

NM OIL CONSERVATION

ARTESIA DISTRICT

APR 12 2017

Form C-102

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

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

RECEIVED
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44135	² Pool Code 98220	³ Pool Name PURPLE SAGE WOLFCAMP GAS POOL
⁴ Property Code 317656	⁵ Property Name C STATE 16	
⁷ OGRID No. 246289	⁸ Operator Name RKI EXPLORATION & PRODUCTION, LLC	⁶ Well Number 2H ⁹ Elevation 3135'

¹⁰ Surface Location

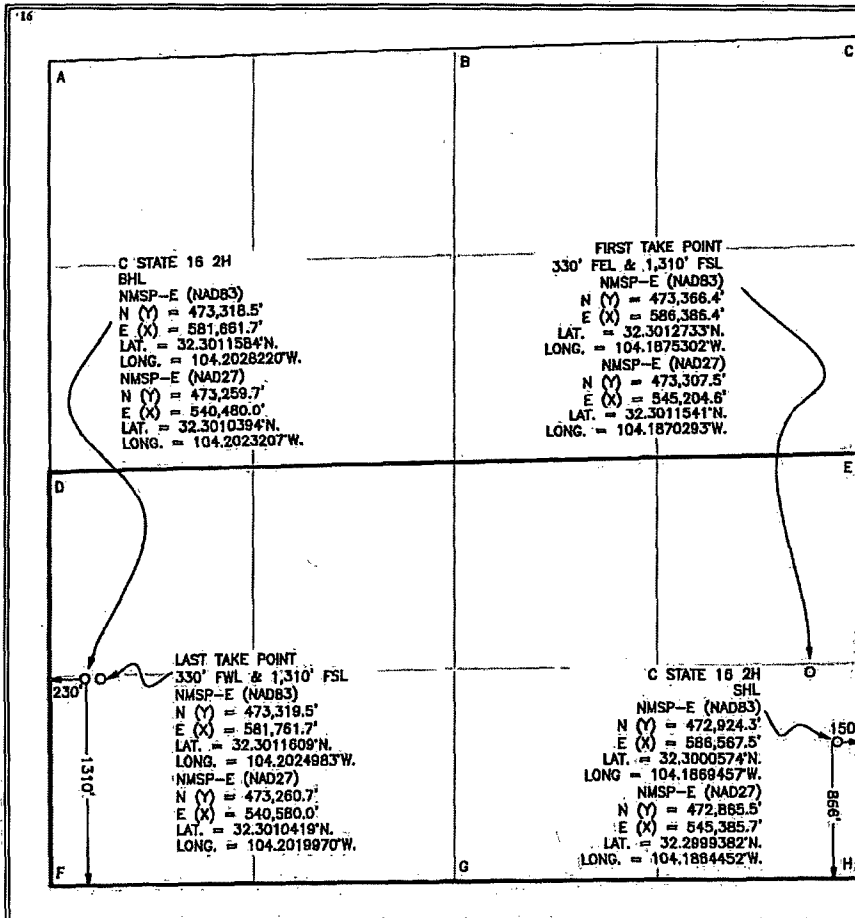
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	23 S	27 E		866	SOUTH	150	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	16	23 S	27 E		1,310	SOUTH	230	WEST	EDDY

¹² Dedicated Acres 320.0	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.

Signature: *Justin Barmore* Date: 4/5/2017

Printed Name: Justin Barmore

E-mail Address: justin.barmore@upsenergy.com

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.

04-04-2017

Date of Survey

Signature and Seal of Professional Surveyor:

Mark Dillon Harp

MARK DILLON HARP 23786
Certificate Number



AI

2017020194

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Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

ARR 12 2017

Submit Original
to Appropriate
District Office

RECEIVED**GAS CAPTURE PLAN**Date: 04/10/17☒ OriginalOperator & OGRID No.: RKI Exploration & Production LLC #246289

Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
C State 16 2H	30-015-44135	Sec. 16, T23S, R27E	SHL: 866' FSL 150' FEL	3,000 MCF/D	(3%) Flared 90MCF/D	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Gas Transporter and will be connected to Gas Transporter low/high pressure gathering system located in Eddy County, New Mexico. It will require 5136.76 ' of pipeline to connect the facility to low/high pressure gathering system. Operator provides (periodically) to Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Operator and Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Gas Transporter Processing Plant located: See Below. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

RKI Exploration and Production, LLC:

Gas Capture Plan: Gas Transporter Processing Plant Information

RKI Exploration and Production, LLC has the ability to deliver to the below listed Gas Processing Plants.

**Lucid Energy Delaware, LLC
Section 13, Township 24S, Range 33E
Lea Co., New Mexico**



Azimuths to Grid North
True North: -0.08°
Magnetic North: 7.24°

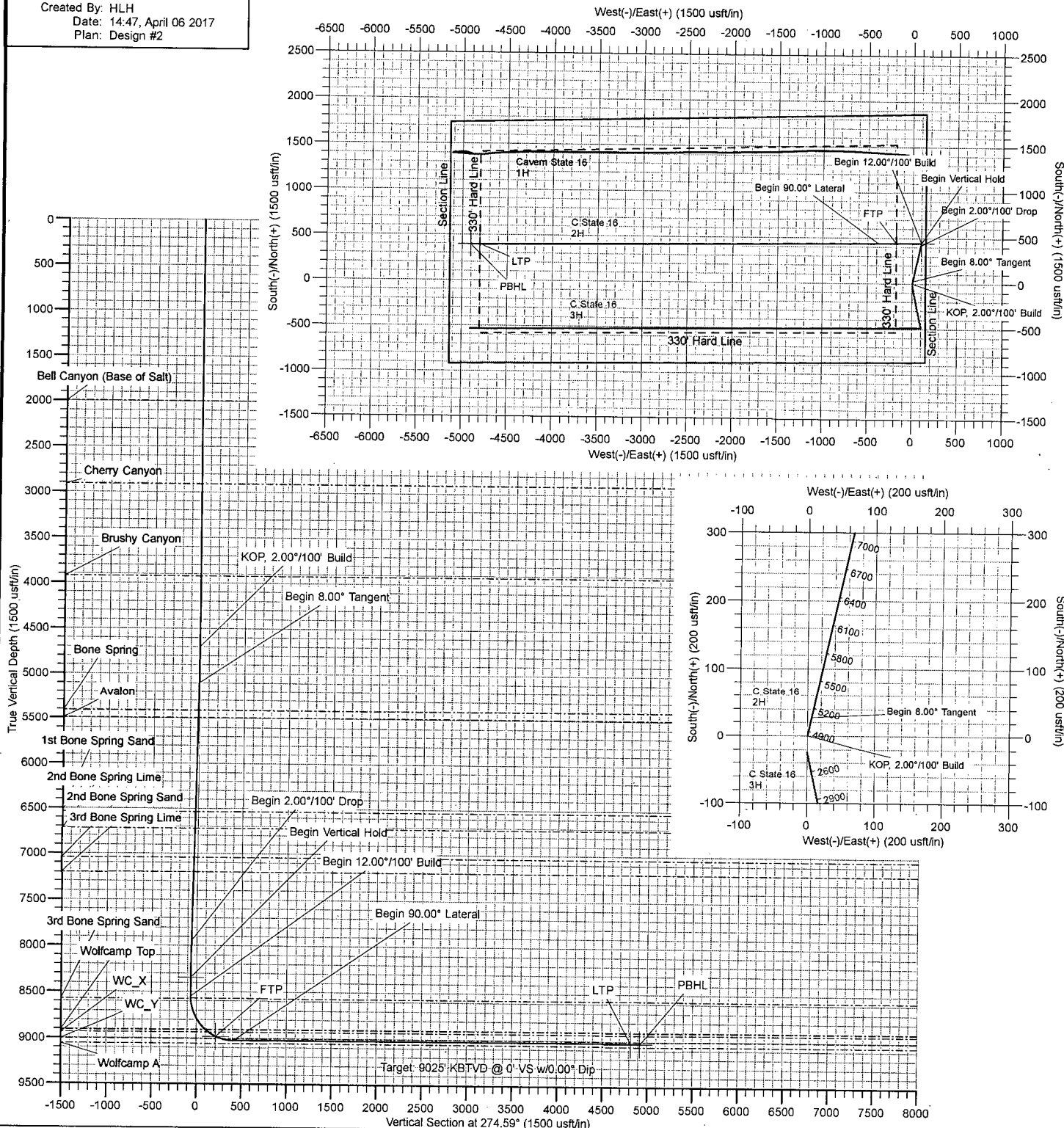
Magnetic Field
Strength: 48022.7 snT
Dip Angle: 60.03°
Date: 5/1/2017
Model: BGGM2016

US State Plane 1983
New Mexico Eastern Zone

Created By: HLH
Date: 14:47, April 06 2017
Plan: Design #2

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	0.00	KOP, 2.00°/100' Build
5099.92	8.00	12.58	5098.62	27.20	6.07	-3.87	27.87	Begin 8.00° Tangent
7975.65	8.00	12.58	7946.38	417.74	93.20	-59.44	428.01	Begin 2.00°/100' Drop
8375.57	0.00	0.00	8345.00	444.94	99.27	-63.31	455.88	Begin Vertical Hold
8578.11	0.00	0.00	8547.54	444.94	99.27	-63.31	455.88	Begin 12.00°/100' Build
9328.11	90.00	269.42	9025.00	440.10	-378.17	412.21	933.35	Begin 90.00° Lateral
13855.97	90.00	269.42	9025.00	394.20	-4905.80	4921.61	5461.21	PBHL



WPXENERGY SM

NM OIL CONSERVATION

ARTESIA DISTRICT

APR 12 2017

RECEIVED

WPX Energy

Eddy County, New Mexico (NAD 83)

C State 16

2H

Wellbore #1

Plan: Design #2

Standard Planning Report

06 April, 2017

MS *Energy Services*®
WWW.MSENERGYSERVICES.COM

Database:	EDM Conroe	Local Co-ordinate Reference:	Well 2H
Company:	WPX Energy	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site:	C State 16	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Project	Eddy County, New Mexico (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		

Well	2H			
Well Position	+N/-S	472,924.30 usft	Northing:	472,924.30 usft
	+E/-W	586,567.50 usft	Easting:	586,567.50 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Latitude:	32° 18' 0.207 N
			Longitude:	104° 11' 13.005 W
			Ground Level:	3,135.00 usft

Wellbore	Wellbore #1			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	5/1/2017	7.32	60.03	48,023

Design	Design #2			
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Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	274.59

Plan Survey Tool Program	Date	4/6/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,855.47	Design #2 (Wellbore #1)	MWD
				OWSG MWD - Standard

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,099.92	8.00	12.58	5,098.62	27.20	6.07	2.00	2.00	0.00	12.58	
7,975.65	8.00	12.58	7,946.38	417.74	93.20	0.00	0.00	0.00	0.00	
8,375.57	0.00	0.00	8,345.00	444.94	99.27	2.00	-2.00	0.00	180.00	VP - C State 16 2H
8,578.11	0.00	0.00	8,547.54	444.94	99.27	0.00	0.00	0.00	0.00	
9,328.11	90.00	269.42	9,025.00	440.10	-378.17	12.00	12.00	0.00	269.42	
13,855.97	90.00	269.42	9,025.00	394.20	-4,905.80	0.00	0.00	0.00	0.00	PBHL - C State 16 ;

