

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (505) 283-6181 Fax: (505) 283-0720

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (505) 746-1253 Fax: (505) 746-0720

DISTRICT III

1000 Rio Grason Rd., Aztec, NM 87410
Phone (505) 334-6170 Fax: (505) 334-6170

DISTRICT IV

1210 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 470-0489 Fax: (505) 470-0423State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1218 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-42290	Pool Code 98064	Pool Name WC-025 G-06 S183608B; BONE SPRING
Property Code	Property Name ALTBEIR 10 STATE	Well Number 1H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION LP	Elevation 3818

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	10	18 S	36 E		230	SOUTH	1980	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	10	18 S	36 E		330	NORTH	1980	WEST	LEA
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						

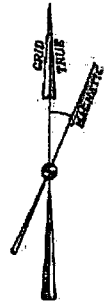
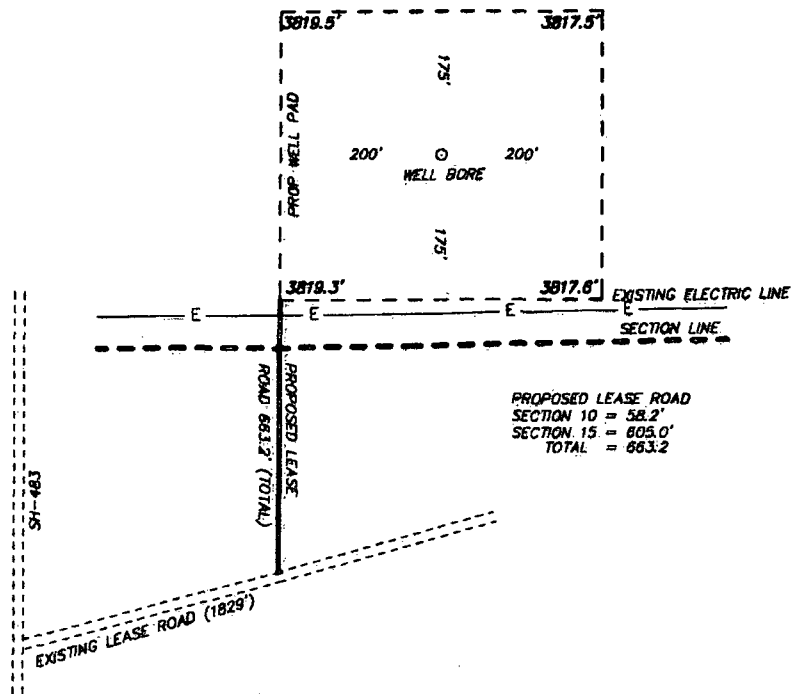
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	PROPOSED BOTTOM HOLE LOCATION Lot - N 32.768522° Long - W 103.344564° NMSPC - N 844740.3 E 845286.3 (NAD-83) Lot - N 32.768403° Long - W 103.344072° NMSPC - N 844677.1 E 804086.8 (NAD-27) SURFACE LOCATION Lot - N 32.755111° Long - W 103.344522° NMSPC - N 640006.2 E 845323.4 (NAD-83) Lot - N 32.755382° Long - W 103.344031° NMSPC - N 639943.1 E 804143.8 (NAD-27)	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>David H. Cook</i> 11/26/2014 Signature Date David H. Cook Regulatory Specialist Printed Name david.cook@dvn.com Email Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. OCTOBER 2014 Date Surveyed Signature of Surveyor Professional Surveyor Certificate No. Gary Jones 7977 BASIC SURVEYS 0' 500' 1000' 1500' 2000' SCALE: 1" = 1000' WO. Num.: 31141
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PP: 530 FSL & 1980 FWL

DEC 01 2014

**SECTION 10, TOWNSHIP 18 SOUTH, RANGE 36 EAST. N.M.P.M.,
LEA COUNTY, NEW MEXICO.**



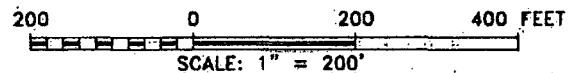
**DEVON ENERGY PRODUCTION LP
ALTBEIR 10 STATE #1H
ELEV. ~ 3818'**

Lat - N 32.755511"
Long - W 103.344522"
NMSPC - N 840008.2
E 845323.4
(NAD-83)
Lat - N 32.755382"
Long - W 103.344031"
NMSPC - N 639943.1
E 804145.8
(NAD-27)

HOBBS, NM IS ±12 MILES TO THE EAST-SOUTHEAST OF LOCATION.

Directions to Location:

FROM SH-483 AND HWY 62-180 GO NORTH ON
483 3 MILES TO LEASE ROAD GOING EAST. GO EAST
ON LEASE ROAD 0.35 MILES TO STAKED LEASE ROAD
ON NORTH SIDE.



**basin
surveys**

P.O. Box 1786 (575) 393-7316 - Office
focused on excellence 1120 N. West County Rd. (575) 392-2208 - Fax
in the oilfield Hobbs, New Mexico 88241 basin-surveys.com

