.85	203.86	-177.69	-3,633.18	-146.73	3,636.14	3,549.04	87.10	41.746	
4,100.00	4,100.00	4,100.16	4,100.00	9.07	208.42	-177.69	-3,633.18	-146.73	3,636.14	3,546.82	89.32	40.708	
4,200.00	4,200.00	4,200.16	4,200.00	9.30	212.98	-177.69	-3,633.18	-146.73	3,636.14	3,544.60	91.54	39.720	
4,300.00	4,300.00	4,300.18	4,300.00	9.52	217.54	-177.69	-3,633.18	-146.73	3,636.14	3,542.38	93.76	38.780	
4,400.00	4,400.00	4,400.18	4,400.00	9.75	222.10	-177.69	-3,633.18	-146.73	3,636.14	3,540.16	95.98	37.883	
4,500.00	4,500.00	4,500.19	4,500.00	9.97	226.41	-177.69	-3,633.18	-146.73	3,636.14	3,537.94	98.20	37.026	
4,600.00	4,600.00	4,600.19	4,600.00	10.20	229.72	-177.69	-3,633.18	-146.73	3,636.14	3,535.72	100.42	36.208	
4,700.00	4,700.00	4,700.19	4,700.00	10.42	233.02	-177.69	-3,633.18	-146.73	3,636.14	3,533.50	102.64	35.428	
4,800.00	4,800.00	4,800.19	4,800.00	10.65	236.32	-177.69	-3,633.18	-146.73	3,636.14	3,531.28	104.86	34.676	

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	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset-TVD Reference:	Offset Datum

Offset Design: New Potato 11 Fed Com - Ore Ida 14 Fed 1 (offset) - 1 - 1													Offset Site Error:
Survey Program: 373-INC													Offset Well Error:
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
4,900.00	4,900.00	4,900.19	4,900.00	10.87	239.63	-177.69	-3,633.18	-146.73	3,636.14	3,529.06	107.08	33.958	
5,000.00	5,000.00	5,000.19	5,000.00	11.10	243.19	-177.69	-3,633.18	-146.73	3,636.14	3,526.83	109.31	33.265	
5,100.00	5,100.00	5,100.19	5,100.00	11.32	248.41	-177.69	-3,633.18	-146.73	3,636.14	3,524.53	111.61	32.578	
5,200.00	5,200.00	5,200.19	5,200.00	11.55	253.63	-177.69	-3,633.18	-146.73	3,636.14	3,522.23	113.92	31.920	
5,300.00	5,300.00	5,300.19	5,300.00	11.77	258.86	-177.69	-3,633.18	-146.73	3,636.14	3,519.92	116.22	31.287	
5,400.00	5,400.00	5,400.19	5,400.00	12.00	264.08	-177.69	-3,633.18	-146.73	3,636.14	3,517.62	118.52	30.679	
5,500.00	5,500.00	5,500.20	5,500.00	12.22	269.55	-177.69	-3,633.18	-146.73	3,636.14	3,515.32	120.82	30.094	
5,600.00	5,600.00	5,600.20	5,600.00	12.45	276.66	-177.69	-3,633.18	-146.73	3,636.14	3,513.02	123.13	29.532	
5,700.00	5,700.00	5,700.20	5,700.00	12.67	283.77	-177.69	-3,633.18	-146.73	3,636.14	3,510.72	125.43	28.990	
5,800.00	5,800.00	5,800.20	5,800.00	12.90	290.88	-177.69	-3,633.18	-146.73	3,636.14	3,508.42	127.73	28.468	
5,900.00	5,900.00	5,960.00	5,959.76	13.12	302.23	-177.69	-3,633.18	-146.73	3,636.63	3,505.36	131.27	27.703	
5,982.84	5,982.84	5,983.08	5,982.84	13.31	303.72	-177.69	-3,633.18	-146.73	3,636.14	3,504.22	131.92	27.563	
6,000.00	6,000.00	6,000.24	6,000.00	13.35	304.83	-177.69	-3,633.18	-146.73	3,636.14	3,503.84	132.30	27.483	
6,100.00	6,100.00	6,100.24	6,100.00	13.57	311.29	-177.69	-3,633.18	-146.73	3,636.14	3,501.60	134.54	27.027	
6,200.00	6,200.00	6,200.24	6,200.00	13.80	317.75	-177.69	-3,633.18	-146.73	3,636.14	3,499.37	136.77	26.585	
6,300.00	6,300.00	6,300.24	6,300.00	14.02	324.21	-177.69	-3,633.18	-146.73	3,636.14	3,497.13	139.01	26.158	
6,400.00	6,400.00	6,459.00	6,458.72	14.24	334.46	-177.69	-3,633.18	-146.73	3,636.62	3,494.19	142.43	25.534	
6,480.76	6,480.76	6,481.03	6,480.76	14.43	336.03	-177.69	-3,633.18	-146.73	3,636.14	3,493.09	143.05	25.419	
6,500.00	6,500.00	6,500.28	6,500.00	14.47	337.39	-177.69	-3,633.18	-146.73	3,636.14	3,492.66	143.48	25.342	
6,600.00	6,600.00	6,600.28	6,600.00	14.69	344.49	-177.69	-3,633.18	-146.73	3,636.14	3,490.42	145.72	24.952	
6,700.00	6,700.00	6,745.00	6,744.71	14.92	354.76	-177.69	-3,633.18	-146.73	3,636.42	3,487.55	148.87	24.427	
6,760.29	6,760.29	6,760.58	6,760.29	15.05	356.27	-177.69	-3,633.18	-146.73	3,636.14	3,486.82	149.33	24.350	
6,800.00	6,800.00	6,800.29	6,800.00	15.14	360.12	-177.69	-3,633.18	-146.73	3,636.14	3,485.90	150.25	24.201	
6,900.00	6,900.00	6,900.29	6,900.00	15.37	369.80	-177.69	-3,633.18	-146.73	3,636.14	3,483.59	152.56	23.835	
7,000.00	7,000.00	7,000.29	7,000.00	15.59	379.48	-177.69	-3,633.18	-146.73	3,636.14	3,481.28	154.87	23.479	
7,100.00	7,100.00	7,100.29	7,100.00	15.82	389.16	-177.69	-3,633.18	-146.73	3,636.14	3,478.96	157.18	23.134	
7,200.00	7,200.00	7,243.00	7,242.65	16.04	402.97	-177.69	-3,633.18	-146.73	3,636.39	3,478.01	160.38	22.673	
7,258.12	7,258.12	7,258.47	7,258.12	16.17	405.07	-177.69	-3,633.18	-146.73	3,636.14	3,475.30	160.84	22.607	
7,300.00	7,300.00	7,300.35	7,300.00	16.27	410.75	-177.69	-3,633.18	-146.73	3,636.14	3,474.33	161.82	22.471	
7,400.00	7,400.00	7,400.35	7,400.00	16.49	424.33	-177.69	-3,633.18	-146.73	3,636.14	3,472.00	164.15	22.152	
7,500.00	7,500.00	7,500.35	7,500.00	16.72	437.91	-177.69	-3,633.18	-146.73	3,636.14	3,469.87	166.48	21.842	
7,600.00	7,600.00	7,715.00	7,714.56	16.94	467.05	-177.69	-3,633.18	-146.73	3,637.95	3,466.72	171.23	21.246	
7,700.00	7,700.00	7,715.00	7,714.56	17.17	467.05	-177.69	-3,633.18	-146.73	3,636.17	3,464.72	171.45	21.208	
7,739.01	7,739.01	7,739.46	7,739.01	17.25	470.55	-177.69	-3,633.18	-146.73	3,636.14	3,464.10	172.04	21.135	
7,800.00	7,800.00	7,800.44	7,800.00	17.39	479.25	-177.69	-3,633.18	-146.73	3,636.14	3,462.70	173.44	20.985	
7,900.00	7,900.00	7,900.44	7,900.00	17.62	493.53	-177.69	-3,633.18	-146.73	3,636.14	3,460.41	175.73	20.691	
8,000.00	8,000.00	8,000.44	8,000.00	17.84	507.81	-177.69	-3,633.18	-146.73	3,636.14	3,458.12	178.03	20.425	
8,066.46	8,066.46	8,066.90	8,066.46	17.99	517.30	-177.69	-3,633.18	-146.73	3,636.14	3,456.59	179.55	20.251	
8,100.00	8,100.00	8,100.00	8,099.38	18.07	522.02	-177.69	-3,633.18	-146.73	3,636.14	3,455.83	180.31	20.166	
8,200.00	8,200.00	8,100.00	8,099.38	18.29	522.02	-177.69	-3,633.18	-146.73	3,637.54	3,457.00	180.54	20.149	
8,300.00	8,300.00	8,100.00	8,099.38	18.52	522.02	-177.69	-3,633.18	-146.73	3,641.67	3,460.91	180.76	20.146	
8,357.04	8,357.04	8,100.00	8,099.38	18.64	522.02	-177.69	-3,633.18	-146.73	3,645.26	3,464.37	180.89	20.152	
8,400.00	8,399.96	8,100.00	8,099.38	18.73	522.02	2.69	-3,633.18	-146.73	3,646.94	3,466.36	180.58	20.195	
8,450.00	8,449.59	8,100.00	8,099.38	18.81	522.02	2.70	-3,633.18	-146.73	3,645.49	3,466.12	179.37	20.324	
8,500.00	8,498.52	8,100.00	8,099.38	18.90	522.02	2.72	-3,633.18	-146.73	3,640.37	3,463.50	176.87	20.582	
8,550.00	8,546.37	8,100.00	8,099.38	18.98	522.02	2.77	-3,633.18	-146.73	3,631.61	3,458.49	173.12	20.978	
8,600.00	8,592.78	8,100.00	8,099.38	19.06	522.02	2.83	-3,633.18	-146.73	3,619.24	3,451.10	168.15	21.524	
8,650.00	8,637.40	8,100.00	8,099.38	19.15	522.02	2.91	-3,633.18	-146.73	3,603.34	3,441.31	162.03	22.239	
8,700.00	8,679.88	8,100.00	8,099.38	19.23	522.02	3.02	-3,633.18	-146.73	3,583.97	3,429.13	154.83	23.147	
8,750.00	8,719.91	8,100.00	8,099.38	19.35	522.02	3.16	-3,633.18	-146.73	3,561.22	3,414.56	146.86	24.282	
8,800.00	8,757.17	8,100.00	8,099.38	19.48	522.02	3.33	-3,633.18	-146.73	3,535.20	3,397.58	137.64	25.684	
8,850.00	8,791.39	8,100.00	8,099.38	19.63	522.02	3.55	-3,633.18	-146.73	3,506.05	3,378.08	127.96	27.399	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	1H.OH	Database:	EDM 5000:1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: New Potato 11 Fed Com - Ore Ida 14 Fed 1 (offset) - 1 - 1													Offset Site Error:	0.00 usft
Survey Program: 373-INC													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
8,900.00	8,822.31	8,100.00	8,099.38	19.81	522.02	3.82	-3,633.18	-146.73	3,473.90	3,356.02	117.88	29.470		
8,950.00	8,849.68	8,100.00	8,099.38	20.01	522.02	4.16	-3,633.18	-146.73	3,438.92	3,331.16	107.77	31.911		
9,000.00	8,873.30	8,100.00	8,099.38	20.25	522.02	4.59	-3,633.18	-146.73	3,401.30	3,303.06	98.24	34.622		
9,050.00	8,893.00	8,100.00	8,099.38	20.52	522.02	5.16	-3,633.18	-146.73	3,361.24	3,270.92	90.32	37.215		
9,100.00	8,908.61	8,100.00	8,099.38	20.83	522.02	5.93	-3,633.18	-146.73	3,318.96	3,233.31	85.65	38.750		
9,150.00	8,920.03	8,100.00	8,099.38	21.17	522.02	7.00	-3,633.18	-146.73	3,274.69	3,188.07	86.63	37.802		
9,200.00	8,927.16	8,100.00	8,099.38	21.54	522.02	8.59	-3,633.18	-146.73	3,228.72	3,132.57	96.14	33.583		
9,250.00	8,929.95	8,100.00	8,099.38	21.93	522.02	11.16	-3,633.18	-146.73	3,181.31	3,063.30	118.00	26.959		
9,256.50	8,930.00	8,100.00	8,099.38	21.99	522.02	11.61	-3,633.18	-146.73	3,175.06	3,052.96	122.10	26.004		
9,300.00	8,930.04	8,100.00	8,099.38	22.38	522.02	11.61	-3,633.18	-146.73	3,133.17	3,010.95	122.22	25.636		
9,400.00	8,930.13	8,100.00	8,099.38	23.29	522.02	11.61	-3,633.18	-146.73	3,037.05	2,914.52	122.53	24.786		
9,500.00	8,930.23	8,100.00	8,099.38	24.33	522.02	11.81	-3,633.18	-146.73	2,941.18	2,818.30	122.89	23.934		
9,600.00	8,930.32	8,100.00	8,099.38	25.45	522.02	11.61	-3,633.18	-146.73	2,845.61	2,722.32	123.29	23.082		
9,700.00	8,930.42	8,100.00	8,099.38	26.66	522.02	11.61	-3,633.18	-146.73	2,750.35	2,626.62	123.72	22.230		
9,800.00	8,930.51	8,100.00	8,099.38	27.93	522.02	11.61	-3,633.18	-146.73	2,655.43	2,531.24	124.19	21.382		
9,900.00	8,930.61	8,100.00	8,099.38	29.28	522.02	11.61	-3,633.18	-146.73	2,560.91	2,436.21	124.69	20.538		
10,000.00	8,930.70	8,100.00	8,099.38	30.64	522.02	11.61	-3,633.18	-146.73	2,466.81	2,341.59	125.22	19.700		
10,100.00	8,930.80	8,100.00	8,099.38	32.07	522.02	11.61	-3,633.18	-146.73	2,373.20	2,247.43	125.77	18.869		
10,200.00	8,930.89	8,100.00	8,099.38	33.54	522.02	11.61	-3,633.18	-146.73	2,280.13	2,153.78	126.35	18.046		
10,300.00	8,930.99	8,100.00	8,099.38	35.04	522.02	11.61	-3,633.18	-146.73	2,187.68	2,060.73	126.94	17.234		
10,400.00	8,931.08	8,100.00	8,099.38	36.57	522.02	11.61	-3,633.18	-146.73	2,095.91	1,968.36	127.56	16.431		
10,500.00	8,931.18	8,100.00	8,099.38	38.12	522.02	11.61	-3,633.18	-146.73	2,004.93	1,876.75	128.18	15.641		
10,600.00	8,931.27	8,100.00	8,099.38	39.71	522.02	11.61	-3,633.18	-146.73	1,914.86	1,786.03	128.83	14.864		
10,700.00	8,931.37	8,100.00	8,099.38	41.31	522.02	11.61	-3,633.18	-146.73	1,825.81	1,696.34	129.48	14.101		
10,800.00	8,931.46	8,100.00	8,099.38	42.93	522.02	11.61	-3,633.18	-146.73	1,737.96	1,607.82	130.15	13.354		
10,900.00	8,931.55	8,100.00	8,099.38	44.56	522.02	11.61	-3,633.18	-146.73	1,651.50	1,520.67	130.82	12.624		
11,000.00	8,931.65	8,100.00	8,099.38	46.21	522.02	11.61	-3,633.18	-146.73	1,566.84	1,435.13	131.51	11.913		
11,100.00	8,931.74	8,100.00	8,099.38	47.88	522.02	11.61	-3,633.18	-146.73	1,483.67	1,351.47	132.20	11.223		
11,200.00	8,931.84	8,100.00	8,099.38	49.55	522.02	11.61	-3,633.18	-146.73	1,402.92	1,270.02	132.90	10.556		
11,300.00	8,931.93	8,100.00	8,099.38	51.24	522.02	11.61	-3,633.18	-146.73	1,324.81	1,191.20	133.61	9.915		
11,400.00	8,932.03	8,100.00	8,099.38	52.93	522.02	11.61	-3,633.18	-146.73	1,249.81	1,115.49	134.33	9.304		
11,500.00	8,932.12	8,100.00	8,099.38	54.64	522.02	11.61	-3,633.18	-146.73	1,178.54	1,043.49	135.05	8.727		
11,600.00	8,932.22	8,100.00	8,099.38	56.35	522.02	11.61	-3,633.18	-146.73	1,111.70	975.93	135.77	8.188		
11,700.00	8,932.31	8,100.00	8,099.38	58.07	522.02	11.61	-3,633.18	-146.73	1,050.14	913.64	136.50	7.693		
11,800.00	8,932.41	8,100.00	8,099.38	59.80	522.02	11.61	-3,633.18	-146.73	994.84	857.60	137.24	7.249		
11,900.00	8,932.50	8,100.00	8,099.38	61.53	522.02	11.61	-3,633.18	-146.73	946.91	808.93	137.98	6.863		
12,000.00	8,932.60	8,100.00	8,099.38	63.27	522.02	11.61	-3,633.18	-146.73	907.50	768.78	138.72	6.542		
12,100.00	8,932.69	8,100.00	8,099.38	65.01	522.02	11.61	-3,633.18	-146.73	877.77	738.30	139.47	6.294		
12,200.00	8,932.79	8,100.00	8,099.38	66.78	522.02	11.61	-3,633.18	-146.73	858.72	718.50	140.22	6.124		
12,300.00	8,932.88	8,100.00	8,099.38	68.51	522.02	11.61	-3,633.18	-146.73	851.07	710.10	140.97	6.037		
12,315.40	8,932.90	8,100.00	8,099.38	68.78	522.02	11.61	-3,633.18	-146.73	850.93	709.84	141.09	6.031 CC, ES, SF		
12,400.00	8,932.98	8,100.00	8,099.38	70.26	522.02	11.61	-3,633.18	-146.73	855.12	713.40	141.72	6.034		
12,500.00	8,933.07	8,100.00	8,099.38	72.02	522.02	11.61	-3,633.18	-146.73	870.72	728.24	142.48	6.111		
12,600.00	8,933.17	8,100.00	8,099.38	73.79	522.02	11.61	-3,633.18	-146.73	897.26	754.02	143.24	6.264		
12,700.00	8,933.26	8,100.00	8,099.38	75.55	522.02	11.61	-3,633.18	-146.73	933.80	789.80	144.00	6.485		
12,800.00	8,933.36	8,100.00	8,099.38	77.32	522.02	11.61	-3,633.18	-146.73	979.24	834.47	144.77	6.764		
12,900.00	8,933.45	8,100.00	8,099.38	79.09	522.02	11.61	-3,633.18	-146.73	1,032.39	886.85	145.54	7.094		
13,000.00	8,933.54	8,100.00	8,099.38	80.87	522.02	11.61	-3,633.18	-146.73	1,092.13	945.83	146.30	7.465		
13,100.00	8,933.64	8,100.00	8,099.38	82.65	522.02	11.61	-3,633.18	-146.73	1,157.44	1,010.37	147.07	7.870		
13,200.00	8,933.73	8,100.00	8,099.38	84.42	522.02	11.61	-3,633.18	-146.73	1,227.43	1,079.59	147.84	8.302		
13,300.00	8,933.83	8,100.00	8,099.38	86.21	522.02	11.61	-3,633.18	-146.73	1,301.35	1,152.73	148.62	8.756		
13,400.00	8,933.92	8,100.00	8,099.38	87.99	522.02	11.61	-3,633.18	-146.73	1,378.56	1,229.17	149.39	9.228		

