NM OIL CONSERVATION
ARTESIA DISTRICT
APR 12 2017

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-44136	98220	PURPLE SAGE WOLFCAMP GAS POOL

[4] Property Code	[5] Property Name	[6] Well Number
317656	C STATE 16	3H

[7] OGRID No.	[8] Operator Name	[9] Elevation
246289	RKI EXPLORATION & PRODUCTION, LLC	3136'

[10] Surface Location

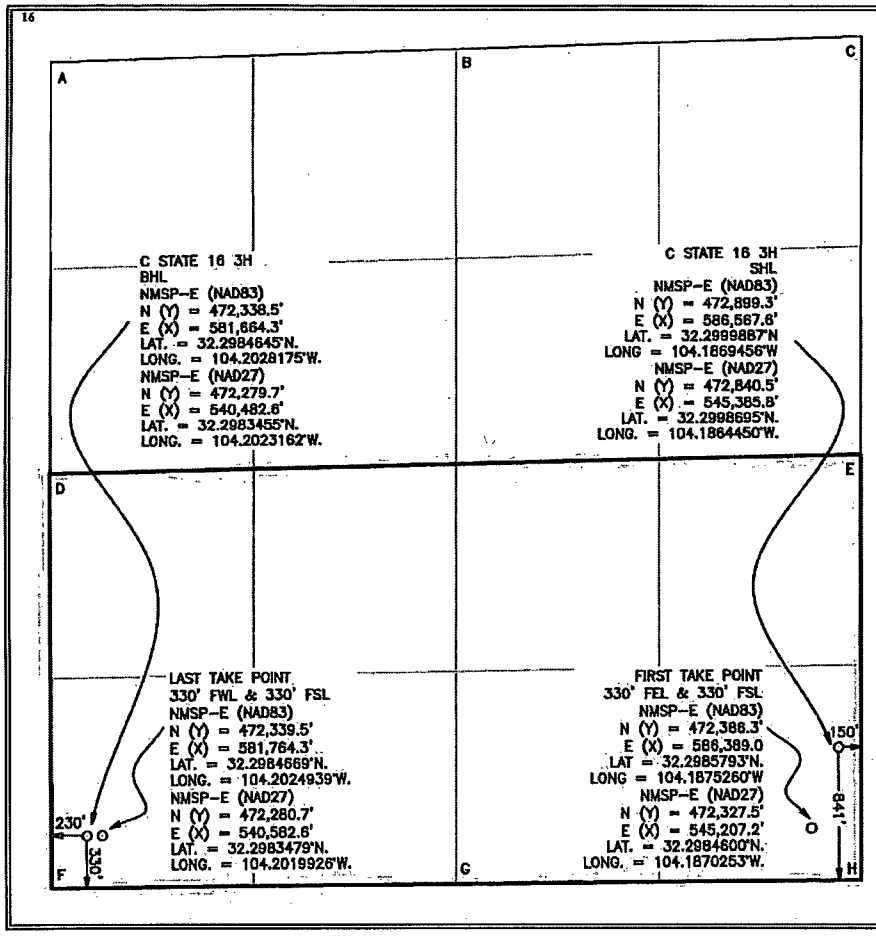
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	23 S	27 E		841	SOUTH	150	EAST	EDDY

[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		330	SOUTH	230	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320.0			

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 — Date: 4/5/2017

Printed Name: Justin Barmore

E-mail Address: justin.barmore@wpxenergy.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.

Date of Survey: 04-03-2017

Signature and Seal of Professional Surveyor:

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number

AI 2017020195

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State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 04/10/17

☒ Original

Operator & 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, recomplete 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 3H	30-015-44136	Sec. 16, T23S, R27E	SHL: 841'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

WPXENERGY

Company: WPX Energy
Site: C State 16
Well: 3H
Project: Eddy County, New Mexico (NAD 83)
Rig Name: H&P 509

MS Energy Services.
WWW.MSENERGYSERVICES.COM

T G M

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

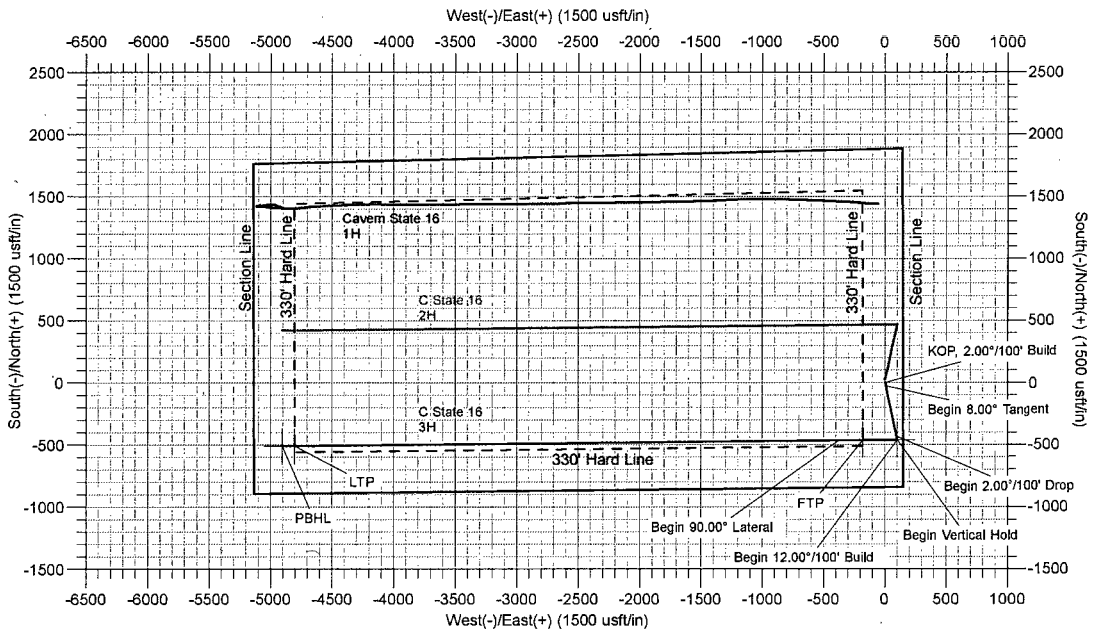
Magnetic Field
Strength: 48022.6snT
Dip Angle: 60.03°
Date: 5/1/2017
Model: BGGM2016

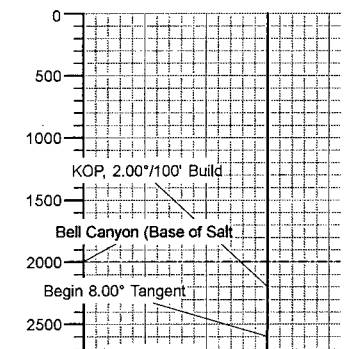
US State Plane 1983
New Mexico Eastern Zone

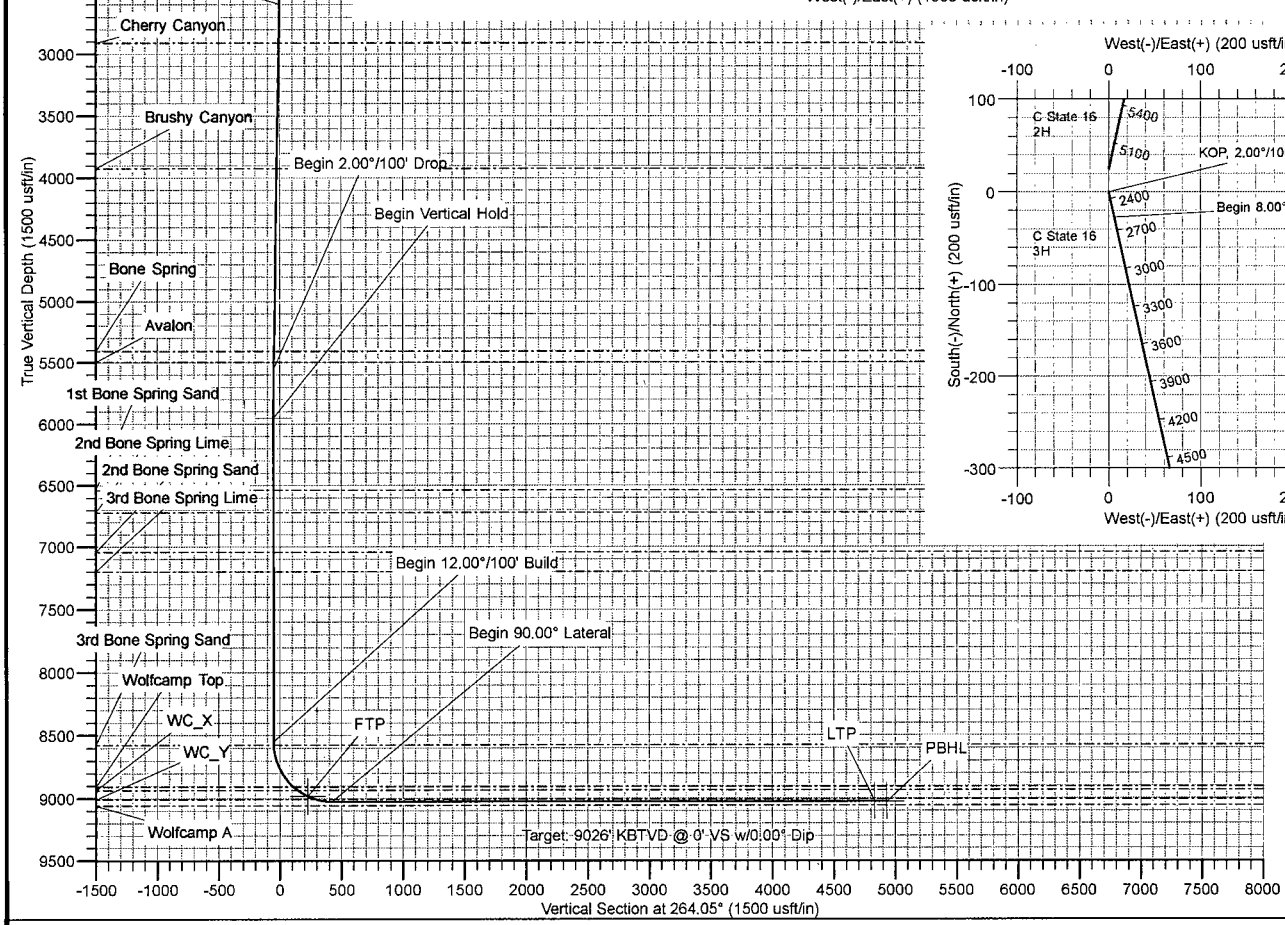
Created By: HLH
Date: 14:49, April 06 2017
Plan: Design #2

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	KOP, 2.00°/100' Build
2599.99	8.00	167.58	2598.69	-27.23	6.00	-3.14	27.88	Begin 8.00° Tangent
5584.65	8.00	167.58	5554.31	-432.88	95.32	-49.95	443.25	Begin 2.00°/100' Drop
5984.64	0.00	0.00	5953.00	-460.11	101.31	-53.09	471.13	Begin Vertical Hold
8580.18	0.00	0.00	8548.54	-460.11	101.31	-53.09	471.13	Begin 12.00°/100' Build
9330.18	90.00	269.42	9026.00	-464.95	-376.13	422.28	948.59	Begin 90.00° Lateral
13857.93	90.00	269.42	9026.00	-510.88	-4903.64	4930.18	5476.34	PBHL







WPXENERGY

WPX Energy

Eddy County, New Mexico (NAD 83)
C State 16
3H

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 3H
Company:	WPX Energy	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site:	C State 16	**North Reference:**	Grid
Well:	3H	**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 3H

Well Position	**+N/-S**	472,899.30 usft	**Northing:**	472,899.30 usft	**Latitude:**	32° 17' 59.959 N
	+E/-W	586,567.60 usft	**Easting:**	586,567.60 usft	**Longitude:**	104° 11' 13.004 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,136.00 usft