devon

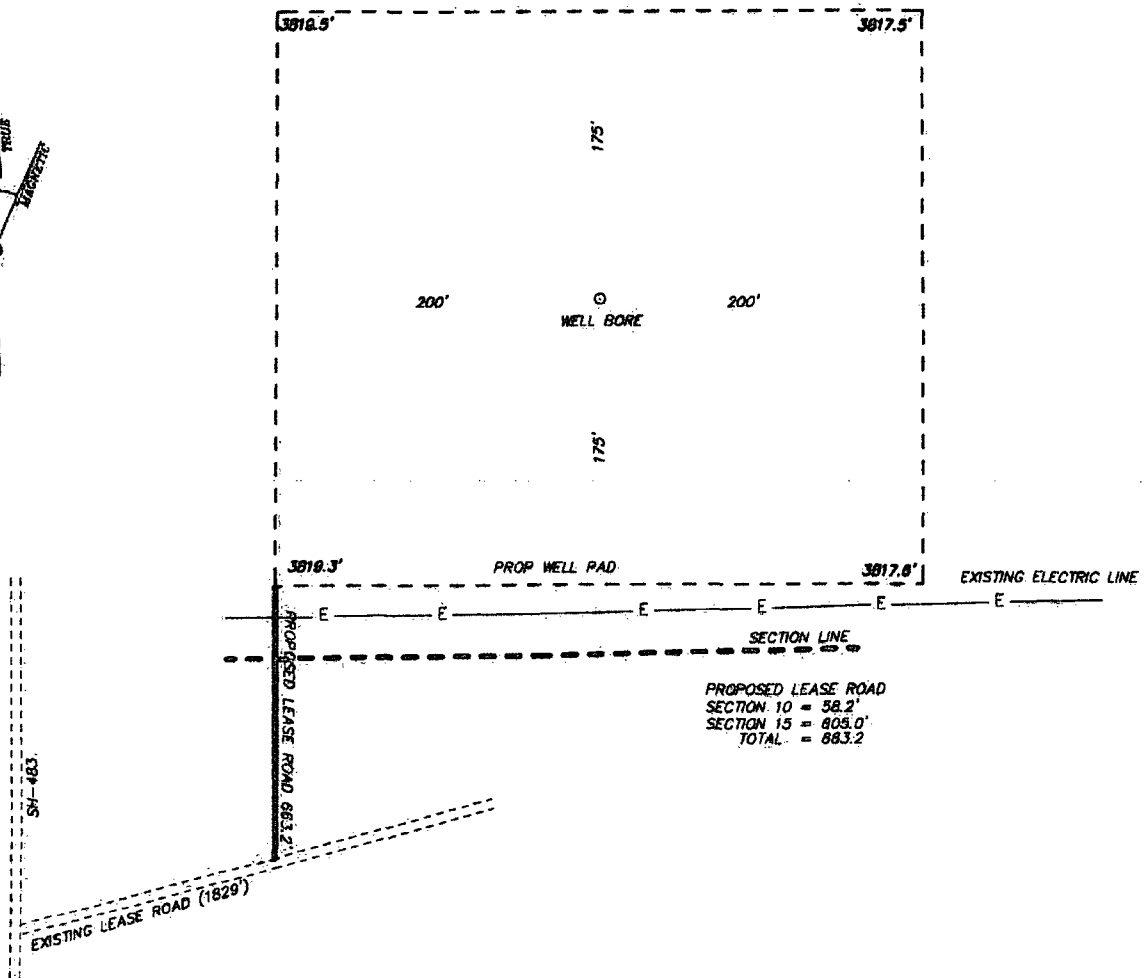
REF: ALTBEIR 10 STATE #1H / WELL PAD TOPO

THE ALTBEIR 10 STATE #1H LOCATED 230' FROM
THE SOUTH LINE AND 1980' FROM THE WEST LINE OF
SECTION 10, TOWNSHIP 18 SOUTH, RANGE 36 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 31141 Drawn By: K. NORRIS Date: 11-05-2014 Survey Date: 10-30-2014 Sheet 1 of 1 Sheets

SECTION 10, TOWNSHIP 18 SOUTH, RANGE 36 EAST. N.M.P.M.,
LEA COUNTY, NEW MEXICO.



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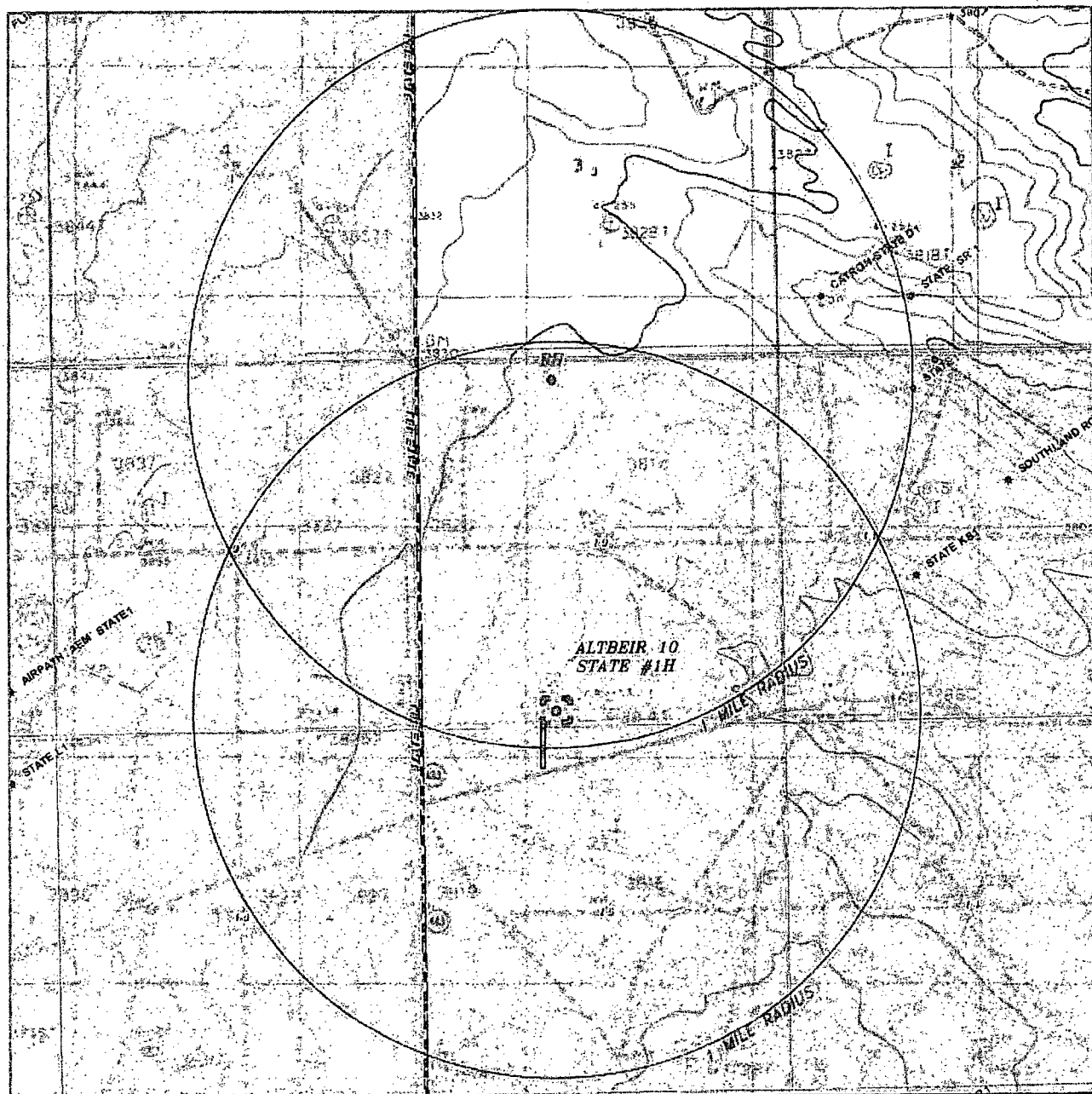
devon