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00' usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00' usft	Output errors are at:	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design New Potato 11 Fed Com - Ore Ida 14 Fed 1 (offset) - 1 - 1												Offset Site Error:	0.00' usft
Survey Program 373-INC												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 Footcandle (ft)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
13,500.00	8,934.02	8,100.00	8,099.38	89.78	522.02	11.61	-3,633.18	-146.73	1,458.54	1,308.38	150.17	9.713	
13,600.00	8,934.11	8,100.00	8,099.38	91.56	522.02	11.61	-3,633.18	-146.73	1,540.87	1,389.92	150.94	10.208	
13,700.00	8,934.21	8,100.00	8,099.38	93.35	522.02	11.61	-3,633.18	-146.73	1,625.17	1,473.45	151.72	10.712	
13,800.00	8,934.30	8,100.00	8,099.38	95.14	522.02	11.61	-3,633.18	-146.73	1,711.17	1,558.67	152.50	11.221	
13,900.00	8,934.40	8,100.00	8,099.38	96.93	522.02	11.61	-3,633.18	-146.73	1,798.62	1,645.34	153.28	11.734	
14,000.00	8,934.49	8,100.00	8,099.38	98.73	522.02	11.61	-3,633.18	-146.73	1,887.31	1,733.25	154.06	12.250	
14,100.00	8,934.59	8,100.00	8,099.38	100.52	522.02	11.61	-3,633.18	-146.73	1,977.08	1,822.24	154.84	12.768	
14,200.00	8,934.68	8,100.00	8,099.38	102.32	522.02	11.61	-3,633.18	-146.73	2,067.80	1,912.17	155.63	13.287	
14,300.00	8,934.78	8,100.00	8,099.38	104.11	522.02	11.61	-3,633.18	-146.73	2,159.33	2,002.92	156.41	13.806	
14,400.00	8,934.87	8,100.00	8,099.38	105.91	522.02	11.61	-3,633.18	-146.73	2,251.58	2,094.39	157.19	14.324	
14,500.00	8,934.97	8,100.00	8,099.38	107.71	522.02	11.61	-3,633.18	-146.73	2,344.47	2,186.49	157.98	14.840	
14,600.00	8,935.08	8,100.00	8,099.38	109.51	522.02	11.61	-3,633.18	-146.73	2,437.92	2,279.16	158.77	15.355	
14,700.00	8,935.16	8,100.00	8,099.38	111.31	522.02	11.61	-3,633.18	-146.73	2,531.87	2,372.32	159.55	15.869	
14,800.00	8,935.25	8,100.00	8,099.38	113.12	522.02	11.61	-3,633.18	-146.73	2,626.27	2,465.93	160.34	16.379	
14,900.00	8,935.35	8,100.00	8,099.38	114.92	522.02	11.61	-3,633.18	-146.73	2,721.07	2,559.94	161.13	16.888	
15,000.00	8,935.44	8,100.00	8,099.38	116.72	522.02	11.61	-3,633.18	-146.73	2,816.23	2,654.31	161.92	17.393	
15,100.00	8,935.53	8,100.00	8,099.38	118.53	522.02	11.61	-3,633.18	-146.73	2,911.71	2,749.01	162.71	17.896	
15,200.00	8,935.63	8,100.00	8,099.38	120.33	522.02	11.61	-3,633.18	-146.73	3,007.49	2,843.99	163.50	18.395	
15,300.00	8,935.72	8,100.00	8,099.38	122.14	522.02	11.61	-3,633.18	-146.73	3,103.53	2,939.24	164.29	18.891	
15,400.00	8,935.82	8,100.00	8,099.38	123.95	522.02	11.61	-3,633.18	-146.73	3,199.82	3,034.74	165.08	19.384	
15,500.00	8,935.91	8,100.00	8,099.38	125.76	522.02	11.61	-3,633.18	-146.73	3,296.32	3,130.46	165.87	19.873	
15,600.00	8,936.01	8,100.00	8,099.38	127.56	522.02	11.61	-3,633.18	-146.73	3,393.03	3,226.37	166.66	20.359	
15,700.00	8,936.10	8,100.00	8,099.38	129.37	522.02	11.61	-3,633.18	-146.73	3,489.93	3,322.47	167.45	20.842	
15,800.00	8,936.20	8,100.00	8,099.38	131.18	522.02	11.61	-3,633.18	-146.73	3,586.99	3,418.75	168.24	21.320	
15,900.00	8,936.29	8,100.00	8,099.38	132.99	522.02	11.61	-3,633.18	-146.73	3,684.21	3,515.18	169.04	21.795	
16,000.00	8,936.39	8,100.00	8,099.38	134.80	522.02	11.61	-3,633.18	-146.73	3,781.58	3,611.75	169.83	22.267	
16,100.00	8,936.48	8,100.00	8,099.38	136.62	522.02	11.61	-3,633.18	-146.73	3,879.08	3,708.46	170.62	22.735	
16,200.00	8,936.58	8,100.00	8,099.38	138.43	522.02	11.61	-3,633.18	-146.73	3,976.70	3,805.29	171.42	23.199	
16,300.00	8,936.67	8,100.00	8,099.38	140.24	522.02	11.61	-3,633.18	-146.73	4,074.44	3,902.23	172.21	23.660	
16,400.00	8,936.77	8,100.00	8,099.38	142.05	522.02	11.61	-3,633.18	-146.73	4,172.29	3,999.29	173.01	24.117	
16,500.00	8,936.86	8,100.00	8,099.38	143.87	522.02	11.61	-3,633.18	-146.73	4,270.24	4,096.44	173.80	24.570	
16,600.00	8,936.96	8,100.00	8,099.38	145.68	522.02	11.61	-3,633.18	-146.73	4,368.28	4,193.68	174.60	25.019	
16,646.85	8,937.00	8,100.00	8,099.38	146.53	522.02	11.61	-3,633.18	-146.73	4,414.24	4,239.27	174.97	25.229	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 usft
New Potato 11 Fed Com - Ore Ida 14 Fed 2 (offset) - 2 - 2														Offset Well Error:	0.00 usft
Survey Program: 192-INC															
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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.00	0.00	0.00	0.00	0.00	0.00	-176.62	-4,954.03	-292.93	4,962.69						
100.00	100.00	100.00	100.00	0.08	2.45	-176.62	-4,954.03	-292.93	4,962.69	4,981.26	1.42	3,487.641			
200.00	200.00	200.00	200.00	0.31	5.09	-176.62	-4,954.03	-292.93	4,962.69	4,959.60	3.08	1,610.374			
300.00	300.00	300.00	300.00	0.53	9.91	-176.62	-4,954.03	-292.93	4,962.69	4,956.85	5.84	849.879			
400.00	400.00	400.00	400.00	0.76	14.73	-176.62	-4,954.03	-292.93	4,962.69	4,954.09	8.60	577.266			
500.00	500.00	500.00	500.00	0.98	19.55	-176.62	-4,954.03	-292.93	4,962.69	4,951.33	11.35	437.069			
600.00	600.00	600.00	600.00	1.21	24.38	-176.62	-4,954.03	-292.93	4,962.69	4,948.57	14.11	351.663			
700.00	700.00	700.00	700.00	1.43	29.20	-176.62	-4,954.03	-292.93	4,962.69	4,945.82	16.87	294.178			
800.00	800.00	800.00	800.00	1.66	34.02	-176.62	-4,954.03	-292.93	4,962.69	4,943.06	19.63	252.847			
900.00	900.00	900.00	900.00	1.88	38.77	-176.62	-4,954.03	-292.93	4,962.69	4,940.45	22.24	223.146			
1,000.00	1,000.00	1,000.02	1,000.00	2.11	43.31	-176.62	-4,954.03	-292.93	4,962.69	4,938.23	24.46	202.908			
1,100.00	1,100.00	1,100.02	1,100.00	2.33	47.86	-176.62	-4,954.03	-292.93	4,962.69	4,936.01	26.68	186.034			
1,200.00	1,200.00	1,200.02	1,200.00	2.56	52.41	-176.62	-4,954.03	-292.93	4,962.69	4,933.79	28.89	171.751			
1,300.00	1,300.00	1,344.00	1,343.97	2.78	58.95	-176.62	-4,954.03	-292.93	4,962.69	4,930.89	31.99	155.139			
1,359.49	1,359.49	1,359.52	1,359.49	2.92	59.55	-176.62	-4,954.03	-292.93	4,962.69	4,930.28	32.41	153.139			
1,400.00	1,400.00	1,400.03	1,400.00	3.01	61.12	-176.62	-4,954.03	-292.93	4,962.69	4,929.45	33.24	149.320			
1,500.00	1,500.00	1,500.03	1,500.00	3.23	64.99	-176.62	-4,954.03	-292.93	4,962.69	4,927.41	35.28	140.662			
1,600.00	1,600.00	1,600.03	1,600.00	3.46	68.87	-176.62	-4,954.03	-292.93	4,962.69	4,925.36	37.33	132.952			
1,700.00	1,700.00	1,700.03	1,700.00	3.68	72.74	-176.62	-4,954.03	-292.93	4,962.69	4,923.31	39.37	126.044			
1,800.00	1,800.00	1,800.03	1,800.00	3.91	76.61	-176.62	-4,954.03	-292.93	4,962.69	4,921.27	41.42	119.818			
1,900.00	1,900.00	1,900.05	1,900.00	4.13	81.80	-176.62	-4,954.03	-292.93	4,962.69	4,919.17	43.52	114.033			
2,000.00	2,000.00	2,000.05	2,000.00	4.35	88.15	-176.62	-4,954.03	-292.93	4,962.69	4,917.02	45.67	108.666			
2,100.00	2,100.00	2,100.05	2,100.00	4.58	94.50	-176.62	-4,954.03	-292.93	4,962.69	4,914.87	47.82	103.780			
2,200.00	2,200.00	2,345.00	2,344.95	4.80	110.08	-176.62	-4,954.03	-292.93	4,964.80	4,912.04	52.76	94.098			
2,300.00	2,300.00	2,345.00	2,344.95	5.03	110.08	-176.62	-4,954.03	-292.93	4,962.69	4,909.90	52.99	93.663			
2,360.55	2,360.55	2,360.60	2,360.55	5.17	112.05	-176.62	-4,954.03	-292.93	4,962.69	4,909.23	53.45	92.843			
2,400.00	2,400.00	2,400.05	2,400.00	5.25	117.08	-176.62	-4,954.03	-292.93	4,962.69	4,908.31	54.37	91.288			
2,500.00	2,500.00	2,654.00	2,653.90	5.48	149.49	-176.62	-4,954.03	-292.93	4,965.07	4,905.09	59.99	82.769			
2,600.00	2,600.00	2,654.00	2,653.90	5.70	149.49	-176.62	-4,954.03	-292.93	4,962.98	4,902.77	60.21	82.426			
2,672.30	2,672.30	2,672.41	2,672.30	5.87	152.21	-176.62	-4,954.03	-292.93	4,962.69	4,901.93	60.75	81.684			
2,700.00	2,700.00	2,700.10	2,700.00	5.93	156.31	-176.62	-4,954.03	-292.93	4,962.69	4,901.30	61.39	80.838			
2,800.00	2,800.00	2,800.14	2,800.00	6.15	169.80	-176.62	-4,954.03	-292.93	4,962.69	4,898.99	63.69	77.915			
2,900.00	2,900.00	2,900.18	2,900.00	6.38	181.75	-176.62	-4,954.03	-292.93	4,962.69	4,896.69	65.99	75.202			
3,000.00	3,000.00	3,069.00	3,068.78	6.60	200.34	-176.62	-4,954.03	-292.93	4,963.16	4,893.50	69.67	71.241			
3,100.00	3,100.00	3,100.22	3,100.00	6.83	203.59	-176.62	-4,954.03	-292.93	4,962.69	4,892.15	70.53	70.361			
3,200.00	3,200.00	3,200.22	3,200.00	7.05	213.99	-176.62	-4,954.03	-292.93	4,962.69	4,889.88	72.81	68.162			
3,300.00	3,300.00	3,300.22	3,300.00	7.28	224.39	-176.62	-4,954.03	-292.93	4,962.69	4,887.60	75.08	66.095			
3,400.00	3,400.00	3,400.22	3,400.00	7.50	234.78	-176.62	-4,954.03	-292.93	4,962.69	4,885.32	77.36	64.149			
3,500.00	3,500.00	3,569.00	3,568.67	7.73	252.33	-176.62	-4,954.03	-292.93	4,963.16	4,882.11	81.05	61.234			
3,600.00	3,600.00	3,600.33	3,600.00	7.95	254.78	-176.62	-4,954.03	-292.93	4,962.69	4,880.75	81.94	60.565			
3,700.00	3,700.00	3,700.33	3,700.00	8.18	262.59	-176.62	-4,954.03	-292.93	4,962.69	4,878.41	84.28	58.884			
3,800.00	3,800.00	3,800.33	3,800.00	8.40	270.40	-176.62	-4,954.03	-292.93	4,962.69	4,876.07	86.62	57.293			
3,900.00	3,900.00	3,900.33	3,900.00	8.63	278.22	-176.62	-4,954.03	-292.93	4,962.69	4,873.73	88.96	55.786			
4,000.00	4,000.00	4,041.00	4,040.60	8.85	289.21	-176.62	-4,954.03	-292.93	4,962.85	4,870.69	92.16	53.851			
4,056.12	4,056.12	4,056.52	4,056.12	8.98	289.91	-176.62	-4,954.03	-292.93	4,962.69	4,870.08	92.61	53.589			
4,100.00	4,100.00	4,100.40	4,100.00	9.07	291.90	-176.62	-4,954.03	-292.93	4,962.69	4,869.08	93.61	53.015			
4,200.00	4,200.00	4,200.40	4,200.00	9.30	296.42	-176.62	-4,954.03	-292.93	4,962.69	4,866.79	95.89	51.751			
4,300.00	4,300.00	4,300.40	4,300.00	9.52	300.95	-176.62	-4,954.03	-292.93	4,962.69	4,864.51	98.18	50.546			
4,400.00	4,400.00	4,400.40	4,400.00	9.75	305.48	-176.62	-4,954.03	-292.93	4,962.69	4,862.22	100.47	49.396			
4,500.00	4,500.00	4,541.00	4,540.58	9.97	311.85	-176.62	-4,954.03	-292.93	4,962.85	4,859.26	103.59	47.908			
4,556.09	4,556.09	4,556.52	4,556.09	10.10	312.45	-176.62	-4,954.03	-292.93	4,962.69	4,858.66	104.02	47.707			
4,600.00	4,600.00	4,600.42	4,600.00	10.20	314.14	-176.62	-4,954.03	-292.93	4,962.69	4,857.70	104.99	47.269			