Database:	EDM Conroe	Local Co-ordinate Reference:	Well 2H
Company:	WPX Energy	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site:	C State 16	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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
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
KOP, 2.00°/100' Build									
4,800.00	2.00	12.58	4,799.98	1.70	0.38	-0.24	2.00	2.00	0.00
4,900.00	4.00	12.58	4,899.84	6.81	1.52	-0.97	2.00	2.00	0.00
5,000.00	6.00	12.58	4,999.45	15.32	3.42	-2.18	2.00	2.00	0.00
5,099.92	8.00	12.58	5,098.62	27.20	6.07	-3.87	2.00	2.00	0.00
Begin 8.00° Tangent									

Database:	EDM Conroe	Local Co-ordinate Reference:	Well 2H
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Wellbore:	Wellbore #1		
Design:	Design #2		

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)
5,200.00	8.00	12.58	5,197.73	40.79	9.10	-5.80	0.00	0.00	0.00
5,300.00	8.00	12.58	5,296.76	54.37	12.13	-7.74	0.00	0.00	0.00
5,400.00	8.00	12.58	5,395.78	67.95	15.16	-9.67	0.00	0.00	0.00
5,500.00	8.00	12.58	5,494.81	81.53	18.19	-11.60	0.00	0.00	0.00
5,600.00	8.00	12.58	5,593.84	95.11	21.22	-13.53	0.00	0.00	0.00
5,700.00	8.00	12.58	5,692.86	108.69	24.25	-15.47	0.00	0.00	0.00
5,800.00	8.00	12.58	5,791.89	122.28	27.28	-17.40	0.00	0.00	0.00
5,900.00	8.00	12.58	5,890.92	135.86	30.31	-19.33	0.00	0.00	0.00
6,000.00	8.00	12.58	5,989.95	149.44	33.34	-21.26	0.00	0.00	0.00
6,100.00	8.00	12.58	6,088.97	163.02	36.37	-23.20	0.00	0.00	0.00
6,200.00	8.00	12.58	6,188.00	176.60	39.40	-25.13	0.00	0.00	0.00
6,300.00	8.00	12.58	6,287.03	190.18	42.43	-27.06	0.00	0.00	0.00
6,400.00	8.00	12.58	6,386.06	203.76	45.46	-28.99	0.00	0.00	0.00
6,500.00	8.00	12.58	6,485.08	217.34	48.49	-30.93	0.00	0.00	0.00
6,600.00	8.00	12.58	6,584.11	230.92	51.52	-32.86	0.00	0.00	0.00
6,700.00	8.00	12.58	6,683.14	244.50	54.55	-34.79	0.00	0.00	0.00
6,800.00	8.00	12.58	6,782.16	258.08	57.58	-36.72	0.00	0.00	0.00
6,900.00	8.00	12.58	6,881.19	271.66	60.61	-38.66	0.00	0.00	0.00
7,000.00	8.00	12.58	6,980.22	285.24	63.64	-40.59	0.00	0.00	0.00
7,100.00	8.00	12.58	7,079.25	298.82	66.67	-42.52	0.00	0.00	0.00
7,200.00	8.00	12.58	7,178.27	312.40	69.70	-44.45	0.00	0.00	0.00
7,300.00	8.00	12.58	7,277.30	325.99	72.73	-46.38	0.00	0.00	0.00
7,400.00	8.00	12.58	7,376.33	339.57	75.76	-48.32	0.00	0.00	0.00
7,500.00	8.00	12.58	7,475.35	353.15	78.79	-50.25	0.00	0.00	0.00
7,600.00	8.00	12.58	7,574.38	366.73	81.82	-52.18	0.00	0.00	0.00
7,700.00	8.00	12.58	7,673.41	380.31	84.85	-54.11	0.00	0.00	0.00
7,800.00	8.00	12.58	7,772.44	393.89	87.88	-56.05	0.00	0.00	0.00
7,900.00	8.00	12.58	7,871.46	407.47	90.91	-57.98	0.00	0.00	0.00
7,975.65	8.00	12.58	7,946.38	417.74	93.20	-59.44	0.00	0.00	0.00
Begin 2.00°/100' Drop									
8,000.00	7.51	12.58	7,970.50	420.95	93.92	-59.90	2.00	-2.00	0.00
8,100.00	5.51	12.58	8,069.85	432.02	96.38	-61.47	2.00	-2.00	0.00
8,200.00	3.51	12.58	8,169.54	439.69	98.10	-62.56	2.00	-2.00	0.00
8,300.00	1.51	12.58	8,269.44	443.97	99.05	-63.17	2.00	-2.00	0.00
8,375.57	0.00	0.00	8,345.00	444.94	99.27	-63.31	2.00	-2.00	0.00
Begin Vertical Hold									
8,400.00	0.00	0.00	8,369.43	444.94	99.27	-63.31	0.00	0.00	0.00
8,500.00	0.00	0.00	8,469.43	444.94	99.27	-63.31	0.00	0.00	0.00
8,578.11	0.00	0.00	8,547.54	444.94	99.27	-63.31	0.00	0.00	0.00
Begin 12.00°/100' Build									
8,600.00	2.63	269.42	8,569.42	444.94	98.77	-62.81	12.00	12.00	0.00
8,625.00	5.63	269.42	8,594.35	444.92	96.97	-61.02	12.00	12.00	0.00
8,650.00	8.63	269.42	8,619.16	444.89	93.87	-57.93	12.00	12.00	0.00
8,675.00	11.63	269.42	8,643.77	444.84	89.47	-53.55	12.00	12.00	0.00
8,700.00	14.63	269.42	8,668.11	444.79	83.79	-47.90	12.00	12.00	0.00
8,725.00	17.63	269.42	8,692.12	444.72	76.85	-40.98	12.00	12.00	0.00
8,750.00	20.63	269.42	8,715.74	444.63	68.66	-32.83	12.00	12.00	0.00
8,775.00	23.63	269.42	8,738.90	444.54	59.25	-23.45	12.00	12.00	0.00
8,800.00	26.63	269.42	8,761.53	444.43	48.63	-12.88	12.00	12.00	0.00
8,825.00	29.63	269.42	8,783.57	444.31	36.85	-1.14	12.00	12.00	0.00
8,850.00	32.63	269.42	8,804.97	444.18	23.93	11.73	12.00	12.00	0.00
8,875.00	35.63	269.42	8,825.66	444.04	9.90	25.69	12.00	12.00	0.00
8,900.00	38.63	269.42	8,845.59	443.88	-5.18	40.72	12.00	12.00	0.00

Database:	EDM Conroe	Local Co-ordinate Reference:	Well 2H
Company:	WPX Energy	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site:	C State 16	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,925.00	41.63	269.42	8,864.71	443.72	-21.29	56.77	12.00	12.00	0.00
8,950.00	44.63	269.42	8,882.95	443.55	-38.38	73.78	12.00	12.00	0.00
8,975.00	47.63	269.42	8,900.28	443.37	-56.40	91.73	12.00	12.00	0.00
9,000.00	50.63	269.42	8,916.63	443.17	-75.30	110.56	12.00	12.00	0.00
9,025.00	53.63	269.42	8,931.98	442.97	-95.03	130.21	12.00	12.00	0.00
9,050.00	56.63	269.42	8,946.27	442.77	-115.54	150.63	12.00	12.00	0.00
9,075.00	59.63	269.42	8,959.47	442.55	-136.77	171.77	12.00	12.00	0.00
9,100.00	62.63	269.42	8,971.54	442.33	-158.66	193.57	12.00	12.00	0.00
9,125.00	65.63	269.42	8,982.45	442.10	-181.15	215.97	12.00	12.00	0.00
9,150.00	68.63	269.42	8,992.16	441.87	-204.18	238.91	12.00	12.00	0.00
9,175.00	71.63	269.42	9,000.66	441.63	-227.68	262.33	12.00	12.00	0.00
9,200.00	74.63	269.42	9,007.92	441.39	-251.60	286.15	12.00	12.00	0.00
9,225.00	77.63	269.42	9,013.91	441.14	-275.87	310.32	12.00	12.00	0.00
9,250.00	80.63	269.42	9,018.63	440.89	-300.42	334.77	12.00	12.00	0.00
9,275.00	83.63	269.42	9,022.05	440.64	-325.18	359.43	12.00	12.00	0.00
9,300.00	86.63	269.42	9,024.17	440.39	-350.08	384.23	12.00	12.00	0.00
9,325.00	89.63	269.42	9,024.99	440.13	-375.07	409.11	12.00	12.00	0.00
9,328.11	90.00	269.42	9,025.00	440.10	-378.17	412.21	12.00	12.00	0.00
Begin 90.00° Lateral									
9,400.00	90.00	269.42	9,025.00	439.37	-450.06	483.81	0.00	0.00	0.00
9,500.00	90.00	269.42	9,025.00	438.36	-550.06	583.40	0.00	0.00	0.00
9,600.00	90.00	269.42	9,025.00	437.35	-650.05	682.99	0.00	0.00	0.00
9,700.00	90.00	269.42	9,025.00	436.33	-750.05	782.59	0.00	0.00	0.00
9,800.00	90.00	269.42	9,025.00	435.32	-850.04	882.18	0.00	0.00	0.00
9,900.00	90.00	269.42	9,025.00	434.31	-950.04	981.77	0.00	0.00	0.00
10,000.00	90.00	269.42	9,025.00	433.29	-1,050.03	1,081.36	0.00	0.00	0.00
10,100.00	90.00	269.42	9,025.00	432.28	-1,150.03	1,180.96	0.00	0.00	0.00
10,200.00	90.00	269.42	9,025.00	431.26	-1,250.02	1,280.55	0.00	0.00	0.00
10,300.00	90.00	269.42	9,025.00	430.25	-1,350.02	1,380.14	0.00	0.00	0.00
10,400.00	90.00	269.42	9,025.00	429.24	-1,450.01	1,479.73	0.00	0.00	0.00
10,500.00	90.00	269.42	9,025.00	428.22	-1,550.01	1,579.32	0.00	0.00	0.00
10,600.00	90.00	269.42	9,025.00	427.21	-1,650.00	1,678.92	0.00	0.00	0.00
10,700.00	90.00	269.42	9,025.00	426.19	-1,750.00	1,778.51	0.00	0.00	0.00
10,800.00	90.00	269.42	9,025.00	425.18	-1,849.99	1,878.10	0.00	0.00	0.00
10,900.00	90.00	269.42	9,025.00	424.17	-1,949.99	1,977.69	0.00	0.00	0.00
11,000.00	90.00	269.42	9,025.00	423.15	-2,049.98	2,077.29	0.00	0.00	0.00
11,100.00	90.00	269.42	9,025.00	422.14	-2,149.97	2,176.88	0.00	0.00	0.00
11,200.00	90.00	269.42	9,025.00	421.13	-2,249.97	2,276.47	0.00	0.00	0.00
11,300.00	90.00	269.42	9,025.00	420.11	-2,349.96	2,376.06	0.00	0.00	0.00
11,400.00	90.00	269.42	9,025.00	419.10	-2,449.96	2,475.66	0.00	0.00	0.00
11,500.00	90.00	269.42	9,025.00	418.08	-2,549.95	2,575.25	0.00	0.00	0.00
11,600.00	90.00	269.42	9,025.00	417.07	-2,649.95	2,674.84	0.00	0.00	0.00
11,700.00	90.00	269.42	9,025.00	416.06	-2,749.94	2,774.43	0.00	0.00	0.00
11,800.00	90.00	269.42	9,025.00	415.04	-2,849.94	2,874.03	0.00	0.00	0.00
11,900.00	90.00	269.42	9,025.00	414.03	-2,949.93	2,973.62	0.00	0.00	0.00
12,000.00	90.00	269.42	9,025.00	413.02	-3,049.93	3,073.21	0.00	0.00	0.00
12,100.00	90.00	269.42	9,025.00	412.00	-3,149.92	3,172.80	0.00	0.00	0.00
12,200.00	90.00	269.42	9,025.00	410.99	-3,249.92	3,272.40	0.00	0.00	0.00
12,300.00	90.00	269.42	9,025.00	409.97	-3,349.91	3,371.99	0.00	0.00	0.00
12,400.00	90.00	269.42	9,025.00	408.96	-3,449.91	3,471.58	0.00	0.00	0.00
12,500.00	90.00	269.42	9,025.00	407.95	-3,549.90	3,571.17	0.00	0.00	0.00
12,600.00	90.00	269.42	9,025.00	406.93	-3,649.90	3,670.77	0.00	0.00	0.00
12,700.00	90.00	269.42	9,025.00	405.92	-3,749.89	3,770.36	0.00	0.00	0.00
12,800.00	90.00	269.42	9,025.00	404.91	-3,849.89	3,869.95	0.00	0.00	0.00