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ALTBEIR 10 STATE #1H

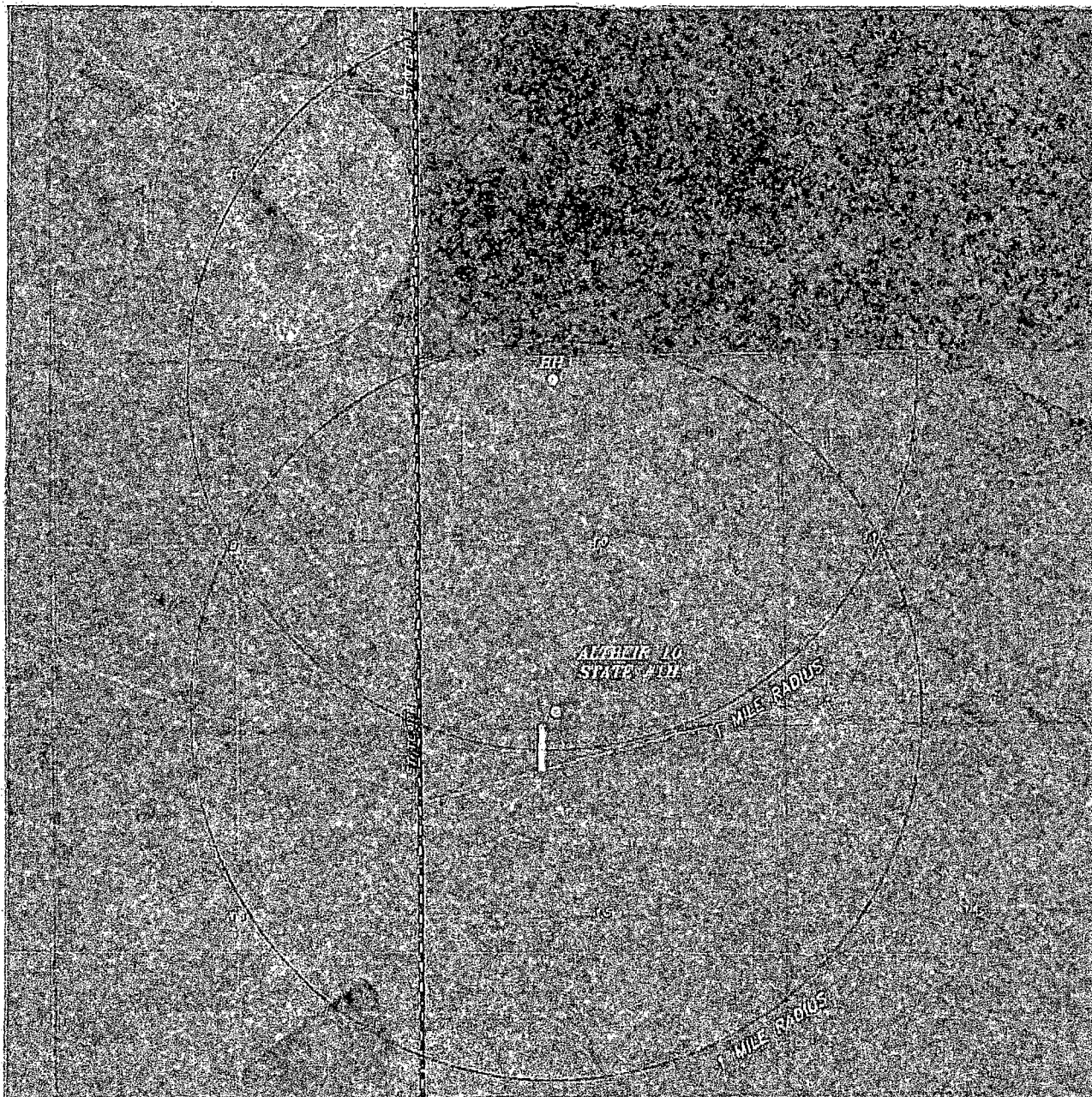
Located 230' FSL and 1980' FWL
 Section 10, Township 18 South, Range 36 East,
 N.M.P.M., Lea County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
basinsurveys.com

0'	1000'	2000'	3000'	4000'
SCALE: 1" = 2000'				
W.O. Number: KAN 31141				
Survey Date: 10-30-2014				
YELLOW TINT - USA LAND				
BLUE TINT - STATE LAND				
NATURAL COLOR - FEE LAND				

devon



ALTBEIR 10 STATE #1H

Located 230' FSL and 1980' FWL
 Section 10, Township 18 South, Range 36 East,
 N.M.P.M., Lea County, New Mexico.

basin
surveys

focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7315 - Office
 (575) 392-2206 - Fax
 basin-surveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: KAN 31141

Survey Date: 10-30-2011

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND

devon

DEVON ENERGY

Project: Lea County, NM (NAD-83)
Site: Altbeir 10 State
Well: 1H
Wellbore: ST
Design: Plan #1



Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.73°

Magnetic Field
Strength: 48573.8snT
Dip Angle: 60.63°
Date: 11/20/2014
Model: BGGM2014

devon

SECTION DETAILS

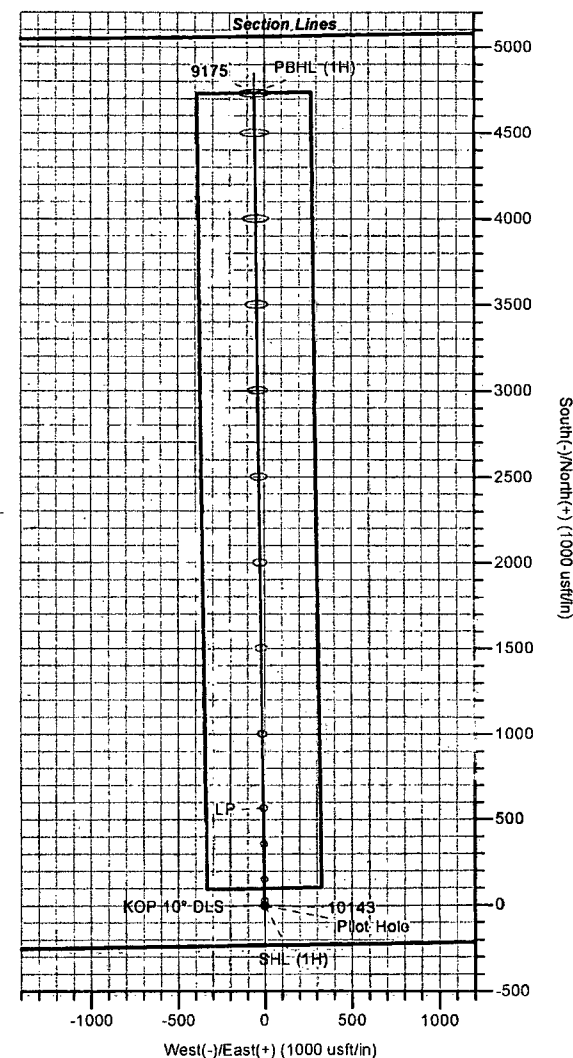
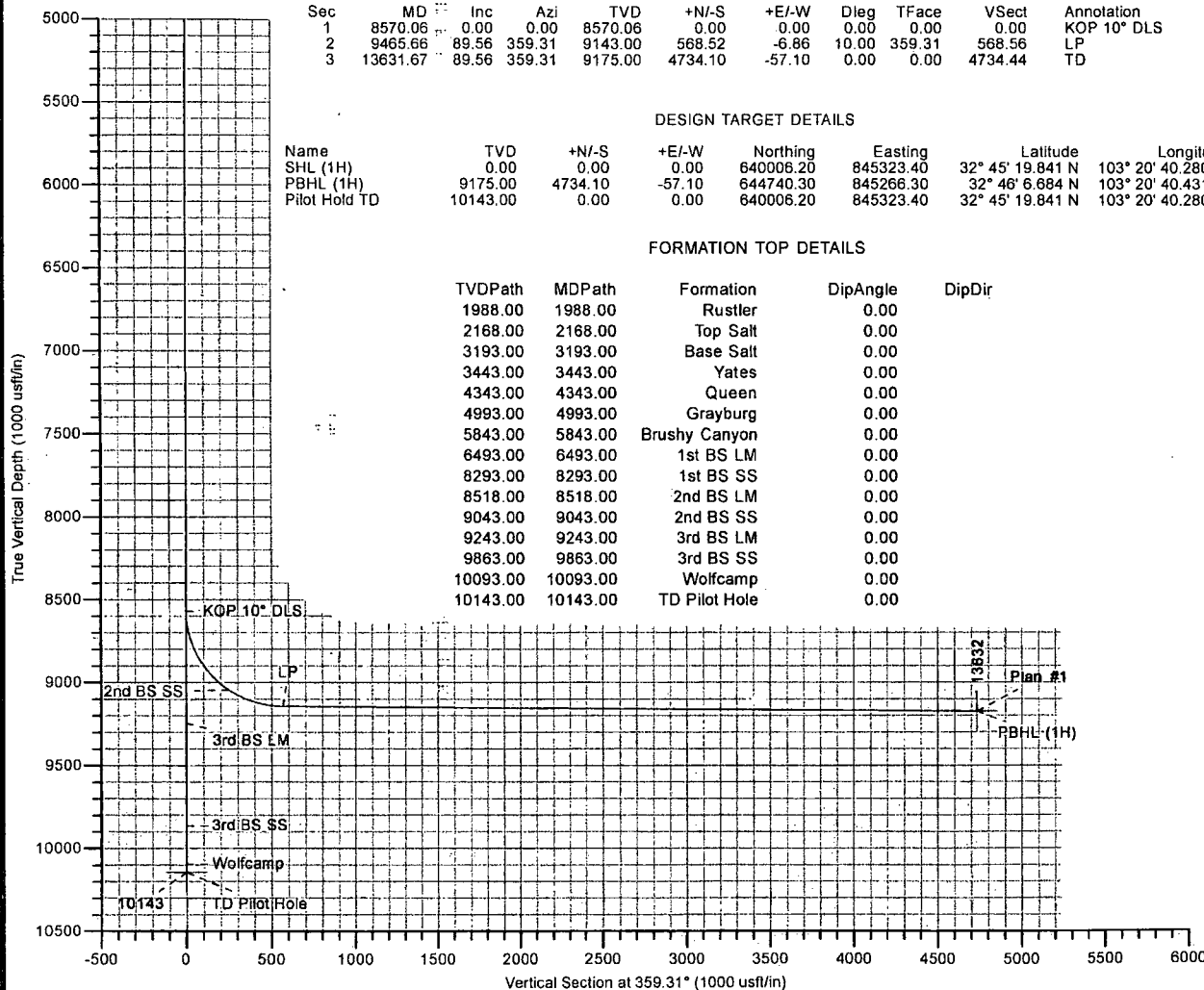
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Annotation
1	8570.06	0.00	0.00	8570.06	0.00	0.00	0.00	0.00	0.00	KOP 10° DLS
2	9465.66	89.56	359.31	9143.00	568.52	-6.86	10.00	359.31	568.56	LP
3	13631.67	89.56	359.31	9175.00	4734.10	-57.10	0.00	0.00	4734.44	TD