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: New Potato 11 Fed Com - Ore Ida 14 Fed 2 (offset) - 2 - 2												Offset Site Error:	0.00 usft
Survey Program: 192-INC												Offset Well Error:	0.00 usft
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
4,700.00	4,700.00	4,700.42	4,700.00	10.42	318.00	-176.62	-4,954.03	-292.93	4,962.69	4,855.50	107.19	46.300	
4,800.00	4,800.00	4,800.42	4,800.00	10.65	321.86	-176.62	-4,954.03	-292.93	4,962.69	4,853.30	109.38	45.370	
4,900.00	4,900.00	4,900.42	4,900.00	10.87	325.72	-176.62	-4,954.03	-292.93	4,962.69	4,851.11	111.58	44.476	
5,000.00	5,000.00	5,040.00	5,039.57	11.10	331.11	-176.62	-4,954.03	-292.93	4,962.84	4,848.28	114.56	43.321	
5,055.16	5,055.16	5,055.59	5,055.16	11.22	332.02	-176.62	-4,954.03	-292.93	4,962.69	4,847.68	115.01	43.151	
5,100.00	5,100.00	5,100.43	5,100.00	11.32	334.64	-176.62	-4,954.03	-292.93	4,962.69	4,846.65	116.04	42.768	
5,200.00	5,200.00	5,200.43	5,200.00	11.55	340.48	-176.62	-4,954.03	-292.93	4,962.69	4,844.35	118.33	41.938	
5,300.00	5,300.00	5,300.43	5,300.00	11.77	346.33	-176.62	-4,954.03	-292.93	4,962.69	4,842.06	120.63	41.140	
5,400.00	5,400.00	5,400.43	5,400.00	12.00	352.17	-176.62	-4,954.03	-292.93	4,962.69	4,839.76	122.93	40.371	
5,500.00	5,500.00	5,514.00	5,513.56	12.22	358.81	-176.62	-4,954.03	-292.93	4,962.70	4,837.20	125.50	39.542	
5,538.56	5,538.56	5,539.00	5,538.56	12.31	360.43	-176.62	-4,954.03	-292.93	4,962.69	4,836.59	126.09	39.357	
5,600.00	5,600.00	5,600.44	5,600.00	12.45	364.41	-176.62	-4,954.03	-292.93	4,962.69	4,835.21	127.47	38.931	
5,700.00	5,700.00	5,700.44	5,700.00	12.67	370.89	-176.62	-4,954.03	-292.93	4,962.69	4,832.97	129.71	38.258	
5,800.00	5,800.00	5,800.44	5,800.00	12.90	377.36	-176.62	-4,954.03	-292.93	4,962.69	4,830.73	131.96	37.608	
5,900.00	5,900.00	5,900.44	5,900.00	13.12	383.84	-176.62	-4,954.03	-292.93	4,962.69	4,828.49	134.20	36.980	
6,000.00	6,000.00	6,013.00	6,012.52	13.35	391.13	-176.62	-4,954.03	-292.93	4,962.70	4,826.01	136.70	36.305	
6,038.10	6,038.10	6,038.59	6,038.10	13.43	392.79	-176.62	-4,954.03	-292.93	4,962.69	4,825.39	137.30	36.145	
6,100.00	6,100.00	6,100.48	6,100.00	13.57	396.80	-176.62	-4,954.03	-292.93	4,962.69	4,824.00	138.69	35.783	
6,200.00	6,200.00	6,200.48	6,200.00	13.80	403.28	-176.62	-4,954.03	-292.93	4,962.69	4,821.75	140.94	35.212	
6,300.00	6,300.00	6,300.48	6,300.00	14.02	409.76	-176.62	-4,954.03	-292.93	4,962.69	4,819.50	143.18	34.660	
6,400.00	6,400.00	6,485.00	6,484.49	14.24	421.71	-176.62	-4,954.03	-292.93	4,963.41	4,816.26	147.14	33.732	
6,500.00	6,500.00	6,500.51	6,500.00	14.47	422.92	-176.62	-4,954.03	-292.93	4,962.69	4,815.00	147.69	33.603	
6,600.00	6,600.00	6,693.00	6,692.48	14.69	437.91	-176.62	-4,954.03	-292.93	4,963.55	4,811.66	151.89	32.679	
6,700.00	6,700.00	6,700.52	6,700.00	14.92	438.40	-176.62	-4,954.03	-292.93	4,962.69	4,810.42	152.27	32.592	
6,800.00	6,800.00	6,800.52	6,800.00	15.14	444.88	-176.62	-4,954.03	-292.93	4,962.69	4,808.17	154.52	32.117	
6,900.00	6,900.00	6,900.52	6,900.00	15.37	451.36	-176.62	-4,954.03	-292.93	4,962.69	4,805.92	156.77	31.656	
7,000.00	7,000.00	7,000.52	7,000.00	15.59	457.84	-176.62	-4,954.03	-292.93	4,962.69	4,803.66	159.02	31.207	
7,100.00	7,100.00	7,100.52	7,100.00	15.82	464.32	-176.62	-4,954.03	-292.93	4,962.69	4,801.41	161.27	30.772	
7,200.00	7,200.00	7,200.58	7,200.00	16.04	472.19	-176.62	-4,954.03	-292.93	4,962.69	4,799.14	163.55	30.344	
7,300.00	7,300.00	7,300.58	7,300.00	16.27	484.55	-176.62	-4,954.03	-292.93	4,962.69	4,796.80	165.88	29.916	
7,400.00	7,400.00	7,400.58	7,400.00	16.49	496.91	-176.62	-4,954.03	-292.93	4,962.69	4,794.46	168.22	29.501	
7,500.00	7,500.00	7,674.00	7,673.41	16.72	530.71	-176.62	-4,954.03	-292.93	4,965.71	4,791.48	174.23	28.501	
7,600.00	7,600.00	7,674.00	7,673.41	16.94	530.71	-176.62	-4,954.03	-292.93	4,963.23	4,788.77	174.46	28.450	
7,700.00	7,700.00	7,700.59	7,700.00	17.17	535.75	-176.62	-4,954.03	-292.93	4,962.69	4,787.42	175.27	28.315	
7,800.00	7,800.00	7,800.66	7,800.00	17.39	554.94	-176.62	-4,954.03	-292.93	4,962.69	4,784.97	177.72	27.925	
7,900.00	7,900.00	8,021.00	8,020.20	17.62	598.21	-176.62	-4,954.03	-292.93	4,964.14	4,781.28	182.86	27.147	
8,000.00	8,000.00	8,021.00	8,020.20	17.84	598.21	-176.62	-4,954.03	-292.93	4,962.73	4,779.64	183.09	27.106	
8,041.77	8,041.77	8,042.57	8,041.77	17.93	602.89	-176.62	-4,954.03	-292.93	4,962.69	4,779.01	183.68	27.018	
8,100.00	8,100.00	8,100.80	8,100.00	18.07	615.52	-176.62	-4,954.03	-292.93	4,962.69	4,777.54	185.15	26.804	
8,200.00	8,200.00	8,200.80	8,200.00	18.29	637.21	-176.62	-4,954.03	-292.93	4,962.69	4,775.00	187.68	26.442	
8,300.00	8,300.00	8,300.80	8,300.00	18.52	658.90	-176.62	-4,954.03	-292.93	4,962.69	4,772.47	190.22	26.089	
8,334.88	8,334.88	8,335.67	8,334.88	18.59	666.46	-176.62	-4,954.03	-292.93	4,962.69	4,771.58	191.10	25.969	
8,357.04	8,357.04	8,350.00	8,348.94	18.64	669.57	-176.62	-4,954.03	-292.93	4,962.69	4,771.21	191.48	25.917	
8,400.00	8,399.96	8,350.00	8,348.94	18.73	669.57	3.78	-4,954.03	-292.93	4,961.34	4,770.63	190.71	26.015	
8,450.00	8,449.59	8,350.00	8,348.94	18.81	669.57	3.81	-4,954.03	-292.93	4,958.20	4,768.62	189.58	26.143	
8,500.00	8,498.52	8,350.00	8,348.94	18.90	669.57	3.87	-4,954.03	-292.93	4,947.24	4,760.04	187.20	26.427	
8,550.00	8,546.37	8,350.00	8,348.94	18.98	669.57	3.98	-4,954.03	-292.93	4,934.52	4,750.89	183.83	26.872	
8,600.00	8,592.78	8,350.00	8,348.94	19.06	669.57	4.09	-4,954.03	-292.93	4,918.10	4,739.18	178.92	27.487	
8,650.00	8,637.40	8,350.00	8,348.94	19.15	669.57	4.25	-4,954.03	-292.93	4,898.07	4,724.88	173.19	28.281	
8,700.00	8,679.88	8,350.00	8,348.94	19.23	669.57	4.45	-4,954.03	-292.93	4,874.54	4,707.96	166.58	29.262	
8,750.00	8,719.91	8,350.00	8,348.94	19.35	669.57	4.70	-4,954.03	-292.93	4,847.63	4,688.34	159.30	30.431	
8,800.00	8,757.17	8,350.00	8,348.94	19.48	669.57	5.02	-4,954.03	-292.93	4,817.51	4,665.87	151.64	31.769	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL+ 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL+ 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: New Potato 11 Fed Com - Ore Ida 14 Fed 2 (offset) - 2 - 2													Offset Site Error:
Survey Program: 192-INC													Offset Well Error:
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	
8,850.00	8,791.39	8,350.00	8,348.94	19.53	669.57	5.43	-4,954.03	-292.93	4,784.34	4,640.29	144.05	33.213	
8,900.00	8,822.31	8,350.00	8,348.94	19.81	669.57	5.94	-4,954.03	-292.93	4,748.30	4,611.12	137.19	34.612	
8,950.00	8,849.68	8,350.00	8,348.94	20.01	669.57	6.61	-4,954.03	-292.93	4,709.62	4,577.56	132.06	35.662	
9,000.00	8,873.30	8,350.00	8,348.94	20.25	669.57	7.50	-4,954.03	-292.93	4,668.53	4,538.32	130.21	35.854	
9,050.00	8,893.00	8,350.00	8,348.94	20.52	669.57	8.72	-4,954.03	-292.93	4,625.27	4,491.40	133.87	34.550	
9,100.00	8,908.61	8,350.00	8,348.94	20.83	669.57	10.47	-4,954.03	-292.93	4,580.12	4,433.85	146.27	31.313	
9,150.00	8,920.03	8,350.00	8,348.94	21.17	669.57	13.17	-4,954.03	-292.93	4,533.38	4,360.88	172.50	26.281	
9,200.00	8,927.16	8,350.00	8,348.94	21.54	669.57	17.80	-4,954.03	-292.93	4,485.35	4,262.42	222.92	20.121	
9,250.00	8,929.95	8,350.00	8,348.94	21.93	669.57	27.21	-4,954.03	-292.93	4,436.36	4,111.07	325.29	13.638	
9,256.50	8,930.00	8,350.00	8,348.94	21.99	669.57	29.15	-4,954.03	-292.93	4,429.94	4,084.33	345.61	12.818	
9,300.00	8,930.04	8,350.00	8,348.94	22.36	669.57	29.15	-4,954.03	-292.93	4,386.95	4,041.14	345.80	12.686	
9,400.00	8,930.13	8,350.00	8,348.94	23.29	669.57	29.15	-4,954.03	-292.93	4,288.15	3,941.85	346.30	12.383	
9,500.00	8,930.23	8,350.00	8,348.94	24.33	669.57	29.15	-4,954.03	-292.93	4,189.41	3,842.55	346.86	12.078	
9,600.00	8,930.32	8,350.00	8,348.94	25.45	669.57	29.15	-4,954.03	-292.93	4,090.72	3,743.26	347.47	11.773	
9,700.00	8,930.42	8,350.00	8,348.94	26.66	669.57	29.15	-4,954.03	-292.93	3,992.11	3,643.98	348.13	11.467	