Database:	EDM Conroe	Local Co-ordinate Reference:	Well 2H
Company:	WPX Energy	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site:	C State 16	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
12,900.00	90.00	269.42	9,025.00	403.89	-3,949.88	3,969.54	0.00	0.00	0.00
13,000.00	90.00	269.42	9,025.00	402.88	-4,049.88	4,069.13	0.00	0.00	0.00
13,100.00	90.00	269.42	9,025.00	401.86	-4,149.87	4,168.73	0.00	0.00	0.00
13,200.00	90.00	269.42	9,025.00	400.85	-4,249.87	4,268.32	0.00	0.00	0.00
13,300.00	90.00	269.42	9,025.00	399.84	-4,349.86	4,367.91	0.00	0.00	0.00
13,400.00	90.00	269.42	9,025.00	398.82	-4,449.86	4,467.50	0.00	0.00	0.00
13,500.00	90.00	269.42	9,025.00	397.81	-4,549.85	4,567.10	0.00	0.00	0.00
13,600.00	90.00	269.42	9,025.00	396.79	-4,649.85	4,666.69	0.00	0.00	0.00
13,700.00	90.00	269.42	9,025.00	395.78	-4,749.84	4,766.28	0.00	0.00	0.00
13,800.00	90.00	269.42	9,025.00	394.77	-4,849.84	4,865.87	0.00	0.00	0.00
13,855.97	90.00	269.42	9,025.00	394.20	-4,905.80	4,921.61	0.00	0.00	0.00
PBHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VP - C State 16 2H - hit/miss target - Shape - Point	0.00	0.00	8,345.00	444.94	99.27	473,369.24	586,666.77	32° 18' 4.608 N	104° 11' 11.841 W
FTP - C State 16 2H - plan hits target center - Point	0.00	0.00	9,025.00	442.10	-181.10	473,366.40	586,386.40	32° 18' 4.584 N	104° 11' 15.108 W
LTP - C State 16 2H - plan misses target center by 0.01usft at 13755.96usft MD (9025.00 TVD, 395.21 N, -4805.80 E) - Point	0.00	0.00	9,025.00	395.20	-4,805.80	473,319.50	581,761.70	32° 18' 4.179 N	104° 12' 8.994 W
PBHL - C State 16 2H - plan hits target center - Point	0.00	0.00	9,025.00	394.20	-4,905.80	473,318.50	581,661.70	32° 18' 4.170 N	104° 12' 10.159 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,996.00	1,996.00	Bell Canyon (Base of Salt)		0.00	
2,911.00	2,911.00	Cherry Canyon		0.00	
3,923.00	3,923.00	Brushy Canyon		0.00	
5,414.36	5,410.00	Bone Spring		0.00	
5,501.20	5,496.00	Avalon		0.00	
6,553.44	6,538.00	1st Bone Spring Sand		0.00	
6,738.24	6,721.00	2nd Bone Spring Lime		0.00	
7,064.41	7,044.00	2nd Bone Spring Sand		0.00	
7,221.94	7,200.00	3rd Bone Spring Lime		0.00	
8,605.59	8,575.00	3rd Bone Spring Sand		0.00	
8,989.68	8,910.00	Wolfcamp Top		0.00	
9,028.43	8,934.00	WC_X		0.00	
9,196.58	9,007.00	WC_Y		0.00	

Database:	EDM Conroe	Local Co-ordinate Reference:	Well 2H
Company:	WPX Energy	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site:	C State 16	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,700.00	4,700.00	0.00	0.00	KOP, 2.00°/100' Build
5,099.92	5,098.62	27.20	6.07	Begin 8.00° Tangent
7,975.65	7,946.38	417.74	93.20	Begin 2.00°/100' Drop
8,375.57	8,345.00	444.94	99.27	Begin Vertical Hold
8,578.11	8,547.54	444.94	99.27	Begin 12.00°/100' Build
9,328.11	9,025.00	440.10	-378.17	Begin 90.00° Lateral
13,855.97	9,025.00	394.20	-4,905.80	PBHL

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ARTESIA DISTRICT

APR 12 2017

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WPX Energy

Eddy County, New Mexico (NAD 83)
C State 16
2H

Wellbore #1
Design #2

Anticollision Report

06 April, 2017

MS *Energy Services*®
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Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference	Design #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD + Stations Interval 100.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00 u
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	4/6/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	13,855.47	Design #2 (Wellbore #1)	MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C State 16						
3H - Wellbore #1 - Design #2	2,200.00	2,201.00	25.00	9.69	1.633	CC, ES, SF
Cavern State 16						
1H - Wellbore #1 - Surveys	9,079.57	13,830.36	985.42	893.61	10.733	CC
1H - Wellbore #1 - Surveys	13,800.00	9,057.46	990.49	844.06	6.764	ES, SF

Offset Design										C State 16 - 3H - Wellbore #1 - Design #2		Offset Site Error:		0.00 usft	
Survey Program: 0-MWD												Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis				Distance:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.00	0.00	1.00	1.00	0.00	0.00	179.77	-25.00	0.10	25.00						
100.00	100.00	101.00	101.00	0.13	0.13	179.77	-25.00	0.10	25.00	24.75	0.25	98.227			
200.00	200.00	201.00	201.00	0.48	0.49	179.77	-25.00	0.10	25.00	24.03	0.97	25.735			
300.00	300.00	301.00	301.00	0.84	0.85	179.77	-25.00	0.10	25.00	23.31	1.69	14.807			
400.00	400.00	401.00	401.00	1.20	1.20	179.77	-25.00	0.10	25.00	22.59	2.41	10.394			
500.00	500.00	501.00	501.00	1.56	1.56	179.77	-25.00	0.10	25.00	21.88	3.12	8.007			
600.00	600.00	601.00	601.00	1.92	1.92	179.77	-25.00	0.10	25.00	21.16	3.84	6.512			
700.00	700.00	701.00	701.00	2.28	2.28	179.77	-25.00	0.10	25.00	20.44	4.56	5.487			
800.00	800.00	801.00	801.00	2.63	2.64	179.77	-25.00	0.10	25.00	19.73	5.27	4.741			
900.00	900.00	901.00	901.00	2.99	3.00	179.77	-25.00	0.10	25.00	19.01	5.99	4.174			
1,000.00	1,000.00	1,001.00	1,001.00	3.35	3.36	179.77	-25.00	0.10	25.00	18.29	6.71	3.727			
1,100.00	1,100.00	1,101.00	1,101.00	3.71	3.71	179.77	-25.00	0.10	25.00	17.58	7.42	3.368			
1,200.00	1,200.00	1,201.00	1,201.00	4.07	4.07	179.77	-25.00	0.10	25.00	16.86	8.14	3.071			
1,300.00	1,300.00	1,301.00	1,301.00	4.43	4.43	179.77	-25.00	0.10	25.00	16.14	8.86	2.822			
1,400.00	1,400.00	1,401.00	1,401.00	4.79	4.79	179.77	-25.00	0.10	25.00	15.43	9.57	2.611			
1,500.00	1,500.00	1,501.00	1,501.00	5.14	5.15	179.77	-25.00	0.10	25.00	14.71	10.29	2.429			
1,600.00	1,600.00	1,601.00	1,601.00	5.50	5.51	179.77	-25.00	0.10	25.00	13.99	11.01	2.271			
1,700.00	1,700.00	1,701.00	1,701.00	5.86	5.86	179.77	-25.00	0.10	25.00	13.27	11.73	2.132			
1,800.00	1,800.00	1,801.00	1,801.00	6.22	6.22	179.77	-25.00	0.10	25.00	12.56	12.44	2.009			
1,900.00	1,900.00	1,901.00	1,901.00	6.58	6.58	179.77	-25.00	0.10	25.00	11.84	13.16	1.900			
2,000.00	2,000.00	2,001.00	2,001.00	6.94	6.94	179.77	-25.00	0.10	25.00	11.12	13.88	1.802			
2,100.00	2,100.00	2,101.00	2,101.00	7.29	7.30	179.77	-25.00	0.10	25.00	10.41	14.59	1.713			