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
SHL (1H)	0.00	0.00	0.00	640006.20	845323.40	32° 45' 19.841 N	103° 20' 40.280 W
PBHL (1H)	9175.00	4734.10	-57.10	644740.30	845266.30	32° 46' 6.684 N	103° 20' 40.431 W
Pilot Hold TD	10143.00	0.00	0.00	640006.20	845323.40	32° 45' 19.841 N	103° 20' 40.280 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
1988.00	1988.00	Rustler	0.00	
2168.00	2168.00	Top Salt	0.00	
3193.00	3193.00	Base Salt	0.00	
3443.00	3443.00	Yates	0.00	
4343.00	4343.00	Queen	0.00	
4993.00	4993.00	Grayburg	0.00	
5843.00	5843.00	Brushy Canyon	0.00	
6493.00	6493.00	1st BS LM	0.00	
8293.00	8293.00	1st BS SS	0.00	
8518.00	8518.00	2nd BS LM	0.00	
9043.00	9043.00	2nd BS SS	0.00	
9243.00	9243.00	3rd BS LM	0.00	
9863.00	9863.00	3rd BS SS	0.00	
10093.00	10093.00	Wolfcamp	0.00	
10143.00	10143.00	TD Pilot Hole	0.00	



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

Plan: Plan #1 (1H/ST)
Altbeir 10 State
Created By: Brady Deaver
Date: 10:46, November 20 2014
Approved: _____
Date: _____



LEAM
Drilling Systems, Inc.

DEVON ENERGY

Lea County, NM (NAD-83)

Altbeir 10 State

1H

ST

Plan: Plan #1

Standard Planning Report

20 November, 2014


devon



LEAM Drilling Systems LLC
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: 1H
Company:	DEVON ENERGY	TVD Reference:	3818' GL + 25' RKB @ 3843.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3818' GL + 25' RKB @ 3843.00usft
Site:	Altbeir 10 State	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST		
Design:	Plan #1		

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

Site		Altbeir 10 State			
Site Position:		Northing:	640,006.20 usft	Latitude:	32° 45' 19.841 N
From:	Map	Easting:	845,323.40 usft	Longitude:	103° 20' 40.280 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54 °

Well:	1H					
Well Position	+N-S	0.00 usft	Northing:	640,006.20 usft	Latitude:	32° 45' 19.841 N
	+E-W	0.00 usft	Easting:	845,323.40 usft	Longitude:	103° 20' 40.280 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,818.00 usft	

Wellbore	ST				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	BGGM2014	11/20/2014	7.26	60.63	48,574

Design		Plan #1		
Audit Notes:				
Version:		Phase:	PLAN	Tie On Depth: 8,570.06
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	359.31

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
8,570.06	0.00	0.00	8,570.06	0.00	0.00	0.00	0.00	0.00	0.00	
9,465.66	89.56	359.31	9,143.00	568.52	-6.86	10.00	10.00	-0.08	359.31	
13,631.67	89.56	359.31	9,175.00	4,734.10	-57.10	0.00	0.00	0.00	0.00	PBHL (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:	3818' GL + 25' RKB @ 3843.00usft
Project:	Lea County NM (NAD-83)	MD Reference:	3818' GL + 25' RKB @ 3843.00usft
Site:	Albair 10 State	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST		
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 (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
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
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
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