9,800.00	8,930.51	8,350.00	8,348.94	27.93	669.57	29.15	-4,954.03	-292.93	3,893.56	3,544.73	348.83	11.162	
9,900.00	8,930.61	8,350.00	8,348.94	29.26	669.57	29.15	-4,954.03	-292.93	3,795.09	3,445.52	349.58	10.856	
10,000.00	8,930.70	8,350.00	8,348.94	30.64	669.57	29.15	-4,954.03	-292.93	3,696.71	3,346.35	350.36	10.551	
10,100.00	8,930.80	8,350.00	8,348.94	32.07	669.57	29.15	-4,954.03	-292.93	3,598.41	3,247.24	351.17	10.247	
10,200.00	8,930.89	8,350.00	8,348.94	33.54	669.57	29.15	-4,954.03	-292.93	3,500.21	3,148.21	352.00	9.944	
10,300.00	8,930.99	8,350.00	8,348.94	35.04	669.57	29.15	-4,954.03	-292.93	3,402.11	3,049.25	352.86	9.642	
10,400.00	8,931.08	8,350.00	8,348.94	36.57	669.57	29.15	-4,954.03	-292.93	3,304.13	2,950.39	353.74	9.341	
10,500.00	8,931.18	8,350.00	8,348.94	38.12	669.57	29.15	-4,954.03	-292.93	3,206.27	2,851.63	354.64	9.041	
10,600.00	8,931.27	8,350.00	8,348.94	39.71	669.57	29.15	-4,954.03	-292.93	3,108.55	2,753.00	355.55	8.743	
10,700.00	8,931.37	8,350.00	8,348.94	41.31	669.57	29.15	-4,954.03	-292.93	3,010.98	2,654.50	356.48	8.446	
10,800.00	8,931.46	8,350.00	8,348.94	42.93	669.57	29.15	-4,954.03	-292.93	2,913.57	2,556.15	357.42	8.152	
10,900.00	8,931.55	8,350.00	8,348.94	44.56	669.57	29.15	-4,954.03	-292.93	2,816.34	2,457.97	358.38	7.859	
11,000.00	8,931.65	8,350.00	8,348.94	46.21	669.57	29.15	-4,954.03	-292.93	2,719.32	2,359.98	359.34	7.568	
11,100.00	8,931.74	8,350.00	8,348.94	47.88	669.57	29.15	-4,954.03	-292.93	2,622.52	2,262.20	360.31	7.278	
11,200.00	8,931.84	8,350.00	8,348.94	49.55	669.57	29.15	-4,954.03	-292.93	2,525.97	2,164.67	361.30	6.991	
11,300.00	8,931.93	8,350.00	8,348.94	51.24	669.57	29.15	-4,954.03	-292.93	2,429.89	2,067.41	362.29	6.707	
11,400.00	8,932.03	8,350.00	8,348.94	52.93	669.57	29.15	-4,954.03	-292.93	2,333.74	1,970.45	363.28	6.424	
11,500.00	8,932.12	8,350.00	8,348.94	54.64	669.57	29.15	-4,954.03	-292.93	2,238.13	1,873.84	364.29	6.144	
11,600.00	8,932.22	8,350.00	8,348.94	56.35	669.57	29.15	-4,954.03	-292.93	2,142.93	1,777.63	365.30	5.866	
11,700.00	8,932.31	8,350.00	8,348.94	58.07	669.57	29.15	-4,954.03	-292.93	2,048.18	1,681.87	366.31	5.591	
11,800.00	8,932.41	8,350.00	8,348.94	59.80	669.57	29.15	-4,954.03	-292.93	1,953.96	1,586.63	367.33	5.319	
11,900.00	8,932.50	8,350.00	8,348.94	61.53	669.57	29.15	-4,954.03	-292.93	1,860.33	1,491.98	368.35	5.050	
12,000.00	8,932.60	8,350.00	8,348.94	63.27	669.57	29.15	-4,954.03	-292.93	1,767.41	1,398.03	369.38	4.785	
12,100.00	8,932.69	8,350.00	8,348.94	65.01	669.57	29.15	-4,954.03	-292.93	1,675.31	1,304.89	370.41	4.523	
12,200.00	8,932.79	8,350.00	8,348.94	66.76	669.57	29.15	-4,954.03	-292.93	1,584.16	1,212.71	371.45	4.265	
12,300.00	8,932.88	8,350.00	8,348.94	68.51	669.57	29.15	-4,954.03	-292.93	1,494.14	1,121.66	372.49	4.011	
12,400.00	8,932.98	8,350.00	8,348.94	70.26	669.57	29.15	-4,954.03	-292.93	1,405.48	1,031.95	373.53	3.763	
12,500.00	8,933.07	8,350.00	8,348.94	72.02	669.57	29.15	-4,954.03	-292.93	1,318.44	943.87	374.57	3.520	
12,600.00	8,933.17	8,350.00	8,348.94	73.79	669.57	29.15	-4,954.03	-292.93	1,233.36	857.74	375.62	3.284	
12,700.00	8,933.26	8,350.00	8,348.94	75.55	669.57	29.15	-4,954.03	-292.93	1,150.69	774.02	376.67	3.055	
12,800.00	8,933.36	8,350.00	8,348.94	77.32	669.57	29.15	-4,954.03	-292.93	1,070.98	693.26	377.72	2.835	
12,900.00	8,933.45	8,350.00	8,348.94	79.09	669.57	29.15	-4,954.03	-292.93	994.94	616.16	378.77	2.627	
13,000.00	8,933.54	8,350.00	8,348.94	80.87	669.57	29.15	-4,954.03	-292.93	923.47	543.65	379.83	2.431	
13,100.00	8,933.64	8,350.00	8,348.94	82.65	669.57	29.15	-4,954.03	-292.93	857.74	476.85	380.89	2.252	
13,200.00	8,933.73	8,350.00	8,348.94	84.42	669.57	29.15	-4,954.03	-292.93	799.13	417.19	381.94	2.092	
13,300.00	8,933.83	8,350.00	8,348.94	86.21	669.57	29.15	-4,954.03	-292.93	749.35	366.34	383.00	1.958	
13,400.00	8,933.92	8,350.00	8,348.94	87.99	669.57	29.15	-4,954.03	-292.93	710.23	326.16	384.07	1.849	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: New Potato 11 Fed Com - Ore Ida 14 Fed 2 (offset) - 2 - 2												Offset Site Error:	0.00 usft
Survey Program: 192-INC												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)	Minimum Separation (usft)	Separation Factor	Warning
13,500.00	8,934.02	8,350.00	8,348.94	89.78	669.57	29.15	-4,954.03	-292.93	683.62	298.49	385.13	1.775	
13,600.00	8,934.11	8,350.00	8,348.94	91.56	669.57	29.15	-4,954.03	-292.93	671.00	284.80	386.19	1.737	
13,635.47	8,934.15	8,350.00	8,348.94	92.20	669.57	29.15	-4,954.03	-292.93	670.06	283.49	386.57	1.733	CC, ES, SF
13,700.00	8,934.21	8,350.00	8,348.94	93.35	669.57	29.15	-4,954.03	-292.93	673.18	285.90	387.26	1.738	
13,800.00	8,934.30	8,350.00	8,348.94	95.14	669.57	29.15	-4,954.03	-292.93	689.96	301.63	388.33	1.777	
13,900.00	8,934.40	8,350.00	8,348.94	96.93	669.57	29.15	-4,954.03	-292.93	720.38	330.99	389.40	1.850	
14,000.00	8,934.49	8,350.00	8,348.94	98.73	669.57	29.15	-4,954.03	-292.93	762.80	372.33	390.47	1.954	
14,100.00	8,934.59	8,350.00	8,348.94	100.52	669.57	29.15	-4,954.03	-292.93	815.33	423.79	391.54	2.082	
14,200.00	8,934.68	8,350.00	8,348.94	102.32	669.57	29.15	-4,954.03	-292.93	876.17	483.56	392.61	2.232	
14,300.00	8,934.78	8,350.00	8,348.94	104.11	669.57	29.15	-4,954.03	-292.93	943.70	550.02	393.68	2.397	
14,400.00	8,934.87	8,350.00	8,348.94	105.91	669.57	29.15	-4,954.03	-292.93	1,016.60	621.85	394.75	2.575	
14,500.00	8,934.97	8,350.00	8,348.94	107.71	669.57	29.15	-4,954.03	-292.93	1,093.79	697.97	395.83	2.763	
14,600.00	8,935.06	8,350.00	8,348.94	109.51	669.57	29.15	-4,954.03	-292.93	1,174.43	777.53	396.90	2.959	
14,700.00	8,935.16	8,350.00	8,348.94	111.31	669.57	29.15	-4,954.03	-292.93	1,257.85	859.88	397.98	3.161	
14,800.00	8,935.25	8,350.00	8,348.94	113.12	669.57	29.15	-4,954.03	-292.93	1,343.54	944.49	399.05	3.367	
14,900.00	8,935.35	8,350.00	8,348.94	114.92	669.57	29.15	-4,954.03	-292.93	1,431.09	1,030.96	400.13	3.577	
15,000.00	8,935.44	8,350.00	8,348.94	116.72	669.57	29.15	-4,954.03	-292.93	1,520.17	1,118.96	401.21	3.789	
15,100.00	8,935.53	8,350.00	8,348.94	118.53	669.57	29.15	-4,954.03	-292.93	1,610.53	1,208.25	402.28	4.003	
15,200.00	8,935.63	8,350.00	8,348.94	120.33	669.57	29.15	-4,954.03	-292.93	1,701.98	1,298.61	403.36	4.219	
15,300.00	8,935.72	8,350.00	8,348.94	122.14	669.57	29.15	-4,954.03	-292.93	1,794.33	1,389.89	404.44	4.437	
15,400.00	8,935.82	8,350.00	8,348.94	123.95	669.57	29.15	-4,954.03	-292.93	1,887.47	1,481.95	405.52	4.654	
15,500.00	8,935.91	8,350.00	8,348.94	125.76	669.57	29.15	-4,954.03	-292.93	1,981.27	1,574.67	406.60	4.873	
15,600.00	8,936.01	8,350.00	8,348.94	127.56	669.57	29.15	-4,954.03	-292.93	2,075.65	1,667.97	407.68	5.091	
15,700.00	8,936.10	8,350.00	8,348.94	129.37	669.57	29.15	-4,954.03	-292.93	2,170.54	1,761.78	408.76	5.310	
15,800.00	8,936.20	8,350.00	8,348.94	131.18	669.57	29.15	-4,954.03	-292.93	2,265.87	1,856.02	409.84	5.529	
15,900.00	8,936.29	8,350.00	8,348.94	132.99	669.57	29.15	-4,954.03	-292.93	2,361.58	1,950.65	410.93	5.747	
16,000.00	8,936.39	8,350.00	8,348.94	134.80	669.57	29.15	-4,954.03	-292.93	2,457.83	2,045.62	412.01	5.965	
16,100.00	8,936.48	8,350.00	8,348.94	136.62	669.57	29.15	-4,954.03	-292.93	2,553.99	2,140.90	413.09	6.183	
16,200.00	8,936.58	8,350.00	8,348.94	138.43	669.57	29.15	-4,954.03	-292.93	2,650.62	2,236.44	414.18	6.400	
16,300.00	8,936.67	8,350.00	8,348.94	140.24	669.57	29.15	-4,954.03	-292.93	2,747.49	2,332.23	415.26	6.616	
16,400.00	8,936.77	8,350.00	8,348.94	142.05	669.57	29.15	-4,954.03	-292.93	2,844.57	2,428.23	416.34	6.832	
16,500.00	8,936.86	8,350.00	8,348.94	143.87	669.57	29.15	-4,954.03	-292.93	2,941.85	2,524.42	417.43	7.048	
16,600.00	8,936.96	8,350.00	8,348.94	145.68	669.57	29.15	-4,954.03	-292.93	3,039.31	2,620.80	418.51	7.262	
16,646.85	8,937.00	8,350.00	8,348.94	146.53	669.57	29.15	-4,954.03	-292.93	3,085.02	2,666.00	419.02	7.362	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3033.4' GL + 25' RKB @ 3058.40usft

