

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-41341 ✓
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator Devon Energy Production Company, L.P.		6. State Oil & Gas Lease No.
3. Address of Operator 333 W. Sheridan Avenue, Oklahoma City, Oklahoma 73102-8260 (405) 552-7848		7. Lease Name or Unit Agreement Name THISTLE UNIT
4. Well Location Unit Letter <u>O</u> : <u>150</u> feet from the <u>S</u> line and <u>2150</u> feet from the <u>E</u> line Section <u>22</u> Township <u>23S</u> Range <u>33E</u> NMPM Lea County New Mexico		8. Well Number <u>57H</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3691.3'		9. OGRID Number 6137
		10. Pool name or Wildcat TRIPLE X; BONE SPRING

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Devon respectfully requests to change the bottom hole location for the Thistle Unit 57H as follows:

Old BHL: Unit O, section 27, Township 23S, Range 33E, 330 FSL & 1980 FEL

New BHL: Unit N, section 27, Township 23S, Range 33E, 330 FSL & 1980 FWL

As a result of this change, the projected TD will be 16,319'.

Attached are revised copies of the C-102, Drilling Plan & Directional Survey, which support these changes.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [Signature] TITLE Regulatory Specialist DATE 10/17/2013

Type or print name David H. Cook E-mail address: david.cook@dmn.com PHONE: (405) 552-7848

For State Use Only

Petroleum Engineer

APPROVED BY: [Signature] TITLE [Signature] DATE OCT 22 2013

Conditions of Approval (if any):

OCT 22 2013

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
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District IV
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Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

OCT 18 2013

☐ AMENDED REPORT

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-41341	² Pool Code 59900	³ Pool Name TRIPLE X; BONE SPRING
⁴ Property Code 30884	⁵ Property Name THISTLE UNIT	⁶ Well Number 57H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3691.3

¹⁰ Surface Location

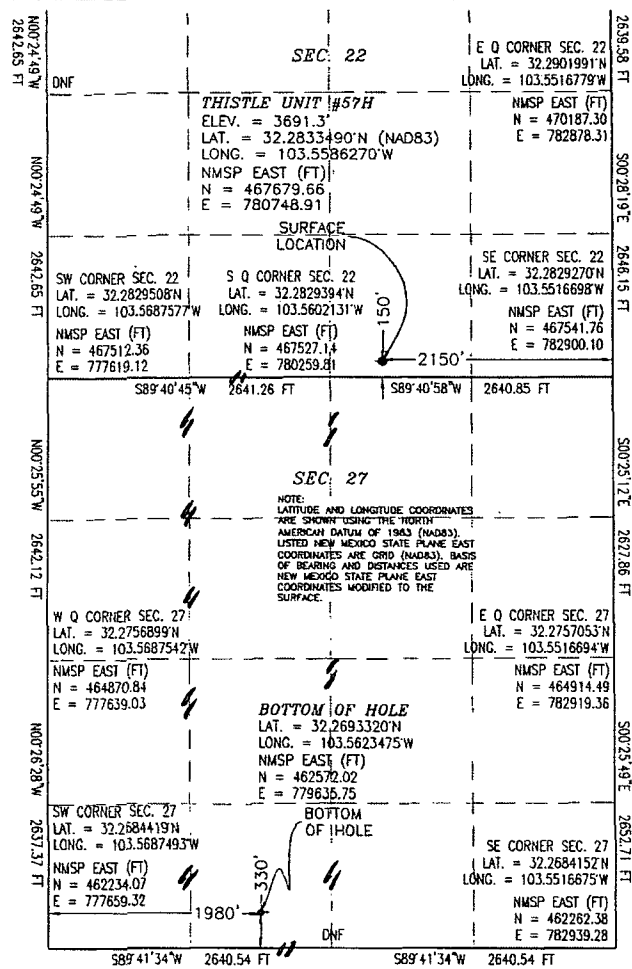
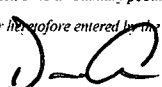
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	22	23 S	33 E		150	SOUTH	2150	EAST	LEA

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
N	27	23 S	33 E		330	SOUTH	1980	WEST	LEA

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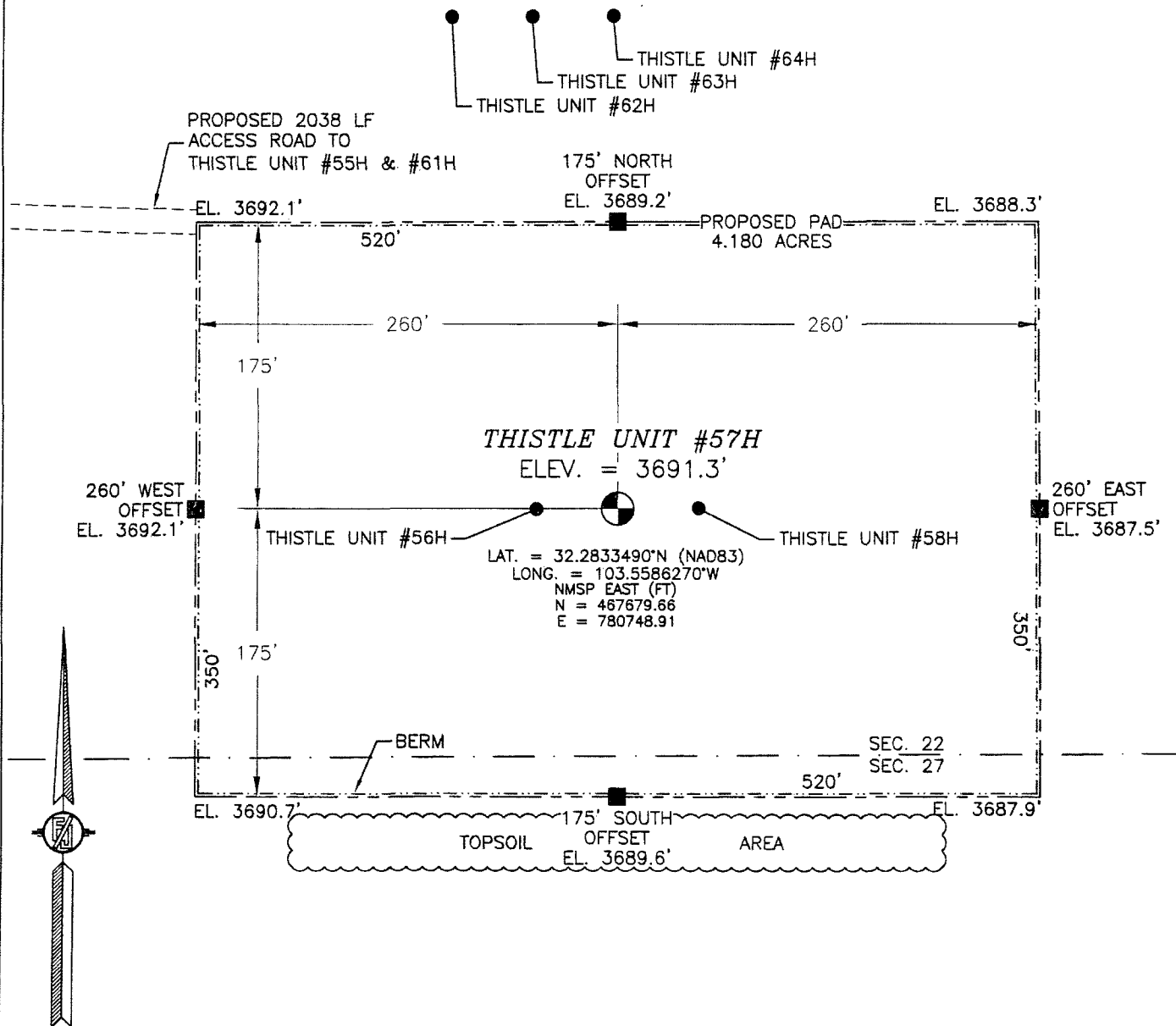
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	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 unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  10/17/2013 Signature Date David H. Cook Regulatory Specialist Printed Name david.cook@divn.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 and correct to the best of my belief. OCTOBER 17 2013 Date of Survey  Signature and Seal of Professional Surveyor Certificate Number: 12797 EDMUND F. JARAMILLO, PLS 12797 SURVEY NO. 2110B
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SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM STATE HIGHWAY 128 AND CR 21 (DELAWARE BASIN) GO NORTH ON CR 21 3.95 MILES, TURN LEFT ON PAVED ROAD (XL ROAD) AND GO WEST 3.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO NORTH 0.9 MILES, BEND LEFT AND GO NORTHWEST 0.15 MILES, BEND RIGHT AND GO NORTHEAST 0.1 MILES, BEND RIGHT AND GO EAST 375' TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS EAST 92', BEND LEFT AND FOLLOW FLAGS NORTHEAST 187' TO THE NORTHWEST CORNER OF PROPOSED THISTLE UNIT #55H PAD, THEN FROM THE NORTHEAST CORNER OF #55H PAD FOLLOW FLAGS EAST-SOUTHEAST 2038' TO THE NORTHWEST CORNER OF PROPOSED PAD FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT #57H

LOCATED 150 FT. FROM THE SOUTH LINE
AND 2150 FT. FROM THE EAST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 17, 2013