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

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design C State 16 - 3H - Wellbore #1 - Design #2													Offset Site Error: 0.00 usft
Survey Program: 0-MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
2,200.00	2,200.00	2,201.00	2,201.00	7.65	7.66	179.77	-25.00	0.10	25.00	9.69	15.31	1.633	CC, ES, SF
2,300.00	2,300.00	2,300.11	2,300.08	8.01	7.99	178.98	-26.71	0.48	26.73	10.73	16.00	1.671	
2,400.00	2,400.00	2,398.98	2,398.82	8.37	8.32	177.14	-31.75	1.59	31.86	15.21	16.65	1.913	
2,500.00	2,500.00	2,497.38	2,496.85	8.73	8.64	175.13	-40.06	3.42	40.42	23.13	17.29	2.338	
2,600.00	2,600.00	2,604.98	2,593.75	9.09	9.00	173.42	-51.55	5.95	52.39	34.46	17.94	2.921	
2,700.00	2,700.00	2,705.98	2,691.81	9.45	9.34	172.20	-65.01	8.91	66.25	47.63	18.63	3.557	
2,800.00	2,800.00	2,806.95	2,789.87	9.80	9.69	171.40	-78.47	11.87	80.14	60.81	19.32	4.148	
2,900.00	2,900.00	2,892.08	2,887.94	10.16	9.99	170.83	-91.92	14.84	94.03	74.06	19.96	4.710	
3,000.00	3,000.00	2,991.10	2,986.00	10.52	10.34	170.41	-105.38	17.80	107.92	87.27	20.65	5.225	
3,100.00	3,100.00	3,109.87	3,084.06	10.88	10.78	170.09	-118.84	20.76	121.83	100.41	21.42	5.689	
3,200.00	3,200.00	3,189.16	3,182.12	11.24	11.07	169.83	-132.30	23.73	135.73	113.69	22.04	6.157	
3,300.00	3,300.00	3,288.18	3,280.19	11.60	11.43	169.62	-145.76	26.69	149.64	126.90	22.74	6.580	
3,400.00	3,400.00	3,387.21	3,378.25	11.96	11.81	169.45	-159.22	29.65	163.55	140.11	23.44	6.977	
3,500.00	3,500.00	3,486.24	3,476.31	12.31	12.18	169.30	-172.68	32.62	177.46	153.32	24.14	7.351	
3,600.00	3,600.00	3,585.26	3,574.38	12.67	12.56	169.18	-186.14	35.58	191.37	166.53	24.84	7.703	
3,700.00	3,700.00	3,684.29	3,672.44	13.03	12.94	169.07	-199.60	38.55	205.28	179.74	25.55	8.036	
3,800.00	3,800.00	3,783.32	3,770.50	13.39	13.32	168.98	-213.06	41.51	219.19	192.94	26.25	8.350	
3,900.00	3,900.00	3,882.34	3,868.57	13.75	13.70	168.89	-226.51	44.47	233.11	206.15	26.95	8.648	
4,000.00	4,000.00	3,981.37	3,966.63	14.11	14.09	168.82	-239.97	47.44	247.02	219.36	27.66	8.930	
4,100.00	4,100.00	4,080.40	4,064.69	14.46	14.48	168.75	-253.43	50.40	260.93	232.57	28.37	9.198	
4,200.00	4,200.00	4,179.43	4,162.76	14.82	14.87	168.69	-266.89	53.36	274.85	245.77	29.08	9.453	
4,300.00	4,300.00	4,278.45	4,260.82	15.18	15.26	168.64	-280.35	56.33	288.76	258.98	29.79	9.695	
4,400.00	4,400.00	4,377.48	4,358.88	15.54	15.65	168.59	-293.81	59.29	302.68	272.18	30.49	9.926	
4,500.00	4,500.00	4,476.51	4,456.95	15.90	16.05	168.55	-307.27	62.25	316.59	285.39	31.20	10.146	
4,600.00	4,600.00	4,575.53	4,555.01	16.26	16.44	168.51	-320.73	65.22	330.51	298.59	31.92	10.356	
4,700.00	4,700.00	4,674.56	4,653.07	16.62	16.84	168.47	-334.19	68.18	344.42	311.79	32.63	10.556	
4,800.00	4,799.98	4,773.35	4,750.90	16.97	17.24	168.55	-347.61	71.14	359.91	326.57	33.34	10.796	
4,900.00	4,899.84	4,871.57	4,848.17	17.33	17.63	168.84	-360.96	74.08	378.55	344.50	34.05	11.118	
5,000.00	4,999.45	4,969.12	4,944.76	17.69	18.03	169.30	-374.22	77.00	400.32	365.57	34.75	11.520	
5,099.92	5,098.62	5,065.79	5,040.49	18.04	18.42	169.90	-387.36	79.89	425.21	389.76	35.45	11.995	
5,200.00	5,197.73	5,162.17	5,135.94	18.40	18.81	170.52	-400.46	82.78	451.74	415.60	36.15	12.497	
5,300.00	5,296.76	5,258.48	5,231.31	18.76	19.20	171.07	-413.55	85.66	478.30	441.46	36.84	12.982	
5,400.00	5,395.78	5,354.79	5,326.68	19.12	19.59	171.56	-426.64	88.54	504.90	467.35	37.54	13.449	
5,500.00	5,494.81	5,451.10	5,422.05	19.48	19.99	172.00	-439.73	91.42	531.52	493.28	38.24	13.899	
5,600.00	5,593.84	5,547.41	5,517.43	19.85	20.38	172.40	-452.82	94.30	558.18	519.24	38.94	14.334	
5,700.00	5,692.86	5,658.77	5,627.83	20.22	20.83	172.76	-467.03	97.43	584.10	544.32	39.78	14.685	
5,800.00	5,791.89	5,781.64	5,750.17	20.59	21.30	173.11	-478.09	99.87	606.24	565.58	40.66	14.911	
5,900.00	5,890.92	5,906.65	5,875.02	20.96	21.75	173.48	-484.07	101.19	624.19	582.71	41.48	15.047	
6,000.00	5,989.95	6,022.59	5,990.95	21.33	22.13	173.88	-485.11	101.41	638.18	595.96	42.23	15.114	
6,100.00	6,088.97	6,121.62	6,089.97	21.71	22.45	174.27	-485.11	101.41	651.38	608.46	42.92	15.176	
6,200.00	6,188.00	6,220.64	6,189.00	22.08	22.77	174.65	-485.11	101.41	664.60	620.99	43.62	15.236	
6,300.00	6,287.03	6,319.67	6,288.03	22.46	23.09	175.01	-485.11	101.41	677.86	633.54	44.32	15.295	
6,400.00	6,386.06	6,418.70	6,387.06	22.84	23.41	175.36	-485.11	101.41	691.13	646.12	45.02	15.353	
6,500.00	6,485.08	6,517.72	6,486.08	23.22	23.73	175.69	-485.11	101.41	704.44	658.72	45.72	15.409	
6,600.00	6,584.11	6,616.75	6,585.11	23.60	24.06	176.01	-485.11	101.41	717.76	671.35	46.42	15.463	
6,700.00	6,683.14	6,715.78	6,684.14	23.99	24.38	176.32	-485.11	101.41	731.11	683.99	47.12	15.516	
6,800.00	6,782.16	6,814.81	6,783.16	24.37	24.70	176.62	-485.11	101.41	744.48	696.66	47.82	15.568	
6,900.00	6,881.19	6,913.83	6,882.19	24.75	25.03	176.91	-485.11	101.41	757.87	709.34	48.52	15.618	
7,000.00	6,980.22	7,012.86	6,981.22	25.14	25.35	177.19	-485.11	101.41	771.28	722.05	49.23	15.668	
7,100.00	7,079.25	7,111.89	7,080.25	25.53	25.68	177.46	-485.11	101.41	784.70	734.77	49.93	15.715	
7,200.00	7,178.27	7,210.91	7,179.27	25.92	26.01	177.72	-485.11	101.41	798.14	747.51	50.64	15.762	
7,300.00	7,277.30	7,309.94	7,278.30	26.30	26.34	177.97	-485.11	101.41	811.60	760.26	51.34	15.808	

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

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design C State 16 - 3H - Wellbore #1 - Design #2													Offset Site Error: 0.00 usft
Survey Program: 0-MWD													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,400.00	7,376.33	7,408.97	7,377.33	26.69	26.67	178.22	-485.11	101.41	825.07	773.02	52.05	15.852	
7,500.00	7,475.35	7,508.00	7,476.35	27.08	27.00	178.45	-485.11	101.41	838.56	785.81	52.75	15.896	
7,600.00	7,574.38	7,607.02	7,575.38	27.47	27.33	178.68	-485.11	101.41	852.06	798.60	53.46	15.938	
7,700.00	7,673.41	7,706.05	7,674.41	27.87	27.66	178.90	-485.11	101.41	865.57	811.41	54.17	15.980	
7,800.00	7,772.44	7,805.08	7,773.44	28.26	27.99	179.12	-485.11	101.41	879.10	824.22	54.88	16.020	
7,900.00	7,871.46	7,904.10	7,872.46	28.65	28.32	179.33	-485.11	101.41	892.64	837.05	55.58	16.060	
7,975.65	7,946.38	7,979.02	7,947.38	28.95	28.57	179.48	-485.11	101.41	902.89	846.77	56.12	16.089	
8,000.00	7,970.50	8,003.15	7,971.50	29.05	28.65	179.53	-485.11	101.41	906.09	849.80	56.29	16.096	
8,100.00	8,069.85	8,102.50	8,070.85	29.43	28.99	179.69	-485.11	101.41	917.14	860.14	57.00	16.090	
8,200.00	8,169.54	8,202.18	8,170.54	29.81	29.32	179.79	-485.11	101.41	924.81	867.10	57.71	16.026	
8,300.00	8,269.44	8,302.08	8,270.44	30.17	29.66	179.85	-485.11	101.41	929.08	870.67	58.41	15.905	
8,375.57	8,345.00	8,377.64	8,346.00	30.44	29.92	179.87	-485.11	101.41	930.05	871.11	58.95	15.778	
8,400.00	8,369.43	8,402.07	8,370.43	30.52	30.00	179.87	-485.11	101.41	930.05	870.93	59.12	15.732	
8,500.00	8,469.43	8,502.07	8,470.43	30.87	30.34	179.87	-485.11	101.41	930.05	870.23	59.82	15.547	
8,578.11	8,547.54	8,580.18	8,548.54	31.14	30.60	179.87	-485.11	101.41	930.05	869.68	60.37	15.405	
8,600.00	8,569.42	8,601.74	8,570.09	31.21	30.67	179.87	-485.11	100.93	930.05	869.53	60.52	15.367	
8,625.00	8,594.35	8,626.37	8,594.65	31.30	30.76	179.86	-485.13	99.18	930.05	869.36	60.69	15.325	
8,650.00	8,619.16	8,650.99	8,619.09	31.38	30.84	179.86	-485.16	96.17	930.05	869.20	60.85	15.284	
8,675.00	8,643.77	8,675.62	8,643.35	31.45	30.92	179.85	-485.20	91.91	930.05	869.04	61.01	15.243	
8,700.00	8,668.11	8,700.26	8,667.35	31.53	30.99	179.84	-485.26	86.39	930.05	868.88	61.17	15.203	
8,725.00	8,692.12	8,724.90	8,691.05	31.61	31.07	179.83	-485.33	79.65	930.05	868.72	61.33	15.164	
8,750.00	8,715.74	8,749.54	8,714.37	31.68	31.14	179.81	-485.41	71.69	930.05	868.56	61.49	15.126	
8,775.00	8,738.90	8,774.19	8,737.25	31.75	31.21	179.80	-485.50	62.54	930.05	868.41	61.64	15.088	
8,800.00	8,761.53	8,798.85	8,759.64	31.81	31.28	179.78	-485.61	52.21	930.05	868.26	61.79	15.051	
8,825.00	8,783.57	8,823.52	8,781.48	31.88	31.34	179.76	-485.72	40.74	930.05	868.10	61.94	15.015	
8,850.00	8,804.97	8,848.19	8,802.70	31.94	31.40	179.74	-485.85	28.15	930.04	867.95	62.09	14.978	
8,875.00	8,825.66	8,872.88	8,823.24	31.99	31.46	179.72	-485.99	14.48	930.04	867.80	62.24	14.942	
8,900.00	8,845.59	8,897.57	8,843.07	32.05	31.51	179.70	-486.14	-0.25	930.04	867.65	62.39	14.906	
8,925.00	8,864.71	8,922.28	8,862.11	32.10	31.57	179.67	-486.30	-15.99	930.04	867.49	62.55	14.869	
8,950.00	8,882.95	8,947.01	8,880.33	32.15	31.61	179.65	-486.47	-32.70	930.04	867.33	62.71	14.832	
8,975.00	8,900.28	8,971.74	8,897.66	32.19	31.66	179.63	-486.65	-50.34	930.04	867.17	62.87	14.793	
9,000.00	8,916.63	8,996.49	8,914.07	32.24	31.70	179.60	-486.83	-68.86	930.04	867.00	63.04	14.754	
9,025.00	8,931.98	9,021.26	8,929.50	32.29	31.74	179.58	-487.03	-88.23	930.04	866.82	63.21	14.713	
9,050.00	8,946.27	9,046.04	8,943.92	32.34	31.78	179.56	-487.23	-108.38	930.03	866.64	63.40	14.670	
9,075.00	8,959.47	9,070.83	8,957.28	32.40	31.82	179.54	-487.45	-129.26	930.03	866.44	63.59	14.625	
9,100.00	8,971.54	9,095.64	8,969.55	32.48	31.87	179.52	-487.67	-150.82	930.03	866.23	63.80	14.578	
9,125.00	8,982.45	9,120.47	8,980.68	32.57	31.92	179.50	-487.89	-173.01	930.03	866.01	64.02	14.528	
9,150.00	8,992.16	9,145.32	8,990.66	32.67	31.99	179.48	-488.12	-195.76	930.03	865.78	64.25	14.476	
9,175.00	9,000.66	9,170.19	8,999.45	32.79	32.07	179.47	-488.36	-219.02	930.03	865.54	64.49	14.421	
9,200.00	9,007.92	9,195.07	9,007.01	32.92	32.18	179.45	-488.60	-242.72	930.03	865.28	64.75	14.363	
9,225.00	9,013.91	9,219.98	9,013.34	33.05	32.30	179.44	-488.84	-266.81	930.03	865.00	65.02	14.303	
9,250.00	9,018.63	9,244.90	9,018.40	33.20	32.43	179.43	-489.09	-291.20	930.03	864.72	65.31	14.240	
9,275.00	9,022.05	9,269.84	9,022.19	33.35	32.58	179.43	-489.34	-315.85	930.03	864.41	65.61	14.175	
9,300.00	9,024.17	9,294.80	9,024.69	33.51	32.73	179.42	-489.59	-340.69	930.03	864.10	65.93	14.107	
9,308.65	9,024.60	9,303.44	9,025.25	33.56	32.79	179.42	-489.68	-349.30	930.03	863.99	66.04	14.083	
9,325.00	9,024.99	9,319.78	9,025.89	33.67	32.90	179.42	-489.84	-365.63	930.03	863.78	66.25	14.038	
9,328.11	9,025.00	9,322.89	9,025.94	33.69	32.92	179.42	-489.88	-368.74	930.03	863.73	66.29	14.029	
9,400.00	9,025.00	9,405.22	9,026.00	34.22	33.53	179.42	-490.61	-440.63	930.03	862.61	67.42	13.795	
9,500.00	9,025.00	9,505.22	9,026.00	35.08	34.41	179.42	-491.62	-540.62	930.03	860.88	69.15	13.449	
9,600.00	9,025.00	9,605.22	9,026.00	36.08	35.44	179.42	-492.63	-640.62	930.03	858.86	71.17	13.068	
9,700.00	9,025.00	9,705.22	9,026.00	37.20	36.59	179.42	-493.65	-740.61	930.03	856.57	73.46	12.661	
9,800.00	9,025.00	9,805.22	9,026.00	38.45	37.87	179.42	-494.66	-840.61	930.03	854.05	75.98	12.240	