LEAM Drilling Systems LLC Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	3818' GL + 25' RKB @ 3843.00usft
Project:	Lea County NM (NAD-83)	MD Reference:	3818' GL + 25' RKB @ 3843.00usft
Site:	Altair 10 State	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST		
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)	
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	
5,600.00	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	
6,493.00	0.00	0.00	6,493.00	0.00	0.00	0.00	0.00	0.00	0.00	
1st BS LM										
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	
6,900.00	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	
7,900.00	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	
8,293.00	0.00	0.00	8,293.00	0.00	0.00	0.00	0.00	0.00	0.00	
1st BS SS										
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,518.00	0.00	0.00	8,518.00	0.00	0.00	0.00	0.00	0.00	0.00	
2nd BS LM										
8,570.06	0.00	0.00	8,570.06	0.00	0.00	0.00	0.00	0.00	0.00	
KOP 10' DLS										
8,600.00	2.99	359.31	8,599.99	0.78	-0.01	0.78	10.00	10.00	0.00	
8,650.00	7.99	359.31	8,649.74	5.57	-0.07	5.57	10.00	10.00	0.00	
8,700.00	12.99	359.31	8,698.89	14.67	-0.18	14.67	10.00	10.00	0.00	
8,750.00	17.99	359.31	8,747.06	28.02	-0.34	28.02	10.00	10.00	0.00	
8,800.00	22.99	359.31	8,793.88	45.52	-0.55	45.52	10.00	10.00	0.00	
8,850.00	27.99	359.31	8,838.99	67.03	-0.81	67.04	10.00	10.00	0.00	
8,900.00	32.99	359.31	8,882.07	92.40	-1.11	92.40	10.00	10.00	0.00	
8,950.00	37.99	359.31	8,922.76	121.42	-1.46	121.42	10.00	10.00	0.00	
9,000.00	42.99	359.31	8,960.77	153.87	-1.86	153.88	10.00	10.00	0.00	
9,050.00	47.99	359.31	8,995.81	189.52	-2.29	189.53	10.00	10.00	0.00	
9,100.00	52.99	359.31	9,027.61	228.08	-2.75	228.10	10.00	10.00	0.00	
9,126.39	55.63	359.31	9,043.00	249.51	-3.01	249.53	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:	3818' GL + 25' RKB @ 3843' 00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3818' GL + 25' RKB @ 3843' 00usft
Site:	Alibair, 10 State	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST		
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)
2nd BS SS									
9,150.00	57.99	359.31	9,055.92	269.27	-3.25	269.29	10.00	10.00	0.00
9,200.00	62.99	359.31	9,080.54	312.76	-3.77	312.79	10.00	10.00	0.00
9,250.00	67.99	359.31	9,101.27	358.24	-4.32	358.27	10.00	10.00	0.00
9,260.14	69.01	359.31	9,104.99	367.67	-4.43	367.70	10.00	10.00	0.00
Pilot Hole TD									
9,300.00	72.99	359.31	9,117.96	405.35	-4.89	405.38	10.00	10.00	0.00
9,350.00	77.99	359.31	9,130.49	453.74	-5.47	453.77	10.00	10.00	0.00
9,400.00	82.99	359.31	9,138.74	503.04	-6.07	503.07	10.00	10.00	0.00
9,450.00	87.99	359.31	9,142.67	552.86	-6.67	552.90	10.00	10.00	0.00
9,465.66	89.56	359.31	9,143.00	568.52	-6.86	568.56	10.00	10.00	0.00
LP									
9,500.00	89.56	359.31	9,143.26	602.85	-7.27	602.90	0.00	0.00	0.00
9,600.00	89.56	359.31	9,144.03	702.84	-8.48	702.89	0.00	0.00	0.00
9,700.00	89.56	359.31	9,144.80	802.83	-9.68	802.89	0.00	0.00	0.00
9,800.00	89.56	359.31	9,145.57	902.82	-10.89	902.89	0.00	0.00	0.00
9,900.00	89.56	359.31	9,146.34	1,002.81	-12.10	1,002.89	0.00	0.00	0.00
10,000.00	89.56	359.31	9,147.11	1,102.80	-13.30	1,102.88	0.00	0.00	0.00
10,100.00	89.56	359.31	9,147.87	1,202.79	-14.51	1,202.88	0.00	0.00	0.00
10,200.00	89.56	359.31	9,148.64	1,302.78	-15.71	1,302.88	0.00	0.00	0.00
10,300.00	89.56	359.31	9,149.41	1,402.77	-16.92	1,402.87	0.00	0.00	0.00
10,400.00	89.56	359.31	9,150.18	1,502.76	-18.13	1,502.87	0.00	0.00	0.00
10,500.00	89.56	359.31	9,150.95	1,602.75	-19.33	1,602.87	0.00	0.00	0.00
10,600.00	89.56	359.31	9,151.71	1,702.74	-20.54	1,702.86	0.00	0.00	0.00
10,700.00	89.56	359.31	9,152.48	1,802.73	-21.74	1,802.86	0.00	0.00	0.00
10,800.00	89.56	359.31	9,153.25	1,902.72	-22.95	1,902.86	0.00	0.00	0.00
10,900.00	89.56	359.31	9,154.02	2,002.71	-24.16	2,002.86	0.00	0.00	0.00
11,000.00	89.56	359.31	9,154.79	2,102.70	-25.36	2,102.85	0.00	0.00	0.00
11,100.00	89.56	359.31	9,155.55	2,202.69	-26.57	2,202.85	0.00	0.00	0.00
11,200.00	89.56	359.31	9,156.32	2,302.68	-27.77	2,302.85	0.00	0.00	0.00
11,300.00	89.56	359.31	9,157.09	2,402.67	-28.98	2,402.84	0.00	0.00	0.00
11,400.00	89.56	359.31	9,157.86	2,502.66	-30.19	2,502.84	0.00	0.00	0.00
11,500.00	89.56	359.31	9,158.63	2,602.65	-31.39	2,602.84	0.00	0.00	0.00
11,600.00	89.56	359.31	9,159.39	2,702.64	-32.60	2,702.83	0.00	0.00	0.00
11,700.00	89.56	359.31	9,160.16	2,802.63	-33.80	2,802.83	0.00	0.00	0.00
11,800.00	89.56	359.31	9,160.93	2,902.62	-35.01	2,902.83	0.00	0.00	0.00
11,900.00	89.56	359.31	9,161.70	3,002.61	-36.22	3,002.83	0.00	0.00	0.00
12,000.00	89.56	359.31	9,162.47	3,102.60	-37.42	3,102.82	0.00	0.00	0.00
12,100.00	89.56	359.31	9,163.24	3,202.59	-38.63	3,202.82	0.00	0.00	0.00
12,200.00	89.56	359.31	9,164.00	3,302.58	-39.83	3,302.82	0.00	0.00	0.00
12,300.00	89.56	359.31	9,164.77	3,402.57	-41.04	3,402.81	0.00	0.00	0.00
12,400.00	89.56	359.31	9,165.54	3,502.56	-42.25	3,502.81	0.00	0.00	0.00
12,500.00	89.56	359.31	9,166.31	3,602.55	-43.45	3,602.81	0.00	0.00	0.00
12,600.00	89.56	359.31	9,167.08	3,702.54	-44.66	3,702.81	0.00	0.00	0.00
12,700.00	89.56	359.31	9,167.84	3,802.53	-45.86	3,802.80	0.00	0.00	0.00
12,800.00	89.56	359.31	9,168.61	3,902.52	-47.07	3,902.80	0.00	0.00	0.00
12,900.00	89.56	359.31	9,169.38	4,002.51	-48.28	4,002.80	0.00	0.00	0.00
13,000.00	89.56	359.31	9,170.15	4,102.50	-49.48	4,102.79	0.00	0.00	0.00
13,100.00	89.56	359.31	9,170.92	4,202.49	-50.69	4,202.79	0.00	0.00	0.00
13,200.00	89.56	359.31	9,171.68	4,302.47	-51.89	4,302.79	0.00	0.00	0.00
13,300.00	89.56	359.31	9,172.45	4,402.46	-53.10	4,402.78	0.00	0.00	0.00
13,400.00	89.56	359.31	9,173.22	4,502.45	-54.31	4,502.78	0.00	0.00	0.00
13,500.00	89.56	359.31	9,173.99	4,602.44	-55.51	4,602.78	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	3818' GL + 25' RKB @ 3843.00usft
Project:	Lea County NM (NAD-83)	MD Reference:	3818' GL + 25' RKB @ 3843.00usft
Site:	Albair 10 State	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST		
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)
13,600.00	89.56	359.31	9,174.76	4,702.43	-56.72	4,702.78	0.00	0.00	0.00
13,631.67	89.56	359.31	9,175.00	4,734.10	-57.10	4,734.44	0.00	0.00	0.00
TD -PBHL (1H)									