Wellbore Wellbore #1

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

Design Design #2

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	264.05

Plan Survey Tool Program **Date** 4/6/2017

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,857.93	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	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,599.99	8.00	167.58	2,598.69	-27.23	6.00	2.00	2.00	0.00	167.58	
5,584.65	8.00	167.58	5,554.31	-432.88	95.32	0.00	0.00	0.00	0.00	
5,984.64	0.00	0.00	5,953.00	-460.11	101.31	2.00	-2.00	0.00	180.00	VP - C State 16 3H
8,580.18	0.00	0.00	8,548.54	-460.11	101.31	0.00	0.00	0.00	0.00	
9,330.18	90.00	269.42	9,026.00	-464.95	-376.13	12.00	12.00	0.00	269.42	
13,857.93	90.00	269.42	9,026.00	-510.88	-4,903.64	0.00	0.00	0.00	0.00	PBHL - C State 16 :

Database:	EDM Conroe	**Local Co-ordinate Reference:**	Well 3H
Company:	WPX Energy	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site:	C State 16	**North Reference:**	Grid
Well:	3H	**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
KOP, 2.00°/100' Build									
2,300.00	2.00	167.58	2,299.98	-1.70	0.38	-0.20	2.00	2.00	0.00
2,400.00	4.00	167.58	2,399.84	-6.82	1.50	-0.79	2.00	2.00	0.00
2,500.00	6.00	167.58	2,499.45	-15.33	3.37	-1.77	2.00	2.00	0.00
2,599.99	8.00	167.58	2,598.69	-27.23	6.00	-3.14	2.00	2.00	0.00
Begin 8.00° Tangent									
2,700.00	8.00	167.58	2,697.73	-40.82	8.99	-4.71	0.00	0.00	0.00
2,800.00	8.00	167.58	2,796.76	-54.41	11.98	-6.28	0.00	0.00	0.00
2,900.00	8.00	167.58	2,895.78	-68.00	14.97	-7.85	0.00	0.00	0.00
3,000.00	8.00	167.58	2,994.81	-81.59	17.97	-9.41	0.00	0.00	0.00
3,100.00	8.00	167.58	3,093.84	-95.18	20.96	-10.98	0.00	0.00	0.00
3,200.00	8.00	167.58	3,192.86	-108.78	23.95	-12.55	0.00	0.00	0.00
3,300.00	8.00	167.58	3,291.89	-122.37	26.94	-14.12	0.00	0.00	0.00
3,400.00	8.00	167.58	3,390.92	-135.96	29.94	-15.69	0.00	0.00	0.00
3,500.00	8.00	167.58	3,489.94	-149.55	32.93	-17.26	0.00	0.00	0.00
3,600.00	8.00	167.58	3,588.97	-163.14	35.92	-18.82	0.00	0.00	0.00
3,700.00	8.00	167.58	3,688.00	-176.73	38.92	-20.39	0.00	0.00	0.00
3,800.00	8.00	167.58	3,787.02	-190.32	41.91	-21.96	0.00	0.00	0.00
3,900.00	8.00	167.58	3,886.05	-203.91	44.90	-23.53	0.00	0.00	0.00
4,000.00	8.00	167.58	3,985.08	-217.51	47.89	-25.10	0.00	0.00	0.00
4,100.00	8.00	167.58	4,084.10	-231.10	50.89	-26.67	0.00	0.00	0.00
4,200.00	8.00	167.58	4,183.13	-244.69	53.88	-28.23	0.00	0.00	0.00
4,300.00	8.00	167.58	4,282.16	-258.28	56.87	-29.80	0.00	0.00	0.00
4,400.00	8.00	167.58	4,381.19	-271.87	59.87	-31.37	0.00	0.00	0.00
4,500.00	8.00	167.58	4,480.21	-285.46	62.86	-32.94	0.00	0.00	0.00
4,600.00	8.00	167.58	4,579.24	-299.05	65.85	-34.51	0.00	0.00	0.00
4,700.00	8.00	167.58	4,678.27	-312.64	68.84	-36.08	0.00	0.00	0.00
4,800.00	8.00	167.58	4,777.29	-326.24	71.84	-37.64	0.00	0.00	0.00
4,900.00	8.00	167.58	4,876.32	-339.83	74.83	-39.21	0.00	0.00	0.00
5,000.00	8.00	167.58	4,975.35	-353.42	77.82	-40.78	0.00	0.00	0.00
5,100.00	8.00	167.58	5,074.37	-367.01	80.81	-42.35	0.00	0.00	0.00

Database:	EDM Conroe	**Local Co-ordinate Reference:**	Well 3H
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Project:	Eddy County, New Mexico (NAD 83)	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site:	C State 16	**North Reference:**	Grid
Well:	3H	**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)
5,200.00	8.00	167.58	5,173.40	-380.60	83.81	-43.92	0.00	0.00	0.00
5,300.00	8.00	167.58	5,272.43	-394.19	86.80	-45.49	0.00	0.00	0.00
5,400.00	8.00	167.58	5,371.45	-407.78	89.79	-47.05	0.00	0.00	0.00
5,500.00	8.00	167.58	5,470.48	-421.38	92.79	-48.62	0.00	0.00	0.00
5,584.65	8.00	167.58	5,554.31	-432.88	95.32	-49.95	0.00	0.00	0.00
Begin 2.00°/100' Drop									
5,600.00	7.69	167.58	5,569.51	-434.93	95.77	-50.19	2.00	-2.00	0.00
5,700.00	5.69	167.58	5,668.83	-446.31	98.28	-51.50	2.00	-2.00	0.00
5,800.00	3.69	167.58	5,768.49	-454.30	100.04	-52.42	2.00	-2.00	0.00
5,900.00	1.69	167.58	5,868.37	-458.89	101.05	-52.95	2.00	-2.00	0.00
5,984.64	0.00	0.00	5,953.00	-460.11	101.31	-53.09	2.00	-2.00	0.00
Begin Vertical Hold									
6,000.00	0.00	0.00	5,968.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,100.00	0.00	0.00	6,068.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,200.00	0.00	0.00	6,168.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,300.00	0.00	0.00	6,268.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,400.00	0.00	0.00	6,368.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,500.00	0.00	0.00	6,468.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,600.00	0.00	0.00	6,568.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,700.00	0.00	0.00	6,668.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,800.00	0.00	0.00	6,768.36	-460.11	101.31	-53.09	0.00	0.00	0.00
6,900.00	0.00	0.00	6,868.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,000.00	0.00	0.00	6,968.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,100.00	0.00	0.00	7,068.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,200.00	0.00	0.00	7,168.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,300.00	0.00	0.00	7,268.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,400.00	0.00	0.00	7,368.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,500.00	0.00	0.00	7,468.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,600.00	0.00	0.00	7,568.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,700.00	0.00	0.00	7,668.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,800.00	0.00	0.00	7,768.36	-460.11	101.31	-53.09	0.00	0.00	0.00
7,900.00	0.00	0.00	7,868.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,000.00	0.00	0.00	7,968.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,100.00	0.00	0.00	8,068.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,200.00	0.00	0.00	8,168.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,300.00	0.00	0.00	8,268.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,400.00	0.00	0.00	8,368.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,500.00	0.00	0.00	8,468.36	-460.11	101.31	-53.09	0.00	0.00	0.00
8,580.18	0.00	0.00	8,548.54	-460.11	101.31	-53.09	0.00	0.00	0.00
Begin 12.00°/100' Build									
8,600.00	2.38	269.42	8,568.35	-460.11	100.90	-52.68	12.00	12.00	0.00
8,625.00	5.38	269.42	8,593.29	-460.13	99.21	-51.00	12.00	12.00	0.00
8,650.00	8.38	269.42	8,618.11	-460.16	96.22	-48.02	12.00	12.00	0.00
8,675.00	11.38	269.42	8,642.74	-460.20	91.93	-43.75	12.00	12.00	0.00
8,700.00	14.38	269.42	8,667.10	-460.26	86.36	-38.20	12.00	12.00	0.00
8,725.00	17.38	269.42	8,691.15	-460.33	79.52	-31.39	12.00	12.00	0.00
8,750.00	20.38	269.42	8,714.80	-460.41	71.43	-23.34	12.00	12.00	0.00
8,775.00	23.38	269.42	8,738.00	-460.50	62.12	-14.06	12.00	12.00	0.00
8,800.00	26.38	269.42	8,760.67	-460.61	51.60	-3.59	12.00	12.00	0.00
8,825.00	29.38	269.42	8,782.77	-460.73	39.91	8.04	12.00	12.00	0.00
8,850.00	32.38	269.42	8,804.22	-460.86	27.08	20.82	12.00	12.00	0.00
8,875.00	35.38	269.42	8,824.98	-461.00	13.15	34.69	12.00	12.00	0.00
8,900.00	38.38	269.42	8,844.97	-461.15	-1.85	49.63	12.00	12.00	0.00