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

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design C State 16 - 3H - Wellbore #1 - Design #2											Offset Site Error: 0.00 usft	
Survey Program: 0-MWD											Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)
9,900.00	9,025.00	9,905.22	9,026.00	39.81	39.25	179.42	-495.68	-940.60	930.03	851.30	78.73	11.813
10,000.00	9,025.00	10,005.22	9,026.00	41.26	40.73	179.42	-496.69	-1,040.60	930.03	848.36	81.67	11.388
10,100.00	9,025.00	10,105.22	9,026.00	42.81	42.30	179.42	-497.71	-1,140.59	930.03	845.24	84.79	10.969
10,200.00	9,025.00	10,205.22	9,026.00	44.43	43.94	179.42	-498.72	-1,240.59	930.03	841.97	88.06	10.561
10,300.00	9,025.00	10,305.22	9,026.00	46.12	45.66	179.42	-499.73	-1,340.58	930.03	838.56	91.48	10.167
10,400.00	9,025.00	10,405.22	9,026.00	47.87	47.44	179.42	-500.75	-1,440.58	930.03	835.02	95.01	9.788
10,500.00	9,025.00	10,505.22	9,026.00	49.68	49.27	179.42	-501.76	-1,540.57	930.03	831.37	98.67	9.426
10,600.00	9,025.00	10,605.22	9,026.00	51.54	51.15	179.42	-502.78	-1,640.57	930.03	827.62	102.42	9.081
10,700.00	9,025.00	10,705.22	9,026.00	53.45	53.07	179.42	-503.79	-1,740.56	930.03	823.78	106.26	8.753
10,800.00	9,025.00	10,805.22	9,026.00	55.39	55.04	179.42	-504.81	-1,840.56	930.04	819.86	110.17	8.441
10,900.00	9,025.00	10,905.22	9,026.00	57.38	57.04	179.42	-505.82	-1,940.55	930.04	815.87	114.17	8.146
11,000.00	9,025.00	11,005.22	9,026.00	59.39	59.07	179.42	-506.83	-2,040.55	930.04	811.82	118.22	7.867
11,100.00	9,025.00	11,105.22	9,026.00	61.44	61.13	179.42	-507.85	-2,140.54	930.04	807.70	122.33	7.602
11,200.00	9,025.00	11,205.22	9,026.00	63.51	63.22	179.42	-508.86	-2,240.54	930.04	803.54	126.50	7.352
11,300.00	9,025.00	11,305.22	9,026.00	65.61	65.33	179.42	-509.88	-2,340.53	930.04	799.33	130.71	7.115
11,400.00	9,025.00	11,405.22	9,026.00	67.72	67.46	179.42	-510.89	-2,440.53	930.04	795.07	134.97	6.891
11,500.00	9,025.00	11,505.22	9,026.00	69.86	69.61	179.42	-511.91	-2,540.52	930.04	790.78	139.26	6.678
11,600.00	9,025.00	11,594.78	9,026.00	72.02	71.55	179.42	-512.92	-2,640.52	930.04	786.67	143.36	6.487
11,700.00	9,025.00	11,705.22	9,026.00	74.19	73.96	179.42	-513.94	-2,740.51	930.04	782.09	147.95	6.286
11,800.00	9,025.00	11,805.22	9,026.00	76.38	76.16	179.42	-514.95	-2,840.51	930.04	777.69	152.35	6.105
11,900.00	9,025.00	11,894.78	9,026.00	78.58	78.14	179.42	-515.96	-2,940.50	930.04	773.51	156.53	5.941
12,000.00	9,025.00	12,005.22	9,026.00	80.80	80.59	179.42	-516.98	-3,040.49	930.04	768.83	161.21	5.769
12,100.00	9,025.00	12,105.22	9,026.00	83.02	82.83	179.42	-517.99	-3,140.49	930.04	764.37	165.68	5.614
12,200.00	9,025.00	12,205.22	9,026.00	85.26	85.07	179.42	-519.01	-3,240.48	930.04	759.88	170.16	5.466
12,300.00	9,025.00	12,305.22	9,026.00	87.51	87.33	179.42	-520.02	-3,340.48	930.04	755.37	174.67	5.325
12,400.00	9,025.00	12,405.22	9,026.00	89.77	89.59	179.42	-521.04	-3,440.47	930.04	750.85	179.19	5.190
12,500.00	9,025.00	12,505.22	9,026.00	92.03	91.87	179.42	-522.05	-3,540.47	930.04	746.31	183.74	5.062
12,600.00	9,025.00	12,605.22	9,026.00	94.30	94.15	179.42	-523.06	-3,640.46	930.05	741.75	188.29	4.939
12,700.00	9,025.00	12,705.22	9,026.00	96.58	96.43	179.42	-524.08	-3,740.46	930.05	737.18	192.86	4.822
12,800.00	9,025.00	12,805.22	9,026.00	98.87	98.73	179.42	-525.09	-3,840.45	930.05	732.60	197.45	4.710
12,900.00	9,025.00	12,905.22	9,026.00	101.17	101.03	179.42	-526.11	-3,940.45	930.05	728.00	202.05	4.603
13,000.00	9,025.00	13,005.22	9,026.00	103.47	103.33	179.42	-527.12	-4,040.44	930.05	723.39	206.65	4.500
13,100.00	9,025.00	13,105.22	9,026.00	105.77	105.64	179.42	-528.14	-4,140.44	930.05	718.77	211.27	4.402
13,200.00	9,025.00	13,205.22	9,026.00	108.08	107.96	179.42	-529.15	-4,240.43	930.05	714.14	215.90	4.308
13,300.00	9,025.00	13,305.22	9,026.00	110.40	110.28	179.42	-530.17	-4,340.43	930.05	709.51	220.54	4.217
13,400.00	9,025.00	13,405.22	9,026.00	112.72	112.61	179.42	-531.18	-4,440.42	930.05	704.86	225.19	4.130
13,500.00	9,025.00	13,505.22	9,026.00	115.04	114.93	179.42	-532.19	-4,540.42	930.05	700.20	229.85	4.046
13,600.00	9,025.00	13,605.22	9,026.00	117.37	117.27	179.42	-533.21	-4,640.41	930.05	695.54	234.51	3.966
13,700.00	9,025.00	13,705.22	9,026.00	119.70	119.60	179.42	-534.22	-4,740.41	930.05	690.87	239.18	3.888
13,800.00	9,025.00	13,805.22	9,026.00	122.04	121.95	179.42	-535.24	-4,840.40	930.05	686.19	243.86	3.814
13,855.97	9,025.00	13,850.75	9,026.00	122.93	123.01	179.42	-535.80	-4,896.37	930.05	684.23	245.82	3.783