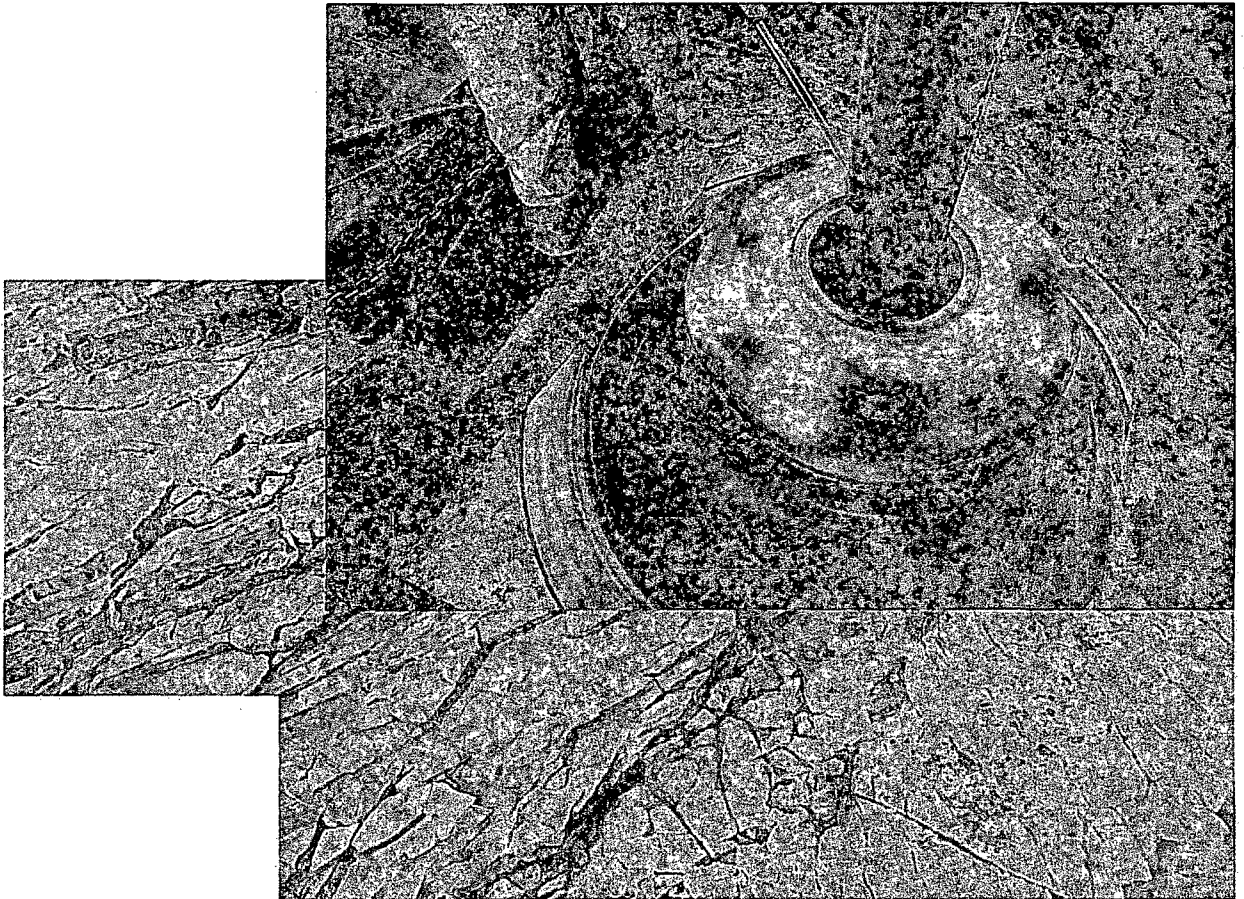
Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
SHL (1H)	- plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	640,006.20	845,323.40	32° 45' 19.841 N 103° 20' 40.280 W
PBHL (1H)	- plan hits target center - Point	0.00	0.00	9,175.00	4,734.10	-57.10	644,740.30	845,266.30	32° 46' 6.684 N 103° 20' 40.431 W
Pilot Hold TD	- plan misses target center by 1101.21usft at 9260.13usft MD (9104.99 TVD, 367.67 N, -4.43 E) - Point	0.00	0.00	10,143.00	0.00	0.00	640,006.20	845,323.40	32° 45' 19.841 N 103° 20' 40.280 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,988.00	1,988.00	Rustler		0.00		
2,168.00	2,168.00	Top Salt		0.00		
3,193.00	3,193.00	Base Salt		0.00		
3,443.00	3,443.00	Yates		0.00		
4,343.00	4,343.00	Queen		0.00		
4,993.00	4,993.00	Grayburg		0.00		
5,843.00	5,843.00	Brushy Canyon		0.00		
6,493.00	6,493.00	1st BS LM		0.00		
8,293.00	8,293.00	1st BS SS		0.00		
8,518.00	8,518.00	2nd BS LM		0.00		
9,126.39	9,043.00	2nd BS SS		0.00		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	N/S (usft)	E/W (usft)	Comment
8,570.06	8,570.06	0.00	0.00	KOP 10° DLS
9,465.66	9,143.00	568.52	-6.86	LP
13,631.67	9,175.00	4,734.10	-57.10	TD



Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
September 2014

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.