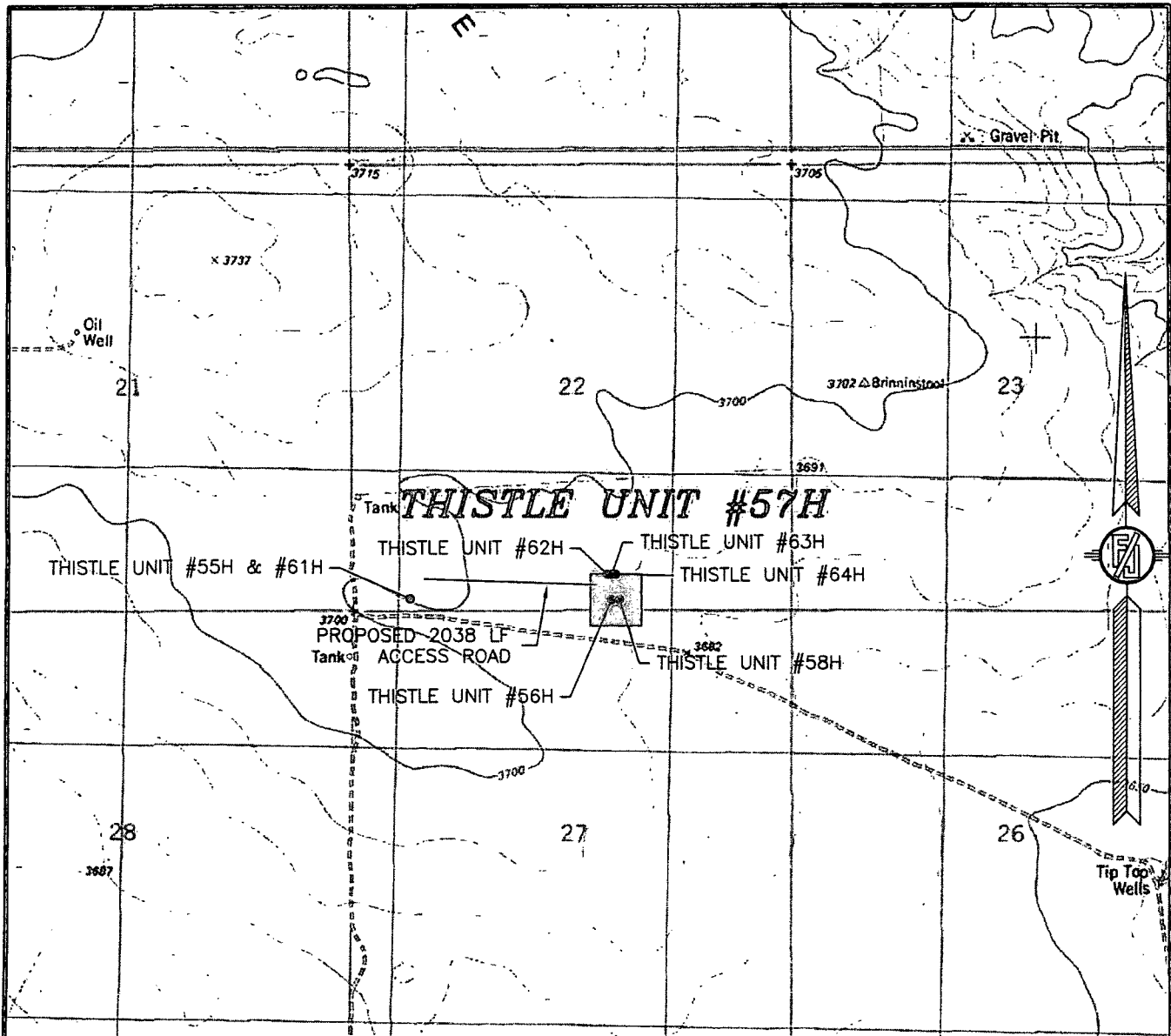
SURVEY NO. 2110B

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
TIP TOP WELLS

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT #57H

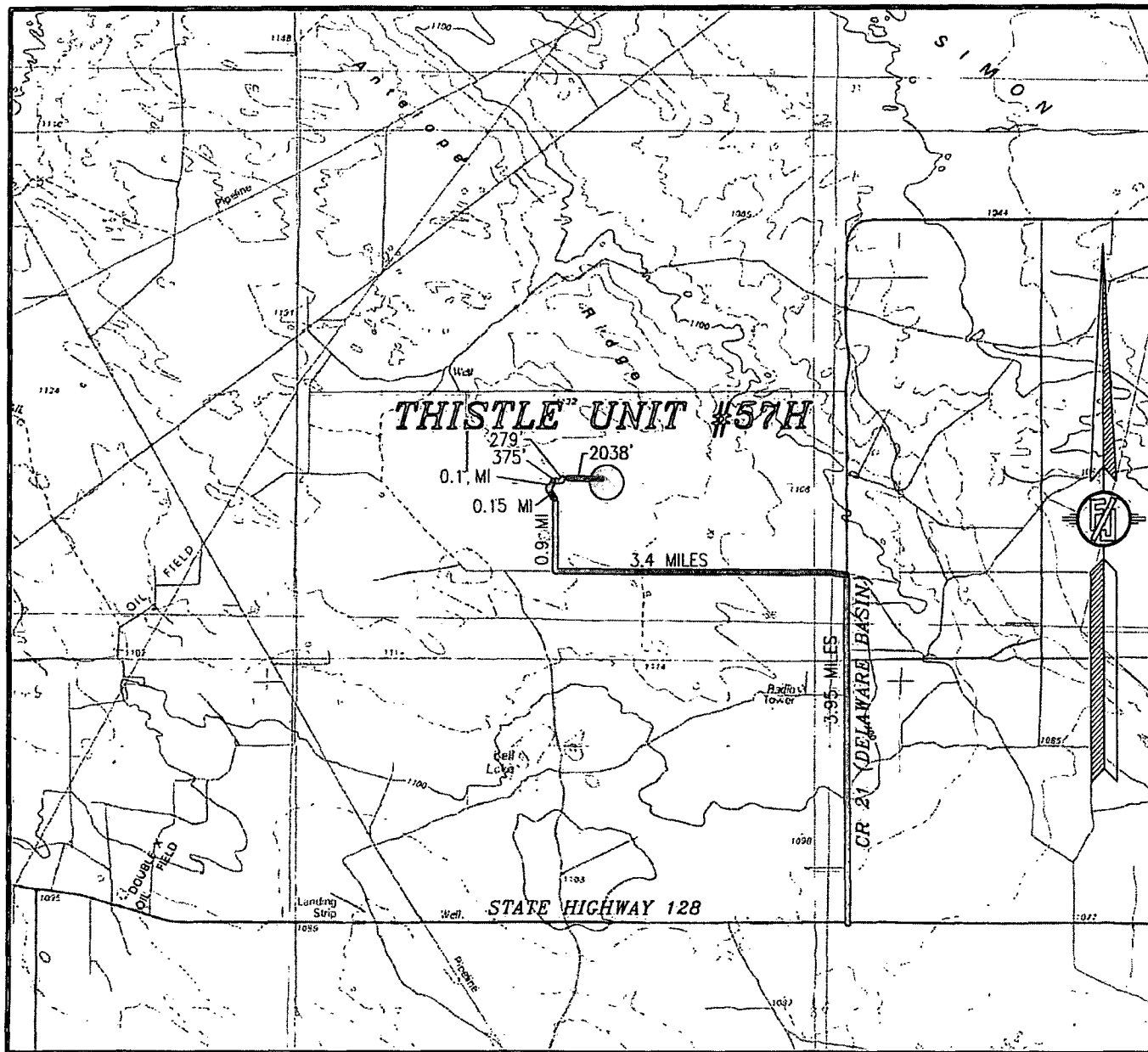
LOCATED 150 FT. FROM THE SOUTH LINE
AND 2150 FT. FROM THE EAST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 17, 2013

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

SURVEY NO. 2110B
CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

THISTLE UNIT #57H

LOCATED 150 FT. FROM THE SOUTH LINE
AND 2150 FT. FROM THE EAST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 17, 2013

DIRECTIONS TO LOCATION

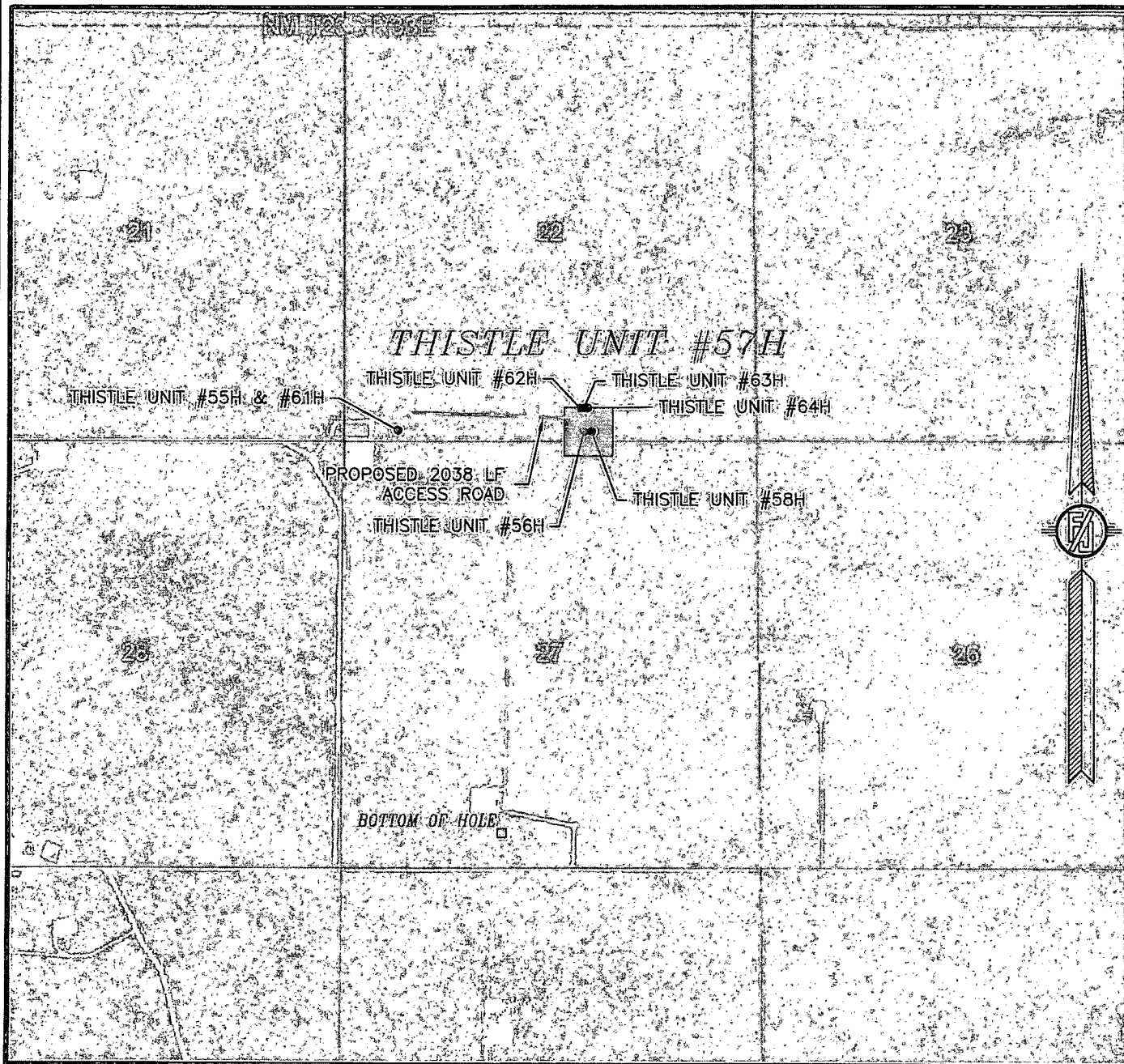
FROM STATE HIGHWAY 128 AND CR 21 (DELAWARE BASIN) GO NORTH ON CR 21 3.95 MILES, TURN LEFT ON PAVED ROAD (XL ROAD) AND GO WEST 3.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO NORTH 0.9 MILES, BEND LEFT AND GO NORTHWEST 0.15 MILES, BEND RIGHT AND GO NORTHEAST 0.1 MILES, BEND RIGHT AND GO EAST 375' TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS EAST 92', BEND LEFT AND FOLLOW FLAGS NORTHEAST 187' TO THE NORTHWEST CORNER OF PROPOSED THISTLE UNIT #55H PAD, THEN FROM THE NORTHEAST CORNER OF #55H PAD FOLLOW FLAGS EAST-SOUTHEAST 2038' TO THE NORTHWEST CORNER OF PROPOSED PAD FOR THIS LOCATION.

SURVEY NO. 2110B

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

CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MARCH 2012

DEVON ENERGY PRODUCTION COMPANY, L.P.
THISTLE UNIT #57H
LOCATED 150 FT. FROM THE SOUTH LINE
AND 2150 FT. FROM THE EAST LINE OF
SECTION 22, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

OCTOBER 17, 2013

SURVEY NO. 2110B

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

Drilling Program / Surface Use Plan

Thistle Unit 57H

Rev. 1 10-17-2013. Revised the TD MD of the well to account for the new BHL.

1. Casing and Cementing Plan Summary

The surface fresh water sands will be protected by setting 13-3/8" casing at 1,350' and circulating cement back to surface. The fresh water sands will be protected by setting 9-5/8" casing at 5,150' and circulating cement to surface. The Delaware intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement above the base of the 9-5/8" casing. All casing is new and API approved.

2. Casing Program:

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight	Collar	Grade
17-1/2"	0' – 1,350'	13-3/8"	0' – 1,350'	54.5#	BTC	J-55
12-1/4"	1,350' – 5,150'	9-5/8"	0' – 5,150'	40#	BTC	HCK -55
8-3/4"	5,150' – 10,550'	5-1/2"	0' – 10,550'	17#	LTC	HCP-110
8-3/4"	10,550' – 16,319'	5-1/2"	10,550' – 16,120'	17#	BTC	HCP-110

3. Design Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13-3/8"	1.66	4.01	12.35
9-5/8"	1.58	1.47	4.50
5-1/2" LTC	1.70	2.11	2.48
5-1/2" BTC	1.58	1.96	2.07

Drilling Program / Surface Use Plan

Thistle Unit 57H

Rev. 1 10-17-2013. Revised the TD MD of the well to account for the new BHL.

4. Cement Program:

String	Slurry	Amount and Type of Cement
Surface	Lead	680 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water, 13.5 ppg, 1.75 cf/sk
	Tail	550 sacks Class C Cement + 1% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg, 1.34 cf/sk
9-5/8" Intermediate	Lead	1100 sacks (65:35) Class C Cement:Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water, 12.9 ppg, 1.85 cf/sk
	Tail	430 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.9% Fresh Water, 14.8 ppg, 1.33 cf/sk
Production	Lead # 1	490 sacks (50:50) Class H Cement:Poz (Fly Ash) + 10% BWOC Bentonite + 0.15% SA-1015 + 0.1% BWOC HR-601 + 0.25 lb/sk D-Air 5000 + 80.01 % Fresh Water, 11.5 ppg, 2.57 cf/sk
	Lead # 2	330 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water, 12.5 ppg, 1.96 cf/sk
	Tail	1460 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg, 1.21 cf/sk
	Contingency Plan For loss of Circulation	
	1 st STAGE	
	Lead	580 sacks (50:50) Class H Cement:Poz (Fly Ash) + 10% BWOC Bentonite + 0.15% SA-1015 + 0.1% BWOC HR-601 + 0.25 lb/sk D-Air 5000 + 80.01 % Fresh Water, 11.5 ppg, 2.57 cf/sk
	Tail	1460 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg, 1.21 cf/sk
	2 nd STAGE (DV tool @ 6000 ft)	
	Lead	130 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water, 12.5 ppg, 1.96 cf/sk
	Tail	120 sacks Class C Cement + 63.9% Fresh Water, 14.8 ppg, 1.33 cf/sk

- The above cement volumes based on at least Surface 100% excess, Intermediate 75% excess and Production is 25% excess. Actual cement volumes to be adjusted based on fluid caliper and/or caliper log data.
- If lost circulation is encountered while drilling the production wellbore, a DV tool and ECP will be installed a minimum of 50' below the previous casing shoe and a maximum of 200' above the current shoe. If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

String	TOC
13-3/8" Intermediate	Surface
9-5/8" Intermediate	Surface
5-1/2" Production	4,650' (~500 ft inside of 9-5/8" Casing Shoe)

5. Pressure Control Equipment

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

The BOP system used to drill the **12-1/4" and 8-3/4"** holes will consist of a **13-5/8" 3M Double Ram and Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **3M system** prior to drilling out the casing shoe.

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

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

6. Proposed Mud Circulation System:

Depth Range	Mud Weight	Viscosity	Fluid Loss	Type System
0 – 1,350'	8.5 – 8.7	35 – 45	NC	Fresh Water
1,350' – 5,150'	9.8 – 10	29 – 36	NC	Brine
5,150' – 10,550'	8.4 – 8.8	29 – 36	<100	Cut Brine
10,550' – 16,319'	8.6 – 9.0	29 – 36	<100	Cut Brine

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. Auxiliary Well Control and Monitoring Equipment:

- A Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- Hydrogen Sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

8. Potential Hazards:

No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP of 3,600 psi and estimated BHT 145°. No H₂S is anticipated to be encountered.

9. Anticipated Starting Date and Duration of Operations:

- Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as a rig becomes available following BLM approval. Move in operations and drilling is expected to take 32 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

10. 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 shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these 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.