Offset Depths are relative to Offset Datum

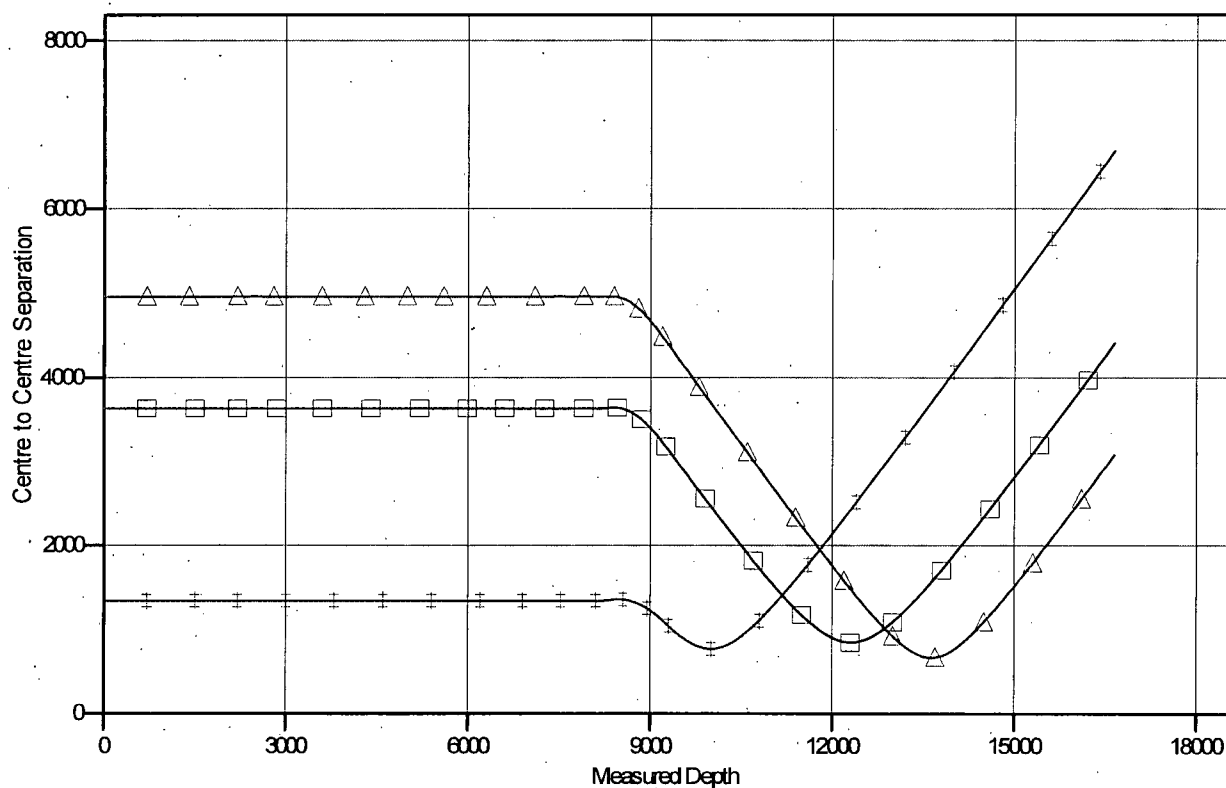
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 1H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.20°

Ladder Plot



LEGEND

HB 11 Fed 2 (offset), 2, 2 V0
 Ore Ida 14 Fed 1 (offset), 1, 1 V0
 Ore Ida 14 Fed 2 (offset), 2, 2 V0

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Reference Site:	New Potato 11 Fed Com	MD Reference:	3033.4' GL + 25' RKB @ 3058.40usft
Site Error:	0.00 usft	North Reference:	.Grid
Reference Well:	1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	1H OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset: TVD Reference:	Offset Datum

Reference Depths are relative to 3033.4' GL + 25' RKB @ 3058.40usft

Offset Depths are relative to Offset Datum

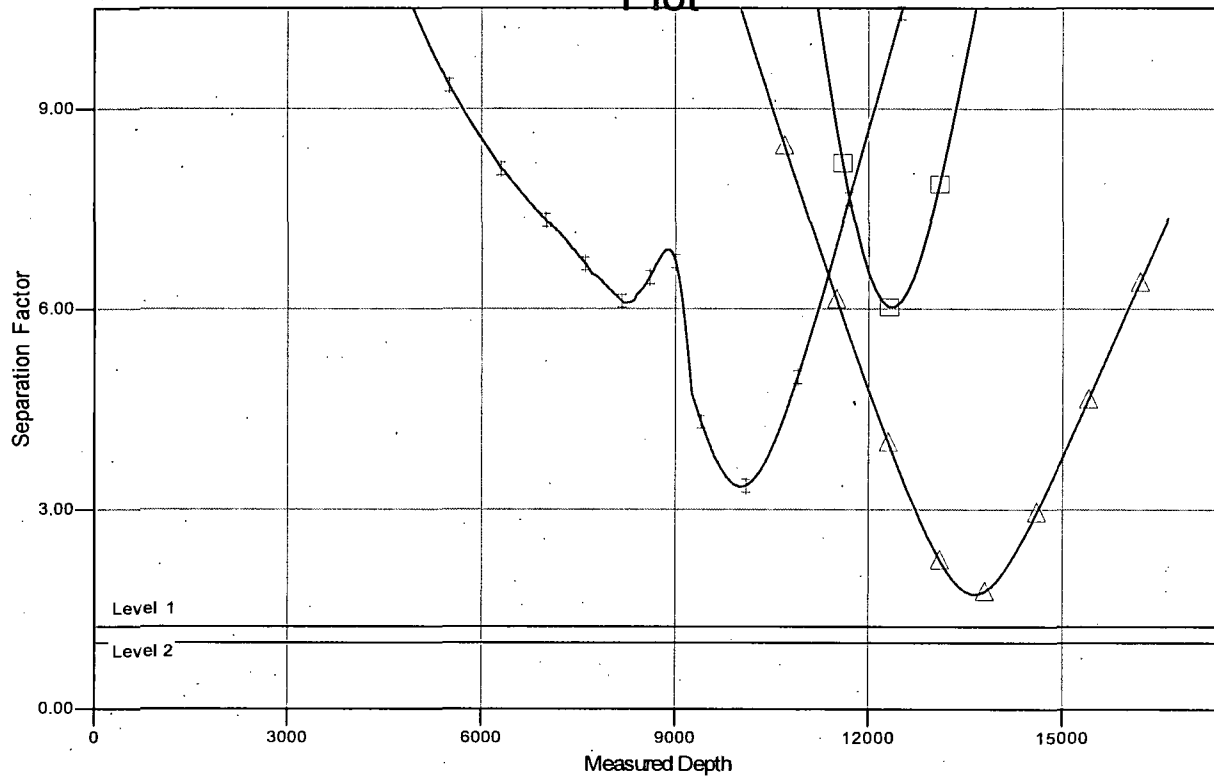
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 1H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.20°

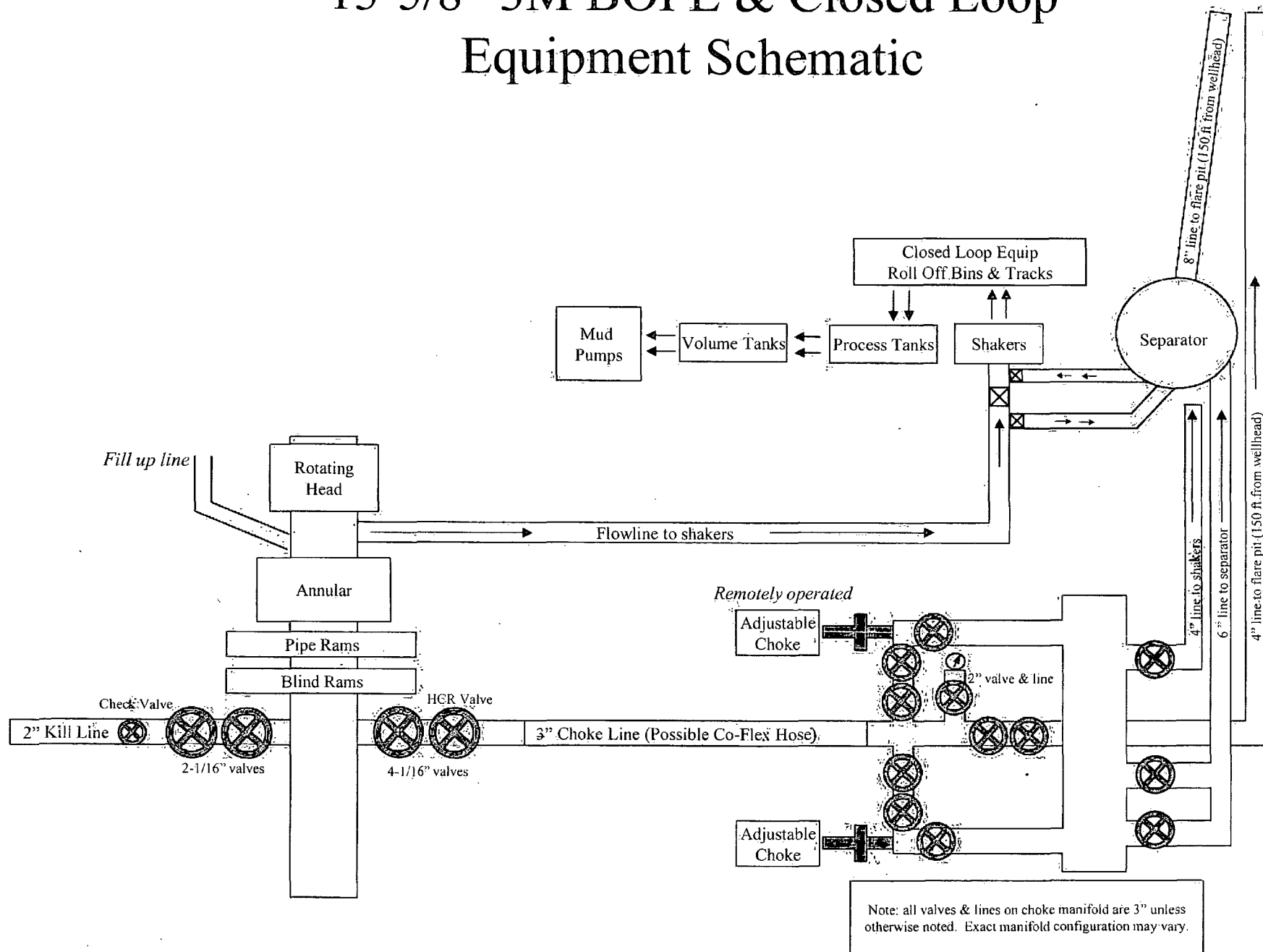
Separation Factor Plot



LEGEND

HB 11 Fed 2 (offset, 2, 2 V0)
 Ore Ida 14 Fed 1 (offset, 1, 1 V0)
 Ore Ida 14 Fed 2 (offset, 2, 2 V0)

13-5/8" 3M BOPE & Closed Loop Equipment Schematic



NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, L.P.
New Potato 11 Fed 1H

1. Drilling Nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated filings will be in operable condition to withstand a minimum of 3000psi working pressure.
4. All fittings will be flanged.
5. A fill bore safety valve tested to a minimum of 3000psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.



Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com



QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 1713	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 002808	
CONTITECH ORDER N°: 426127		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 53622		NOMINAL / ACTUAL LENGTH: 10,67 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature See attachment. (1 page) ↑ 10 mm = 10 Min. → 10 mm = 25 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with 4 1/16" Flange end		5503 2029		AISI 4130 AISI 4130	
				Heat N° N1590P 27566	
INFOCHIP INSTALLED				API Spec 16 C Temperature rate: "B"	
All metal parts are flawless				Hose conform to NACE MR 01-75	
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date: 25 August 2008		Inspector		Quality Control ContiTech Rubber Industrial Kft. Quality Control Dept.	

20. August 2000

Jack *Ben*

ContiTech Rubber Industrial Kft.
Budapesti út 10., Szeged H-6728
P.O.Box 152 Szeged H-6701
Hungary

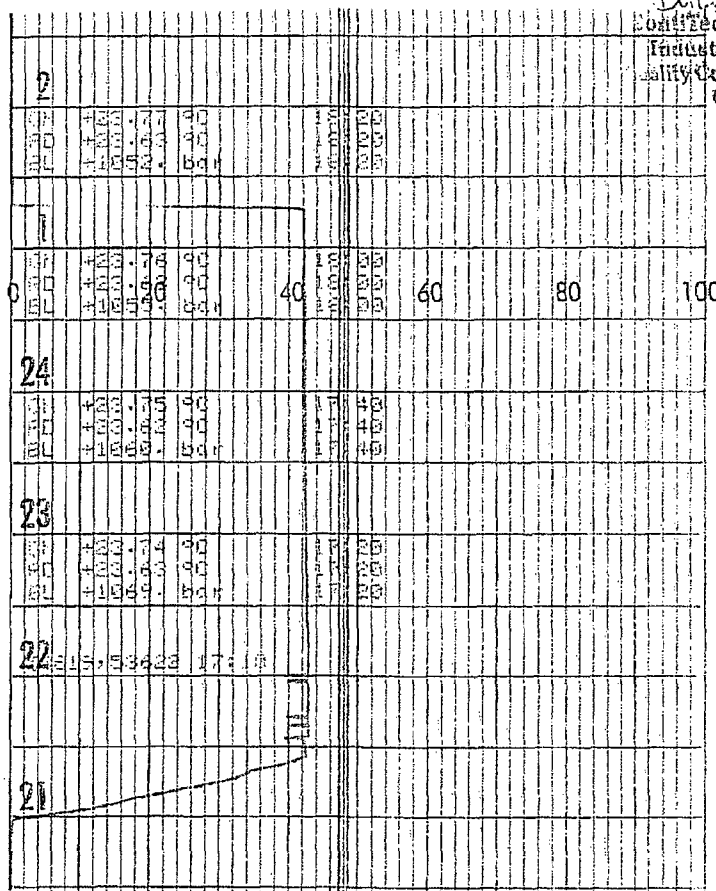
Phone: +36 62 566 737
Fax: +36 62 566 738
e-mail: info@fluid.contitech.hu
Internet: www.contitech-rubber.hu

The Court of Csongrád County as
Registry Court
Registry Court No: HU 05-09-002502
EU VAT No: HU11087209

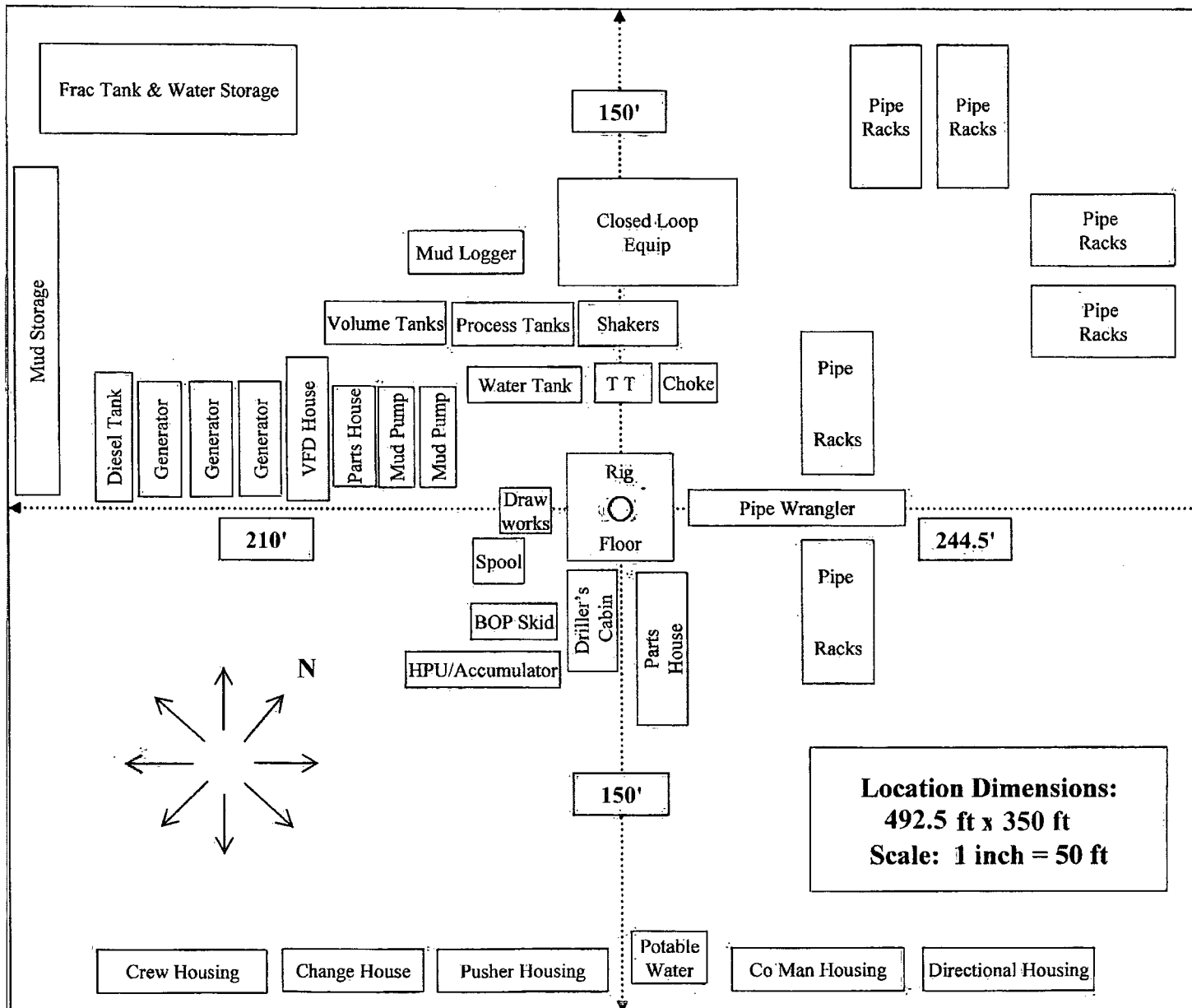
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Commerzbank Zrt.
Szeged
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ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No 1711,1713
Page: 1/1

HARTMANN &



H&P Flex Rig Location Layout





NM OIL CONSERVATION

ARTESIA DISTRICT

JUN 1 2015

RECEIVED

**Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015**

Hydrogen Sulfide (H₂S) Contingency Plan

For

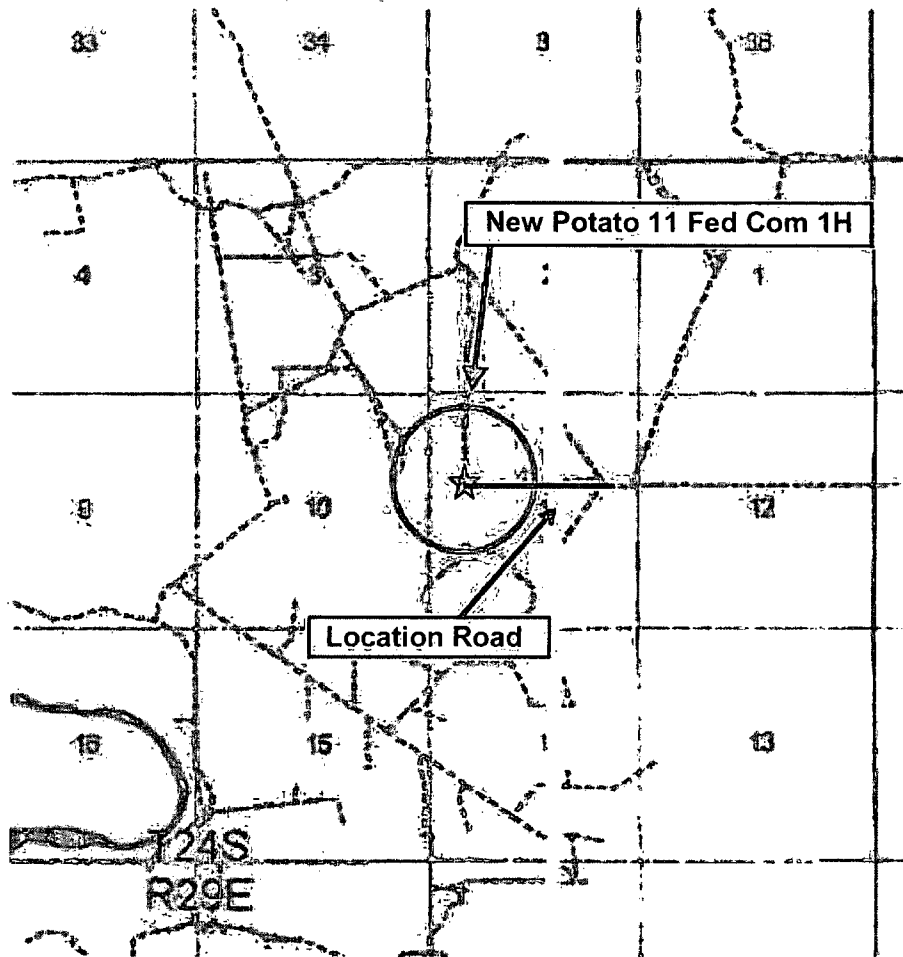
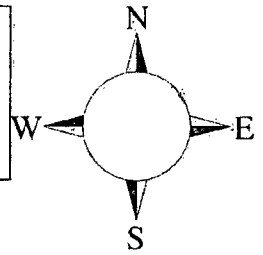
New Potato 11 Fed Com 1H

**Sec-11, T-24S R-29E
2324' FNL & 641' FWL
LAT. = 32.2330325'N (NAD83)
LONG = 103.9617004'W**

Eddy County NM.

New Potato 11 Fed Com 1H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Assumed 100 ppm 3000'
100 ppm H₂S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road, West then Northwest on lease road. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H₂S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the.**
 - **Detection of H₂S, and**
 - **Measures for protection against the gas,**
 - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H₂S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H₂S.

1. Well Control Equipment

- A. Flare line
- B. Choke manifold – (with Remotely Operated Choke)
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

2. Protective equipment for essential personnel:

- A. 30-minute SCBA units located in the doghouse and at briefing areas, as indicated on well site diagram. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. H₂S detection and monitoring equipment:

- A. Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 PPM are reached. These units are usually capable of detecting SO₂, which is a byproduct of burning H₂S.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

7. Communication:

- A. Radio communications in company vehicles including cellular telephones and 2-way radio
- B. Land line (telephone) communications at Office

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

Devon Energy Corp. Company Call List

<u>Artesia (575)</u>	<u>Cellular</u>	<u>Office</u>	<u>Home</u>
Foreman – Robert Bell.....	748-7448	748-0178	746-2991
Asst. Foreman –Tommy Polly.....	748-5290	748-0165	748-2846
Don Mayberry.....	748-5235	748-0164	746-4945
Montral Walker	390-5182	748-0193	(936) 414-6246
Engineer – Marcos Ortiz.....	(405) 317-0666.....	(405) 552-8152.....	(405) 381-4350

Agency Call List

<u>Lea County (575)</u>	<u>Hobbs</u>
	Lea County Communication Authority
	State Police
	City Police
	Sheriff's Office
	Ambulance.....
	Fire Department.....
	LEPC (Local Emergency Planning Committee).....
	NMOCD
	US Bureau of Land Management.....