Database:	EDM Conroe	**Local Co-ordinate Reference:**	Well 3H
Company:	WPX Energy	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site:	C State 16	**North Reference:**	Grid
Well:	3H	**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	41.38	269.42	8,864.16	-461.32	-17.88	65.58	12.00	12.00	0.00
8,950.00	44.38	269.42	8,882.47	-461.49	-34.88	82.52	12.00	12.00	0.00
8,975.00	47.38	269.42	8,899.88	-461.67	-52.83	100.38	12.00	12.00	0.00
9,000.00	50.38	269.42	8,916.32	-461.86	-71.66	119.13	12.00	12.00	0.00
9,025.00	53.38	269.42	8,931.75	-462.06	-91.32	138.71	12.00	12.00	0.00
9,050.00	56.38	269.42	8,946.13	-462.27	-111.77	159.07	12.00	12.00	0.00
9,075.00	59.38	269.42	8,959.42	-462.48	-132.94	180.15	12.00	12.00	0.00
9,100.00	62.38	269.42	8,971.58	-462.70	-154.77	201.89	12.00	12.00	0.00
9,125.00	65.38	269.42	8,982.59	-462.93	-177.22	224.23	12.00	12.00	0.00
9,150.00	68.38	269.42	8,992.41	-463.17	-200.20	247.12	12.00	12.00	0.00
9,175.00	71.38	269.42	9,001.01	-463.40	-223.67	270.49	12.00	12.00	0.00
9,200.00	74.38	269.42	9,008.36	-463.65	-247.56	294.27	12.00	12.00	0.00
9,225.00	77.38	269.42	9,014.46	-463.89	-271.80	318.41	12.00	12.00	0.00
9,250.00	80.38	269.42	9,019.28	-464.14	-296.33	342.83	12.00	12.00	0.00
9,275.00	83.38	269.42	9,022.82	-464.39	-321.07	367.47	12.00	12.00	0.00
9,300.00	86.38	269.42	9,025.05	-464.64	-345.97	392.26	12.00	12.00	0.00
9,325.00	89.38	269.42	9,025.97	-464.90	-370.95	417.13	12.00	12.00	0.00
9,330.18	90.00	269.42	9,026.00	-464.95	-376.13	422.28	12.00	12.00	0.00
Begin 90.00° Lateral									
9,400.00	90.00	269.42	9,026.00	-465.66	-445.95	491.80	0.00	0.00	0.00
9,500.00	90.00	269.42	9,026.00	-466.67	-545.94	591.36	0.00	0.00	0.00
9,600.00	90.00	269.42	9,026.00	-467.69	-645.94	690.92	0.00	0.00	0.00
9,700.00	90.00	269.42	9,026.00	-468.70	-745.93	790.48	0.00	0.00	0.00
9,800.00	90.00	269.42	9,026.00	-469.72	-845.93	890.04	0.00	0.00	0.00
9,900.00	90.00	269.42	9,026.00	-470.73	-945.92	989.61	0.00	0.00	0.00
10,000.00	90.00	269.42	9,026.00	-471.74	-1,045.91	1,089.17	0.00	0.00	0.00
10,100.00	90.00	269.42	9,026.00	-472.76	-1,145.91	1,188.73	0.00	0.00	0.00
10,200.00	90.00	269.42	9,026.00	-473.77	-1,245.90	1,288.29	0.00	0.00	0.00
10,300.00	90.00	269.42	9,026.00	-474.79	-1,345.90	1,387.85	0.00	0.00	0.00
10,400.00	90.00	269.42	9,026.00	-475.80	-1,445.89	1,487.41	0.00	0.00	0.00
10,500.00	90.00	269.42	9,026.00	-476.82	-1,545.89	1,586.98	0.00	0.00	0.00
10,600.00	90.00	269.42	9,026.00	-477.83	-1,645.88	1,686.54	0.00	0.00	0.00
10,700.00	90.00	269.42	9,026.00	-478.84	-1,745.88	1,786.10	0.00	0.00	0.00
10,800.00	90.00	269.42	9,026.00	-479.86	-1,845.87	1,885.66	0.00	0.00	0.00
10,900.00	90.00	269.42	9,026.00	-480.87	-1,945.87	1,985.22	0.00	0.00	0.00
11,000.00	90.00	269.42	9,026.00	-481.89	-2,045.86	2,084.78	0.00	0.00	0.00
11,100.00	90.00	269.42	9,026.00	-482.90	-2,145.86	2,184.35	0.00	0.00	0.00
11,200.00	90.00	269.42	9,026.00	-483.92	-2,245.85	2,283.91	0.00	0.00	0.00
11,300.00	90.00	269.42	9,026.00	-484.93	-2,345.85	2,383.47	0.00	0.00	0.00
11,400.00	90.00	269.42	9,026.00	-485.95	-2,445.84	2,483.03	0.00	0.00	0.00
11,500.00	90.00	269.42	9,026.00	-486.96	-2,545.84	2,582.59	0.00	0.00	0.00
11,600.00	90.00	269.42	9,026.00	-487.97	-2,645.83	2,682.15	0.00	0.00	0.00
11,700.00	90.00	269.42	9,026.00	-488.99	-2,745.83	2,781.72	0.00	0.00	0.00
11,800.00	90.00	269.42	9,026.00	-490.00	-2,845.82	2,881.28	0.00	0.00	0.00
11,900.00	90.00	269.42	9,026.00	-491.02	-2,945.82	2,980.84	0.00	0.00	0.00
12,000.00	90.00	269.42	9,026.00	-492.03	-3,045.81	3,080.40	0.00	0.00	0.00
12,100.00	90.00	269.42	9,026.00	-493.05	-3,145.81	3,179.96	0.00	0.00	0.00
12,200.00	90.00	269.42	9,026.00	-494.06	-3,245.80	3,279.52	0.00	0.00	0.00
12,300.00	90.00	269.42	9,026.00	-495.07	-3,345.80	3,379.09	0.00	0.00	0.00
12,400.00	90.00	269.42	9,026.00	-496.09	-3,445.79	3,478.65	0.00	0.00	0.00
12,500.00	90.00	269.42	9,026.00	-497.10	-3,545.79	3,578.21	0.00	0.00	0.00
12,600.00	90.00	269.42	9,026.00	-498.12	-3,645.78	3,677.77	0.00	0.00	0.00
12,700.00	90.00	269.42	9,026.00	-499.13	-3,745.78	3,777.33	0.00	0.00	0.00
12,800.00	90.00	269.42	9,026.00	-500.15	-3,845.77	3,876.89	0.00	0.00	0.00

Database:	EDM Conroe	**Local Co-ordinate Reference:**	Well 3H
Company:	WPX Energy	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site:	C State 16	**North Reference:**	Grid
Well:	3H	**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	9,026.00	-501.16	-3,945.77	3,976.46	0.00	0.00	0.00
13,000.00	90.00	269.42	9,026.00	-502.18	-4,045.76	4,076.02	0.00	0.00	0.00
13,100.00	90.00	269.42	9,026.00	-503.19	-4,145.76	4,175.58	0.00	0.00	0.00
13,200.00	90.00	269.42	9,026.00	-504.20	-4,245.75	4,275.14	0.00	0.00	0.00
13,300.00	90.00	269.42	9,026.00	-505.22	-4,345.75	4,374.70	0.00	0.00	0.00
13,400.00	90.00	269.42	9,026.00	-506.23	-4,445.74	4,474.26	0.00	0.00	0.00
13,500.00	90.00	269.42	9,026.00	-507.25	-4,545.73	4,573.83	0.00	0.00	0.00
13,600.00	90.00	269.42	9,026.00	-508.26	-4,645.73	4,673.39	0.00	0.00	0.00
13,700.00	90.00	269.42	9,026.00	-509.28	-4,745.72	4,772.95	0.00	0.00	0.00
13,800.00	90.00	269.42	9,026.00	-510.29	-4,845.72	4,872.51	0.00	0.00	0.00
13,857.93	90.00	269.42	9,026.00	-510.88	-4,903.64	4,930.18	0.00	0.00	0.00
PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VP - C State 16 3H - plan hits target center - Point	0.00	0.00	5,953.00	-460.11	101.31	472,439.19	586,668.92	32° 17' 55.405 N	104° 11' 11.831 W
FTP - C State 16 3H - plan misses target center by 0.13usft at 9126.66usft MD (8983.28 TVD, -462.95 N, -178.73 E) - Point	0.00	0.00	8,983.40	-462.95	-178.68	472,436.35	586,388.92	32° 17' 55.380 N	104° 11' 15.093 W
PBHL - C State 16 3H - plan hits target center - Point	0.00	0.00	9,026.00	-510.88	-4,903.64	472,388.42	581,663.96	32° 17' 54.966 N	104° 12' 10.146 W
LTP - C State 16 3H - plan hits target center - Point	0.00	0.00	9,026.00	-509.86	-4,803.64	472,389.44	581,763.96	32° 17' 54.975 N	104° 12' 8.981 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,997.00	1,997.00	Bell Canyon (Base of Salt		0.00	
2,916.38	2,912.00	Cherry Canyon		0.00	
3,938.32	3,924.00	Brushy Canyon		0.00	
5,439.93	5,411.00	Bone Spring		0.00	
5,526.78	5,497.00	Avalon		0.00	
6,570.64	6,539.00	1st Bone Spring Sand		0.00	
6,753.64	6,722.00	2nd Bone Spring Lime		0.00	
7,076.64	7,045.00	2nd Bone Spring Sand		0.00	
7,232.64	7,201.00	3rd Bone Spring Lime		0.00	
8,607.66	8,576.00	3rd Bone Spring Sand		0.00	
8,991.75	8,911.00	Wolfcamp Top		0.00	
9,030.50	8,935.00	WC_X		0.00	
9,198.66	9,008.00	WC_Y		0.00	

Database:	EDM Conroe	**Local Co-ordinate Reference:**	Well 3H
Company:	WPX Energy	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Project:	Eddy County, New Mexico (NAD 83)	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site:	C State 16	**North Reference:**	Grid
Well:	3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,200.00	2,200.00	0.00	0.00	KOP, 2.00°/100' Build
2,599.99	2,598.69	-27.23	6.00	Begin 8.00° Tangent
5,584.65	5,554.31	-432.88	95.32	Begin 2.00°/100' Drop
5,984.64	5,953.00	-460.11	101.31	Begin Vertical Hold
8,580.18	8,548.54	-460.11	101.31	Begin 12.00°/100' Build
9,330.18	9,026.00	-464.95	-376.13	Begin 90.00° Lateral
13,857.93	9,026.00	-510.88	-4,903.64	PBHL

WPXENERGY

WPX Energy

Eddy County, New Mexico (NAD 83)
C State 16
3H

Wellbore #1
Design #2

Anticollision Report

06 April, 2017

MS Energy Services
WWW.MSENERGYSERVICES.COM

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 u	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 4/6/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	13,857.93	Design #2 (Wellbore #1)	MWD	OWSG MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
C State 16						
2H - 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	9,064.40	13,850.00	1,909.37	1,817.49	20.781	CC
1H - Wellbore #1 - Surveys	13,748.73	9,061.95	1,916.42	1,771.09	13.187	ES
1H - Wellbore #1 - Surveys	13,857.93	9,020.00	1,919.31	1,771.87	13.018	SF

Offset Design C State 16 - 2H - Wellbore #1 - Design #2 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.00	-1.00	0.00	0.00	-0.23	25.00	-0.10	25.00				
100.00	100.00	101.00	99.00	0.13	0.13	-0.23	25.00	-0.10	25.00	24.75	0.25	98.227	
200.00	200.00	201.00	199.00	0.48	0.49	-0.23	25.00	-0.10	25.00	24.03	0.97	25.735	
300.00	300.00	301.00	299.00	0.84	0.85	-0.23	25.00	-0.10	25.00	23.31	1.69	14.807	
400.00	400.00	401.00	399.00	1.20	1.20	-0.23	25.00	-0.10	25.00	22.59	2.41	10.394	
500.00	500.00	501.00	499.00	1.56	1.56	-0.23	25.00	-0.10	25.00	21.88	3.12	8.007	
600.00	600.00	601.00	599.00	1.92	1.92	-0.23	25.00	-0.10	25.00	21.16	3.84	6.512	
700.00	700.00	701.00	699.00	2.28	2.28	-0.23	25.00	-0.10	25.00	20.44	4.56	5.487	
800.00	800.00	801.00	799.00	2.63	2.64	-0.23	25.00	-0.10	25.00	19.73	5.27	4.741	
900.00	900.00	901.00	899.00	2.99	3.00	-0.23	25.00	-0.10	25.00	19.01	5.99	4.174	
1,000.00	1,000.00	1,001.00	999.00	3.35	3.36	-0.23	25.00	-0.10	25.00	18.29	6.71	3.727	
1,100.00	1,100.00	1,101.00	1,099.00	3.71	3.71	-0.23	25.00	-0.10	25.00	17.58	7.42	3.368	
1,200.00	1,200.00	1,201.00	1,199.00	4.07	4.07	-0.23	25.00	-0.10	25.00	16.86	8.14	3.071	
1,300.00	1,300.00	1,301.00	1,299.00	4.43	4.43	-0.23	25.00	-0.10	25.00	16.14	8.86	2.822	
1,400.00	1,400.00	1,401.00	1,399.00	4.79	4.79	-0.23	25.00	-0.10	25.00	15.43	9.57	2.611	
1,500.00	1,500.00	1,501.00	1,499.00	5.14	5.15	-0.23	25.00	-0.10	25.00	14.71	10.29	2.429	
1,600.00	1,600.00	1,601.00	1,599.00	5.50	5.51	-0.23	25.00	-0.10	25.00	13.99	11.01	2.271	
1,700.00	1,700.00	1,701.00	1,699.00	5.86	5.86	-0.23	25.00	-0.10	25.00	13.27	11.73	2.132	
1,800.00	1,800.00	1,801.00	1,799.00	6.22	6.22	-0.23	25.00	-0.10	25.00	12.56	12.44	2.009	
1,900.00	1,900.00	1,901.00	1,899.00	6.58	6.58	-0.23	25.00	-0.10	25.00	11.84	13.16	1.900	
2,000.00	2,000.00	2,001.00	1,999.00	6.94	6.94	-0.23	25.00	-0.10	25.00	11.12	13.88	1.802	