11. Methods of Handling Waste Material:

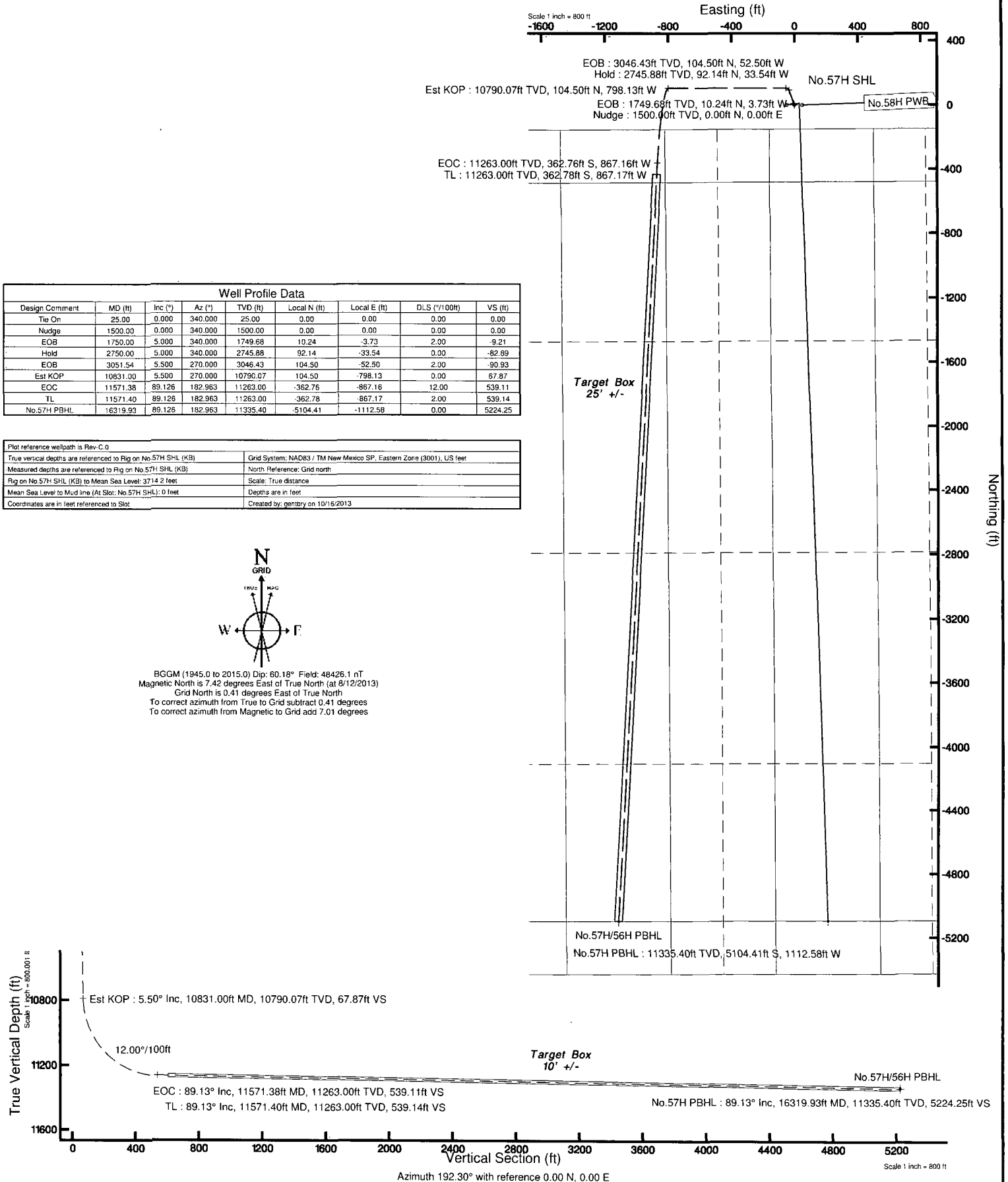
- a. Drill cuttings will be disposed of in a closed loop system.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier will pick up salts remaining, including broken sacks, after completion of well.
- 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.
- 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

devon

Devon Energy

Location: Lea County, NM
Field: (Thistle) Sec 22, T23S, R33E
Facility: Thistle Unit No.56H & No.57H & No.58H

Slot: No.57H SHL
Well: No.57H
Wellbore: No.57H PWB



Rev-C.0



Planned Wellpath Report

Rev-C.0
Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Gentbry
Scale	0.999975	Report Generated	10/16/2013 at 3:23:22 PM
Convergence at slot	0.41° East	Database/Source file	MidlandDB/No.57H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.25	49.96	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W
Facility Reference Pt			780675.08	467726.68	32°17'00.527"N	103°33'31.913"W
Field Reference Pt			780675.08	467726.68	32°17'00.527"N	103°33'31.913"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.57H SHL (KB) to Facility Vertical Datum	3714.20ft
Horizontal Reference Pt	Slot	Rig on No.57H SHL (KB) to Mean Sea Level	3714.20ft
Vertical Reference Pt	Rig on No.57H SHL (KB)	Rig on No.57H SHL (KB) to Mud Line at Slot (No.57H SHL)	3714.20ft
MD Reference Pt	Rig on No.57H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	192.30°



Planned Wellpath Report

Rev-C.0
Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

WELLPATH DATA (181 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	340.000	0.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
25.00	0.000	340.000	25.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	Tie On
125.00†	0.000	340.000	125.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
225.00†	0.000	340.000	225.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
325.00†	0.000	340.000	325.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
425.00†	0.000	340.000	425.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
525.00†	0.000	340.000	525.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
625.00†	0.000	340.000	625.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
725.00†	0.000	340.000	725.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
825.00†	0.000	340.000	825.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
925.00†	0.000	340.000	925.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
1025.00†	0.000	340.000	1025.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
1125.00†	0.000	340.000	1125.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
1225.00†	0.000	340.000	1225.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
1290.00†	0.000	340.000	1290.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	Rustler
1325.00†	0.000	340.000	1325.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
1425.00†	0.000	340.000	1425.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	
1500.00	0.000	340.000	1500.00	0.00	0.00	0.00	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W	0.00	Nudge
1525.00†	0.500	340.000	1525.00	-0.09	0.10	-0.04	780725.00	467727.03	32°17'00.527"N	103°33'31.332"W	2.00	
1625.00†	2.500	340.000	1624.96	-2.30	2.56	-0.93	780724.11	467729.49	32°17'00.551"N	103°33'31.342"W	2.00	
1725.00†	4.500	340.000	1724.77	-7.46	8.30	-3.02	780722.02	467735.23	32°17'00.608"N	103°33'31.366"W	2.00	
1750.00	5.000	340.000	1749.68	-9.21	10.24	-3.73	780721.31	467737.17	32°17'00.627"N	103°33'31.374"W	2.00	EOB
1770.39†	5.000	340.000	1770.00	-10.72	11.91	-4.34	780720.70	467738.84	32°17'00.644"N	103°33'31.381"W	0.00	Top Salt
1825.00†	5.000	340.000	1824.40	-14.74	16.39	-5.96	780719.08	467743.32	32°17'00.688"N	103°33'31.399"W	0.00	
1925.00†	5.000	340.000	1924.02	-22.11	24.58	-8.95	780716.10	467751.51	32°17'00.770"N	103°33'31.433"W	0.00	
2025.00†	5.000	340.000	2023.64	-29.47	32.77	-11.93	780713.11	467759.70	32°17'00.851"N	103°33'31.467"W	0.00	
2125.00†	5.000	340.000	2123.26	-36.84	40.96	-14.91	780710.13	467767.89	32°17'00.932"N	103°33'31.501"W	0.00	
2225.00†	5.000	340.000	2222.88	-44.21	49.15	-17.89	780707.15	467776.07	32°17'01.013"N	103°33'31.535"W	0.00	
2325.00†	5.000	340.000	2322.49	-51.58	57.34	-20.87	780704.17	467784.26	32°17'01.095"N	103°33'31.569"W	0.00	
2425.00†	5.000	340.000	2422.11	-58.94	65.53	-23.85	780701.19	467792.45	32°17'01.176"N	103°33'31.604"W	0.00	
2525.00†	5.000	340.000	2521.73	-66.31	73.72	-26.83	780698.21	467800.64	32°17'01.257"N	103°33'31.638"W	0.00	
2625.00†	5.000	340.000	2621.35	-73.68	81.91	-29.81	780695.23	467808.83	32°17'01.338"N	103°33'31.672"W	0.00	
2725.00†	5.000	340.000	2720.97	-81.05	90.10	-32.79	780692.25	467817.02	32°17'01.420"N	103°33'31.706"W	0.00	
2750.00	5.000	340.000	2745.88	-82.89	92.14	-33.54	780691.50	467819.07	32°17'01.440"N	103°33'31.714"W	0.00	Hold
2825.00†	4.418	323.065	2820.63	-87.54	97.52	-36.39	780688.65	467824.45	32°17'01.493"N	103°33'31.747"W	2.00	
2925.00†	4.382	296.774	2920.34	-91.01	102.32	-42.12	780682.92	467829.25	32°17'01.541"N	103°33'31.813"W	2.00	
3025.00†	5.184	274.585	3020.00	-91.36	104.41	-50.03	780675.01	467831.33	32°17'01.562"N	103°33'31.905"W	2.00	
3051.54	5.500	270.000	3046.43	-90.93	104.50	-52.50	780672.54	467831.43	32°17'01.563"N	103°33'31.934"W	2.00	EOB
3125.00†	5.500	270.000	3119.55	-89.43	104.50	-59.54	780665.50	467831.43	32°17'01.564"N	103°33'32.016"W	0.00	
3225.00†	5.500	270.000	3219.09	-87.38	104.50	-69.13	780655.92	467831.43	32°17'01.565"N	103°33'32.128"W	0.00	
3325.00†	5.500	270.000	3318.63	-85.34	104.50	-78.71	780646.33	467831.43	32°17'01.565"N	103°33'32.239"W	0.00	
3425.00†	5.500	270.000	3418.17	-83.30	104.50	-88.29	780636.75	467831.43	32°17'01.566"N	103°33'32.351"W	0.00	
3525.00†	5.500	270.000	3517.71	-81.26	104.50	-97.88	780627.16	467831.43	32°17'01.567"N	103°33'32.463"W	0.00	
3625.00†	5.500	270.000	3617.25	-79.22	104.50	-107.46	780617.58	467831.43	32°17'01.567"N	103°33'32.574"W	0.00	
3725.00†	5.500	270.000	3716.79	-77.18	104.50	-117.05	780607.99	467831.43	32°17'01.568"N	103°33'32.686"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

WELLPATH DATA (181 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3825.00†	5.500	270.000	3816.33	-75.14	104.50	-126.63	780598.41	467831.43	32°17'01.569"N	103°33'32.797"W	0.00	
3925.00†	5.500	270.000	3915.87	-73.10	104.50	-136.22	780588.83	467831.43	32°17'01.569"N	103°33'32.909"W	0.00	
4025.00†	5.500	270.000	4015.41	-71.06	104.50	-145.80	780579.24	467831.43	32°17'01.570"N	103°33'33.021"W	0.00	
4125.00†	5.500	270.000	4114.95	-69.01	104.50	-155.39	780569.66	467831.43	32°17'01.571"N	103°33'33.132"W	0.00	
4225.00†	5.500	270.000	4214.48	-66.97	104.50	-164.97	780560.07	467831.43	32°17'01.572"N	103°33'33.244"W	0.00	
4325.00†	5.500	270.000	4314.02	-64.93	104.50	-174.56	780550.49	467831.43	32°17'01.572"N	103°33'33.356"W	0.00	
4425.00†	5.500	270.000	4413.56	-62.89	104.50	-184.14	780540.90	467831.43	32°17'01.573"N	103°33'33.467"W	0.00	
4525.00†	5.500	270.000	4513.10	-60.85	104.50	-193.72	780531.32	467831.43	32°17'01.574"N	103°33'33.579"W	0.00	
4625.00†	5.500	270.000	4612.64	-58.81	104.50	-203.31	780521.74	467831.43	32°17'01.574"N	103°33'33.691"W	0.00	
4725.00†	5.500	270.000	4712.18	-56.77	104.50	-212.89	780512.15	467831.43	32°17'01.575"N	103°33'33.802"W	0.00	
4825.00†	5.500	270.000	4811.72	-54.73	104.50	-222.48	780502.57	467831.43	32°17'01.576"N	103°33'33.914"W	0.00	
4925.00†	5.500	270.000	4911.26	-52.68	104.50	-232.06	780492.98	467831.43	32°17'01.576"N	103°33'34.026"W	0.00	
5025.00†	5.500	270.000	5010.80	-50.64	104.50	-241.65	780483.40	467831.43	32°17'01.577"N	103°33'34.137"W	0.00	
5104.56†	5.500	270.000	5090.00	-49.02	104.50	-249.27	780475.77	467831.43	32°17'01.578"N	103°33'34.226"W	0.00	Base Salt
5125.00†	5.500	270.000	5110.34	-48.60	104.50	-251.23	780473.81	467831.43	32°17'01.578"N	103°33'34.249"W	0.00	
5205.03†	5.500	270.000	5190.00	-46.97	104.50	-258.90	780466.14	467831.43	32°17'01.578"N	103°33'34.338"W	0.00	Delaware
5225.00†	5.500	270.000	5209.88	-46.56	104.50	-260.82	780464.23	467831.43	32°17'01.578"N	103°33'34.360"W	0.00	
5325.00†	5.500	270.000	5309.42	-44.52	104.50	-270.40	780454.65	467831.43	32°17'01.579"N	103°33'34.472"W	0.00	
5425.00†	5.500	270.000	5408.96	-42.48	104.50	-279.99	780445.06	467831.43	32°17'01.580"N	103°33'34.584"W	0.00	
5525.00†	5.500	270.000	5508.50	-40.44	104.50	-289.57	780435.48	467831.43	32°17'01.580"N	103°33'34.695"W	0.00	
5625.00†	5.500	270.000	5608.04	-38.40	104.50	-299.16	780425.89	467831.43	32°17'01.581"N	103°33'34.807"W	0.00	
5725.00†	5.500	270.000	5707.58	-36.36	104.50	-308.74	780416.31	467831.43	32°17'01.582"N	103°33'34.919"W	0.00	
5825.00†	5.500	270.000	5807.12	-34.31	104.50	-318.32	780406.72	467831.43	32°17'01.582"N	103°33'35.030"W	0.00	
5925.00†	5.500	270.000	5906.66	-32.27	104.50	-327.91	780397.14	467831.43	32°17'01.583"N	103°33'35.142"W	0.00	
6025.00†	5.500	270.000	6006.20	-30.23	104.50	-337.49	780387.56	467831.43	32°17'01.584"N	103°33'35.254"W	0.00	
6079.05†	5.500	270.000	6060.00	-29.13	104.50	-342.67	780382.38	467831.43	32°17'01.584"N	103°33'35.314"W	0.00	Cherry Canyon
6125.00†	5.500	270.000	6105.74	-28.19	104.50	-347.08	780377.97	467831.43	32°17'01.585"N	103°33'35.365"W	0.00	
6225.00†	5.500	270.000	6205.28	-26.15	104.50	-356.66	780368.39	467831.43	32°17'01.585"N	103°33'35.477"W	0.00	
6325.00†	5.500	270.000	6304.82	-24.11	104.50	-366.25	780358.80	467831.43	32°17'01.586"N	103°33'35.588"W	0.00	
6425.00†	5.500	270.000	6404.36	-22.07	104.50	-375.83	780349.22	467831.43	32°17'01.587"N	103°33'35.700"W	0.00	
6525.00†	5.500	270.000	6503.90	-20.03	104.50	-385.42	780339.63	467831.43	32°17'01.587"N	103°33'35.812"W	0.00	
6625.00†	5.500	270.000	6603.44	-17.98	104.50	-395.00	780330.05	467831.43	32°17'01.588"N	103°33'35.923"W	0.00	
6725.00†	5.500	270.000	6702.98	-15.94	104.50	-404.59	780320.47	467831.43	32°17'01.589"N	103°33'36.035"W	0.00	
6825.00†	5.500	270.000	6802.51	-13.90	104.50	-414.17	780310.88	467831.43	32°17'01.589"N	103°33'36.147"W	0.00	
6925.00†	5.500	270.000	6902.05	-11.86	104.50	-423.75	780301.30	467831.43	32°17'01.590"N	103°33'36.258"W	0.00	
7025.00†	5.500	270.000	7001.59	-9.82	104.50	-433.34	780291.71	467831.43	32°17'01.591"N	103°33'36.370"W	0.00	
7125.00†	5.500	270.000	7101.13	-7.78	104.50	-442.92	780282.13	467831.43	32°17'01.591"N	103°33'36.482"W	0.00	
7225.00†	5.500	270.000	7200.67	-5.74	104.50	-452.51	780272.54	467831.43	32°17'01.592"N	103°33'36.593"W	0.00	
7325.00†	5.500	270.000	7300.21	-3.70	104.50	-462.09	780262.96	467831.43	32°17'01.593"N	103°33'36.705"W	0.00	
7425.00†	5.500	270.000	7399.75	-1.66	104.50	-471.68	780253.38	467831.43	32°17'01.593"N	103°33'36.817"W	0.00	
7525.00†	5.500	270.000	7499.29	0.39	104.50	-481.26	780243.79	467831.43	32°17'01.594"N	103°33'36.928"W	0.00	
7625.00†	5.500	270.000	7598.83	2.43	104.50	-490.85	780234.21	467831.43	32°17'01.595"N	103°33'37.040"W	0.00	
7666.36†	5.500	270.000	7640.00	3.27	104.50	-494.81	780230.24	467831.43	32°17'01.595"N	103°33'37.086"W	0.00	Brushy Canyon
7725.00†	5.500	270.000	7698.37	4.47	104.50	-500.43	780224.62	467831.43	32°17'01.595"N	103°33'37.151"W	0.00	
7825.00†	5.500	270.000	7797.91	6.51	104.50	-510.02	780215.04	467831.43	32°17'01.596"N	103°33'37.263"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