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Cavern State 16 - 1H - Wellbore #1 - Surveys												Offset Site Error:	0.00 usft
Survey Program: 155-MWD, 2162-MWD+IFR1+MS												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	26.78	26.78	0.00	0.04	-74.25	1,392.87	-4,938.60	5,131.27				
100.00	100.00	182.24	182.23	0.13	0.33	-74.25	1,392.58	-4,937.53	5,130.57	5,130.11	0.46	N/A	
200.00	200.00	366.07	366.02	0.48	0.99	-74.25	1,391.20	-4,934.07	5,128.60	5,127.13	1.48	3,467.949	
300.00	300.00	503.06	502.94	0.84	1.49	-74.25	1,389.87	-4,929.66	5,125.20	5,122.87	2.33	2,201.195	
400.00	400.00	566.26	566.11	1.20	1.72	-74.25	1,389.35	-4,927.59	5,121.87	5,118.96	2.91	1,759.550	
500.00	500.00	621.51	621.33	1.56	1.91	-74.25	1,389.15	-4,926.24	5,119.40	5,115.94	3.47	1,477.241	
600.00	600.00	698.00	697.82	1.92	2.19	-74.25	1,389.24	-4,925.08	5,117.89	5,113.80	4.10	1,249.419	
700.00	700.00	745.07	744.88	2.28	2.35	-74.24	1,389.47	-4,924.88	5,117.02	5,112.40	4.62	1,107.564	
800.00	800.00	835.08	834.89	2.63	2.67	-74.24	1,390.07	-4,924.18	5,116.66	5,111.36	5.29	966.380	
900.00	900.00	932.38	932.19	2.99	3.01	-74.23	1,390.69	-4,923.64	5,116.30	5,110.30	6.00	853.377	
1,000.00	1,000.00	1,031.46	1,031.27	3.35	3.36	-74.22	1,391.26	-4,923.24	5,116.06	5,109.36	6.70	763.193	
1,100.00	1,100.00	1,357.76	1,357.41	3.71	4.53	-74.21	1,390.13	-4,915.15	5,113.58	5,105.36	8.22	621.848	
1,200.00	1,200.00	1,420.00	1,419.60	4.07	4.76	-74.21	1,388.94	-4,912.86	5,109.42	5,100.62	8.80	580.332	
1,300.00	1,300.00	1,448.40	1,447.98	4.43	4.86	-74.22	1,388.37	-4,912.14	5,106.24	5,096.98	9.26	551.187	
1,400.00	1,400.00	1,511.00	1,510.57	4.79	5.08	-74.23	1,387.42	-4,911.37	5,104.42	5,094.58	9.84	518.624	
1,500.00	1,500.00	1,500.00	1,641.79	5.14	5.03	-74.24	1,385.61	-4,910.00	5,103.28	5,093.12	10.16	502.481	
1,600.00	1,600.00	1,736.33	1,735.84	5.50	5.87	-74.25	1,384.08	-4,907.80	5,100.61	5,089.25	11.35	449.246	
1,700.00	1,700.00	1,790.00	1,789.50	5.86	6.07	-74.25	1,383.74	-4,907.11	5,098.98	5,087.08	11.90	428.317	
1,800.00	1,800.00	1,827.36	1,826.86	6.22	6.19	-74.25	1,383.72	-4,906.97	5,098.35	5,085.96	12.39	411.446	
1,829.58	1,829.58	1,847.58	1,847.08	6.33	6.26	-74.25	1,383.72	-4,906.95	5,098.32	5,085.75	12.57	405.704	
1,900.00	1,900.00	1,898.24	1,897.74	6.58	6.43	-74.25	1,383.78	-4,907.05	5,098.47	5,085.48	12.99	392.467	
2,000.00	2,000.00	1,984.31	1,983.80	6.94	6.72	-74.25	1,383.86	-4,907.52	5,099.01	5,085.38	13.63	374.004	
2,100.00	2,100.00	2,097.93	2,097.43	7.29	7.10	-74.26	1,383.53	-4,908.17	5,099.48	5,085.11	14.37	354.788	
2,200.00	2,200.00	2,162.00	2,161.49	7.65	7.22	-74.26	1,383.41	-4,908.71	5,100.24	5,085.39	14.85	343.383	
2,300.00	2,300.00	2,162.00	2,161.49	8.01	7.22	-74.26	1,383.41	-4,908.71	5,102.32	5,087.11	15.20	335.590	
2,400.00	2,400.00	2,219.51	2,219.98	8.37	7.23	-74.26	1,384.02	-4,910.07	5,105.26	5,089.69	15.57	327.987	
2,500.00	2,500.00	2,258.00	2,257.42	8.73	7.23	-74.25	1,385.00	-4,911.70	5,109.86	5,093.94	15.92	320.966	
2,600.00	2,600.00	2,258.00	2,257.42	9.09	7.23	-74.25	1,385.00	-4,911.70	5,115.93	5,099.67	16.26	314.630	
2,700.00	2,700.00	2,296.02	2,295.35	9.45	7.24	-74.25	1,386.34	-4,914.07	5,123.31	5,106.69	16.62	308.341	
2,800.00	2,800.00	2,353.00	2,352.02	9.80	7.26	-74.23	1,388.87	-4,919.37	5,132.82	5,115.84	16.98	302.297	
2,900.00	2,900.00	2,353.00	2,352.02	10.16	7.26	-74.23	1,388.87	-4,919.37	5,142.85	5,125.55	17.31	297.172	
3,000.00	3,000.00	2,353.00	2,352.02	10.52	7.26	-74.23	1,388.87	-4,919.37	5,154.81	5,137.18	17.63	292.451	
3,100.00	3,100.00	2,390.30	2,388.99	10.88	7.27	-74.23	1,390.88	-4,923.88	5,168.15	5,150.18	17.97	287.519	
3,200.00	3,200.00	2,448.00	2,445.96	11.24	7.30	-74.21	1,394.54	-4,932.23	5,183.33	5,164.99	18.34	282.632	
3,300.00	3,300.00	2,448.00	2,445.96	11.60	7.30	-74.21	1,394.54	-4,932.23	5,199.15	5,180.51	18.64	278.853	
3,400.00	3,400.00	2,486.09	2,483.45	11.96	7.33	-74.20	1,397.25	-4,938.41	5,216.57	5,197.58	18.99	274.693	
3,500.00	3,500.00	2,542.00	2,538.38	12.31	7.37	-74.19	1,401.47	-4,947.91	5,234.94	5,215.58	19.36	270.439	
3,600.00	3,600.00	2,666.78	2,660.98	12.67	7.47	-74.18	1,408.31	-4,970.07	5,253.56	5,233.72	19.84	264.808	
3,700.00	3,700.00	2,831.09	2,822.57	13.03	7.65	-74.26	1,409.52	-4,999.75	5,271.16	5,250.74	20.42	258.168	
3,800.00	3,800.00	3,849.52	3,834.29	13.39	9.48	-74.64	1,397.52	-5,087.67	5,276.14	5,253.28	22.86	230.753	
3,900.00	3,900.00	3,945.42	3,930.17	13.75	9.69	-74.63	1,398.66	-5,087.08	5,275.87	5,252.44	23.43	225.147	
4,000.00	4,000.00	4,036.12	4,020.87	14.11	9.90	-74.62	1,399.65	-5,086.65	5,275.70	5,251.71	24.00	219.842	
4,100.00	4,100.00	13,850.00	9,110.84	14.46	60.63	-2.25	1,415.59	-55.69	5,190.42	5,140.07	50.35	103.083	
4,200.00	4,200.00	13,850.00	9,110.84	14.82	60.63	-2.25	1,415.59	-55.69	5,094.29	5,043.67	50.62	100.640	
4,300.00	4,300.00	13,850.00	9,110.84	15.18	60.63	-2.25	1,415.59	-55.69	4,998.31	4,947.42	50.90	98.207	
4,400.00	4,400.00	13,850.00	9,110.84	15.54	60.63	-2.25	1,415.59	-55.69	4,902.50	4,851.31	51.18	95.787	
4,500.00	4,500.00	13,850.00	9,110.84	15.90	60.63	-2.25	1,415.59	-55.69	4,806.85	4,755.37	51.48	93.378	
4,600.00	4,600.00	13,850.00	9,110.84	16.26	60.63	-2.25	1,415.59	-55.69	4,711.38	4,659.60	51.78	90.982	
4,700.00	4,700.00	13,850.00	9,110.84	16.62	60.63	-2.25	1,415.59	-55.69	4,616.11	4,564.01	52.10	88.599	
4,800.00	4,799.98	13,850.00	9,110.84	16.97	60.63	-2.27	1,415.59	-55.69	4,520.53	4,468.11	52.42	86.232	
4,900.00	4,899.84	13,850.00	9,110.84	17.33	60.63	-2.33	1,415.59	-55.69	4,424.19	4,371.45	52.74	83.893	
5,000.00	4,999.45	13,850.00	9,110.84	17.69	60.63	-2.42	1,415.59	-55.69	4,327.15	4,274.11	53.04	81.588	

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

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Cavern State 16 - 1H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 155-MWD, 2162-MWD+IFR1+MS													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,099.92	5,098.62	13,850.00	9,110.84	18.04	60.63	-2.55	1,415.59	-55.69	4,229.57	4,176.24	53.32	79.321		
5,200.00	5,197.73	13,850.00	9,110.84	18.40	60.63	-2.70	1,415.59	-55.69	4,131.59	4,077.99	53.60	77.077		
5,300.00	5,296.76	13,850.00	9,110.84	18.76	60.63	-2.85	1,415.59	-55.69	4,033.80	3,979.91	53.89	74.850		
5,400.00	5,395.78	13,850.00	9,110.84	19.12	60.63	-3.01	1,415.59	-55.69	3,936.13	3,881.94	54.19	72.634		
5,500.00	5,494.81	13,850.00	9,110.84	19.48	60.63	-3.17	1,415.59	-55.69	3,838.57	3,784.07	54.50	70.432		
5,600.00	5,593.84	13,850.00	9,110.84	19.85	60.63	-3.33	1,415.59	-55.69	3,741.14	3,686.31	54.82	68.241		
5,700.00	5,692.86	13,850.00	9,110.84	20.22	60.63	-3.50	1,415.59	-55.69	3,643.85	3,588.69	55.16	66.064		
5,800.00	5,791.89	13,850.00	9,110.84	20.59	60.63	-3.67	1,415.59	-55.69	3,546.71	3,491.20	55.50	63.900		
5,900.00	5,890.92	13,850.00	9,110.84	20.96	60.63	-3.84	1,415.59	-55.69	3,449.73	3,393.86	55.87	61.750		
6,000.00	5,989.95	13,850.00	9,110.84	21.33	60.63	-4.02	1,415.59	-55.69	3,352.93	3,296.69	56.24	59.614		
6,100.00	6,088.97	13,850.00	9,110.84	21.71	60.63	-4.20	1,415.59	-55.69	3,256.32	3,199.69	56.64	57.493		
6,200.00	6,188.00	13,850.00	9,110.84	22.08	60.63	-4.39	1,415.59	-55.69	3,159.93	3,102.88	57.05	55.387		
6,300.00	6,287.03	13,850.00	9,110.84	22.46	60.63	-4.58	1,415.59	-55.69	3,063.77	3,006.28	57.48	53.297		
6,400.00	6,386.06	13,850.00	9,110.84	22.84	60.63	-4.77	1,415.59	-55.69	2,967.86	2,909.92	57.94	51.223		
6,500.00	6,485.08	13,850.00	9,110.84	23.22	60.63	-4.97	1,415.59	-55.69	2,872.23	2,813.81	58.42	49.166		
6,600.00	6,584.11	13,850.00	9,110.84	23.60	60.63	-5.17	1,415.59	-55.69	2,776.90	2,717.98	58.93	47.126		
6,700.00	6,683.14	13,850.00	9,110.84	23.99	60.63	-5.38	1,415.59	-55.69	2,681.92	2,622.46	59.46	45.104		
6,800.00	6,782.16	13,850.00	9,110.84	24.37	60.63	-5.59	1,415.59	-55.69	2,587.32	2,527.29	60.03	43.102		
6,900.00	6,881.19	13,850.00	9,110.84	24.75	60.63	-5.81	1,415.59	-55.69	2,493.13	2,432.50	60.63	41.120		
7,000.00	6,980.22	13,850.00	9,110.84	25.14	60.63	-6.03	1,415.59	-55.69	2,399.42	2,338.15	61.27	39.158		
7,100.00	7,079.25	13,850.00	9,110.84	25.53	60.63	-6.25	1,415.59	-55.69	2,306.24	2,244.27	61.96	37.220		
7,200.00	7,178.27	13,850.00	9,110.84	25.92	60.63	-6.48	1,415.59	-55.69	2,213.65	2,150.95	62.70	35.305		
7,300.00	7,277.30	13,850.00	9,110.84	26.30	60.63	-6.72	1,415.59	-55.69	2,121.73	2,058.24	63.49	33.416		
7,400.00	7,376.33	13,850.00	9,110.84	26.69	60.63	-6.96	1,415.59	-55.69	2,030.58	1,966.23	64.35	31.554		
7,500.00	7,475.35	13,850.00	9,110.84	27.08	60.63	-7.21	1,415.59	-55.69	1,940.30	1,875.02	65.28	29.723		
7,600.00	7,574.38	13,850.00	9,110.84	27.47	60.63	-7.47	1,415.59	-55.69	1,851.02	1,784.73	66.29	27.924		
7,700.00	7,673.41	13,850.00	9,110.84	27.87	60.63	-7.73	1,415.59	-55.69	1,762.89	1,695.50	67.38	26.162		
7,800.00	7,772.44	13,850.00	9,110.84	28.26	60.63	-8.00	1,415.59	-55.69	1,676.09	1,607.51	68.58	24.439		
7,900.00	7,871.46	13,850.00	9,110.84	28.65	60.63	-8.27	1,415.59	-55.69	1,590.85	1,520.95	69.89	22.762		
7,975.65	7,946.38	13,850.00	9,110.84	28.85	60.63	-8.49	1,415.59	-55.69	1,527.55	1,456.58	70.96	21.526		
8,000.00	7,970.50	13,850.00	9,110.84	29.05	60.63	-8.55	1,415.59	-55.69	1,507.47	1,436.14	71.33	21.135		
8,100.00	8,069.85	13,850.00	9,110.84	29.43	60.63	-8.79	1,415.59	-55.69	1,427.61	1,354.67	72.94	19.571		
8,200.00	8,169.54	13,850.00	9,110.84	29.81	60.63	-8.96	1,415.59	-55.69	1,352.57	1,277.79	74.78	18.088		
8,300.00	8,269.44	13,850.00	9,110.84	30.17	60.63	-9.05	1,415.59	-55.69	1,283.28	1,206.46	76.82	16.706		
8,375.57	8,345.00	13,850.00	9,110.84	30.44	60.63	-9.07	1,415.59	-55.69	1,235.39	1,156.90	78.49	15.740		
8,400.00	8,369.43	13,850.00	9,110.84	30.52	60.63	-9.07	1,415.59	-55.69	1,220.75	1,141.70	79.04	15.444		
8,500.00	8,469.43	13,850.00	9,110.84	30.87	60.63	-9.07	1,415.59	-55.69	1,164.23	1,082.85	81.38	14.306		
8,578.11	8,547.54	13,850.00	9,110.84	31.14	60.63	-9.07	1,415.59	-55.69	1,124.31	1,041.08	83.23	13.509		
8,600.00	8,569.42	13,850.00	9,110.84	31.21	60.63	-9.04	1,415.59	-55.69	1,113.79	1,030.04	83.74	13.300		
8,625.00	8,594.35	13,850.00	9,110.84	31.30	60.63	-8.94	1,415.59	-55.69	1,102.04	1,017.71	84.33	13.068		
8,650.00	8,619.16	13,850.00	9,110.84	31.38	60.63	-8.76	1,415.59	-55.69	1,090.63	1,005.72	84.92	12.843		
8,675.00	8,643.77	13,850.00	9,110.84	31.45	60.63	-8.50	1,415.59	-55.69	1,079.60	994.10	85.50	12.627		
8,700.00	8,668.11	13,850.00	9,110.84	31.53	60.63	-8.18	1,415.59	-55.69	1,068.99	982.92	86.07	12.420		
8,725.00	8,692.12	13,850.00	9,110.84	31.61	60.63	-7.77	1,415.59	-55.69	1,058.84	972.21	86.63	12.222		
8,750.00	8,715.74	13,850.00	9,110.84	31.68	60.63	-7.30	1,415.59	-55.69	1,049.19	962.01	87.18	12.035		
8,775.00	8,738.90	13,850.00	9,110.84	31.75	60.63	-6.75	1,415.59	-55.69	1,040.09	952.38	87.71	11.858		
8,800.00	8,761.53	13,850.00	9,110.84	31.81	60.63	-6.13	1,415.59	-55.69	1,031.57	943.35	88.22	11.693		
8,825.00	8,783.57	13,850.00	9,110.84	31.88	60.63	-5.44	1,415.59	-55.69	1,023.67	934.96	88.72	11.539		
8,850.00	8,804.97	13,850.00	9,110.84	31.94	60.63	-4.69	1,415.59	-55.69	1,016.43	927.25	89.18	11.398		
8,875.00	8,825.66	13,850.00	9,110.84	31.99	60.63	-3.86	1,415.59	-55.69	1,009.89	920.27	89.62	11.269		
8,900.00	8,845.59	13,850.00	9,110.84	32.05	60.63	-2.98	1,415.59	-55.69	1,004.06	914.04	90.03	11.153		
8,925.00	8,864.71	13,850.00	9,110.84	32.10	60.63	-2.03	1,415.59	-55.69	998.99	908.59	90.40	11.051		