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

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 - 2H - Wellbore #1 - Design #2 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,100.00	2,100.00	2,101.00	2,099.00	7.29	7.30	-0.23	25.00	-0.10	25.00	10.41	14.59	1.713	
2,200.00	2,200.00	2,201.00	2,199.00	7.65	7.66	-0.23	25.00	-0.10	25.00	9.69	15.31	1.633	CC, ES, SF
2,300.00	2,299.98	2,301.02	2,298.98	7.99	8.02	-1.02	25.00	-0.10	26.71	10.70	16.01	1.668	
2,400.00	2,399.84	2,401.16	2,398.84	8.32	8.37	-2.88	25.00	-0.10	31.86	15.16	16.69	1.908	
2,500.00	2,499.45	2,501.55	2,498.45	8.65	8.73	-4.92	25.00	-0.10	40.48	23.09	17.38	2.329	
2,599.99	2,598.69	2,602.31	2,597.69	8.98	9.10	-6.66	25.00	-0.10	52.58	34.51	18.07	2.910	
2,700.00	2,697.73	2,703.27	2,696.73	9.32	9.46	-7.86	25.00	-0.10	66.44	47.68	18.76	3.541	
2,800.00	2,796.76	2,804.24	2,795.76	9.67	9.82	-8.65	25.00	-0.10	80.32	60.87	19.46	4.128	
2,900.00	2,895.78	2,905.22	2,894.78	10.02	10.18	-9.21	25.00	-0.10	94.22	74.06	20.15	4.675	
3,000.00	2,994.81	3,006.19	2,993.81	10.38	10.54	-9.62	25.00	-0.10	108.11	87.26	20.85	5.185	
3,100.00	3,093.84	3,107.16	3,092.84	10.74	10.91	-9.94	25.00	-0.10	122.02	100.46	21.55	5.662	
3,200.00	3,192.86	3,208.14	3,191.86	11.11	11.27	-10.19	25.00	-0.10	135.92	113.67	22.25	6.108	
3,300.00	3,291.89	3,309.11	3,290.89	11.48	11.63	-10.40	25.00	-0.10	149.83	126.87	22.96	6.526	
3,400.00	3,390.92	3,389.92	3,389.92	11.85	11.92	-10.57	25.00	-0.10	163.74	140.15	23.59	6.941	
3,500.00	3,489.94	3,488.94	3,488.94	12.23	12.27	-10.72	25.00	-0.10	177.65	153.36	24.29	7.313	
3,600.00	3,588.97	3,587.97	3,587.97	12.61	12.63	-10.84	25.00	-0.10	191.56	166.56	24.99	7.664	
3,700.00	3,688.00	3,687.00	3,687.00	13.00	12.98	-10.95	25.00	-0.10	205.47	179.77	25.70	7.996	
3,800.00	3,787.02	3,786.02	3,786.02	13.38	13.34	-11.04	25.00	-0.10	219.38	192.98	26.40	8.310	
3,900.00	3,886.05	3,885.05	3,885.05	13.77	13.69	-11.12	25.00	-0.10	233.30	206.19	27.11	8.607	
4,000.00	3,985.08	3,984.08	3,984.08	14.16	14.05	-11.19	25.00	-0.10	247.21	219.40	27.81	8.889	
4,100.00	4,084.10	4,083.10	4,083.10	14.55	14.40	-11.26	25.00	-0.10	261.12	232.60	28.52	9.156	
4,200.00	4,183.13	4,182.13	4,182.13	14.95	14.76	-11.32	25.00	-0.10	275.04	245.81	29.23	9.411	
4,300.00	4,282.16	4,281.16	4,281.16	15.35	15.11	-11.37	25.00	-0.10	288.95	259.02	29.94	9.653	
4,400.00	4,381.19	4,380.19	4,380.19	15.74	15.47	-11.42	25.00	-0.10	302.87	272.22	30.64	9.883	
4,500.00	4,480.21	4,479.21	4,479.21	16.14	15.82	-11.46	25.00	-0.10	316.78	285.43	31.35	10.103	
4,600.00	4,579.24	4,578.24	4,578.24	16.54	16.18	-11.50	25.00	-0.10	330.70	298.63	32.07	10.313	
4,700.00	4,678.27	4,677.27	4,677.27	16.94	16.53	-11.54	25.00	-0.10	344.61	311.83	32.78	10.514	
4,800.00	4,777.29	4,768.46	4,768.45	17.34	16.86	-11.52	25.80	0.08	359.36	325.93	33.43	10.749	
4,900.00	4,876.32	4,856.58	4,856.50	17.75	17.18	-11.34	29.18	0.83	376.82	342.77	34.05	11.067	
5,000.00	4,975.35	4,943.71	4,943.41	18.15	17.49	-11.02	35.11	2.16	397.04	362.40	34.63	11.464	
5,100.00	5,074.37	5,029.72	5,028.99	18.56	17.79	-10.60	43.50	4.03	419.98	384.79	35.19	11.934	
5,200.00	5,173.40	5,116.56	5,115.10	18.96	18.10	-10.08	54.46	6.47	445.58	409.83	35.75	12.465	
5,300.00	5,272.43	5,212.87	5,210.47	19.37	18.44	-9.52	67.54	9.39	472.13	435.69	36.44	12.956	
5,400.00	5,371.45	5,309.18	5,305.84	19.78	18.79	-9.01	80.62	12.31	498.71	461.58	37.14	13.429	
5,500.00	5,470.48	5,405.49	5,401.22	20.19	19.14	-8.56	93.70	15.23	525.33	487.50	37.83	13.885	
5,584.65	5,554.31	5,487.02	5,481.95	20.53	19.44	-8.22	104.77	17.70	547.89	509.47	38.42	14.259	
5,600.00	5,569.51	5,501.81	5,496.60	20.59	19.49	-8.15	106.78	18.15	551.94	513.41	38.53	14.324	
5,700.00	5,668.83	5,601.32	5,592.53	20.99	19.85	-7.76	119.94	21.08	576.42	537.18	39.24	14.689	
5,800.00	5,768.49	5,703.66	5,689.24	21.37	20.23	-7.37	133.20	24.04	597.54	557.58	39.96	14.954	
5,900.00	5,868.37	5,805.34	5,786.61	21.73	20.61	-6.97	146.55	27.02	615.27	574.60	40.67	15.127	
5,984.64	5,953.00	5,878.31	5,869.44	22.01	20.88	-6.62	157.91	29.55	627.62	586.40	41.22	15.224	
6,000.00	5,968.36	5,906.48	5,884.50	22.06	20.98	-6.56	159.98	30.01	629.64	588.27	41.38	15.217	
6,100.00	6,068.36	5,992.55	5,982.57	22.38	21.30	-6.15	173.42	33.01	642.82	600.79	42.03	15.296	
6,200.00	6,168.36	6,108.43	6,080.63	22.70	21.74	-5.76	186.87	36.01	656.02	613.24	42.78	15.334	
6,300.00	6,268.36	6,209.40	6,178.69	23.03	22.12	-5.39	200.32	39.01	669.26	625.77	43.49	15.390	
6,400.00	6,368.36	6,289.63	6,276.76	23.35	22.42	-5.03	213.77	42.02	682.52	638.40	44.12	15.470	
6,500.00	6,468.36	6,388.66	6,374.82	23.67	22.80	-4.68	227.22	45.02	695.81	650.99	44.82	15.525	
6,600.00	6,568.36	6,487.68	6,472.88	24.00	23.17	-4.35	240.67	48.02	709.12	663.60	45.52	15.579	
6,700.00	6,668.36	6,586.71	6,570.95	24.33	23.55	-4.03	254.12	51.02	722.45	676.23	46.22	15.631	
6,800.00	6,768.36	6,685.74	6,669.01	24.65	23.93	-3.72	267.56	54.02	735.81	688.89	46.92	15.682	
6,900.00	6,868.36	6,784.76	6,767.08	24.98	24.31	-3.42	281.01	57.02	749.18	701.56	47.62	15.731	
7,000.00	6,968.36	6,883.79	6,865.14	25.31	24.69	-3.13	294.46	60.02	762.58	714.25	48.33	15.780	

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

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 - 2H - Wellbore #1 - Design #2 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,100.00	7,068.36	6,982.82	6,963.20	25.64	25.07	-2.85	307.91	63.02	775.99	726.96	49.03	15.827	
7,200.00	7,168.36	7,081.85	7,061.27	25.97	25.46	-2.59	321.36	66.02	789.42	739.69	49.74	15.872	
7,300.00	7,268.36	7,180.87	7,159.33	26.30	25.84	-2.33	334.81	69.02	802.87	752.43	50.44	15.917	
7,400.00	7,368.36	7,279.90	7,257.40	26.64	26.23	-2.08	348.26	72.02	816.33	765.19	51.15	15.961	
7,500.00	7,468.36	7,378.93	7,355.46	26.97	26.61	-1.83	361.70	75.02	829.81	777.96	51.85	16.003	
7,600.00	7,568.36	7,477.95	7,453.52	27.30	27.00	-1.60	375.15	78.02	843.30	790.74	52.56	16.045	
7,700.00	7,668.36	7,576.98	7,551.59	27.64	27.38	-1.37	388.60	81.02	856.81	803.54	53.27	16.085	
7,800.00	7,768.36	7,676.01	7,649.65	27.97	27.77	-1.15	402.05	84.02	870.33	816.35	53.98	16.125	
7,900.00	7,868.36	7,775.04	7,747.71	28.31	28.16	-0.94	415.50	87.02	883.86	829.17	54.68	16.163	
8,000.00	7,968.36	7,874.06	7,845.78	28.64	28.55	-0.73	428.95	90.02	897.40	842.01	55.39	16.201	
8,100.00	8,068.36	7,973.09	7,943.84	28.98	28.94	-0.53	442.40	93.02	910.95	854.85	56.10	16.238	
8,200.00	8,168.36	8,116.31	8,086.09	29.32	29.49	-0.29	458.50	96.62	922.21	864.99	57.21	16.119	
8,300.00	8,268.36	8,262.00	8,231.46	29.65	30.03	-0.16	467.75	98.68	928.55	870.32	58.23	15.945	
8,400.00	8,368.36	8,402.07	8,367.36	29.99	30.53	-0.13	469.94	99.17	930.05	870.93	59.12	15.732	
8,500.00	8,468.36	8,502.07	8,467.36	30.33	30.88	-0.13	469.94	99.17	930.05	870.23	59.82	15.547	
8,580.18	8,548.54	8,578.11	8,547.54	30.60	31.14	-0.13	469.94	99.17	930.05	869.68	60.37	15.405	
8,600.00	8,568.35	8,598.24	8,567.66	30.67	31.21	-0.13	469.94	98.74	930.05	869.54	60.51	15.370	
8,625.00	8,593.29	8,623.62	8,592.98	30.75	31.29	-0.14	469.92	97.00	930.05	869.37	60.68	15.328	
8,650.00	8,618.11	8,649.01	8,618.18	30.83	31.37	-0.14	469.89	93.91	930.05	869.21	60.85	15.285	
8,675.00	8,642.74	8,674.39	8,643.17	30.91	31.45	-0.15	469.85	89.49	930.05	869.04	61.01	15.244	
8,700.00	8,667.10	8,699.77	8,667.88	30.99	31.53	-0.16	469.79	83.75	930.05	868.88	61.17	15.204	
8,725.00	8,691.15	8,725.14	8,692.25	31.07	31.61	-0.17	469.72	76.71	930.05	868.72	61.33	15.164	
8,750.00	8,714.80	8,750.50	8,716.21	31.14	31.68	-0.19	469.63	68.38	930.05	868.56	61.49	15.125	
8,775.00	8,738.00	8,775.86	8,739.68	31.21	31.75	-0.20	469.53	58.80	930.05	868.40	61.65	15.087	
8,800.00	8,760.67	8,801.21	8,762.61	31.28	31.82	-0.22	469.42	47.99	930.05	868.25	61.80	15.050	
8,825.00	8,782.77	8,826.55	8,784.92	31.35	31.88	-0.24	469.30	35.98	930.05	868.09	61.95	15.012	
8,850.00	8,804.22	8,851.88	8,806.55	31.41	31.94	-0.26	469.17	22.81	930.04	867.94	62.10	14.976	
8,875.00	8,824.98	8,877.20	8,827.45	31.47	32.00	-0.29	469.02	8.52	930.04	867.79	62.26	14.939	
8,900.00	8,844.97	8,902.51	8,847.55	31.52	32.05	-0.31	468.87	-6.85	930.04	867.63	62.41	14.902	
8,925.00	8,864.16	8,927.80	8,866.79	31.57	32.10	-0.33	468.70	-23.26	930.04	867.47	62.57	14.865	
8,950.00	8,882.47	8,953.08	8,885.14	31.62	32.15	-0.36	468.53	-40.65	930.04	867.31	62.73	14.827	
8,975.00	8,899.88	8,978.34	8,902.52	31.67	32.20	-0.38	468.34	-58.98	930.04	867.15	62.89	14.788	
9,000.00	8,916.32	9,003.59	8,918.90	31.71	32.25	-0.40	468.15	-78.19	930.04	866.97	63.06	14.748	
9,025.00	8,931.75	9,028.83	8,934.24	31.75	32.29	-0.43	467.94	-98.22	930.03	866.79	63.24	14.706	
9,050.00	8,946.13	9,054.05	8,948.48	31.79	32.35	-0.45	467.73	-119.03	930.03	866.60	63.43	14.663	
9,075.00	8,959.42	9,079.25	8,961.60	31.83	32.41	-0.47	467.51	-140.54	930.03	866.41	63.63	14.617	
9,100.00	8,971.58	9,104.43	8,973.56	31.88	32.49	-0.49	467.29	-162.70	930.03	866.20	63.84	14.569	
9,125.00	8,982.59	9,129.59	8,984.32	31.93	32.59	-0.51	467.06	-185.44	930.03	865.97	64.06	14.519	
9,150.00	8,992.41	9,154.74	8,993.87	32.00	32.69	-0.52	466.82	-208.70	930.03	865.74	64.29	14.466	
9,175.00	9,001.01	9,179.86	9,002.17	32.09	32.81	-0.54	466.58	-232.41	930.03	865.49	64.54	14.410	
9,200.00	9,008.36	9,204.97	9,009.21	32.20	32.94	-0.55	466.34	-256.50	930.03	865.22	64.80	14.351	
9,225.00	9,014.46	9,230.06	9,014.97	32.32	33.08	-0.56	466.09	-280.92	930.03	864.95	65.08	14.290	
9,250.00	9,019.28	9,255.13	9,019.43	32.46	33.23	-0.57	465.84	-305.58	930.03	864.66	65.37	14.227	
9,275.00	9,022.82	9,280.18	9,022.60	32.61	33.38	-0.58	465.59	-330.42	930.03	864.35	65.68	14.161	
9,300.00	9,025.05	9,305.20	9,024.45	32.77	33.54	-0.58	465.33	-355.38	930.03	864.03	65.99	14.093	
9,303.44	9,025.25	9,308.65	9,024.60	32.79	33.56	-0.58	465.30	-358.82	930.03	863.99	66.04	14.083	
9,325.00	9,025.97	9,330.21	9,025.00	32.93	33.71	-0.58	465.08	-380.38	930.03	863.71	66.32	14.023	
9,330.18	9,026.00	9,335.39	9,025.00	32.97	33.74	-0.58	465.03	-385.55	930.03	863.63	66.39	14.008	
9,400.00	9,026.00	9,405.21	9,025.00	33.48	34.26	-0.58	464.32	-455.37	930.03	862.61	67.42	13.795	
9,500.00	9,026.00	9,505.21	9,025.00	34.36	35.13	-0.58	463.31	-555.37	930.03	860.88	69.15	13.450	
9,600.00	9,026.00	9,605.21	9,025.00	35.38	36.13	-0.58	462.29	-655.36	930.03	858.86	71.17	13.068	
9,700.00	9,026.00	9,705.21	9,025.00	36.53	37.27	-0.58	461.28	-755.36	930.03	856.57	73.46	12.661	