WELLPATH DATA (181 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7925.00†	5.500	270.000	7897.45	8.55	104.50	-519.60	780205.45	467831.43	32°17'01.597"N	103°33'37.375"W	0.00	
8025.00†	5.500	270.000	7996.99	10.59	104.50	-529.18	780195.87	467831.43	32°17'01.598"N	103°33'37.486"W	0.00	
8125.00†	5.500	270.000	8096.53	12.63	104.50	-538.77	780186.29	467831.43	32°17'01.598"N	103°33'37.598"W	0.00	
8225.00†	5.500	270.000	8196.07	14.67	104.50	-548.35	780176.70	467831.43	32°17'01.599"N	103°33'37.710"W	0.00	
8325.00†	5.500	270.000	8295.61	16.72	104.50	-557.94	780167.12	467831.43	32°17'01.600"N	103°33'37.821"W	0.00	
8425.00†	5.500	270.000	8395.15	18.76	104.50	-567.52	780157.53	467831.43	32°17'01.600"N	103°33'37.933"W	0.00	
8525.00†	5.500	270.000	8494.69	20.80	104.50	-577.11	780147.95	467831.43	32°17'01.601"N	103°33'38.045"W	0.00	
8625.00†	5.500	270.000	8594.23	22.84	104.50	-586.69	780138.36	467831.43	32°17'01.602"N	103°33'38.156"W	0.00	
8725.00†	5.500	270.000	8693.77	24.88	104.50	-596.28	780128.78	467831.43	32°17'01.602"N	103°33'38.268"W	0.00	
8825.00†	5.500	270.000	8793.31	26.92	104.50	-605.86	780119.19	467831.43	32°17'01.603"N	103°33'38.380"W	0.00	
8925.00†	5.500	270.000	8892.85	28.96	104.50	-615.45	780109.61	467831.43	32°17'01.604"N	103°33'38.491"W	0.00	
9025.00†	5.500	270.000	8992.39	31.00	104.50	-625.03	780100.03	467831.43	32°17'01.604"N	103°33'38.603"W	0.00	
9102.97†	5.500	270.000	9070.00	32.60	104.50	-632.50	780092.55	467831.43	32°17'01.605"N	103°33'38.690"W	0.00	Bone Spring Lime
9125.00†	5.500	270.000	9091.93	33.04	104.50	-634.62	780090.44	467831.43	32°17'01.605"N	103°33'38.714"W	0.00	
9225.00†	5.500	270.000	9191.47	35.09	104.50	-644.20	780080.86	467831.43	32°17'01.606"N	103°33'38.826"W	0.00	
9325.00†	5.500	270.000	9291.01	37.13	104.50	-653.78	780071.27	467831.43	32°17'01.606"N	103°33'38.938"W	0.00	
9425.00†	5.500	270.000	9390.55	39.17	104.50	-663.37	780061.69	467831.43	32°17'01.607"N	103°33'39.049"W	0.00	
9525.00†	5.500	270.000	9490.08	41.21	104.50	-672.95	780052.10	467831.43	32°17'01.608"N	103°33'39.161"W	0.00	
9625.00†	5.500	270.000	9589.62	43.25	104.50	-682.54	780042.52	467831.43	32°17'01.608"N	103°33'39.273"W	0.00	
9725.00†	5.500	270.000	9689.16	45.29	104.50	-692.12	780032.94	467831.43	32°17'01.609"N	103°33'39.384"W	0.00	
9825.00†	5.500	270.000	9788.70	47.33	104.50	-701.71	780023.35	467831.43	32°17'01.610"N	103°33'39.496"W	0.00	
9925.00†	5.500	270.000	9888.24	49.37	104.50	-711.29	780013.77	467831.43	32°17'01.610"N	103°33'39.608"W	0.00	
10025.00†	5.500	270.000	9987.78	51.42	104.50	-720.88	780004.18	467831.43	32°17'01.611"N	103°33'39.719"W	0.00	
10102.57†	5.500	270.000	10065.00	53.00	104.50	-728.31	779996.75	467831.43	32°17'01.612"N	103°33'39.806"W	0.00	1st Bone Spring Sand
10125.00†	5.500	270.000	10087.32	53.46	104.50	-730.46	779994.60	467831.43	32°17'01.612"N	103°33'39.831"W	0.00	
10225.00†	5.500	270.000	10186.86	55.50	104.50	-740.05	779985.01	467831.43	32°17'01.613"N	103°33'39.942"W	0.00	
10325.00†	5.500	270.000	10286.40	57.54	104.50	-749.63	779975.43	467831.43	32°17'01.613"N	103°33'40.054"W	0.00	
10425.00†	5.500	270.000	10385.94	59.58	104.50	-759.21	779965.85	467831.43	32°17'01.614"N	103°33'40.166"W	0.00	
10525.00†	5.500	270.000	10485.48	61.62	104.50	-768.80	779956.26	467831.43	32°17'01.615"N	103°33'40.277"W	0.00	
10625.00†	5.500	270.000	10585.02	63.66	104.50	-778.38	779946.68	467831.43	32°17'01.615"N	103°33'40.389"W	0.00	
10725.00†	5.500	270.000	10684.56	65.70	104.50	-787.97	779937.09	467831.43	32°17'01.616"N	103°33'40.501"W	0.00	
10810.84†	5.500	270.000	10770.00	67.46	104.50	-796.20	779928.87	467831.43	32°17'01.617"N	103°33'40.597"W	0.00	2nd Bone Spring Sand
10825.00†	5.500	270.000	10784.10	67.74	104.50	-797.55	779927.51	467831.43	32°17'01.617"N	103°33'40.612"W	0.00	
10831.00	5.500	270.000	10790.07	67.87	104.50	-798.13	779926.93	467831.43	32°17'01.617"N	103°33'40.619"W	0.00	Est KOP
10925.00†	12.779	207.967	10882.99	78.87	95.29	-807.54	779917.52	467822.22	32°17'01.526"N	103°33'40.729"W	12.00	
11025.00†	24.152	195.263	10977.72	110.06	65.68	-818.15	779906.91	467792.61	32°17'01.234"N	103°33'40.855"W	12.00	
11125.00†	35.922	190.507	11064.15	160.00	16.92	-828.92	779896.14	467743.85	32°17'00.752"N	103°33'40.985"W	12.00	
11225.00†	47.796	187.882	11138.50	226.49	-48.85	-839.39	779885.67	467678.08	32°17'00.102"N	103°33'41.112"W	12.00	
11325.00†	59.710	186.099	11197.53	306.63	-128.76	-849.09	779875.97	467598.17	32°16'59.312"N	103°33'41.232"W	12.00	
11425.00†	71.644	184.708	11238.64	396.93	-219.32	-857.61	779867.46	467507.62	32°16'58.417"N	103°33'41.339"W	12.00	
11525.00†	83.586	183.498	11260.05	493.42	-316.56	-864.56	779860.51	467410.38	32°16'57.455"N	103°33'41.428"W	12.00	
11571.38	89.126	182.963	11263.00	539.11	-362.76	-867.16	779857.90	467364.18	32°16'56.998"N	103°33'41.462"W	12.00	EOC
11571.40	89.126	182.963	11263.00	539.14	-362.78	-867.17	779857.90	467364.16	32°16'56.998"N	103°33'41.462"W	2.00	TL
11625.00†	89.126	182.963	11263.82	592.02	-416.30	-869.94	779855.13	467310.64	32°16'56.469"N	103°33'41.499"W	0.00	
11725.00†	89.126	182.963	11265.34	690.68	-516.15	-875.10	779849.96	467210.79	32°16'55.481"N	103°33'41.568"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

WELLPATH DATA (181 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11825.00†	89.126	182.963	11266.87	789.34	-616.01	-880.27	779844.79	467110.94	32°16'54.493"N	103°33'41.636"W	0.00	
11925.00†	89.126	182.963	11268.39	888.01	-715.86	-885.44	779839.62	467011.09	32°16'53.506"N	103°33'41.705"W	0.00	
12025.00†	89.126	182.963	11269.92	986.67	-815.72	-890.61	779834.46	466911.23	32°16'52.518"N	103°33'41.773"W	0.00	
12125.00†	89.126	182.963	11271.44	1085.34	-915.57	-895.78	779829.29	466811.38	32°16'51.530"N	103°33'41.842"W	0.00	
12225.00†	89.126	182.963	11272.97	1184.00	-1015.43	-900.94	779824.12	466711.53	32°16'50.542"N	103°33'41.910"W	0.00	
12325.00†	89.126	182.963	11274.49	1282.67	-1115.28	-906.11	779818.95	466611.68	32°16'49.555"N	103°33'41.979"W	0.00	
12425.00†	89.126	182.963	11276.01	1381.33	-1215.14	-911.28	779813.78	466511.83	32°16'48.567"N	103°33'42.048"W	0.00	
12525.00†	89.126	182.963	11277.54	1480.00	-1314.99	-916.45	779808.62	466411.97	32°16'47.579"N	103°33'42.116"W	0.00	
12625.00†	89.126	182.963	11279.06	1578.66	-1414.85	-921.62	779803.45	466312.12	32°16'46.592"N	103°33'42.185"W	0.00	
12725.00†	89.126	182.963	11280.59	1677.33	-1514.70	-926.79	779798.28	466212.27	32°16'45.604"N	103°33'42.253"W	0.00	
12825.00†	89.126	182.963	11282.11	1775.99	-1614.56	-931.95	779793.11	466112.42	32°16'44.616"N	103°33'42.322"W	0.00	
12925.00†	89.126	182.963	11283.64	1874.66	-1714.41	-937.12	779787.94	466012.57	32°16'43.629"N	103°33'42.390"W	0.00	
13025.00†	89.126	182.963	11285.16	1973.32	-1814.27	-942.29	779782.78	465912.71	32°16'42.641"N	103°33'42.459"W	0.00	
13125.00†	89.126	182.963	11286.69	2071.99	-1914.12	-947.46	779777.61	465812.86	32°16'41.653"N	103°33'42.528"W	0.00	
13225.00†	89.126	182.963	11288.21	2170.65	-2013.98	-952.63	779772.44	465713.01	32°16'40.666"N	103°33'42.596"W	0.00	
13325.00†	89.126	182.963	11289.74	2269.31	-2113.83	-957.80	779767.27	465613.16	32°16'39.678"N	103°33'42.665"W	0.00	
13425.00†	89.126	182.963	11291.26	2367.98	-2213.68	-962.96	779762.10	465513.31	32°16'38.690"N	103°33'42.733"W	0.00	
13525.00†	89.126	182.963	11292.79	2466.64	-2313.54	-968.13	779756.93	465413.45	32°16'37.703"N	103°33'42.802"W	0.00	
13625.00†	89.126	182.963	11294.31	2565.31	-2413.39	-973.30	779751.77	465313.60	32°16'36.715"N	103°33'42.870"W	0.00	
13725.00†	89.126	182.963	11295.84	2663.97	-2513.25	-978.47	779746.60	465213.75	32°16'35.727"N	103°33'42.939"W	0.00	
13825.00†	89.126	182.963	11297.36	2762.64	-2613.10	-983.64	779741.43	465113.90	32°16'34.740"N	103°33'43.007"W	0.00	
13925.00†	89.126	182.963	11298.89	2861.30	-2712.96	-988.80	779736.26	465014.05	32°16'33.752"N	103°33'43.076"W	0.00	
14025.00†	89.126	182.963	11300.41	2959.97	-2812.81	-993.97	779731.09	464914.19	32°16'32.764"N	103°33'43.145"W	0.00	
14125.00†	89.126	182.963	11301.93	3058.63	-2912.67	-999.14	779725.93	464814.34	32°16'31.777"N	103°33'43.213"W	0.00	
14225.00†	89.126	182.963	11303.46	3157.30	-3012.52	-1004.31	779720.76	464714.49	32°16'30.789"N	103°33'43.282"W	0.00	
14325.00†	89.126	182.963	11304.98	3255.96	-3112.38	-1009.48	779715.59	464614.64	32°16'29.801"N	103°33'43.350"W	0.00	
14425.00†	89.126	182.963	11306.51	3354.63	-3212.23	-1014.65	779710.42	464514.79	32°16'28.814"N	103°33'43.419"W	0.00	
14525.00†	89.126	182.963	11308.03	3453.29	-3312.09	-1019.81	779705.25	464414.93	32°16'27.826"N	103°33'43.487"W	0.00	
14625.00†	89.126	182.963	11309.56	3551.96	-3411.94	-1024.98	779700.09	464315.08	32°16'26.838"N	103°33'43.556"W	0.00	
14725.00†	89.126	182.963	11311.08	3650.62	-3511.80	-1030.15	779694.92	464215.23	32°16'25.851"N	103°33'43.624"W	0.00	
14825.00†	89.126	182.963	11312.61	3749.29	-3611.65	-1035.32	779689.75	464115.38	32°16'24.863"N	103°33'43.693"W	0.00	
14925.00†	89.126	182.963	11314.13	3847.95	-3711.51	-1040.49	779684.58	464015.53	32°16'23.875"N	103°33'43.762"W	0.00	
15025.00†	89.126	182.963	11315.66	3946.61	-3811.36	-1045.66	779679.41	463915.67	32°16'22.888"N	103°33'43.830"W	0.00	
15125.00†	89.126	182.963	11317.18	4045.28	-3911.21	-1050.82	779674.25	463815.82	32°16'21.900"N	103°33'43.899"W	0.00	
15225.00†	89.126	182.963	11318.71	4143.94	-4011.07	-1055.99	779669.08	463715.97	32°16'20.912"N	103°33'43.967"W	0.00	
15325.00†	89.126	182.963	11320.23	4242.61	-4110.92	-1061.16	779663.91	463616.12	32°16'19.925"N	103°33'44.036"W	0.00	
15425.00†	89.126	182.963	11321.76	4341.27	-4210.78	-1066.33	779658.74	463516.27	32°16'18.937"N	103°33'44.104"W	0.00	
15525.00†	89.126	182.963	11323.28	4439.94	-4310.63	-1071.50	779653.57	463416.41	32°16'17.949"N	103°33'44.173"W	0.00	
15625.00†	89.126	182.963	11324.80	4538.60	-4410.49	-1076.66	779648.40	463316.56	32°16'16.962"N	103°33'44.241"W	0.00	
15725.00†	89.126	182.963	11326.33	4637.27	-4510.34	-1081.83	779643.24	463216.71	32°16'15.974"N	103°33'44.310"W	0.00	
15825.00†	89.126	182.963	11327.85	4735.93	-4610.20	-1087.00	779638.07	463116.86	32°16'14.986"N	103°33'44.378"W	0.00	
15925.00†	89.126	182.963	11329.38	4834.60	-4710.05	-1092.17	779632.90	463017.01	32°16'13.998"N	103°33'44.447"W	0.00	
16025.00†	89.126	182.963	11330.90	4933.26	-4809.91	-1097.34	779627.73	462917.15	32°16'13.011"N	103°33'44.516"W	0.00	
16125.00†	89.126	182.963	11332.43	5031.93	-4909.76	-1102.51	779622.56	462817.30	32°16'12.023"N	103°33'44.584"W	0.00	
16225.00†	89.126	182.963	11333.95	5130.59	-5009.62	-1107.67	779617.40	462717.45	32°16'11.035"N	103°33'44.653"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