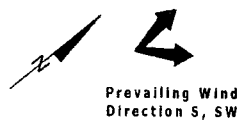
<u>Eddy County (575)</u>	<u>Carlsbad</u>
	State Police
	City Police
	Sheriff's Office
	Ambulance
	Fire Department.....
	LEPC (Local Emergency Planning Committee).....
	US Bureau of Land Management.....
	NM Emergency Response Commission (Santa Fe)
	24 HR
	National Emergency Response Center (Washington, DC)

Emergency Services

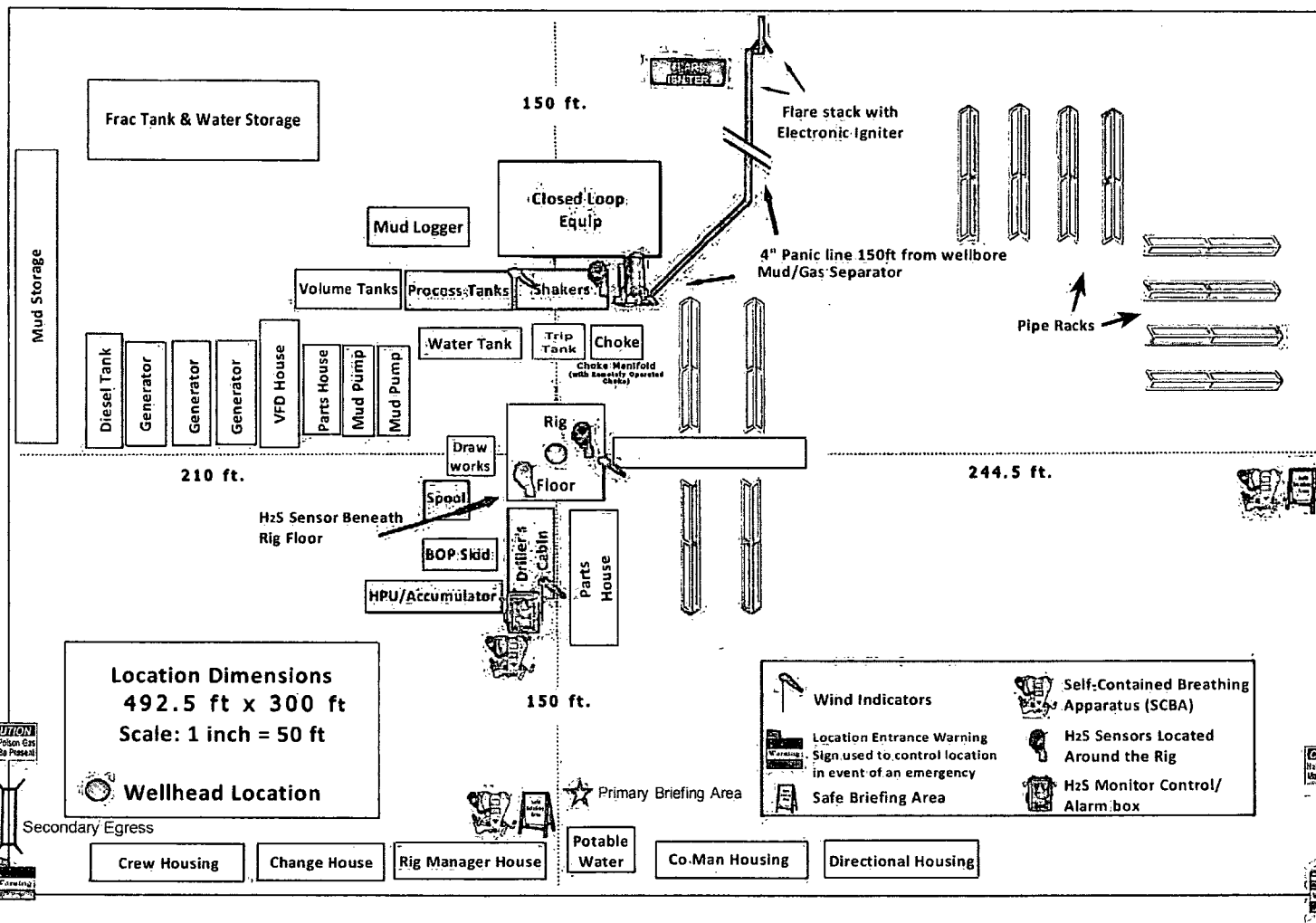
	Boots & Coots IWC
	Cudd Pressure Control.....
	Halliburton
	B. J. Services.....
<i>Give</i>	Native Air – Emergency Helicopter – Hobbs.....
<i>GPS</i>	Flight For Life - Lubbock, TX
<i>position:</i>	Aerocare - Lubbock, TX
	Med Flight Air Amb - Albuquerque, NM
	Lifeguard Air Med Svc. Albuquerque, NM

Prepared in conjunction with
Dave Small





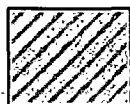
Devon Energy - Well Pad Rig Location Layout Safety Equipment Location



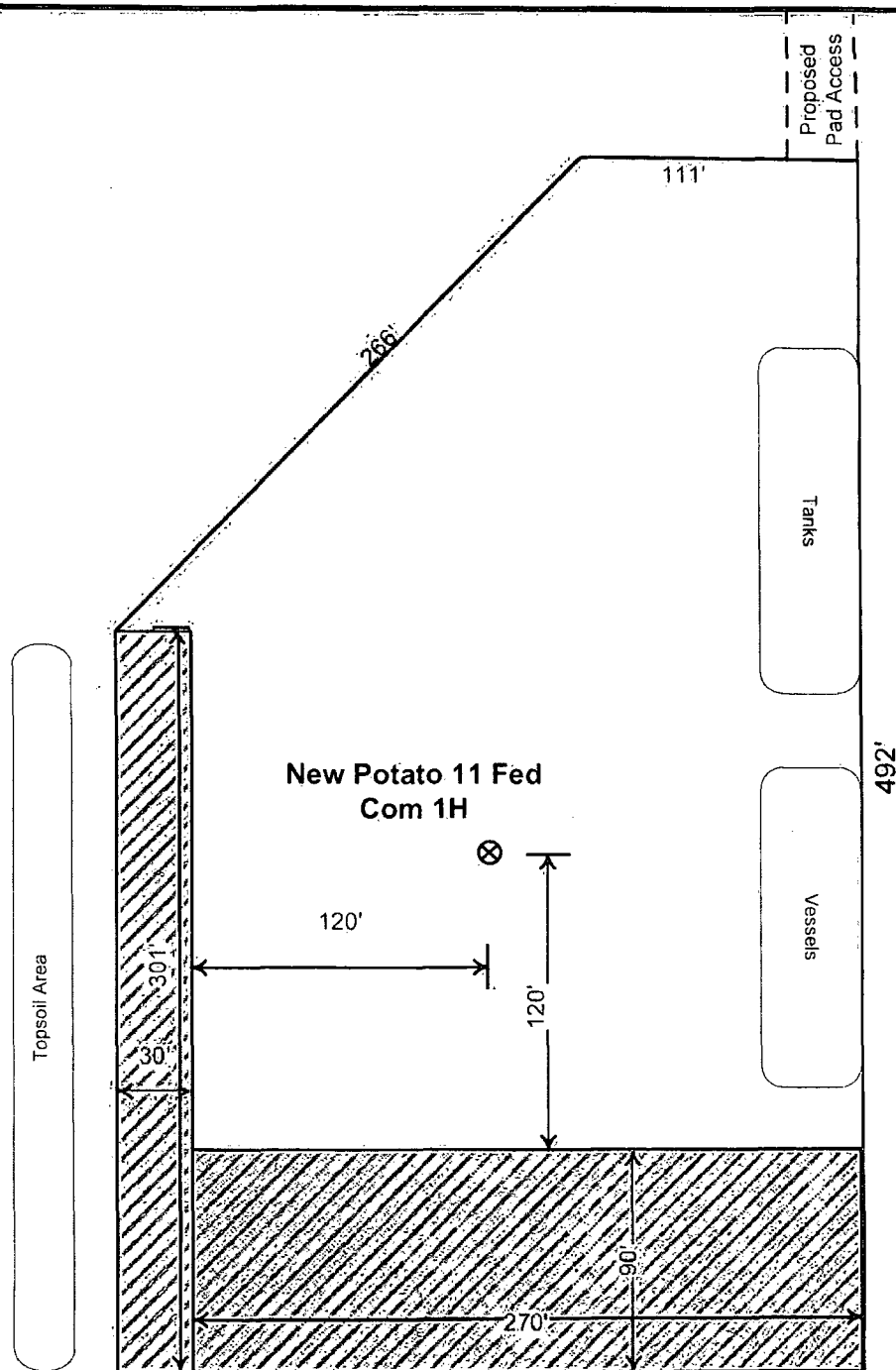


Proposed Interim Site Reclamation

Devon Energy Production Co.
New Potato 11 Fed Com 1H Eddy
County, NM

Proposed
Reclamation
Area

Scale: 1 in = 70 ft.



SURFACE USE PLAN

Devon Energy Production Company, L.P.

New Potato 11 Fed Com 1H

1. Existing Roads:

- a. The well site and elevation plat for the proposed well are reflected on the "Site Map". The well was staked by Madron Surveying, Inc.
- b. All roads into the location are depicted on the "Vicinity Map". The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattle guards, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.
- c. Directions to Location: From the intersection of SR 31 and SR 128 (Jal Highway) go East on SR 128 4.55 miles to CR 793 (Rawhide Road) turn right on CR 793, go South on CR 793 at 4.1 miles pavement ends, continue South along main Caliche Lease Road, at 7.3 miles you cross a cattle guard, continue South at 8.7 miles you turn right on a Caliche Lease Road, go West 2.05 miles just past a cattle guard, turn left at Caliche Lease Road, go West 0.63 miles, site is just South of existing pad for HB 11 Federal 1.

2. New or Reconstructed Access Roads:

- a. The "Site Map" shows new constructed access road, which will be approximately 100.6 LF from the existing Lease road.
- b. The maximum driving width of the access road will be 14 feet. The maximum width of surface disturbance when constructing the access road will not exceed 25 feet. The road will be crowned and ditched with 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 3 feet wide with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.
- c. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. Location of Existing Wells:

The attached "One Mile Radius Map" shows all existing and proposed wells within a one-mile radius of the proposed location.

4. Location of Existing and/or Proposed Production Facilities:

- a. In the event the well is found productive, a tank battery and necessary production equipment will be installed onsite located in Sec. 11, T24S, R29E. See "Interim Reclamation Diagram".
- b. If necessary, the well will be operated by means of an electric prime mover. If electric power poles are needed, a plat and a sundry notice will be filed with your office.
- c. All flow lines will adhere to API standards.
- d. If the well is productive, rehabilitation plans are as follows:
 - i. A closed loop system will be utilized.

- ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

5. Location and Types of Water Supply:

This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads described and depicted on the "Vicinity Map". On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

6. Construction Materials:

Obtaining caliche: One primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means caliche will be obtained from the actual well site. Actual amounts will vary for each pad. The procedure below has been approved by BLM personnel:

- a. The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
- b. Subsoil is removed and stockpiled within the surveyed well pad.
- c. When caliche is found, material will be stock piled within the pad site to build the location and road.
- d. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- e. Once well is drilled, the stock piled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced.
- f. Neither caliche, nor subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or land.

7. Methods of Handling Waste Material:

- a. Drill cuttings will be safely contained in a closed loop system and disposed of properly at a NMOCD approved disposal site.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier will pick up salts remaining after completion of well, including broken sacks.
- d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be sent to a closed loop system. Water produced during completion will be put into a closed loop system. Oil and condensate produced will be put into a storage tank and sold.
- f. Disposal of fluids to be transported by the following companies:

- i. American Production Service Inc, Odessa TX
- ii. Gandy Corporation, Lovington NM
- iii. I & W Inc, Loco Hill NM
- iv. Jims Water Service of Co Inc, Denver CO

8. **Ancillary Facilities:** No campsite or other facilities will be constructed as a result of this well.

9. **Well Site Layout**

- a. The Rig Location Layout attachment shows the proposed well site layout and pad dimensions.
- b. The Rig Location Layout attachment proposes location of sump pits and living facilities.
- c. Mud pits in the active circulating system will be steel pits.
- d. A closed loop system will be utilized.
- e. If a pit or closed loop system is utilized, Devon will provide a copy of the Design Plan to the BLM.

10. **Plans for Surface Reclamation:**

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.
- b. The location and road will be rehabilitated as recommended by the BLM.
- c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.
- d. All disturbed areas not needed for active support of production operations will undergo interim reclamation. The portions of the cleared well site not needed for operational and safety purposes will be recontoured to a final or intermediate contour that blends with the surrounding topography as much as possible. Topsoil will be respread over areas not needed for all-weather operations.

11. **Surface Ownership**

- a. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
- b. The proposed road routes and the surface location will be restored as directed by the BLM.

12. **Other Information:**

- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sage bush, yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.

- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 2 miles of location.
- d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

13. Bond Coverage:

Bond Coverage is Nationwide; Bond # is CO-1104 & NMB-000801.