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

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 - 2H - Wellbore #1 - Design #2 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,800.00	9,026.00	9,805.21	9,025.00	37.80	38.52	-0.58	460.27	-855.35	930.03	854.05	75.98	12.240	
9,900.00	9,026.00	9,905.21	9,025.00	39.17	39.89	-0.58	459.25	-955.35	930.03	851.30	78.73	11.813	
10,000.00	9,026.00	10,005.21	9,025.00	40.65	41.34	-0.58	458.24	-1,055.34	930.03	848.37	81.66	11.388	
10,100.00	9,026.00	10,105.21	9,025.00	42.21	42.89	-0.58	457.22	-1,155.34	930.03	845.24	84.79	10.969	
10,200.00	9,026.00	10,205.21	9,025.00	43.86	44.51	-0.58	456.21	-1,255.33	930.03	841.97	88.06	10.562	
10,300.00	9,026.00	10,305.21	9,025.00	45.57	46.21	-0.58	455.20	-1,355.33	930.03	838.56	91.47	10.167	
10,400.00	9,026.00	10,405.21	9,025.00	47.34	47.97	-0.58	454.18	-1,455.32	930.03	835.02	95.01	9.788	
10,500.00	9,026.00	10,505.21	9,025.00	49.17	49.78	-0.58	453.17	-1,555.32	930.03	831.37	98.66	9.426	
10,600.00	9,026.00	10,605.21	9,025.00	51.05	51.64	-0.58	452.16	-1,655.31	930.03	827.62	102.42	9.081	
10,700.00	9,026.00	10,705.21	9,025.00	52.97	53.55	-0.58	451.14	-1,755.31	930.03	823.78	106.25	8.753	
10,800.00	9,026.00	10,805.21	9,025.00	54.93	55.50	-0.58	450.13	-1,855.30	930.04	819.86	110.17	8.442	
10,900.00	9,026.00	10,905.21	9,025.00	56.93	57.48	-0.58	449.11	-1,955.30	930.04	815.87	114.16	8.146	
11,000.00	9,026.00	11,005.21	9,025.00	58.96	59.50	-0.58	448.10	-2,055.29	930.04	811.82	118.22	7.867	
11,100.00	9,026.00	11,105.21	9,025.00	61.02	61.55	-0.58	447.09	-2,155.29	930.04	807.70	122.33	7.602	
11,200.00	9,026.00	11,205.21	9,025.00	63.11	63.62	-0.58	446.07	-2,255.28	930.04	803.54	126.50	7.352	
11,300.00	9,026.00	11,305.21	9,025.00	65.22	65.72	-0.58	445.06	-2,355.28	930.04	799.33	130.71	7.115	
11,400.00	9,026.00	11,405.21	9,025.00	67.35	67.84	-0.58	444.05	-2,455.27	930.04	795.07	134.97	6.891	
11,500.00	9,026.00	11,505.21	9,025.00	69.50	69.98	-0.58	443.03	-2,555.27	930.04	790.78	139.26	6.678	
11,600.00	9,026.00	11,605.21	9,025.00	71.66	72.13	-0.58	442.02	-2,655.26	930.04	786.45	143.59	6.477	
11,700.00	9,026.00	11,705.21	9,025.00	73.84	74.31	-0.58	441.00	-2,755.26	930.04	782.09	147.95	6.286	
11,800.00	9,026.00	11,805.21	9,025.00	76.04	76.50	-0.58	439.99	-2,855.25	930.04	777.70	152.35	6.105	
11,900.00	9,026.00	11,905.21	9,025.00	78.25	78.70	-0.58	438.98	-2,955.25	930.04	773.28	156.76	5.933	
12,000.00	9,026.00	12,005.21	9,025.00	80.48	80.91	-0.58	437.96	-3,055.24	930.04	768.83	161.21	5.769	
12,100.00	9,026.00	12,105.21	9,025.00	82.71	83.14	-0.58	436.95	-3,155.24	930.04	764.37	165.67	5.614	
12,200.00	9,026.00	12,205.21	9,025.00	84.96	85.38	-0.58	435.94	-3,255.23	930.04	759.88	170.16	5.466	
12,300.00	9,026.00	12,305.21	9,025.00	87.21	87.63	-0.58	434.92	-3,355.23	930.04	755.37	174.67	5.325	
12,400.00	9,026.00	12,405.21	9,025.00	89.48	89.88	-0.58	433.91	-3,455.22	930.04	750.85	179.19	5.190	
12,500.00	9,026.00	12,505.21	9,025.00	91.75	92.15	-0.58	432.89	-3,555.22	930.04	746.31	183.74	5.062	
12,600.00	9,026.00	12,605.21	9,025.00	94.03	94.42	-0.58	431.88	-3,655.21	930.05	741.75	188.29	4.939	
12,700.00	9,026.00	12,705.21	9,025.00	96.31	96.70	-0.58	430.87	-3,755.20	930.05	737.18	192.86	4.822	
12,800.00	9,026.00	12,805.21	9,025.00	98.61	98.99	-0.58	429.85	-3,855.20	930.05	732.60	197.45	4.710	
12,900.00	9,026.00	12,905.21	9,025.00	100.91	101.29	-0.58	428.84	-3,955.19	930.05	728.00	202.05	4.603	
13,000.00	9,026.00	13,005.21	9,025.00	103.21	103.59	-0.58	427.82	-4,055.19	930.05	723.39	206.65	4.500	
13,100.00	9,026.00	13,105.21	9,025.00	105.52	105.89	-0.58	426.81	-4,155.18	930.05	718.77	211.27	4.402	
13,200.00	9,026.00	13,205.21	9,025.00	107.84	108.20	-0.58	425.80	-4,255.18	930.05	714.15	215.90	4.308	
13,300.00	9,026.00	13,305.21	9,025.00	110.16	110.52	-0.58	424.78	-4,355.17	930.05	709.51	220.54	4.217	
13,400.00	9,026.00	13,405.21	9,025.00	112.48	112.84	-0.58	423.77	-4,455.17	930.05	704.86	225.19	4.130	
13,500.00	9,026.00	13,505.21	9,025.00	114.81	115.16	-0.58	422.76	-4,555.16	930.05	700.20	229.85	4.046	
13,600.00	9,026.00	13,605.21	9,025.00	117.15	117.49	-0.58	421.74	-4,655.16	930.05	695.54	234.51	3.966	
13,700.00	9,026.00	13,705.21	9,025.00	119.48	119.83	-0.58	420.73	-4,755.15	930.05	690.87	239.18	3.888	
13,800.00	9,026.00	13,805.21	9,025.00	121.82	122.16	-0.58	419.71	-4,855.15	930.05	686.19	243.86	3.814	
13,803.68	9,026.00	13,808.89	9,025.00	121.91	122.25	-0.58	419.68	-4,858.83	930.05	686.02	244.03	3.811	
13,857.93	9,026.00	13,855.97	9,025.00	123.18	122.93	-0.14	419.20	-4,905.90	930.08	684.10	245.98	3.781	