WELLPATH DATA (181 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16319.93	89.126	182.963	11335.40	5224.25	-5104.41	-1112.58	779612.49	462622.66	32°16'10.098"N	103°33'44.718"W	0.00	No.57H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.56H PBHL	16319.93	11335.40	-5104.41	-1112.58	779612.49	462622.66	32°16'10.098"N	103°33'44.718"W	rectangle
No.57H PBHL		11336.00	-5098.11	208.31	780933.34	462628.96	32°16'10.066"N	103°33'29.334"W	rectangle

SURVEY PROGRAM - Ref Wellbore: No.57H PWB Ref Wellpath: Rev-C.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	16319.93	NaviTrak (Standard)		No.57H PWB



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Gentbry
Scale	0.999975	Report Generated	10/16/2013 at 2:44:03 PM
Convergence at slot	0.41° East	Database/Source file	MidlandDB/No.57H_PWB_CR.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.25	49.96	780725.04	467726.93	32°17'00.526"N	103°33'31.331"W
Facility Reference Pt			780675.08	467726.68	32°17'00.527"N	103°33'31.913"W
Field Reference Pt			780675.08	467726.68	32°17'00.527"N	103°33'31.913"W

WELLPATH DATUM

Calculation method	Minimum Curvature	Rig on No.57H SHL (KB) to Facility Vertical Datum	3714.20ft
Horizontal Reference Pt	Slot	Rig on No.57H SHL (KB) to Mean Sea Level	3714.20ft
Vertical Reference Pt	Rig on No.57H SHL (KB)	Rig on No.57H SHL (KB) to Mud Line at Slot (No.57H SHL)	3714.20ft
MD Reference Pt	Rig on No.57H SHL (KB)		
Field Vertical Reference	Mean Sea Level		

POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.00 Std Dev	Ellipse Start MD	25.00ft	Surface Position Uncertainty	included
Declination	7.42° East of TN	Dip Angle	60.18°	Mag Field Strength	48426 nT
Slot Surface Uncertainty @1SD		Horizontal	0.100ft	Vertical	0.100ft
Facility Surface Uncertainty @1SD		Horizontal	8.200ft	Vertical	1.000ft

Positional Uncertainty values in the WELLPATH DATA table are the projection of the ellipsoid of uncertainty onto the vertical and horizontal planes

ANTI-COLLISION RULE

Rule Name	Baker Hughes Stop Drilling	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.00
Subtract Casing & Hole Size	yes	Apply Cone of Safety	no

SURVEY PROGRAM - Ref Wellbore: No.57H PWB Ref Wellpath: Rev-C.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	16319.93	NaviTrak (Standard)		No.57H PWB



Clearance Report

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Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CALCULATION RANGE & CUTOFF

From: 25.00ft MD	To: 16319.93ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (2 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR Separation Ratio			
					Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	ACR Status
Thistle Unit No.56H & No.57H & No.58H	No.56H SHL	No.56H	No.56H PWB	Rev-D.0	1948.20	27.94	1948.20	1993.89	2.42	16319.93	PASS
Thistle Unit No.56H & No.57H & No.58H	No.58H SHL	No.58H	No.58H PWB	Rev-C.0	25.00	50.01	1500.00	1577.34	4.59	16319.93	PASS