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

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Cavern State 16 - 1H - Wellbore #1 - Surveys													Offset Site Error: 0.00 usft
Survey Program: 155-MWD, 2162-MWD+IFR1+MS													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,950.00	8,882.95	13,850.00	9,110.84	32.15	60.63	-1.02	1,415.59	-55.69	994.70	903.96	90.74	10.962	
8,975.00	8,900.28	13,850.00	9,110.84	32.19	60.63	0.04	1,415.59	-55.69	991.21	900.16	91.05	10.886	
9,000.00	8,916.63	13,850.00	9,110.84	32.24	60.63	1.16	1,415.59	-55.69	988.54	897.22	91.32	10.825	
9,025.00	8,931.98	13,850.00	9,110.84	32.29	60.63	2.32	1,415.59	-55.69	986.70	895.14	91.55	10.777	
9,050.00	8,946.27	13,855.30	9,110.90	32.34	60.68	3.83	1,415.23	-50.40	985.68	893.90	91.79	10.739	
9,075.00	8,959.47	13,834.28	9,110.68	32.40	60.47	3.84	1,416.67	-71.38	985.42	893.62	91.81	10.734	
9,079.57	8,961.76	13,830.36	9,110.64	32.41	60.43	3.84	1,416.93	-75.29	985.42	893.61	91.81	10.733 CC	
9,100.00	8,971.54	13,812.58	9,110.45	32.48	60.25	3.85	1,418.15	-93.02	985.53	893.73	91.81	10.735	
9,125.00	8,982.45	13,790.27	9,110.22	32.57	60.03	3.85	1,419.68	-115.27	985.98	894.19	91.79	10.742	
9,150.00	8,992.16	13,767.59	9,110.00	32.67	59.80	3.87	1,421.23	-137.90	986.71	894.96	91.76	10.754	
9,175.00	9,000.66	13,744.59	9,109.85	32.79	59.57	3.90	1,422.80	-160.85	987.71	896.00	91.71	10.770	
9,200.00	9,007.92	13,724.58	9,109.74	32.92	59.37	4.12	1,424.14	-180.82	988.90	897.22	91.68	10.786	
9,225.00	9,013.91	13,694.40	9,109.81	33.05	59.07	3.77	1,426.21	-210.92	990.32	898.74	91.58	10.814	
9,250.00	9,018.63	13,663.93	9,109.71	33.20	58.76	3.42	1,428.13	-241.33	991.74	900.28	91.47	10.843	
9,275.00	9,022.05	13,633.21	9,109.45	33.35	58.46	3.08	1,429.89	-272.00	993.15	901.80	91.35	10.872	
9,300.00	9,024.17	13,606.09	9,109.10	33.51	58.19	2.95	1,431.32	-299.08	994.53	903.28	91.25	10.898	
9,325.00	9,024.99	13,583.05	9,108.87	33.67	57.96	3.06	1,432.54	-322.09	996.03	904.84	91.19	10.922	
9,328.11	9,025.00	13,580.18	9,108.85	33.69	57.93	3.07	1,432.70	-324.95	996.23	905.05	91.18	10.925	
9,400.00	9,025.00	13,511.14	9,108.78	34.22	57.24	3.22	1,436.57	-393.89	1,000.97	909.96	91.02	10.997	
9,500.00	9,025.00	13,400.12	9,107.65	35.08	56.14	2.58	1,442.20	-504.75	1,006.97	916.16	90.81	11.089	
9,600.00	9,025.00	13,295.24	9,106.30	36.08	55.11	2.30	1,446.70	-609.52	1,012.18	921.39	90.79	11.149	
9,700.00	9,025.00	13,195.06	9,106.35	37.20	54.13	2.28	1,450.65	-709.63	1,017.13	926.19	90.94	11.184	
9,800.00	9,025.00	13,098.43	9,107.63	38.45	53.19	2.46	1,454.54	-806.17	1,022.24	931.00	91.25	11.203	
9,900.00	9,025.00	12,956.88	9,104.69	39.81	51.81	0.14	1,457.84	-947.61	1,025.42	934.18	91.24	11.238	
10,000.00	9,025.00	12,835.05	9,101.54	41.26	50.64	-1.08	1,458.53	-1,069.38	1,027.12	935.61	91.50	11.225	
10,100.00	9,025.00	12,695.97	9,097.24	42.81	49.31	-3.27	1,452.44	-1,208.26	1,023.29	931.69	91.60	11.172	
10,200.00	9,025.00	12,604.07	9,096.29	44.43	48.45	-2.82	1,447.64	-1,300.02	1,019.02	926.64	92.39	11.030	
10,300.00	9,025.00	12,507.58	9,095.97	46.12	47.55	-2.62	1,443.10	-1,396.40	1,015.32	922.13	93.19	10.895	
10,400.00	9,025.00	12,414.28	9,093.91	47.87	46.68	-2.24	1,439.04	-1,489.59	1,011.88	917.77	94.11	10.752	
10,500.00	9,025.00	12,335.01	9,092.63	49.68	45.94	-1.07	1,436.91	-1,568.82	1,010.11	914.83	95.28	10.602	
10,600.00	9,025.00	12,227.32	9,090.41	51.54	44.96	-1.50	1,434.65	-1,676.46	1,008.93	912.79	96.14	10.495	
10,700.00	9,025.00	12,131.66	9,087.44	53.45	44.08	-1.26	1,432.01	-1,772.03	1,007.06	909.86	97.20	10.360	
10,743.65	9,025.00	12,099.85	9,087.18	54.30	43.80	-0.58	1,431.51	-1,803.84	1,006.80	909.00	97.81	10.294	
10,800.00	9,025.00	12,048.10	9,087.79	55.39	43.33	-0.32	1,431.29	-1,855.58	1,007.14	908.69	98.45	10.230	
10,900.00	9,025.00	11,926.63	9,085.46	57.38	42.25	-1.54	1,429.05	-1,977.01	1,006.16	906.87	99.29	10.134	
11,000.00	9,025.00	11,832.68	9,083.95	59.39	41.42	-1.19	1,426.65	-2,070.90	1,004.57	904.06	100.51	9.994	
11,079.94	9,025.00	11,763.49	9,084.56	61.03	40.82	-0.58	1,425.54	-2,140.08	1,004.13	902.55	101.58	9.885	
11,100.00	9,025.00	11,746.24	9,084.87	61.44	40.67	-0.42	1,425.38	-2,157.33	1,004.16	902.31	101.85	9.859	
11,200.00	9,025.00	11,660.00	9,087.15	63.51	39.93	0.37	1,425.25	-2,243.54	1,005.13	901.92	103.21	9.739	
11,300.00	9,025.00	11,564.04	9,090.34	65.61	39.11	0.60	1,426.15	-2,339.44	1,007.23	902.75	104.48	9.640	
11,400.00	9,025.00	11,437.90	9,093.20	67.72	38.06	-0.89	1,426.07	-2,465.55	1,008.37	902.90	105.46	9.561	
11,500.00	9,025.00	11,313.17	9,093.85	69.86	37.05	-2.30	1,422.63	-2,590.22	1,006.66	900.19	106.47	9.455	
11,600.00	9,025.00	11,216.45	9,090.78	72.02	36.28	-2.11	1,418.25	-2,686.79	1,003.02	895.13	107.89	9.297	
11,679.39	9,025.00	11,166.54	9,090.61	73.74	35.88	-0.42	1,417.06	-2,736.67	1,001.98	892.63	109.35	9.163	
11,700.00	9,025.00	11,146.00	9,090.99	74.19	35.72	-0.42	1,416.89	-2,757.22	1,002.04	892.40	109.64	9.140	
11,800.00	9,025.00	11,048.92	9,091.47	76.38	34.98	-0.25	1,416.20	-2,854.29	1,002.37	891.28	111.09	9.023	
11,900.00	9,025.00	10,954.62	9,093.08	78.58	34.27	0.08	1,416.23	-2,948.57	1,003.48	890.89	112.59	8.913	
12,000.00	9,025.00	10,844.12	9,091.36	80.80	33.46	-0.52	1,415.63	-3,059.04	1,003.84	889.87	113.97	8.808	
12,100.00	9,025.00	10,748.28	9,088.86	83.02	32.77	-0.28	1,415.01	-3,154.85	1,004.09	888.55	115.55	8.690	
12,200.00	9,025.00	10,656.28	9,088.98	85.26	32.14	0.18	1,414.89	-3,246.85	1,004.98	887.81	117.17	8.577	
12,300.00	9,025.00	10,562.69	9,089.37	87.51	31.52	0.54	1,415.52	-3,340.43	1,006.68	887.87	118.81	8.473	
12,400.00	9,025.00	10,432.13	9,086.62	89.77	30.68	-1.20	1,415.60	-3,470.95	1,007.83	887.68	120.15	8.388	