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	25.27	25.27	0.00	0.04	-73.98	1,417.87	-4,938.70	5,138.21				
100.00	100.00	180.72	180.72	0.13	0.33	-73.98	1,417.59	-4,937.65	5,137.52	5,137.06	0.45	N/A	
200.00	200.00	364.33	364.28	0.48	0.99	-73.99	1,416.22	-4,934.22	5,135.57	5,134.09	1.47	3,487.537	
300.00	300.00	502.16	502.04	0.84	1.49	-73.99	1,414.87	-4,929.79	5,132.17	5,129.84	2.33	2,207.267	
400.00	400.00	565.80	565.64	1.20	1.71	-73.99	1,414.36	-4,927.71	5,128.83	5,125.92	2.91	1,762.964	
500.00	500.00	620.98	620.81	1.56	1.91	-73.98	1,414.15	-4,926.35	5,126.36	5,122.90	3.46	1,480.058	
600.00	600.00	698.00	697.82	1.92	2.19	-73.98	1,414.24	-4,925.18	5,124.85	5,120.75	4.10	1,251.122	
700.00	700.00	744.20	744.01	2.28	2.35	-73.98	1,414.46	-4,924.79	5,123.96	5,119.35	4.62	1,109.807	
800.00	800.00	833.81	833.62	2.63	2.67	-73.97	1,415.06	-4,924.29	5,123.60	5,118.31	5.29	968.509	
900.00	900.00	931.35	931.15	2.99	3.01	-73.96	1,415.69	-4,923.75	5,123.25	5,117.26	5.99	855.057	
1,000.00	1,000.00	1,030.26	1,030.06	3.35	3.36	-73.95	1,416.26	-4,923.34	5,123.01	5,116.31	6.70	764.715	
1,100.00	1,100.00	1,357.47	1,357.12	3.71	4.53	-73.94	1,415.14	-4,915.26	5,120.58	5,112.35	8.22	622.778	
1,200.00	1,200.00	1,420.00	1,419.60	4.07	4.76	-73.94	1,413.94	-4,912.96	5,116.41	5,107.60	8.80	581.128	
1,300.00	1,300.00	1,448.19	1,447.78	4.43	4.85	-73.95	1,413.37	-4,912.24	5,113.21	5,103.95	9.26	551.985	
1,400.00	1,400.00	1,511.00	1,510.57	4.79	5.08	-73.96	1,412.42	-4,911.47	5,111.39	5,101.55	9.84	519.333	
1,500.00	1,500.00	1,500.00	1,641.21	5.14	5.03	-73.97	1,410.62	-4,910.11	5,110.24	5,100.09	10.16	503.168	
1,600.00	1,600.00	1,736.07	1,735.58	5.50	5.87	-73.98	1,409.09	-4,907.91	5,107.57	5,096.21	11.35	449.898	
1,700.00	1,700.00	1,790.00	1,789.50	5.86	6.07	-73.98	1,408.74	-4,907.21	5,105.93	5,094.03	11.90	428.903	
1,800.00	1,800.00	1,826.68	1,826.18	6.22	6.19	-73.98	1,408.72	-4,907.08	5,105.29	5,092.90	12.39	412.085	
1,830.55	1,830.55	1,847.55	1,847.05	6.33	6.26	-73.98	1,408.72	-4,907.05	5,105.26	5,092.69	12.57	406.149	
1,900.00	1,900.00	1,897.36	1,896.86	6.58	6.43	-73.98	1,408.78	-4,907.15	5,105.41	5,092.42	12.99	393.090	
2,000.00	2,000.00	1,983.09	1,982.59	6.94	6.71	-73.98	1,408.86	-4,907.61	5,105.94	5,092.31	13.63	374.625	
2,100.00	2,100.00	2,097.12	2,096.61	7.29	7.09	-73.99	1,408.53	-4,908.27	5,106.41	5,092.04	14.37	355.340	
2,200.00	2,200.00	2,162.00	2,161.49	7.65	7.22	-73.99	1,408.41	-4,908.81	5,107.16	5,092.31	14.85	343.849	
2,300.00	2,299.98	2,162.00	2,161.49	7.99	7.22	-73.97	1,408.41	-4,908.81	5,110.05	5,094.86	15.19	336.503	
2,400.00	2,399.84	2,218.96	2,218.43	8.32	7.23	-73.92	1,409.01	-4,910.15	5,115.47	5,099.96	15.51	329.762	
2,500.00	2,499.45	2,258.00	2,257.42	8.65	7.23	-73.83	1,410.00	-4,911.80	5,124.19	5,108.36	15.84	323.574	
2,599.99	2,598.69	2,258.00	2,257.42	8.98	7.23	-73.71	1,410.00	-4,911.80	5,135.99	5,119.84	16.15	318.034	
2,700.00	2,697.73	2,294.57	2,293.90	9.32	7.24	-73.57	1,411.29	-4,914.07	5,149.93	5,133.44	16.48	312.456	
2,800.00	2,796.76	2,316.38	2,315.62	9.67	7.25	-73.43	1,412.18	-4,915.83	5,165.44	5,148.63	16.81	307.320	
2,900.00	2,895.78	2,353.00	2,352.02	10.02	7.26	-73.28	1,413.87	-4,919.47	5,182.53	5,165.38	17.14	302.293	
3,000.00	2,994.81	2,353.00	2,352.02	10.38	7.26	-73.15	1,413.87	-4,919.47	5,200.90	5,183.44	17.46	297.937	
3,100.00	3,093.84	2,385.97	2,384.70	10.74	7.27	-73.01	1,415.63	-4,923.42	5,220.72	5,202.93	17.80	293.344	
3,200.00	3,192.86	2,410.97	2,409.43	11.11	7.28	-72.87	1,417.11	-4,926.77	5,241.94	5,223.81	18.13	289.132	
3,300.00	3,291.89	2,448.00	2,445.96	11.48	7.30	-72.73	1,419.54	-4,932.33	5,264.56	5,246.09	18.47	284.982	
3,400.00	3,390.92	2,472.62	2,470.20	11.85	7.32	-72.59	1,421.28	-4,936.30	5,288.37	5,269.56	18.81	281.178	
3,500.00	3,489.94	2,521.06	2,517.82	12.23	7.35	-72.45	1,424.85	-4,944.39	5,313.18	5,294.01	19.17	277.134	
3,600.00	3,588.97	2,624.53	2,619.45	12.61	7.44	-72.30	1,431.65	-4,962.58	5,338.60	5,318.97	19.62	272.033	
3,700.00	3,688.00	2,798.11	2,790.12	13.00	7.62	-72.25	1,434.60	-4,993.97	5,363.06	5,342.84	20.23	265.148	
3,800.00	3,787.02	3,834.20	3,818.96	13.38	9.45	-72.55	1,422.32	-5,087.87	5,377.31	5,354.57	22.74	236.421	
3,900.00	3,886.05	3,928.65	3,913.41	13.77	9.66	-72.41	1,423.47	-5,087.28	5,384.03	5,360.70	23.33	230.795	
4,000.00	3,985.08	13,850.00	9,110.84	14.16	60.63	-3.58	1,440.59	-55.79	5,372.58	5,321.41	51.17	105.002	
4,100.00	4,084.10	13,850.00	9,110.84	14.55	60.63	-3.65	1,440.59	-55.79	5,282.84	5,231.31	51.53	102.516	
4,200.00	4,183.13	13,850.00	9,110.84	14.95	60.63	-3.72	1,440.59	-55.79	5,193.48	5,141.56	51.91	100.046	
4,300.00	4,282.16	13,850.00	9,110.84	15.35	60.63	-3.79	1,440.59	-55.79	5,104.50	5,052.20	52.30	97.592	
4,400.00	4,381.19	13,850.00	9,110.84	15.74	60.63	-3.86	1,440.59	-55.79	5,015.95	4,963.24	52.71	95.156	
4,500.00	4,480.21	13,850.00	9,110.84	16.14	60.63	-3.93	1,440.59	-55.79	4,927.83	4,874.69	53.14	92.737	
4,600.00	4,579.24	13,850.00	9,110.84	16.54	60.63	-4.00	1,440.59	-55.79	4,840.18	4,786.60	53.58	90.338	
4,700.00	4,678.27	13,850.00	9,110.84	16.94	60.63	-4.07	1,440.59	-55.79	4,753.01	4,698.97	54.04	87.959	
4,800.00	4,777.29	13,850.00	9,110.84	17.34	60.63	-4.13	1,440.59	-55.79	4,666.36	4,611.84	54.51	85.601	
4,900.00	4,876.32	13,850.00	9,110.84	17.75	60.63	-4.20	1,440.59	-55.79	4,580.25	4,525.24	55.01	83.265	
5,000.00	4,975.35	13,850.00	9,110.84	18.15	60.63	-4.26	1,440.59	-55.79	4,494.71	4,439.19	55.52	80.952	

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,074.37	13,850.00	9,110.84	18.56	60.63	-4.32	1,440.59	-55.79	4,409.79	4,353.73	56.06	78.663	
5,200.00	5,173.40	13,850.00	9,110.84	18.96	60.63	-4.38	1,440.59	-55.79	4,325.51	4,268.89	56.62	76.400	
5,300.00	5,272.43	13,850.00	9,110.84	19.37	60.63	-4.44	1,440.59	-55.79	4,241.91	4,184.71	57.20	74.164	
5,400.00	5,371.45	13,850.00	9,110.84	19.78	60.63	-4.50	1,440.59	-55.79	4,159.04	4,101.24	57.80	71.955	
5,500.00	5,470.48	13,850.00	9,110.84	20.19	60.63	-4.56	1,440.59	-55.79	4,076.93	4,018.50	58.43	69.776	
5,584.65	5,554.31	13,850.00	9,110.84	20.53	60.63	-4.61	1,440.59	-55.79	4,008.06	3,949.08	58.98	67.955	
5,600.00	5,569.51	13,850.00	9,110.84	20.59	60.63	-4.62	1,440.59	-55.79	3,995.62	3,936.53	59.08	67.626	
5,700.00	5,668.83	13,850.00	9,110.84	20.99	60.63	-4.67	1,440.59	-55.79	3,913.86	3,854.11	59.75	65.503	
5,800.00	5,768.49	13,850.00	9,110.84	21.37	60.63	-4.70	1,440.59	-55.79	3,830.95	3,770.54	60.42	63.408	
5,900.00	5,868.37	13,850.00	9,110.84	21.73	60.63	-4.72	1,440.59	-55.79	3,746.93	3,685.85	61.08	61.343	
5,984.64	5,953.00	13,850.00	9,110.84	22.01	60.63	-4.73	1,440.59	-55.79	3,674.96	3,613.33	61.64	59.622	
6,000.00	5,968.36	13,850.00	9,110.84	22.06	60.63	-4.73	1,440.59	-55.79	3,661.84	3,600.10	61.74	59.311	
6,100.00	6,068.36	13,850.00	9,110.84	22.38	60.63	-4.73	1,440.59	-55.79	3,576.86	3,514.45	62.40	57.318	
6,200.00	6,168.36	13,850.00	9,110.84	22.70	60.63	-4.73	1,440.59	-55.79	3,492.67	3,429.57	63.10	55.354	
6,300.00	6,268.36	13,850.00	9,110.84	23.03	60.63	-4.73	1,440.59	-55.79	3,409.33	3,345.51	63.82	53.421	
6,400.00	6,368.36	13,850.00	9,110.84	23.35	60.63	-4.73	1,440.59	-55.79	3,326.91	3,262.33	64.58	51.520	
6,500.00	6,468.36	13,850.00	9,110.84	23.67	60.63	-4.73	1,440.59	-55.79	3,245.48	3,180.11	65.36	49.652	
6,600.00	6,568.36	13,850.00	9,110.84	24.00	60.63	-4.73	1,440.59	-55.79	3,165.11	3,098.92	66.19	47.821	
6,700.00	6,668.36	13,850.00	9,110.84	24.33	60.63	-4.73	1,440.59	-55.79	3,085.89	3,018.85	67.05	46.026	
6,800.00	6,768.36	13,850.00	9,110.84	24.65	60.63	-4.73	1,440.59	-55.79	3,007.91	2,939.97	67.94	44.271	
6,900.00	6,868.36	13,850.00	9,110.84	24.98	60.63	-4.73	1,440.59	-55.79	2,931.27	2,862.39	68.88	42.558	
7,000.00	6,968.36	13,850.00	9,110.84	25.31	60.63	-4.73	1,440.59	-55.79	2,856.07	2,786.22	69.85	40.888	
7,100.00	7,068.36	13,850.00	9,110.84	25.64	60.63	-4.73	1,440.59	-55.79	2,782.43	2,711.57	70.86	39.264	
7,200.00	7,168.36	13,850.00	9,110.84	25.97	60.63	-4.73	1,440.59	-55.79	2,710.49	2,638.57	71.92	37.689	
7,300.00	7,268.36	13,850.00	9,110.84	26.30	60.63	-4.73	1,440.59	-55.79	2,640.37	2,567.36	73.01	36.165	
7,400.00	7,368.36	13,850.00	9,110.84	26.64	60.63	-4.73	1,440.59	-55.79	2,572.23	2,498.09	74.14	34.695	
7,500.00	7,468.36	13,850.00	9,110.84	26.97	60.63	-4.73	1,440.59	-55.79	2,506.22	2,430.92	75.30	33.282	
7,600.00	7,568.36	13,850.00	9,110.84	27.30	60.63	-4.73	1,440.59	-55.79	2,442.53	2,366.03	76.50	31.928	
7,700.00	7,668.36	13,850.00	9,110.84	27.64	60.63	-4.73	1,440.59	-55.79	2,381.34	2,303.61	77.73	30.637	
7,800.00	7,768.36	13,850.00	9,110.84	27.97	60.63	-4.73	1,440.59	-55.79	2,322.84	2,243.86	78.98	29.412	
7,900.00	7,868.36	13,850.00	9,110.84	28.31	60.63	-4.73	1,440.59	-55.79	2,267.24	2,187.00	80.24	28.255	
8,000.00	7,968.36	13,850.00	9,110.84	28.64	60.63	-4.73	1,440.59	-55.79	2,214.76	2,133.25	81.51	27.171	
8,100.00	8,068.36	13,850.00	9,110.84	28.98	60.63	-4.73	1,440.59	-55.79	2,165.64	2,082.85	82.78	26.161	
8,200.00	8,168.36	13,850.00	9,110.84	29.32	60.63	-4.73	1,440.59	-55.79	2,120.09	2,036.05	84.03	25.229	
8,300.00	8,268.36	13,850.00	9,110.84	29.65	60.63	-4.73	1,440.59	-55.79	2,078.36	1,993.10	85.26	24.377	
8,400.00	8,368.36	13,850.00	9,110.84	29.99	60.63	-4.73	1,440.59	-55.79	2,040.68	1,954.25	86.44	23.609	
8,500.00	8,468.36	13,850.00	9,110.84	30.33	60.63	-4.73	1,440.59	-55.79	2,007.28	1,919.73	87.55	22.926	
8,580.18	8,548.54	13,850.00	9,110.84	30.60	60.63	-4.73	1,440.59	-55.79	1,983.74	1,895.35	88.40	22.442	
8,600.00	8,568.35	13,850.00	9,110.84	30.67	60.63	-4.71	1,440.59	-55.79	1,978.35	1,889.76	88.59	22.330	
8,625.00	8,593.29	13,850.00	9,110.84	30.75	60.63	-4.66	1,440.59	-55.79	1,971.75	1,882.91	88.84	22.194	
8,650.00	8,618.11	13,850.00	9,110.84	30.83	60.63	-4.57	1,440.59	-55.79	1,965.39	1,876.31	89.08	22.063	
8,675.00	8,642.74	13,850.00	9,110.84	30.91	60.63	-4.44	1,440.59	-55.79	1,959.28	1,869.96	89.32	21.936	
8,700.00	8,667.10	13,850.00	9,110.84	30.99	60.63	-4.28	1,440.59	-55.79	1,953.45	1,863.90	89.55	21.815	
8,725.00	8,691.15	13,850.00	9,110.84	31.07	60.63	-4.07	1,440.59	-55.79	1,947.91	1,858.15	89.77	21.699	
8,750.00	8,714.80	13,850.00	9,110.84	31.14	60.63	-3.83	1,440.59	-55.79	1,942.69	1,852.71	89.98	21.590	
8,775.00	8,738.00	13,850.00	9,110.84	31.21	60.63	-3.55	1,440.59	-55.79	1,937.79	1,847.61	90.19	21.487	
8,800.00	8,760.67	13,850.00	9,110.84	31.28	60.63	-3.23	1,440.59	-55.79	1,933.25	1,842.86	90.38	21.390	
8,825.00	8,782.77	13,850.00	9,110.84	31.35	60.63	-2.88	1,440.59	-55.79	1,929.06	1,838.49	90.57	21.300	
8,850.00	8,804.22	13,850.00	9,110.84	31.41	60.63	-2.50	1,440.59	-55.79	1,925.24	1,834.50	90.74	21.216	
8,875.00	8,824.98	13,850.00	9,110.84	31.47	60.63	-2.08	1,440.59	-55.79	1,921.81	1,830.90	90.91	21.139	
8,900.00	8,844.97	13,850.00	9,110.84	31.52	60.63	-1.62	1,440.59	-55.79	1,918.78	1,827.71	91.07	21.069	
8,925.00	8,864.16	13,850.00	9,110.84	31.57	60.63	-1.14	1,440.59	-55.79	1,916.16	1,824.94	91.22	21.007	