Clearance Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.56H SHL Well: No.56H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
25.00	25.00	0.00	0.00	25.50	24.90	-0.25	-49.99	269.72	49.99	0.86	57.99	PASS
125.00†	125.00	0.00	0.00	125.25	124.65	-0.21	-50.50	269.76	50.50	0.90	55.84	PASS
225.00†	225.00	0.00	0.00	225.20	224.59	-0.05	-51.26	269.95	51.26	1.53	33.49	PASS
325.00†	325.00	0.00	0.00	325.19	324.59	0.24	-52.06	270.27	52.07	2.23	23.30	PASS
425.00†	425.00	0.00	0.00	425.21	424.60	0.63	-52.84	270.68	52.85	2.96	17.88	PASS
525.00†	525.00	0.00	0.00	525.19	524.58	0.96	-53.61	271.02	53.62	3.69	14.54	PASS
625.00†	625.00	0.00	0.00	625.25	624.63	1.39	-54.34	271.46	54.36	4.42	12.30	PASS
725.00†	725.00	0.00	0.00	725.24	724.62	1.81	-55.02	271.88	55.05	5.14	10.71	PASS
825.00†	825.00	0.00	0.00	825.36	824.74	2.04	-55.59	272.10	55.63	5.89	9.45	PASS
925.00†	925.00	0.00	0.00	925.42	924.79	2.21	-56.01	272.26	56.05	6.64	8.45	PASS
1025.00†	1025.00	0.00	0.00	1025.47	1024.84	2.39	-56.32	272.43	56.37	7.37	7.65	PASS
1125.00†	1125.00	0.00	0.00	1125.48	1124.85	2.57	-56.58	272.60	56.64	8.09	7.00	PASS
1225.00†	1225.00	0.00	0.00	1225.48	1224.85	2.84	-56.83	272.86	56.90	8.80	6.47	PASS
1325.00†	1325.00	0.00	0.00	1325.50	1324.88	3.15	-57.06	273.16	57.14	9.40	6.08	PASS
1425.00†	1425.00	0.00	0.00	1425.54	1424.91	3.53	-57.22	273.53	57.33	9.92	5.78	PASS
1500.00	1500.00	0.00	0.00	1500.97	1500.34	3.84	-57.19	273.84	57.32	10.29	5.57	PASS
1525.00†	1525.00	0.10	-0.04	1526.31	1525.68	3.93	-56.96	273.84	57.06	10.40	5.49	PASS
1625.00†	1624.96	2.56	-0.93	1628.06	1627.39	4.19	-54.20	271.75	53.35	10.87	4.91	PASS
1725.00†	1724.77	8.30	-3.02	1729.54	1728.64	4.42	-47.52	265.02	44.84	11.37	3.94	PASS
1750.00	1749.68	10.24	-3.73	1754.69	1753.68	4.40	-45.22	261.98	42.09	11.45	3.68	PASS
1825.00†	1824.40	16.39	-5.96	1829.05	1827.67	4.13	-37.76	248.93	34.23	11.51	2.97	PASS
1925.00†	1924.02	24.58	-8.95	1927.68	1925.75	3.40	-27.40	221.06	28.14	11.32	2.49	PASS
1948.20†	1947.13	26.48	-9.64	1950.70	1948.64	3.19	-25.00	213.41	27.94	11.39	2.45	PASS
1993.89†	1992.64	30.22	-11.00	1996.07	1993.74	3.07	-19.99	198.33	28.62	11.81	2.42	PASS
2025.00†	2023.64	32.77	-11.93	2026.99	2024.44	3.24	-16.35	188.52	29.86	12.24	2.44	PASS
2125.00†	2123.26	40.96	-14.91	2125.96	2122.59	4.85	-3.75	162.83	37.80	13.69	2.76	PASS
2225.00†	2222.88	49.15	-17.89	2224.72	2220.46	7.11	9.20	147.20	50.07	14.62	3.42	PASS
2325.00†	2322.49	57.34	-20.87	2324.51	2319.70	8.92	19.59	140.11	63.16	15.29	4.13	PASS
2425.00†	2422.11	65.53	-23.85	2425.04	2419.97	10.15	26.61	137.66	74.95	15.77	4.75	PASS
2525.00†	2521.73	73.72	-26.83	2526.05	2520.91	10.77	30.17	137.84	84.92	16.26	5.22	PASS
2625.00†	2621.35	81.91	-29.81	2626.50	2621.35	10.85	30.63	139.61	93.29	16.69	5.59	PASS
2725.00†	2720.97	90.10	-32.79	2726.12	2720.97	10.85	30.63	141.33	101.50	17.08	5.94	PASS
2750.00	2745.88	92.14	-33.54	2751.02	2745.88	10.85	30.63	141.71	103.57	17.19	6.03	PASS
2825.00†	2820.63	97.52	-36.39	2825.77	2820.63	10.85	30.63	142.28	109.57	17.51	6.26	PASS
2925.00†	2920.34	102.32	-42.12	2925.49	2920.34	10.85	30.63	141.50	116.88	17.97	6.50	PASS
3025.00†	3020.00	104.41	-50.03	3025.15	3020.00	10.85	30.63	139.23	123.53	18.47	6.69	PASS
3051.54	3046.43	104.50	-52.50	3051.58	3046.43	10.85	30.63	138.40	125.23	18.59	6.73	PASS
3125.00†	3119.55	104.50	-59.54	3124.69	3119.55	10.85	30.63	136.08	130.01	18.94	6.86	PASS
3225.00†	3219.09	104.50	-69.13	3224.23	3219.09	10.85	30.63	133.19	136.83	19.42	7.05	PASS
3325.00†	3318.63	104.50	-78.71	3323.77	3318.63	10.85	30.63	130.58	143.97	19.91	7.23	PASS
3425.00†	3418.17	104.50	-88.29	3423.31	3418.17	10.85	30.63	128.22	151.38	20.41	7.42	PASS
3525.00†	3517.71	104.50	-97.88	3522.85	3517.71	10.85	30.63	126.08	159.02	20.92	7.60	PASS
3625.00†	3617.25	104.50	-107.46	3622.39	3617.25	10.85	30.63	124.14	166.86	21.44	7.78	PASS
3725.00†	3716.79	104.50	-117.05	3721.93	3716.79	10.85	30.63	122.38	174.87	21.97	7.96	PASS
3825.00†	3816.33	104.50	-126.63	3821.47	3816.33	10.85	30.63	120.77	183.04	22.52	8.13	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.56H SHL Well: No.56H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
3925.00†	3915.87	104.50	-136.22	3921.01	3915.87	10.85	30.63	119.31	191.34	23.07	8.29	PASS
4025.00†	4015.41	104.50	-145.80	4020.55	4015.41	10.85	30.63	117.96	199.75	23.63	8.45	PASS
4125.00†	4114.95	104.50	-155.39	4120.09	4114.95	10.85	30.63	116.72	208.27	24.20	8.61	PASS
4225.00†	4214.48	104.50	-164.97	4219.63	4214.48	10.85	30.63	115.58	216.87	24.78	8.75	PASS
4325.00†	4314.02	104.50	-174.56	4319.17	4314.02	10.85	30.63	114.53	225.55	25.36	8.89	PASS
4425.00†	4413.56	104.50	-184.14	4418.71	4413.56	10.85	30.63	113.56	234.31	25.96	9.03	PASS
4525.00†	4513.10	104.50	-193.72	4518.25	4513.10	10.85	30.63	112.66	243.12	26.56	9.15	PASS
4625.00†	4612.64	104.50	-203.31	4617.79	4612.64	10.85	30.63	111.82	251.99	27.17	9.28	PASS
4725.00†	4712.18	104.50	-212.89	4717.33	4712.18	10.85	30.63	111.04	260.92	27.78	9.39	PASS
4825.00†	4811.72	104.50	-222.48	4816.87	4811.72	10.85	30.63	110.30	269.88	28.40	9.50	PASS
4925.00†	4911.26	104.50	-232.06	4916.41	4911.26	10.85	30.63	109.62	278.89	29.03	9.61	PASS
5025.00†	5010.80	104.50	-241.65	5015.95	5010.80	10.85	30.63	108.98	287.94	29.66	9.71	PASS
5125.00†	5110.34	104.50	-251.23	5115.49	5110.34	10.85	30.63	108.38	297.02	30.29	9.81	PASS
5225.00†	5209.88	104.50	-260.82	5215.03	5209.88	10.85	30.63	107.81	306.13	30.93	9.90	PASS
5325.00†	5309.42	104.50	-270.40	5314.57	5309.42	10.85	30.63	107.28	315.27	31.58	9.98	PASS
5425.00†	5408.96	104.50	-279.99	5414.11	5408.96	10.85	30.63	106.78	324.43	32.22	10.07	PASS
5525.00†	5508.50	104.50	-289.57	5513.65	5508.50	10.85	30.63	106.30	333.62	32.88	10.15	PASS
5625.00†	5608.04	104.50	-299.16	5613.19	5608.04	10.85	30.63	105.85	342.83	33.53	10.22	PASS
5725.00†	5707.58	104.50	-308.74	5712.72	5707.58	10.85	30.63	105.43	352.06	34.19	10.30	PASS
5825.00†	5807.12	104.50	-318.32	5812.26	5807.12	10.85	30.63	105.02	361.31	34.85	10.37	PASS
5925.00†	5906.66	104.50	-327.91	5911.80	5906.66	10.85	30.63	104.64	370.57	35.52	10.43	PASS
6025.00†	6006.20	104.50	-337.49	6011.34	6006.20	10.85	30.63	104.27	379.85	36.19	10.50	PASS
6125.00†	6105.74	104.50	-347.08	6110.88	6105.74	10.85	30.63	103.93	389.15	36.86	10.56	PASS
6225.00†	6205.28	104.50	-356.66	6210.42	6205.28	10.85	30.63	103.59	398.46	37.53	10.62	PASS
6325.00†	6304.82	104.50	-366.25	6309.96	6304.82	10.85	30.63	103.28	407.78	38.20	10.67	PASS
6425.00†	6404.36	104.50	-375.83	6409.50	6404.36	10.85	30.63	102.98	417.12	38.88	10.73	PASS
6525.00†	6503.90	104.50	-385.42	6509.04	6503.90	10.85	30.63	102.69	426.46	39.56	10.78	PASS
6625.00†	6603.44	104.50	-395.00	6608.58	6603.44	10.85	30.63	102.41	435.82	40.24	10.83	PASS
6725.00†	6702.98	104.50	-404.59	6708.12	6702.98	10.85	30.63	102.14	445.18	40.93	10.88	PASS
6825.00†	6802.51	104.50	-414.17	6807.66	6802.51	10.85	30.63	101.89	454.56	41.61	10.92	PASS
6925.00†	6902.05	104.50	-423.75	6907.20	6902.05	10.85	30.63	101.65	463.94	42.30	10.97	PASS
7025.00†	7001.59	104.50	-433.34	7006.74	7001.59	10.85	30.63	101.41	473.33	42.99	11.01	PASS
7125.00†	7101.13	104.50	-442.92	7106.28	7101.13	10.85	30.63	101.19	482.73	43.67	11.05	PASS
7225.00†	7200.67	104.50	-452.51	7205.82	7200.67	10.85	30.63	100.97	492.14	44.37	11.09	PASS
7325.00†	7300.21	104.50	-462.09	7305.36	7300.21	10.85	30.63	100.76	501.55	45.06	11.13	PASS
7425.00†	7399.75	104.50	-471.68	7404.90	7399.75	10.85	30.63	100.56	510.97	45.75	11.17	PASS
7525.00†	7499.29	104.50	-481.26	7504.44	7499.29	10.85	30.63	100.37	520.39	46.45	11.20	PASS
7625.00†	7598.83	104.50	-490.85	7603.98	7598.83	10.85	30.63	100.18	529.82	47.14	11.24	PASS
7725.00†	7698.37	104.50	-500.43	7703.52	7698.37	10.85	30.63	100.00	539.26	47.84	11.27	PASS
7825.00†	7797.91	104.50	-510.02	7803.06	7797.91	10.85	30.63	99.83	548.70	48.54	11.30	PASS
7925.00†	7897.45	104.50	-519.60	7902.60	7897.45	10.85	30.63	99.66	558.15	49.24	11.34	PASS
8025.00†	7996.99	104.50	-529.18	8002.14	7996.99	10.85	30.63	99.50	567.60	49.94	11.37	PASS
8125.00†	8096.53	104.50	-538.77	8101.68	8096.53	10.85	30.63	99.34	577.05	50.64	11.40	PASS
8225.00†	8196.07	104.50	-548.35	8201.22	8196.07	10.85	30.63	99.19	586.51	51.34	11.42	PASS
8325.00†	8295.61	104.50	-557.94	8300.76	8295.61	10.85	30.63	99.04	595.98	52.05	11.45	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.56H SHL Well: No.56H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
8425.00†	8395.15	104.50	-567.52	8400.29	8395.15	10.85	30.63	98.90	605.44	52.75	11.48	PASS
8525.00†	8494.69	104.50	-577.11	8499.83	8494.69	10.85	30.63	98.76	614.92	53.46	11.50	PASS
8625.00†	8594.23	104.50	-586.69	8599.37	8594.23	10.85	30.63	98.63	624.39	54.16	11.53	PASS
8725.00†	8693.77	104.50	-596.28	8698.91	8693.77	10.85	30.63	98.50	633.87	54.87	11.55	PASS
8825.00†	8793.31	104.50	-605.86	8798.45	8793.31	10.85	30.63	98.37	643.35	55.57	11.58	PASS
8925.00†	8892.85	104.50	-615.45	8897.99	8892.85	10.85	30.63	98.25	652.83	56.28	11.60	PASS
9025.00†	8992.39	104.50	-625.03	8997.53	8992.39	10.85	30.63	98.13	662.32	56.99	11.62	PASS
9125.00†	9091.93	104.50	-634.62	9097.07	9091.93	10.85	30.63	98.01	671.81	57.70	11.64	PASS
9225.00†	9191.47	104.50	-644.20	9196.61	9191.47	10.85	30.63	97.90	681.30	58.41	11.66	PASS
9325.00†	9291.01	104.50	-653.78	9296.15	9291.01	10.85	30.63	97.79	690.80	59.12	11.68	PASS
9425.00†	9390.55	104.50	-663.37	9395.69	9390.55	10.85	30.63	97.69	700.29	59.83	11.70	PASS
9525.00†	9490.08	104.50	-672.95	9495.23	9490.08	10.85	30.63	97.58	709.79	60.54	11.72	PASS
9625.00†	9589.62	104.50	-682.54	9594.77	9589.62	10.85	30.63	97.48	719.30	61.25	11.74	PASS
9725.00†	9689.16	104.50	-692.12	9694.31	9689.16	10.85	30.63	97.38	728.80	61.96	11.76	PASS
9825.00†	9788.70	104.50	-701.71	9793.85	9788.70	10.85	30.63	97.29	738.31	62.68	11.78	PASS
9925.00†	9888.24	104.50	-711.29	9893.39	9888.24	10.85	30.63	97.19	747.81	63.39	11.80	PASS
10025.00†	9987.78	104.50	-720.88	9992.93	9987.78	10.85	30.63	97.10	757.32	64.11	11.81	PASS
10125.00†	10087.32	104.50	-730.46	10092.47	10087.32	10.85	30.63	97.02	766.84	64.82	11.83	PASS
10225.00†	10186.86	104.50	-740.05	10192.01	10186.86	10.85	30.63	96.93	776.35	65.53	11.85	PASS
10325.00†	10286.40	104.50	-749.63	10291.55	10286.40	10.85	30.63	96.84	785.87	66.25	11.86	PASS
10425.00†	10385.94	104.50	-759.21	10391.09	10385.94	10.85	30.63	96.76	795.38	66.96	11.88	PASS
10525.00†	10485.48	104.50	-768.80	10490.63	10485.48	10.85	30.63	96.68	804.90	67.68	11.89	PASS
10625.00†	10585.02	104.50	-778.38	10590.17	10585.02	10.85	30.63	96.60	814.42	68.40	11.91	PASS
10725.00†	10684.56	104.50	-787.97	10689.71	10684.56	10.85	30.63	96.53	823.94	69.11	11.92	PASS
10825.00†	10784.10	104.50	-797.55	10789.25	10784.10	10.85	30.63	96.45	833.47	69.83	11.94	PASS
10831.00	10790.07	104.50	-798.13	10794.15	10789.01	10.83	30.64	96.45	834.04	69.87	11.94	PASS
10925.00†	10882.99	95.29	-807.54	10868.58	10863.08	4.41	30.86	96.19	843.54	70.65	11.94	PASS
11025.00†	10977.72	65.68	-818.15	10947.92	10939.91	-15.00	31.53	95.42	854.34	71.62	11.93	PASS
11125.00†	11064.15	16.92	-828.92	11027.91	11013.05	-47.15	32.65	94.25	865.46	72.58	11.92	PASS
11225.00†	11138.50	-48.85	-839.39	11109.07	11080.71	-91.76	34.20	92.81	876.55	73.17	11.98	PASS
11325.00†	11197.53	-128.76	-849.09	11192.00	11141.04	-148.48	36.17	91.28	887.29	73.91	12.00	PASS
11425.00†	11238.64	-219.32	-857.61	11277.37	11191.94	-216.84	38.55	89.84	897.37	74.90	11.98	PASS
11525.00†	11260.05	-316.56	-864.56	11365.98	11231.03	-296.17	41.31	88.71	906.56	76.25	11.89	PASS
11571.38	11263.00	-362.76	-867.16	11408.42	11244.39	-336.41	42.71	88.34	910.44	76.97	11.83	PASS
11571.40	11263.00	-362.78	-867.17	11408.44	11244.39	-336.42	42.71	88.34	910.44	76.97	11.83	PASS
11625.00†	11263.82	-416.30	-869.94	11459.24	11255.61	-385.92	44.43	88.10	914.90	78.00	11.73	PASS
11725.00†	11265.34	-516.15	-875.10	11557.87	11262.80	-484.10	47.84	88.01	923.50	80.34	11.50	PASS
11825.00†	11266.87	-616.01	-880.27	11657.49	11264.38	-583.65	51.30	88.01	932.14	83.09	11.22	PASS
11925.00†	11268.39	-715.86	-885.44	11757.12	11265.96	-683.20	54.77	88.01	940.78	86.21	10.91	PASS
12025.00†	11269.92	-815.72	-890.61	11856.75	11267.54	-782.76	58.23	88.01	949.41	89.63	10.59	PASS
12125.00†	11271.44	-915.57	-895.78	11956.37	11269.12	-882.31	61.69	88.01	958.05	93.33	10.27	PASS
12225.00†	11272.97	-1015.43	-900.94	12056.00	11270.70	-981.87	65.15	88.01	966.68	97.32	9.93	PASS
12325.00†	11274.49	-1115.28	-906.11	12155.62	11272.28	-1081.42	68.61	88.01	975.32	101.53	9.61	PASS
12425.00†	11276.01	-1215.14	-911.28	12255.25	11273.86	-1180.97	72.08	88.01	983.95	105.94	9.29	PASS
12525.00†	11277.54	-1314.99	-916.45	12354.88	11275.43	-1280.53	75.54	88.01	992.59	110.53	8.98	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.56H SHL Well: No.56H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
12625.00†	11279.06	-1414.85	-921.62	12454.50	11277.01	-1380.08	79.00	88.01	1001.23	115.27	8.69	PASS
12725.00†	11280.59	-1514.70	-926.79	12554.13	11278.59	-1479.63	82.46	88.01	1009.86	120.15	8.41	PASS
12825.00†	11282.11	-1614.56	-931.95	12653.76	11280.17	-1579.19	85.93	88.01	1018.50	125.15	8.14	PASS
12925.00†	11283.64	-1714.41	-937.12	12753.38	11281.75	-1678.74	89.39	88.01	1027.13	130.26	7.89	PASS
13025.00†	11285.16	-1814.27	-942.29	12853.01	11283.33	-1778.30	92.85	88.01	1035.77	135.46	7.65	PASS
13125.00†	11286.69	-1914.12	-947.46	12952.64	11284.91	-1877.85	96.31	88.01	1044.40	140.76	7.42	PASS
13225.00†	11288.21	-2013.98	-952.63	13052.26	11286.49	-1977.40	99.77	88.01	1053.04	146.12	7.21	PASS
13325.00†	11289.74	-2113.83	-957.80	13151.89	11288.07	-2076.96	103.24	88.01	1061.67	151.55	7.01	PASS
13425.00†	11291.26	-2213.68	-962.96	13251.52	11289.65	-2176.51	106.70	88.01	1070.31	157.04	6.82	PASS
13525.00†	11292.79	-2313.54	-968.13	13351.14	11291.23	-2276.06	110.16	88.01	1078.95	162.59	6.64	PASS
13625.00†	11294.31	-2413.39	-973.30	13450.77	11292.81	-2375.62	113.62	88.01	1087.58	168.19	6.47	PASS
13725.00†	11295.84	-2513.25	-978.47	13550.39	11294.39	-2475.17	117.09	88.01	1096.22	173.83	6.31	PASS
13825.00†	11297.36	-2613.10	-983.64	13650.02	11295.97	-2574.72	120.55	88.01	1104.85	179.51	6.15	PASS
13925.00†	11298.89	-2712.96	-988.80	13749.65	11297.55	-2674.28	124.01	88.01	1113.49	185.23	6.01	PASS
14025.00†	11300.41	-2812.81	-993.97	13849.27	11299.13	-2773.83	127.47	88.01	1122.12	190.98	5.88	PASS
14125.00†	11301.93	-2912.67	-999.14	13948.90	11300.71	-2873.39	130.94	88.01	1130.76	196.77	5.75	PASS
14225.00†	11303.46	-3012.52	-1004.31	14048.53	11302.28	-2972.94	134.40	88.01	1139.40	202.58	5.62	PASS
14325.00†	11304.98	-3112.38	-1009.48	14148.15	11303.86	-3072.49	137.86	88.01	1148.03	208.41	5.51	PASS
14425.00†	11306.51	-3212.23	-1014.65	14247.78	11305.44	-3172.05	141.32	88.01	1156.67	214.27	5.40	PASS
14525.00†	11308.03	-3312.09	-1019.81	14347.41	11307.02	-3271.60	144.78	88.01	1165.30	220.15	5.29	PASS
14625.00†	11309.56	-3411.94	-1024.98	14447.03	11308.60	-3371.15	148.25	88.01	1173.94	226.06	5.19	PASS
14725.00†	11311.08	-3511.80	-1030.15	14546.66	11310.18	-3470.71	151.71	88.01	1182.57	231.98	5.10	PASS
14825.00†	11312.61	-3611.65	-1035.32	14646.29	11311.76	-3570.26	155.17	88.01	1191.21	237.91	5.01	PASS
14925.00†	11314.13	-3711.51	-1040.49	14745.91	11313.34	-3669.82	158.63	88.01	1199.84	243.86	4.92	PASS
15025.00†	11315.66	-3811.36	-1045.66	14845.54	11314.92	-3769.37	162.10	88.01	1208.48	249.83	4.84	PASS
15125.00†	11317.18	-3911.21	-1050.82	14945.16	11316.50	-3868.92	165.56	88.01	1217.12	255.81	4.76	PASS
15225.00†	11318.71	-4011.07	-1055.99	15044.79	11318.08	-3968.48	169.02	88.01	1225.75	261.81	4.68	PASS
15325.00†	11320.23	-4110.92	-1061.16	15144.42	11319.66	-4068.03	172.48	88.01	1234.39	267.81	4.61	PASS
15425.00†	11321.76	-4210.78	-1066.33	15244.04	11321.24	-4167.58	175.94	88.01	1243.02	273.83	4.54	PASS
15525.00†	11323.28	-4310.63	-1071.50	15343.67	11322.82	-4267.14	179.41	88.01	1251.66	279.86	4.47	PASS
15625.00†	11324.80	-4410.49	-1076.66	15443.30	11324.40	-4366.69	182.87	88.01	1260.29	285.89	4.41	PASS
15725.00†	11326.33	-4510.34	-1081.83	15542.92	11325.98	-4466.25	186.33	88.01	1268.93	291.94	4.35	PASS
15825.00†	11327.85	-4610.20	-1087.00	15642.55	11327.56	-4565.80	189.79	88.01	1277.57	297.99	4.29	PASS
15925.00†	11329.38	-4710.05	-1092.17	15742.18	11329.13	-4665.35	193.26	88.01	1286.20	304.06	4.23	PASS
16025.00†	11330.90	-4809.91	-1097.34	15841.80	11330.71	-4764.91	196.72	88.01	1294.84	310.13	4.18	PASS
16125.00†	11332.43	-4909.76	-1102.51	15941.43	11332.29	-4864.46	200.18	88.01	1303.47	316.20	4.12	PASS
16225.00†	11333.95	-5009.62	-1107.67	16041.05	11333.87	-4964.01	203.64	88.01	1312.11	322.29	4.07	PASS
16319.93	11335.40	-5104.41	-1112.58	16135.63	11335.37	-5058.52	206.93	88.01	1320.31	328.07	4.02	PASS