Operators Representative:

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Dan McCorkel - Operations Engineer
Devon Energy Production Company, L.P.
333 W. Sheridan
Oklahoma City, OK 73102-5010
(405) 228-7528 (office)
(405) 443-8697 (Cellular)

Don Mayberry - Superintendent
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250
(575) 748-3371 (office)
(575) 746-4945 (home)

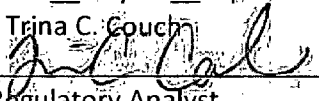
Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 30th day of September, 2014.

Printed Name: Trina C. Couch

Signed Name: 

Position Title: Regulatory Analyst

Address: 333 W. Sheridan, OKC OK 73102

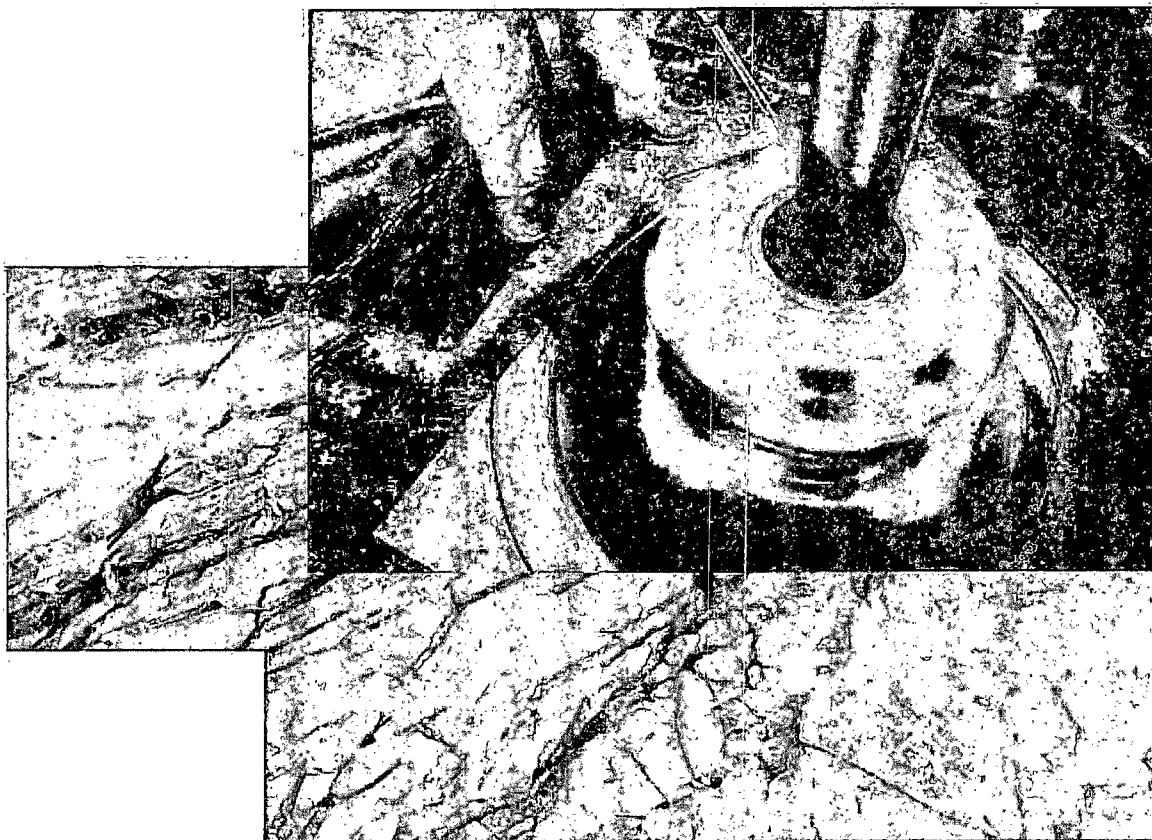
Telephone: (405)-552-6559

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Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2010

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

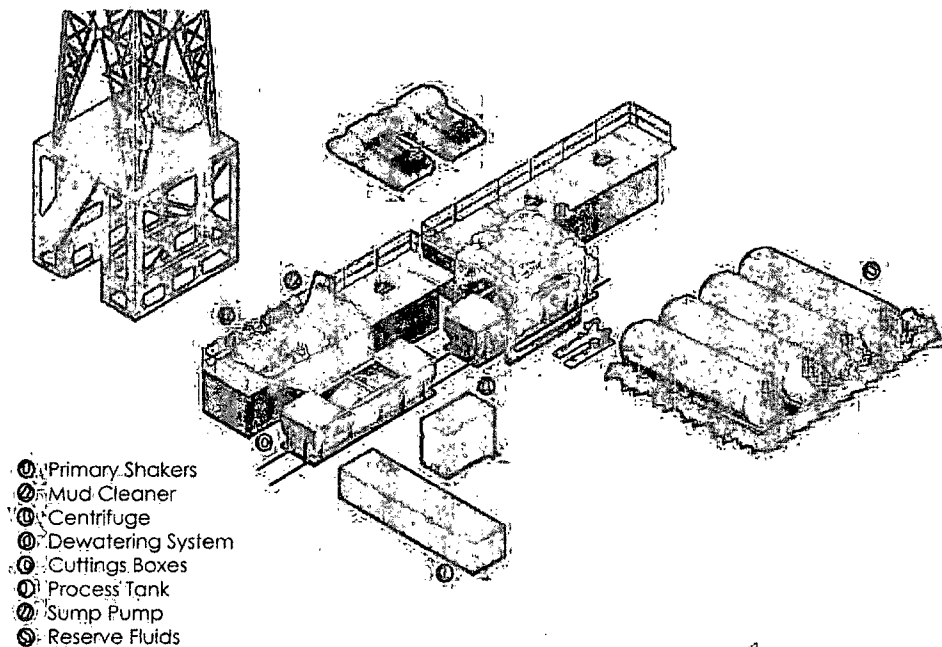
II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.

devon

Closed Loop Schematic



MISWACO

Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, L.P.
LEASE NO.:	NMNM-96222
WELL NAME & NO.:	New Potato 11 Fed Com 1H
SURFACE HOLE FOOTAGE:	2324' FNL & 0641' FWL
BOTTOM HOLE FOOTAGE:	0330' FSL & 0660' FWL Sec. 14, T. 24 S., R 29 E.
LOCATION:	Section 11, T. 24 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Communitization Agreement
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Cement Requirements
 - Medium Cave/Karst
 - Logging Requirements
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD:

- In the event that any underground voids are encountered during construction activities, construction activities will be halted and the BLM will be notified immediately.
- No Blasting to prevent geologic structure instabilities.
- Pad Berming to minimize effects of any spilled contaminants.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required.

- Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional Drilling allowed after at least 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost Circulation zones logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See Drilling COAs.

Production Mitigation

In order to mitigate the impacts from production activities and due to the nature of karst terrain, the following Conditions of Approval will apply to this APD:

- Tank battery liners and berms to minimize the impact resulting from leaks.
- Leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of line failures used in production or drilling.

Residual and Cumulative Mitigation

- Nontoxic fluorescent dyes will be added to the drilling fluid when the hole is spudded and will be circulated to the bottom of the karst layers. This provides data as part of a long-term monitoring study.

- Annual pressure monitoring will be performed by the operator. If the test results indicate a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Plugging and Abandonment Mitigation

Abandonment Cementing: Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.

Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

Interim reclamation will be conducted on all disturbed areas not needed for active support of production operations, and if caliche is used as a surfacing material it will be removed at time of reclamation to mitigate impacts to soil resources.

Topsoil will be stockpiled to enhance reclamation.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS**Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

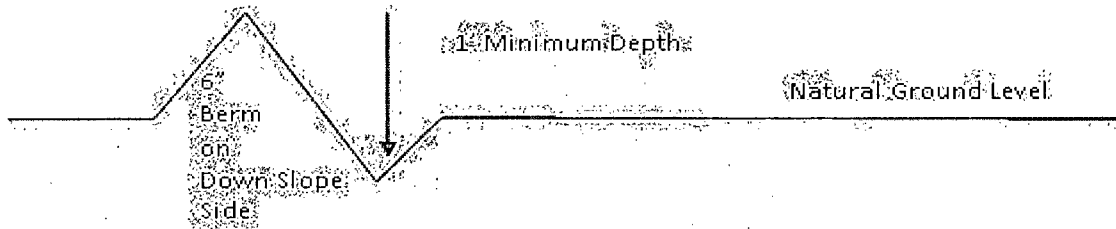
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and inslouting, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

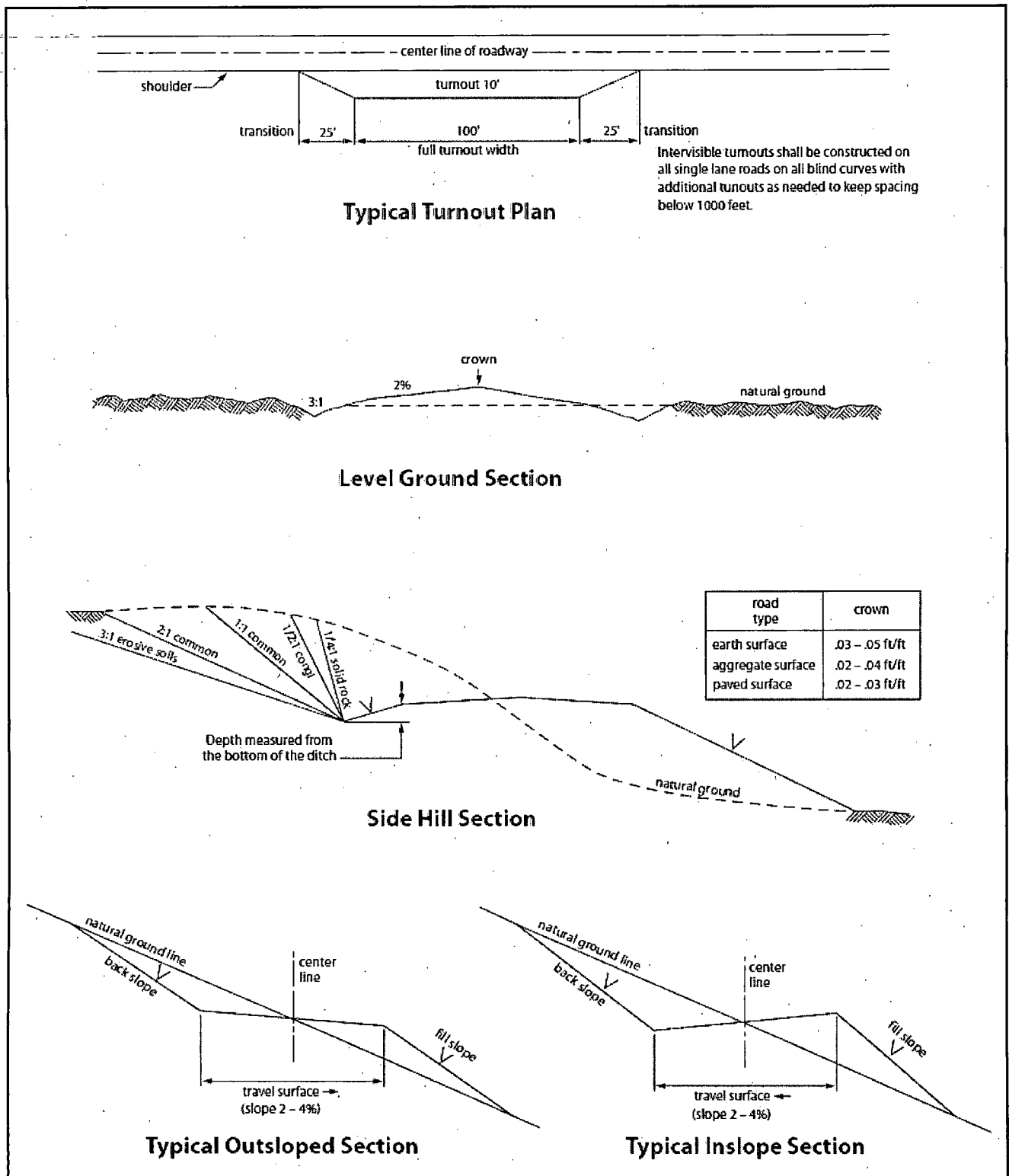


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or F5 local and higher-class roads.

VII. 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. **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 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.

Medium Cave/Karst

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 500 feet and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - 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, which shall be set at approximately 3100 feet (basal anhydrite of the Castile formation), is:

Option #1 (Single Stage):

- ☒ 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 cave/karst.**

Option #2:

Operator has proposed DV tool at depth of 750', 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. 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 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 cave/karst. Excess calculates to 2% - Additional cement may be required.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

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

3. Production Cement Options:

Option #1:

The minimum required fill of cement behind the 7 X 5-1/2 inch production casing is:

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 24% - Additional cement may be required.**

Option #2:

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

Operator has proposed DV tool at depth of 4000', 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 should tie-back at least 500 feet into previous casing string. 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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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by

drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

SEED MIXTURE 2 (SANDY LOCATIONS)

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine months prior to purchase. Commercial seed will be certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first; the holder shall take appropriate measures to ensure this does not occur). Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be double the amounts listed below. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre (note: if broadcasting seed, amounts are to be doubled):

Species	Pound/acre
Plains Bristlegrass (<i>Setaria macrostachya</i>)	2.0
Sand Lovegrass (<i>Eragrostis trichodes</i>)	1.0
Sand Dropseed (<i>Sporobolus cryptandrus</i>)	1.0

* Pounds of pure live seed = (Pounds of seed) x (Percent purity) x (Percent germination)