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

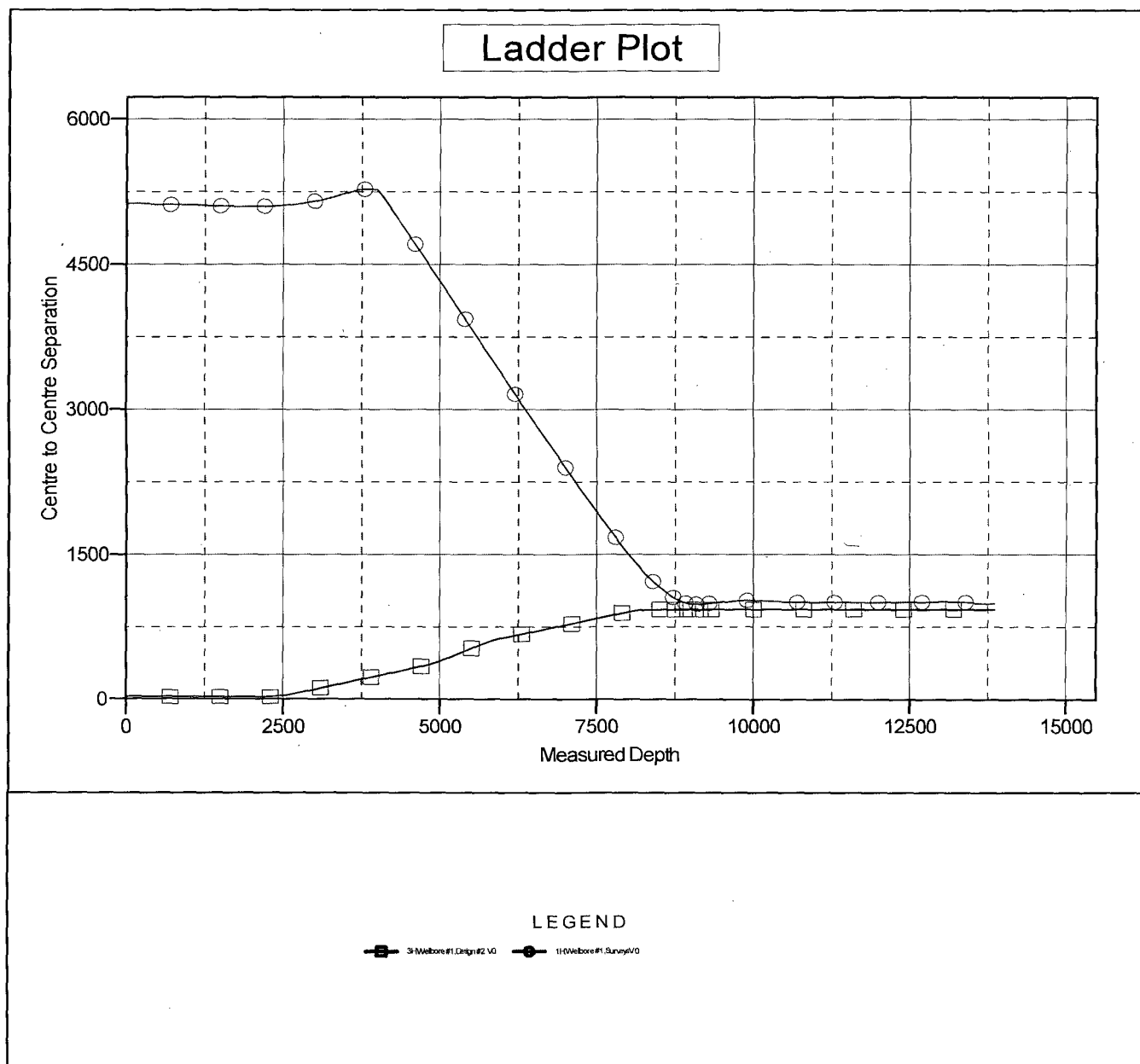
Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Cavern State 16 - 1H - Wellbore #1 - Surveys													Offset Site Error: 0.00 usft
Survey Program: 155-MWD, 2162-MWD+HFR1+MS													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,500.00	9,025.00	10,334.79	9,083.11	92.03	30.08	-1.04	1,413.75	-3,568.21	1,006.79	884.93	121.85	8.262	
12,530.12	9,025.00	10,312.77	9,082.67	92.72	29.96	-0.58	1,413.45	-3,590.22	1,006.66	884.22	122.44	8.221	
12,600.00	9,025.00	10,261.68	9,082.91	94.30	29.66	0.49	1,413.40	-3,641.31	1,007.32	883.53	123.78	8.138	
12,700.00	9,025.00	10,139.65	9,081.66	96.58	28.98	-0.76	1,413.29	-3,763.28	1,008.22	882.89	125.33	8.045	
12,797.38	9,025.00	10,045.30	9,076.34	98.81	28.48	-0.58	1,412.25	-3,857.48	1,007.94	880.84	127.10	7.930	
12,800.00	9,025.00	10,043.01	9,076.21	98.87	28.47	-0.56	1,412.23	-3,859.77	1,007.94	880.79	127.15	7.927	
12,900.00	9,025.00	9,953.24	9,072.07	101.17	28.02	0.03	1,412.03	-3,949.44	1,008.57	879.52	129.05	7.815	
13,000.00	9,025.00	9,857.38	9,068.31	103.47	27.58	0.26	1,412.36	-4,045.22	1,009.82	878.88	130.94	7.712	
13,100.00	9,025.00	9,757.46	9,066.12	105.77	27.16	0.27	1,413.04	-4,145.12	1,011.46	878.63	132.84	7.614	
13,200.00	9,025.00	9,609.38	9,062.65	108.08	26.61	-2.45	1,411.12	-4,293.12	1,011.40	877.00	134.40	7.525	
13,300.00	9,025.00	9,508.20	9,057.97	110.40	26.28	-2.52	1,406.46	-4,394.09	1,007.72	871.32	136.40	7.388	
13,400.00	9,025.00	9,417.67	9,052.37	112.72	26.02	-1.97	1,403.45	-4,484.38	1,005.27	866.74	138.54	7.256	
13,500.00	9,025.00	9,297.24	9,030.84	115.04	25.69	-3.01	1,398.41	-4,602.53	1,002.05	861.63	140.42	7.136	
13,600.00	9,025.00	9,154.13	8,975.13	117.37	25.29	-4.83	1,386.84	-4,733.57	995.86	854.00	141.86	7.020	
13,700.00	9,025.00	9,115.00	8,956.87	119.70	25.18	-1.05	1,382.45	-4,767.89	990.54	846.07	144.48	6.856	
13,740.68	9,025.00	9,077.38	8,938.42	120.65	25.08	-0.58	1,379.05	-4,800.49	989.23	844.06	145.17	6.814	
13,800.00	9,025.00	9,057.46	8,928.25	122.04	25.03	1.88	1,378.12	-4,817.60	990.49	844.06	146.43	6.764 ES, SF	
13,855.97	9,025.00	9,020.00	8,908.46	122.93	24.93	3.28	1,377.98	-4,849.40	994.47	847.58	146.89	6.770	

Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C. State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3165.00usft (H&P 509)
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 2H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.08°



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



MS Energy Services
Anticollision Report

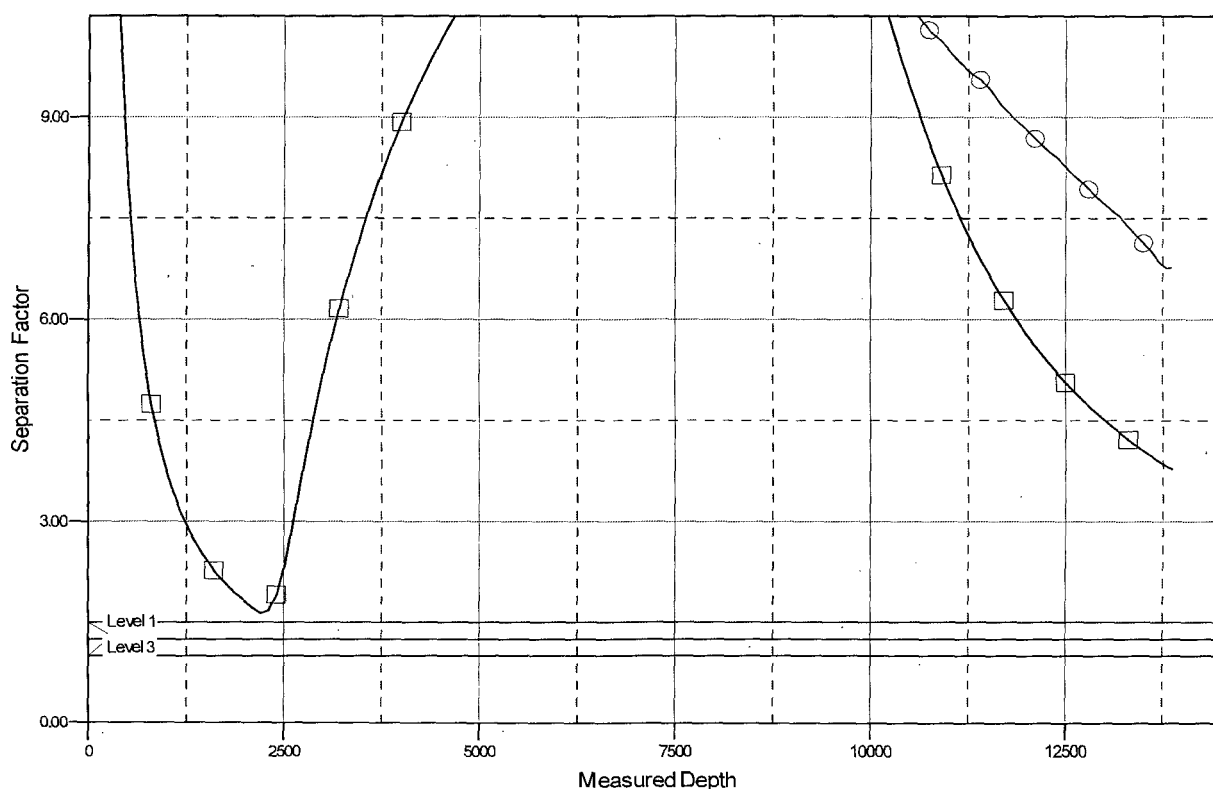


Company:	WPX Energy	Local Co-ordinate Reference:	Well 2H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3165.00usft (H&P 509)
Reference Site:	C State 16	MD Reference:	WELL @ 3165.00usft (H&P 509)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3165.00usft (H&P 509)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 2H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.08°

Separation Factor Plot



LEGEND

—■— 3H Wellbore #1, Design #2, V0 —●— 1H Wellbore #1, Survey V0

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

RKI Exploration & Production, LLC.
3500 One Williams Center MD-35
Tulsa, OK 74172

April 10, 2017

30-015-44135

State of New Mexico, EMNRD, Oil Conservation Division, District 2
811 S. First St.
Artesia, NM 88210

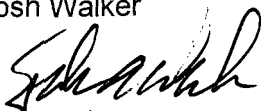
RE: C State 16 #2H, attachments for C-101

To whom it may concern:

Please see attached C-102, Gas Capture Plan, and Directional Plan to accompany the C-101 for the C State 16 #2H well submitted online April 10, 2017.

Sincerely, —

Josh Walker



RKI Exploration & Production, LLC
OGRID Number: 246289

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 12 2017

RECEIVED