POSITIONAL UNCERTAINTY - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

Slot Surface Uncertainty @ 1SD	Horizontal	0.100ft	Vertical	0.100ft
Facility Surface Uncertainty @ 1SD	Horizontal	8.200ft	Vertical	1.000ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

SURVEY PROGRAM - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	1254.00	Generic gyro - northseeking (Standard)		No.56H AWB
1254.00	2189.00	NaviTrak (Standard)		No.56H AWB
2189.00	16175.25	NaviTrak (Standard)		No.56H PWB

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: No.56H PWB Offset Wellpath: Rev-D.0

MD Reference: Rig on No.56H SHL (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	25.00ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.58H SHL Well: No.58H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
25.00	25.00	0.00	0.00	24.80	25.00	0.27	50.01	89.69	50.01	0.30	166.71	PASS
125.00†	125.00	0.00	0.00	124.80	125.00	0.27	50.01	89.69	50.01	0.94	53.44	PASS
225.00†	225.00	0.00	0.00	224.80	225.00	0.27	50.01	89.69	50.01	1.56	32.12	PASS
325.00†	325.00	0.00	0.00	324.80	325.00	0.27	50.01	89.69	50.01	2.24	22.36	PASS
425.00†	425.00	0.00	0.00	424.80	425.00	0.27	50.01	89.69	50.01	2.94	17.04	PASS
525.00†	525.00	0.00	0.00	524.80	525.00	0.27	50.01	89.69	50.01	3.64	13.73	PASS
625.00†	625.00	0.00	0.00	624.80	625.00	0.27	50.01	89.69	50.01	4.35	11.49	PASS
725.00†	725.00	0.00	0.00	724.80	725.00	0.27	50.01	89.69	50.01	5.07	9.87	PASS
825.00†	825.00	0.00	0.00	824.80	825.00	0.27	50.01	89.69	50.01	5.78	8.65	PASS
925.00†	925.00	0.00	0.00	924.80	925.00	0.27	50.01	89.69	50.01	6.49	7.70	PASS
1025.00†	1025.00	0.00	0.00	1024.80	1025.00	0.27	50.01	89.69	50.01	7.21	6.94	PASS
1125.00†	1125.00	0.00	0.00	1124.80	1125.00	0.27	50.01	89.69	50.01	7.93	6.31	PASS
1225.00†	1225.00	0.00	0.00	1224.80	1225.00	0.27	50.01	89.69	50.01	8.64	5.79	PASS
1325.00†	1325.00	0.00	0.00	1324.80	1325.00	0.27	50.01	89.69	50.01	9.36	5.34	PASS
1425.00†	1425.00	0.00	0.00	1424.80	1425.00	0.27	50.01	89.69	50.01	10.08	4.96	PASS
1500.00	1500.00	0.00	0.00	1499.80	1500.00	0.27	50.01	89.69	50.01	10.62	4.71	PASS
1525.00†	1525.00	0.10	-0.04	1524.37	1524.57	0.27	50.11	89.81	50.15	10.79	4.65	PASS
1577.34†	1577.33	0.98	-0.36	1575.79	1575.98	0.30	51.01	90.75	51.39	11.20	4.59	PASS
1625.00†	1624.96	2.56	-0.93	1622.51	1622.67	0.36	52.63	92.35	53.66	11.58	4.63	PASS
1725.00†	1724.77	8.30	-3.02	1720.08	1720.06	0.56	58.46	97.17	62.14	12.55	4.95	PASS
1750.00	1749.68	10.24	-3.73	1744.33	1744.23	0.63	60.42	98.52	65.09	12.78	5.09	PASS
1825.00†	1824.40	16.39	-5.96	1816.75	1816.31	0.88	67.49	101.92	75.51	13.44	5.62	PASS
1925.00†	1924.02	24.58	-8.95	1914.76	1913.63	1.28	79.00	104.84	91.57	14.16	6.47	PASS
2025.00†	2023.64	32.77	-11.93	2013.36	2011.54	1.69	90.67	106.85	107.87	14.85	7.26	PASS
2125.00†	2123.26	40.96	-14.91	2111.96	2109.45	2.10	102.33	108.34	124.28	15.55	7.99	PASS
2225.00†	2222.88	49.15	-17.89	2210.56	2207.35	2.50	114.00	109.48	140.75	16.27	8.65	PASS
2325.00†	2322.49	57.34	-20.87	2309.16	2305.26	2.91	125.67	110.38	157.26	16.99	9.26	PASS
2425.00†	2422.11	65.53	-23.85	2407.76	2403.16	3.32	137.34	111.10	173.81	17.72	9.81	PASS
2525.00†	2521.73	73.72	-26.83	2506.36	2501.07	3.73	149.00	111.71	190.38	18.45	10.32	PASS
2625.00†	2621.35	81.91	-29.81	2604.96	2598.98	4.13	160.67	112.21	206.96	19.19	10.78	PASS
2725.00†	2720.97	90.10	-32.79	2703.56	2696.88	4.54	172.34	112.64	223.56	19.93	11.21	PASS
2750.00	2745.88	92.14	-33.54	2728.21	2721.36	4.64	175.25	112.74	227.71	20.12	11.32	PASS
2825.00†	2820.63	97.52	-36.39	2802.11	2794.75	4.95	184.00	112.79	240.44	20.68	11.63	PASS
2925.00†	2920.34	102.32	-42.12	2900.47	2892.41	5.36	195.64	112.19	258.29	21.39	12.07	PASS
3025.00†	3020.00	104.41	-50.03	2998.50	2989.75	5.76	207.24	110.98	277.19	22.07	12.56	PASS
3051.54	3046.43	104.50	-52.50	3024.45	3015.52	5.87	210.31	110.57	282.41	22.25	12.69	PASS
3125.00†	3119.55	104.50	-59.54	3096.22	3086.79	6.16	218.80	109.46	297.02	22.72	13.07	PASS
3225.00†	3219.09	104.50	-69.13	3193.93	3183.81	6.57	230.36	108.11	317.06	23.38	13.56	PASS
3325.00†	3318.63	104.50	-78.71	3291.63	3280.82	6.97	241.93	106.92	337.27	24.03	14.03	PASS
3425.00†	3418.17	104.50	-88.29	3389.34	3377.84	7.38	253.49	105.86	357.60	24.70	14.48	PASS
3525.00†	3517.71	104.50	-97.88	3487.04	3474.86	7.78	265.05	104.92	378.03	25.36	14.90	PASS
3625.00†	3617.25	104.50	-107.46	3584.75	3571.88	8.18	276.61	104.08	398.56	26.04	15.31	PASS
3725.00†	3716.79	104.50	-117.05	3682.45	3668.90	8.59	288.17	103.32	419.16	26.71	15.69	PASS
3825.00†	3816.33	104.50	-126.63	3780.16	3765.91	8.99	299.73	102.63	439.83	27.39	16.06	PASS
3925.00†	3915.87	104.50	-136.22	3877.86	3862.93	9.39	311.30	102.00	460.56	28.07	16.41	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.58H SHL Well: No.58H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
4025.00†	4015.41	104.50	-145.80	3975.57	3959.95	9.80	322.86	101.42	481.34	28.76	16.74	PASS
4125.00†	4114.95	104.50	-155.39	4073.28	4056.97	10.20	334.42	100.90	502.16	29.44	17.05	PASS
4225.00†	4214.48	104.50	-164.97	4170.98	4153.99	10.61	345.98	100.41	523.02	30.14	17.36	PASS
4325.00†	4314.02	104.50	-174.56	4268.69	4251.00	11.01	357.54	99.97	543.91	30.83	17.64	PASS
4425.00†	4413.56	104.50	-184.14	4366.39	4348.02	11.41	369.10	99.55	564.84	31.52	17.92	PASS
4525.00†	4513.10	104.50	-193.72	4464.10	4445.04	11.82	380.67	99.17	585.79	32.22	18.18	PASS
4625.00†	4612.64	104.50	-203.31	4561.80	4542.06	12.22	392.23	98.81	606.76	32.92	18.43	PASS
4725.00†	4712.18	104.50	-212.89	4659.51	4639.08	12.62	403.79	98.47	627.76	33.62	18.67	PASS
4825.00†	4811.72	104.50	-222.48	4757.21	4736.09	13.03	415.35	98.16	648.78	34.32	18.90	PASS
4925.00†	4911.26	104.50	-232.06	4854.92	4833.11	13.43	426.91	97.87	669.81	35.03	19.12	PASS
5025.00†	5010.80	104.50	-241.65	4952.62	4930.13	13.84	438.47	97.59	690.86	35.73	19.33	PASS
5125.00†	5110.34	104.50	-251.23	5050.33	5027.15	14.24	450.04	97.34	711.93	36.44	19.54	PASS
5225.00†	5209.88	104.50	-260.82	5148.03	5124.16	14.64	461.60	97.09	733.01	37.15	19.73	PASS
5325.00†	5309.42	104.50	-270.40	5245.74	5221.18	15.05	473.16	96.86	754.10	37.86	19.92	PASS
5425.00†	5408.96	104.50	-279.99	5343.44	5318.20	15.45	484.72	96.64	775.21	38.57	20.10	PASS
5525.00†	5508.50	104.50	-289.57	5441.15	5415.22	15.85	496.28	96.44	796.32	39.28	20.27	PASS
5625.00†	5608.04	104.50	-299.16	5538.85	5512.24	16.26	507.84	96.24	817.44	40.00	20.44	PASS
5725.00†	5707.58	104.50	-308.74	5636.56	5609.25	16.66	519.41	96.06	838.57	40.71	20.60	PASS
5825.00†	5807.12	104.50	-318.32	5734.26	5706.27	17.07	530.97	95.88	859.72	41.43	20.75	PASS
5925.00†	5906.66	104.50	-327.91	5831.97	5803.29	17.47	542.53	95.71	880.86	42.14	20.90	PASS
6025.00†	6006.20	104.50	-337.49	5929.67	5900.31	17.87	554.09	95.55	902.02	42.86	21.04	PASS
6125.00†	6105.74	104.50	-347.08	6027.38	5997.33	18.28	565.65	95.40	923.18	43.58	21.18	PASS
6225.00†	6205.28	104.50	-356.66	6125.09	6094.34	18.68	577.21	95.25	944.35	44.30	21.32	PASS
6325.00†	6304.82	104.50	-366.25	6222.79	6191.36	19.08	588.78	95.11	965.52	45.02	21.45	PASS
6425.00†	6404.36	104.50	-375.83	6320.50	6288.38	19.49	600.34	94.98	986.70	45.74	21.57	PASS
6525.00†	6503.90	104.50	-385.42	6418.20	6385.40	19.89	611.90	94.85	1007.89	46.46	21.69	PASS
6625.00†	6603.44	104.50	-395.00	6515.91	6482.42	20.30	623.46	94.73	1029.08	47.19	21.81	PASS
6725.00†	6702.98	104.50	-404.59	6613.61	6579.43	20.70	635.02	94.61	1050.27	47.91	21.92	PASS
6825.00†	6802.51	104.50	-414.17	6711.32	6676.45	21.10	646.58	94.50	1071.47	48.63	22.03	PASS
6925.00†	6902.05	104.50	-423.75	6809.02	6773.47	21.51	658.14	94.39	1092.67	49.36	22.14	PASS
7025.00†	7001.59	104.50	-433.34	6906.73	6870.49	21.91	669.71	94.28	1113.88	50.08	22.24	PASS
7125.00†	7101.13	104.50	-442.92	7004.43	6967.51	22.31	681.27	94.18	1135.09	50.81	22.34	PASS
7225.00†	7200.67	104.50	-452.51	7102.14	7064.52	22.72	692.83	94.08	1156.30	51.54	22.44	PASS
7325.00†	7300.21	104.50	-462.09	7199.84	7161.54	23.12	704.39	93.99	1177.51	52.26	22.53	PASS
7425.00†	7399.75	104.50	-471.68	7297.55	7258.56	23.53	715.95	93.90	1198.73	52.99	22.62	PASS
7525.00†	7499.29	104.50	-481.26	7395.25	7355.58	23.93	727.51	93.81	1219.95	53.72	22.71	PASS
7625.00†	7598.83	104.50	-490.85	7492.96	7452.60	24.33	739.08	93.73	1241.18	54.45	22.80	PASS
7725.00†	7698.37	104.50	-500.43	7590.66	7549.61	24.74	750.64	93.65	1262.40	55.18	22.88	PASS
7825.00†	7797.91	104.50	-510.02	7688.37	7646.63	25.14	762.20	93.57	1283.63	55.91	22.96	PASS
7925.00†	7897.45	104.50	-519.60	7786.07	7743.65	25.54	773.76	93.49	1304.87	56.64	23.04	PASS
8025.00†	7996.99	104.50	-529.18	7883.78	7840.67	25.95	785.32	93.42	1326.10	57.37	23.12	PASS
8125.00†	8096.53	104.50	-538.77	7981.48	7937.69	26.35	796.88	93.35	1347.33	58.10	23.19	PASS
8225.00†	8196.07	104.50	-548.35	8079.19	8034.70	26.76	808.45	93.28	1368.57	58.83	23.26	PASS
8325.00†	8295.61	104.50	-557.94	8176.90	8131.72	27.16	820.01	93.21	1389.81	59.56	23.33	PASS
8425.00†	8395.15	104.50	-567.52	8274.60	8228.74	27.56	831.57	93.15	1411.05	60.30	23.40	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.58H SHL Well: No.58H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
8525.00†	8494.69	104.50	-577.11	8372.31	8325.76	27.97	843.13	93.09	1432.30	61.03	23.47	PASS
8625.00†	8594.23	104.50	-586.69	8470.01	8422.77	28.37	854.69	93.02	1453.54	61.76	23.53	PASS
8725.00†	8693.77	104.50	-596.28	8567.72	8519.79	28.77	866.25	92.96	1474.79	62.50	23.60	PASS
8825.00†	8793.31	104.50	-605.86	8665.42	8616.81	29.18	877.82	92.91	1496.04	63.23	23.66	PASS
8925.00†	8892.85	104.50	-615.45	8763.13	8713.83	29.58	889.38	92.85	1517.29	63.97	23.72	PASS
9025.00†	8992.39	104.50	-625.03	8860.83	8810.85	29.99	900.94	92.80	1538.54	64.70	23.78	PASS
9125.00†	9091.93	104.50	-634.62	8958.54	8907.86	30.39	912.50	92.74	1559.79	65.44	23.84	PASS
9225.00†	9191.47	104.50	-644.20	9056.24	9004.88	30.79	924.06	92.69	1581.04	66.17	23.89	PASS
9325.00†	9291.01	104.50	-653.78	9153.95	9101.90	31.20	935.62	92.64	1602.30	66.91	23.95	PASS
9425.00†	9390.55	104.50	-663.37	9251.65	9198.92	31.60	947.19	92.59	1623.55	67.65	24.00	PASS
9525.00†	9490.08	104.50	-672.95	9349.36	9295.94	32.00	958.75	92.54	1644.81	68.38	24.05	PASS
9625.00†	9589.62	104.50	-682.54	9447.06	9392.95	32.41	970.31	92.50	1666.07	69.12	24.10	PASS
9725.00†	9689.16	104.50	-692.12	9544.77	9489.97	32.81	981.87	92.45	1687.33	69.86	24.15	PASS
9825.00†	9788.70	104.50	-701.71	9642.47	9586.99	33.22	993.43	92.41	1708.59	70.60	24.20	PASS
9925.00†	9888.24	104.50	-711.29	9740.18	9684.01	33.62	1004.99	92.37	1729.85	71.34	24.25	PASS
10025.00†	9987.78	104.50	-720.88	9837.88	9781.03	34.02	1016.56	92.32	1751.11	72.08	24.30	PASS
10125.00†	10087.32	104.50	-730.46	9935.59	9878.04	34.43	1028.12	92.28	1772.37	72.82	24.34	PASS
10225.00†	10186.86	104.50	-740.05	10033.30	9975.06	34.83	1039.68	92.24	1793.64	73.56	24.38	PASS
10325.00†	10286.40	104.50	-749.63	10131.00	10072.08	35.23	1051.24	92.20	1814.90	74.30	24.43	PASS
10425.00†	10385.94	104.50	-759.21	10228.71	10169.10	35.64	1062.80	92.17	1836.17	75.04	24.47	PASS
10525.00†	10485.48	104.50	-768.80	10326.41	10266.12	36.04	1074.36	92.13	1857.43	75.78	24.51	PASS
10625.00†	10585.02	104.50	-778.38	10424.12	10363.13	36.44	1085.93	92.09	1878.70	76.52	24.55	PASS
10725.00†	10684.56	104.50	-787.97	10521.82	10460.15	36.85	1097.49	92.06	1899.97	77.26	24.59	PASS
10825.00†	10784.10	104.50	-797.55	10619.53	10557.17	37.25	1109.05	92.02	1921.24	78.00	24.63	PASS
10831.00	10790.07	104.50	-798.13	10625.39	10562.99	37.28	1109.74	92.02	1922.51	78.05	24.63	PASS
10925.00†	10882.99	95.29	-807.54	10716.50	10653.46	37.65	1120.52	91.71	1942.53	78.89	24.62	PASS
11025.00†	10977.72	65.68	-818.15	10809.19	10745.50	38.04	1131.49	90.81	1963.62	80.09	24.52	PASS
11125.00†	11064.15	16.92	-828.92	10886.62	10822.36	37.31	1140.72	89.41	1984.53	80.60	24.62	PASS
11225.00†	11138.50	-48.85	-839.39	10955.97	10890.47	28.02	1149.44	87.79	2005.71	81.08	24.74	PASS
11325.00†	11197.53	-128.76	-849.09	11030.09	10960.86	7.24	1159.17	86.13	2026.73	81.69	24.81	PASS
11425.00†	11238.64	-219.32	-857.61	11111.86	11033.67	-28.10	1170.11	84.61	2047.00	82.60	24.78	PASS
11525.00†	11260.05	-316.56	-864.56	11206.46	11108.85	-83.87	1182.64	83.52	2065.92	83.58	24.72	PASS
11571.38	11263.00	-362.76	-867.16	11257.14	11144.15	-119.62	1189.13	83.26	2074.02	84.20	24.63	PASS
11571.40	11263.00	-362.78	-867.17	11257.16	11144.17	-119.64	1189.13	83.26	2074.03	84.20	24.63	PASS
11625.00†	11263.82	-416.30	-869.94	11326.50	11185.91	-174.28	1197.59	83.32	2083.10	85.08	24.48	PASS
11725.00†	11265.34	-516.15	-875.10	11498.04	11251.84	-330.63	1215.40	84.93	2098.77	87.49	23.99	PASS
11825.00†	11266.87	-616.01	-880.27	11646.87	11264.00	-478.22	1226.24	86.26	2111.01	90.23	23.40	PASS
11925.00†	11268.39	-715.86	-885.44	11746.18	11265.55	-577.31	1232.72	86.26	2122.69	92.84	22.86	PASS
12025.00†	11269.92	-815.72	-890.61	11845.50	11267.10	-676.41	1239.20	86.26	2134.37	95.79	22.28	PASS
12125.00†	11271.44	-915.57	-895.78	11944.82	11268.65	-775.50	1245.69	86.26	2146.04	99.05	21.67	PASS
12225.00†	11272.97	-1015.43	-900.94	12044.13	11270.21	-874.59	1252.17	86.26	2157.72	102.58	21.03	PASS
12325.00†	11274.49	-1115.28	-906.11	12143.45	11271.76	-973.68	1258.66	86.26	2169.40	106.36	20.40	PASS
12425.00†	11276.01	-1215.14	-911.28	12242.76	11273.31	-1072.77	1265.14	86.26	2181.07	110.37	19.76	PASS
12525.00†	11277.54	-1314.99	-916.45	12342.08	11274.86	-1171.86	1271.62	86.26	2192.75	114.07	19.22	PASS
12625.00†	11279.06	-1414.85	-921.62	12441.40	11276.41	-1270.96	1278.11	86.26	2204.43	118.96	18.53	PASS