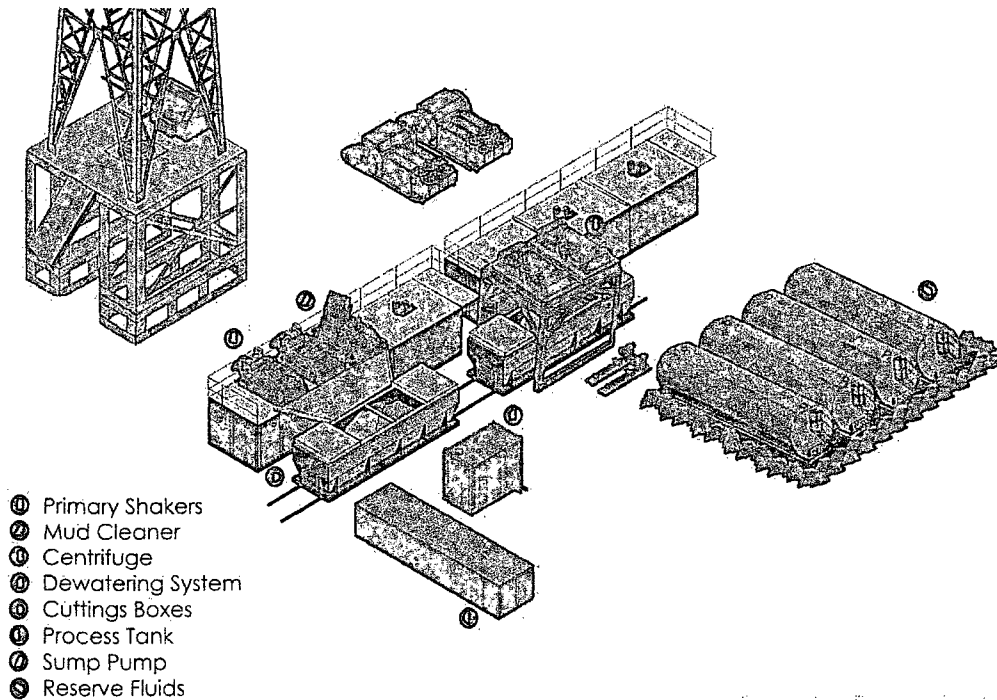
II. Operations and Maintenance Plan

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.



Closed Loop Schematic



MI SWACO

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

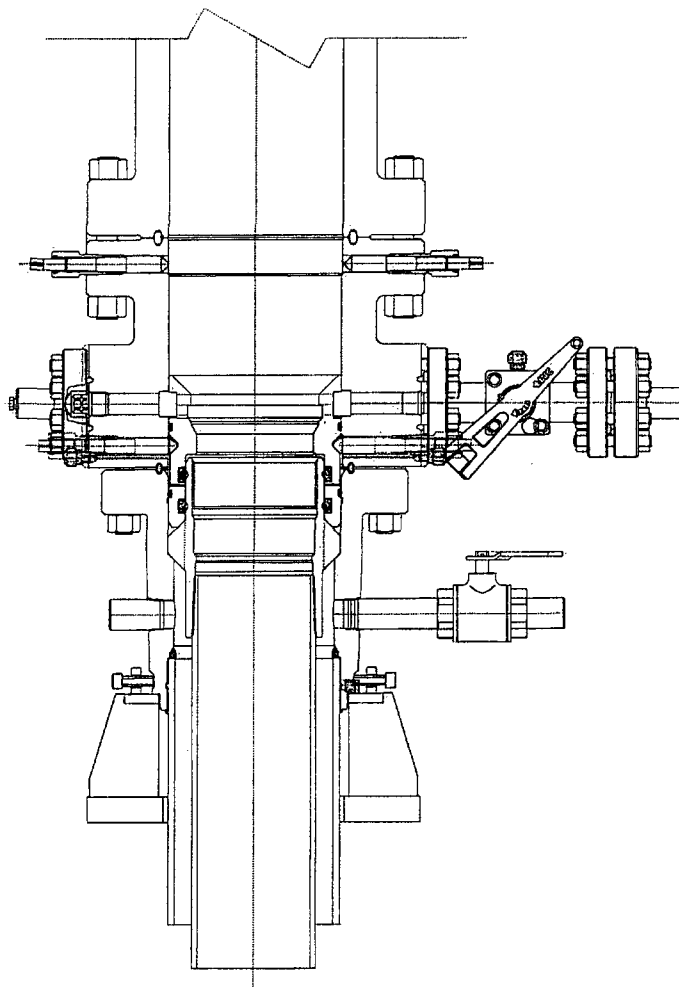
dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

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.



PRIMARY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

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REVISIONS

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

DESCRIPTION

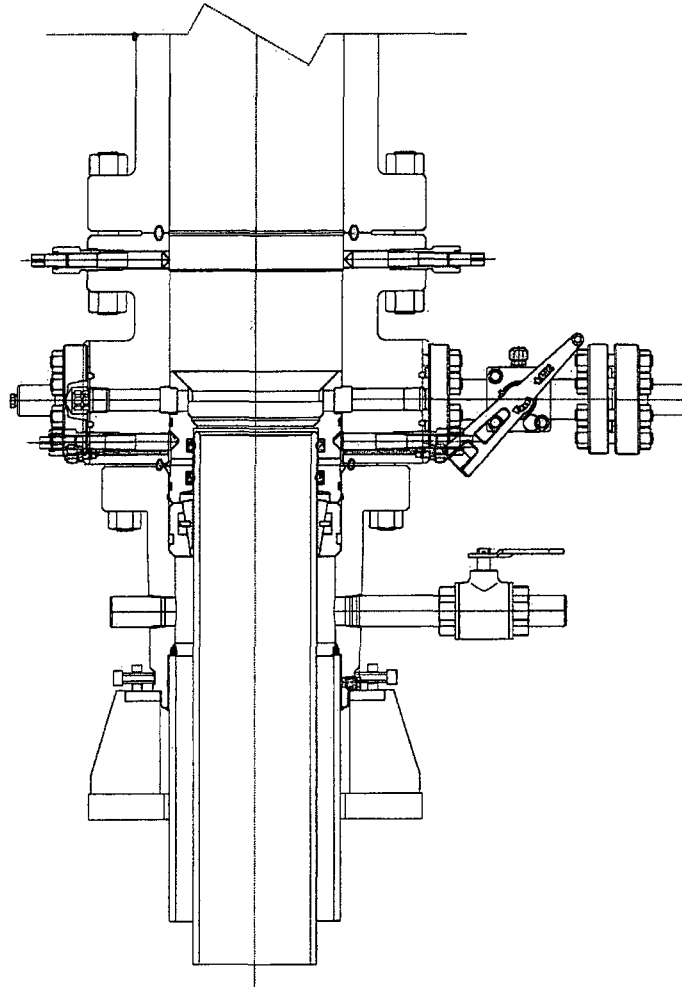
SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1, SOW,
DEVON ENERGY, ODESSA

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

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