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,950.00	8,882.47	13,850.00	9,110.84	31.62	60.63	-0.63	1,440.59	-55.79	1,913.96	1,822.60	91.36	20.951	
8,975.00	8,899.88	13,850.00	9,110.84	31.67	60.63	-0.09	1,440.59	-55.79	1,912.18	1,820.69	91.49	20.901	
9,000.00	8,916.32	13,850.00	9,110.84	31.71	60.63	0.48	1,440.59	-55.79	1,910.83	1,819.22	91.61	20.859	
9,025.00	8,931.75	13,850.00	9,110.84	31.75	60.63	1.07	1,440.59	-55.79	1,909.92	1,818.20	91.72	20.824	
9,050.00	8,946.13	13,850.00	9,110.84	31.79	60.63	1.68	1,440.59	-55.79	1,909.44	1,817.62	91.82	20.795	
9,064.40	8,953.92	13,850.00	9,110.84	31.81	60.63	2.05	1,440.59	-55.79	1,909.37	1,817.49	91.88	20.781	CC
9,075.00	8,959.42	13,850.00	9,110.84	31.83	60.63	2.32	1,440.59	-55.79	1,909.41	1,817.49	91.92	20.773	
9,100.00	8,971.58	13,850.00	9,110.84	31.88	60.63	2.98	1,440.59	-55.79	1,909.82	1,817.81	92.01	20.757	
9,125.00	8,982.59	13,850.00	9,110.84	31.93	60.63	3.65	1,440.59	-55.79	1,910.66	1,818.57	92.09	20.747	
9,150.00	8,992.41	13,835.08	9,110.69	32.00	60.48	3.89	1,441.61	-70.68	1,911.89	1,819.84	92.05	20.770	
9,175.00	9,001.01	13,811.77	9,110.45	32.09	60.24	3.89	1,443.21	-93.93	1,913.28	1,821.33	91.94	20.809	
9,200.00	9,008.36	13,788.03	9,110.20	32.20	60.01	3.90	1,444.83	-117.61	1,914.80	1,822.96	91.84	20.850	
9,225.00	9,014.46	13,764.10	9,109.97	32.32	59.77	3.90	1,446.47	-141.48	1,916.43	1,824.69	91.73	20.891	
9,250.00	9,019.28	13,739.98	9,109.83	32.46	59.52	3.91	1,448.12	-165.55	1,918.15	1,826.52	91.63	20.933	
9,275.00	9,022.82	13,720.17	9,109.76	32.61	59.33	4.06	1,449.46	-185.32	1,919.95	1,828.38	91.57	20.966	
9,300.00	9,025.05	13,680.82	9,109.79	32.77	58.93	3.62	1,452.09	-224.57	1,921.79	1,830.42	91.37	21.034	
9,325.00	9,025.97	13,641.33	9,109.53	32.93	58.54	3.19	1,454.45	-263.99	1,923.49	1,832.33	91.16	21.099	
9,330.18	9,026.00	13,633.15	9,109.45	32.97	58.46	3.10	1,454.90	-272.17	1,923.83	1,832.70	91.12	21.113	
9,400.00	9,026.00	13,565.09	9,108.76	33.48	57.78	3.15	1,458.52	-340.13	1,928.22	1,837.28	90.94	21.203	
9,500.00	9,026.00	13,456.13	9,108.48	34.36	56.70	2.88	1,464.51	-448.92	1,934.74	1,844.01	90.73	21.324	
9,600.00	9,026.00	13,339.92	9,106.77	35.38	55.55	2.39	1,469.85	-564.99	1,940.29	1,849.68	90.62	21.412	
9,700.00	9,026.00	13,235.11	9,106.10	36.53	54.52	2.25	1,474.08	-669.71	1,945.32	1,854.59	90.73	21.440	
9,800.00	9,026.00	13,138.47	9,107.18	37.80	53.58	2.34	1,477.88	-766.27	1,950.30	1,859.26	91.04	21.422	
9,900.00	9,026.00	12,963.40	9,104.97	39.17	51.87	0.14	1,482.81	-941.19	1,954.54	1,863.69	90.86	21.512	
10,000.00	9,026.00	10,000.00	9,101.37	40.65	24.46	-0.74	1,482.88	-1,071.10	1,955.67	1,891.70	63.98	30.569	
10,100.00	9,026.00	12,655.14	9,096.38	42.21	48.93	-3.03	1,475.23	-1,249.12	1,951.47	1,860.42	91.05	21.432	
10,200.00	9,026.00	12,565.71	9,096.32	43.86	48.09	-2.72	1,470.78	-1,338.44	1,947.50	1,855.64	91.86	21.201	
10,300.00	9,026.00	12,470.95	9,095.38	45.57	47.20	-2.57	1,466.46	-1,433.09	1,943.92	1,851.23	92.69	20.972	
10,400.00	9,026.00	12,394.40	9,093.46	47.34	46.49	-1.88	1,463.34	-1,509.55	1,940.85	1,847.11	93.75	20.703	
10,500.00	9,026.00	12,320.82	9,092.46	49.17	45.81	-1.10	1,461.65	-1,583.10	1,939.47	1,844.59	94.88	20.442	
10,600.00	9,026.00	12,203.63	9,089.68	51.05	44.74	-1.61	1,459.03	-1,700.23	1,938.20	1,842.49	95.70	20.252	
10,700.00	9,026.00	12,122.54	9,087.30	52.97	44.00	-1.05	1,456.83	-1,781.25	1,936.52	1,839.65	96.87	19.990	
10,738.52	9,026.00	12,099.75	9,087.18	53.73	43.80	-0.58	1,456.51	-1,804.04	1,936.36	1,838.96	97.40	19.880	
10,800.00	9,026.00	12,045.66	9,087.81	54.93	43.31	-0.36	1,456.27	-1,858.13	1,936.70	1,838.59	98.11	19.740	
10,900.00	9,026.00	11,904.10	9,084.92	56.93	42.05	-1.59	1,453.45	-1,999.62	1,935.53	1,836.62	98.91	19.569	
11,000.00	9,026.00	11,820.80	9,083.95	58.96	41.32	-1.10	1,451.41	-2,082.88	1,934.10	1,833.90	100.19	19.303	
11,076.78	9,026.00	11,761.43	9,084.60	60.54	40.80	-0.58	1,450.52	-2,142.25	1,933.74	1,832.51	101.24	19.101	
11,100.00	9,026.00	11,743.65	9,084.93	61.02	40.65	-0.42	1,450.36	-2,160.02	1,933.78	1,832.23	101.55	19.042	
11,200.00	9,026.00	11,666.83	9,086.93	63.11	39.99	0.27	1,450.22	-2,236.81	1,934.66	1,831.73	102.93	18.796	
11,300.00	9,026.00	11,578.27	9,089.92	65.22	39.23	0.61	1,451.02	-2,325.32	1,936.64	1,832.38	104.26	18.575	
11,400.00	9,026.00	11,419.74	9,093.54	67.35	37.91	-1.12	1,450.73	-2,483.80	1,937.72	1,832.54	105.18	18.422	
11,500.00	9,026.00	11,255.51	9,092.13	69.50	36.58	-3.02	1,445.01	-2,647.89	1,935.30	1,829.24	106.06	18.248	
11,600.00	9,026.00	11,201.75	9,090.55	71.66	36.16	-1.65	1,442.78	-2,701.58	1,932.15	1,824.38	107.77	17.928	
11,674.50	9,026.00	11,167.85	9,090.58	73.29	35.89	-0.45	1,442.07	-2,735.46	1,931.46	1,822.39	109.07	17.708	
11,700.00	9,026.00	11,142.79	9,091.04	73.84	35.70	-0.44	1,441.87	-2,760.53	1,931.52	1,822.08	109.44	17.650	
11,800.00	9,026.00	11,048.93	9,091.47	76.04	34.98	-0.25	1,441.20	-2,854.38	1,931.85	1,820.94	110.90	17.419	
11,900.00	9,026.00	10,961.43	9,092.97	78.25	34.32	0.12	1,441.22	-2,941.86	1,932.90	1,820.47	112.43	17.192	
12,000.00	9,026.00	10,841.31	9,091.27	80.48	33.43	-0.48	1,440.61	-3,061.96	1,933.32	1,819.50	113.82	16.986	
12,100.00	9,026.00	10,748.43	9,088.87	82.71	32.77	-0.27	1,440.01	-3,154.79	1,933.63	1,818.26	115.38	16.759	
12,200.00	9,026.00	10,661.97	9,088.95	84.96	32.18	0.13	1,439.88	-3,241.25	1,934.50	1,817.50	117.00	16.534	
12,300.00	9,026.00	10,574.75	9,089.39	87.21	31.60	0.51	1,440.41	-3,328.47	1,936.13	1,817.49	118.64	16.319	
12,400.00	9,026.00	10,418.58	9,086.06	89.48	30.60	-1.15	1,440.35	-3,484.58	1,937.31	1,817.29	120.02	16.141	