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

CLEARANCE DATA - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

Facility: Thistle Unit No.56H & No.57H & No.58H Slot: No.58H SHL Well: No.58H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
12725.00†	11280.59	-1514.70	-926.79	12540.71	11277.96	-1370.05	1284.59	86.26	2216.10	123.50	17.94	PASS
12825.00†	11282.11	-1614.56	-931.95	12640.03	11279.51	-1469.14	1291.07	86.26	2227.78	128.19	17.38	PASS
12925.00†	11283.64	-1714.41	-937.12	12739.34	11281.06	-1568.23	1297.56	86.26	2239.46	133.00	16.84	PASS
13025.00†	11285.16	-1814.27	-942.29	12838.66	11282.61	-1667.32	1304.04	86.26	2251.13	137.93	16.32	PASS
13125.00†	11286.69	-1914.12	-947.46	12937.98	11284.16	-1766.42	1310.53	86.26	2262.81	142.96	15.83	PASS
13225.00†	11288.21	-2013.98	-952.63	13037.29	11285.72	-1865.51	1317.01	86.26	2274.49	148.08	15.36	PASS
13325.00†	11289.74	-2113.83	-957.80	13136.61	11287.27	-1964.60	1323.49	86.26	2286.17	153.29	14.91	PASS
13425.00†	11291.26	-2213.68	-962.96	13235.92	11288.82	-2063.69	1329.98	86.26	2297.84	158.57	14.49	PASS
13525.00†	11292.79	-2313.54	-968.13	13335.24	11290.37	-2162.78	1336.46	86.26	2309.52	163.92	14.09	PASS
13625.00†	11294.31	-2413.39	-973.30	13434.55	11291.92	-2261.88	1342.94	86.26	2321.20	169.32	13.71	PASS
13725.00†	11295.84	-2513.25	-978.47	13533.87	11293.47	-2360.97	1349.43	86.26	2332.87	174.79	13.35	PASS
13825.00†	11297.36	-2613.10	-983.64	13633.19	11295.02	-2460.06	1355.91	86.26	2344.55	180.30	13.00	PASS
13925.00†	11298.89	-2712.96	-988.80	13732.50	11296.57	-2559.15	1362.40	86.26	2356.23	185.86	12.68	PASS
14025.00†	11300.41	-2812.81	-993.97	13831.82	11298.12	-2658.24	1368.88	86.26	2367.90	191.47	12.37	PASS
14125.00†	11301.93	-2912.67	-999.14	13931.13	11299.67	-2757.34	1375.36	86.26	2379.58	197.11	12.07	PASS
14225.00†	11303.46	-3012.52	-1004.31	14030.45	11301.22	-2856.43	1381.85	86.26	2391.26	202.78	11.79	PASS
14325.00†	11304.98	-3112.38	-1009.48	14129.77	11302.78	-2955.52	1388.33	86.26	2402.93	208.49	11.53	PASS
14425.00†	11306.51	-3212.23	-1014.65	14229.08	11304.33	-3054.61	1394.81	86.26	2414.61	214.23	11.27	PASS
14525.00†	11308.03	-3312.09	-1019.81	14328.40	11305.88	-3153.70	1401.30	86.26	2426.29	219.99	11.03	PASS
14625.00†	11309.56	-3411.94	-1024.98	14427.71	11307.43	-3252.79	1407.78	86.26	2437.97	225.78	10.80	PASS
14725.00†	11311.08	-3511.80	-1030.15	14527.03	11308.98	-3351.89	1414.27	86.26	2449.64	231.59	10.58	PASS
14825.00†	11312.61	-3611.65	-1035.32	14626.35	11310.53	-3450.98	1420.75	86.26	2461.32	237.43	10.37	PASS
14925.00†	11314.13	-3711.51	-1040.49	14725.66	11312.08	-3550.07	1427.23	86.26	2473.00	243.28	10.17	PASS
15025.00†	11315.66	-3811.36	-1045.66	14824.98	11313.63	-3649.16	1433.72	86.26	2484.67	249.16	9.97	PASS
15125.00†	11317.18	-3911.21	-1050.82	14924.29	11315.18	-3748.25	1440.20	86.26	2496.35	255.05	9.79	PASS
15225.00†	11318.71	-4011.07	-1055.99	15023.61	11316.73	-3847.35	1446.68	86.26	2508.03	260.96	9.61	PASS
15325.00†	11320.23	-4110.92	-1061.16	15122.93	11318.29	-3946.44	1453.17	86.26	2519.70	266.88	9.44	PASS
15425.00†	11321.76	-4210.78	-1066.33	15222.24	11319.84	-4045.53	1459.65	86.26	2531.38	272.82	9.28	PASS
15525.00†	11323.28	-4310.63	-1071.50	15321.56	11321.39	-4144.62	1466.14	86.26	2543.06	278.76	9.12	PASS
15625.00†	11324.80	-4410.49	-1076.66	15420.87	11322.94	-4243.71	1472.62	86.26	2554.73	284.73	8.97	PASS
15725.00†	11326.33	-4510.34	-1081.83	15520.19	11324.49	-4342.81	1479.10	86.26	2566.41	290.70	8.83	PASS
15825.00†	11327.85	-4610.20	-1087.00	15619.50	11326.04	-4441.90	1485.59	86.26	2578.09	296.69	8.69	PASS
15925.00†	11329.38	-4710.05	-1092.17	15718.82	11327.59	-4540.99	1492.07	86.26	2589.77	302.68	8.56	PASS
16025.00†	11330.90	-4809.91	-1097.34	15818.14	11329.14	-4640.08	1498.55	86.26	2601.44	308.69	8.43	PASS
16125.00†	11332.43	-4909.76	-1102.51	15917.45	11330.69	-4739.17	1505.04	86.26	2613.12	314.70	8.30	PASS
16225.00†	11333.95	-5009.62	-1107.67	16016.77	11332.24	-4838.26	1511.52	86.26	2624.80	320.72	8.18	PASS
16319.93	11335.40	-5104.41	-1112.58	16111.05	11333.72	-4932.33	1517.68	86.26	2635.88	326.45	8.07	PASS

POSITIONAL UNCERTAINTY - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

Slot Surface Uncertainty @ 1SD	Horizontal	0.100ft	Vertical	0.100ft
Facility Surface Uncertainty @ 1SD	Horizontal	8.200ft	Vertical	1.000ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.57H SHL
Area	Lea County, NM	Well	No.57H
Field	(Thistle) Sec 22, T23S, R33E	Wellbore	No.57H PWB
Facility	Thistle Unit No.56H & No.57H & No.58H		

SURVEY PROGRAM - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	16270.11	NaviTrak (Standard)		No.58H PWB

OFFSET WELLPATH MD REFERENCE - Offset Wellbore: No.58H PWB Offset Wellpath: Rev-C.0

MD Reference: Rig on No.58H SHL (KB)	<i>Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)</i>
Ellipse Start MD	25.00ft