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

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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

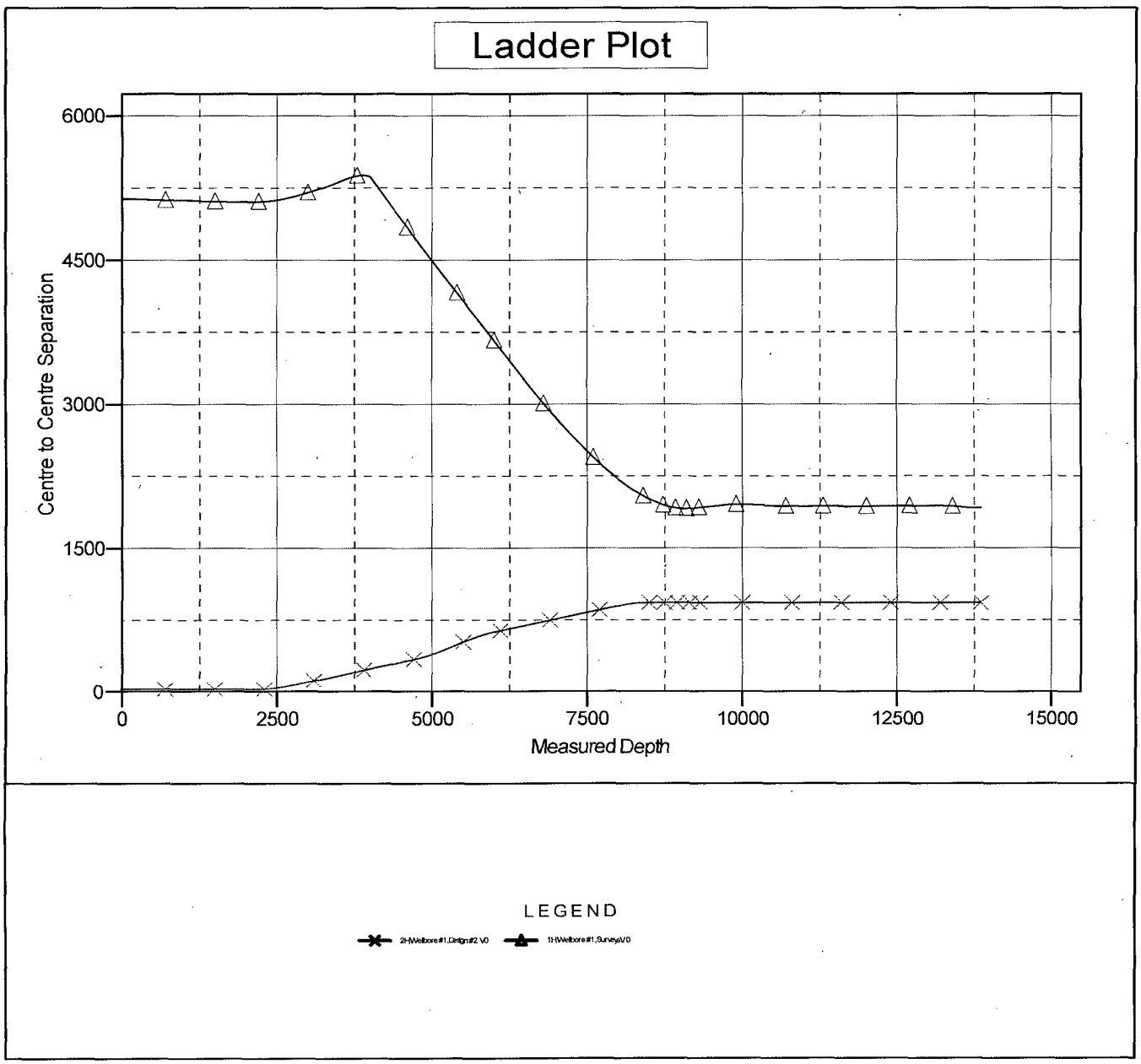
Survey Program: 155-MWD, 2162-MWD+IFR1+MS — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,500.00	9,026.00	10,327.84	9,082.93	91.75	30.04	-0.87	1,438.64	-3,575.25	1,936.39	1,814.65	121.73	15.907	
12,524.21	9,026.00	10,313.46	9,082.68	92.30	29.96	-0.58	1,438.46	-3,589.63	1,936.32	1,814.14	122.18	15.848	
12,600.00	9,026.00	10,268.42	9,082.78	94.03	29.70	0.33	1,438.36	-3,634.67	1,936.93	1,813.35	123.58	15.674	
12,700.00	9,026.00	10,133.20	9,081.35	96.31	28.94	-0.71	1,438.22	-3,769.83	1,937.89	1,812.70	125.19	15.480	
12,785.53	9,026.00	10,051.94	9,076.73	98.28	28.51	-0.58	1,437.31	-3,850.95	1,937.71	1,811.00	126.72	15.292	
12,800.00	9,026.00	10,040.53	9,076.07	98.61	28.45	-0.49	1,437.21	-3,862.34	1,937.72	1,810.74	126.98	15.260	
12,900.00	9,026.00	9,958.59	9,072.29	100.91	28.05	0.05	1,437.02	-3,944.19	1,938.41	1,809.58	128.84	15.045	
13,000.00	9,026.00	9,865.80	9,068.60	103.21	27.62	0.26	1,437.31	-4,036.91	1,939.68	1,808.99	130.70	14.841	
13,100.00	9,026.00	9,768.16	9,066.30	105.52	27.20	0.33	1,437.98	-4,134.51	1,941.35	1,808.76	132.59	14.642	
13,200.00	9,026.00	9,566.64	9,060.92	107.84	26.47	-2.66	1,434.24	-4,335.88	1,940.63	1,806.31	134.32	14.448	
13,300.00	9,026.00	9,488.78	9,056.99	110.16	26.23	-2.01	1,430.71	-4,413.56	1,937.17	1,800.79	136.38	14.204	
13,400.00	9,026.00	9,382.20	9,048.61	112.48	25.92	-2.19	1,427.22	-4,519.72	1,934.88	1,796.47	138.41	13.979	
13,500.00	9,026.00	9,136.38	8,966.95	114.81	25.24	-6.06	1,409.91	-4,749.30	1,929.41	1,789.70	139.71	13.810	
13,600.00	9,026.00	9,115.00	8,956.87	117.15	25.18	-3.65	1,407.45	-4,767.99	1,921.52	1,779.39	142.13	13.519	
13,700.00	9,026.00	9,072.57	8,935.98	119.48	25.07	-1.77	1,403.77	-4,804.74	1,916.92	1,772.63	144.29	13.285	
13,748.73	9,026.00	9,061.95	8,930.57	120.62	25.04	-0.58	1,403.28	-4,813.85	1,916.42	1,771.09	145.32	13.187	ES
13,800.00	9,026.00	9,020.00	8,908.46	121.82	24.93	-0.11	1,402.98	-4,849.50	1,917.96	1,771.69	146.28	13.112	
13,857.93	9,026.00	9,020.00	8,908.46	123.18	24.93	1.62	1,402.98	-4,849.50	1,919.31	1,771.87	147.44	13.018	SF

Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	3H	**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 @ 3166.00usft (H&P 509)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.08°



Company:	WPX Energy	**Local Co-ordinate Reference:**	Well 3H
Project:	Eddy County, New Mexico (NAD 83)	**TVD Reference:**	WELL @ 3166.00usft (H&P 509)
Reference Site:	C State 16	**MD Reference:**	WELL @ 3166.00usft (H&P 509)
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Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
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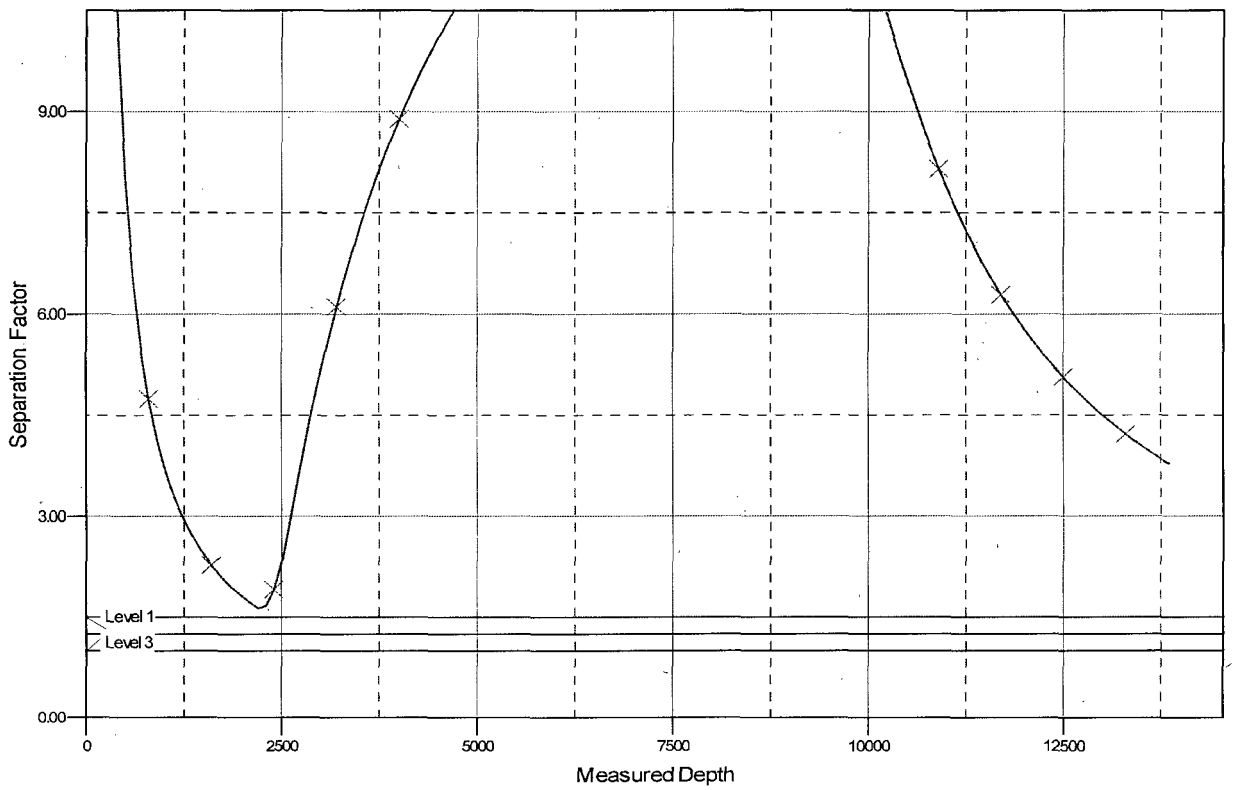
Separation Factor Plot



LEGEND

2H,Wellbore #1,Design#2 V0 — 1H,Wellbore #1,SurveyV0

CC - Min centre to center distance or covergent 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

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

30-015-44136

RE: C State 16 #3H, 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