

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
OCD Artesia

FORM APPROVED
OMB NO. 1004-0137
Date: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NM20965

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.

RDX FEDERAL 17 35H

2. Name of Operator

RKI EXPLORATION & PROD LL

Contact: CRYSTAL FULTON

E-Mail: crystal.fulton@wpenergy.com

9. API Well No.

30-015-43884

3a. Address

3500 ONE WILLIAMS CENTER MD35
TULSA, OK 74172

3b. Phone No. (include area code)

Ph: 539-573-0218

10. Field and Pool or Exploratory Area

PURPLE SAGE;WOLFCAMP(GAS

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 17 T26S R30E 150FNL 895FWL

11. County or Parish, State

EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

RKI EXPLORATION AND PRODUCTION, LLC proposes to OH Sidetrack the following well between 12,784?MD ? 12,798?MD. The Original well was drilled to a depth of 13,591? MD. This sundry is a follow up to the verbal approval received on 6/11/2017.

A subsequent report will be submitted after sidetracking operations have concluded.

NM OIL CONSERVATION

ARTESIA DISTRICT

JUL 03 2017

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14. I hereby certify that the foregoing is true and correct.

Electronic Submission #378708 verified by the BLM Well Information System
For RKI EXPLORATION & PROD LL, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH MCKINNEY on 06/13/2017 ()

Name (Printed/Typed) CRYSTAL FULTON

Title PERMITTING TECH II

Signature (Electronic Submission)

Date 06/12/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED

JUN 21 2017

PETROLEUM ENGINEER

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Approved By Mustafa Hagege

Title

Date 6/21/2017

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

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

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

7-3-17 RLP

WPXENERGY



NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 03 2017

WPX Energy

Eddy County, NM
RDX Federal 17
35H

ST01
Design #1

RECEIVED

Anticollision Report

11 June, 2017

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Reference	Design #1
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 250,000.00
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 06/11/17

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
154.00	3,320.00	Survey #1 (35H)	MWD+HDGM	OWSG MWD + HDGM
3,355.00	12,784.00	Survey #2 (35H)	MWD+HDGM	OWSG MWD + HDGM
12,784.00	16,240.10	Design #1 (ST01)	MWD+HDGM	OWSG MWD + HDGM

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						
RDX Federal 17						
12H - Wellbore #1 - Surveys	3,171.25	3,166.41	40.89	19.22	1.887 CC	
12H - Wellbore #1 - Surveys	3,200.00	3,194.89	41.05	19.17	1.877 ES, SF	
25H - Wellbore #1 - Surveys	2,677.16	2,673.49	54.24	36.20	3.006 CC	
25H - Wellbore #1 - Surveys	2,800.00	2,796.26	54.64	35.73	2.890 ES	
25H - Wellbore #1 - Surveys	2,900.00	2,895.83	56.12	36.51	2.862 SF	
35H - 35H - #35H Actual	13,100.00	13,097.75	27.91	22.69	5.341 CC, ES	
35H - 35H - #35H Actual	13,514.54	13,513.07	51.58	38.83	4.046 SF	
35H - 35H - Design #7	16,200.00	16,191.65	0.05	-88.26	0.001 Level 1, ES	
35H - 35H - Design #7	16,240.14	16,231.79	0.00	0.00	0.000 Level 1, CC, SF	
Fed 17 16H - 16H - 16H	777.66	777.35	166.49	161.59	33.975 CC	
Fed 17 16H - 16H - 16H	888.00	886.88	166.89	161.41	30.452 ES	
Fed 17 16H - 16H - 16H	16,240.14	14,827.33	770.75	689.75	9.515 SF	

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys

Survey Program: 100-GYRO-NS, 7060-MWD

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	3.00	0.00	0.00	-45.17	50.30	-50.60	71.41					
100.00	100.00	96.42	99.42	0.14	0.14	37.62	50.52	-50.93	71.48	71.20	0.28	256.550		
154.00	154.00	150.50	153.50	0.24	0.32	37.76	50.74	-51.30	71.54	70.98	0.56	128.153		
200.00	199.99	196.59	199.58	0.40	0.48	32.83	50.88	-51.58	71.42	70.54	0.88	80.739		
245.00	244.99	241.63	244.62	0.56	0.64	29.28	50.99	-51.82	71.17	69.97	1.20	59.121		
300.00	299.99	296.67	299.67	0.76	0.83	36.76	51.11	-52.07	70.81	69.22	1.59	44.419		
335.00	334.98	331.58	334.58	0.89	0.96	41.44	51.20	-52.23	70.61	68.77	1.84	38.334		
385.27	385.25	381.71	384.70	1.07	1.13	45.62	51.40	-52.51	70.49	68.29	2.20	32.072		
400.00	399.98	396.40	399.39	1.12	1.18	47.24	51.48	-52.60	70.50	68.20	2.30	30.624		
431.00	430.98	427.38	430.38	1.23	1.29	51.62	51.65	-52.80	70.57	68.05	2.52	27.984		
500.00	499.97	496.38	499.37	1.48	1.53	68.92	52.08	-53.20	70.88	67.87	3.01	23.546		

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

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Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 7060-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
522.00	521.97	518.36	521.35	1.56	1.61	74.86	52.23	-53.32	71.02	67.85	3.17	22.431		
600.00	599.97	596.29	599.27	1.83	1.88	129.76	52.78	-53.79	71.84	68.13	3.71	19.355		
613.00	612.97	609.29	612.27	1.87	1.93	137.62	52.88	-53.87	72.04	68.23	3.80	18.943		
700.00	699.97	696.31	699.29	2.18	2.23	107.56	53.49	-54.42	73.20	68.79	4.41	16.593		
705.00	704.97	701.31	704.29	2.19	2.25	105.71	53.52	-54.46	73.26	68.81	4.45	16.475		
797.00	796.97	793.46	796.43	2.51	2.58	-176.93	54.11	-54.93	74.22	69.14	5.09	14.588		
800.00	799.97	796.46	799.44	2.52	2.59	-176.93	54.13	-54.94	74.25	69.14	5.11	14.535		
888.00	887.97	884.69	887.66	2.82	2.89	-177.58	54.58	-55.18	75.06	69.35	5.72	13.128		
900.00	899.97	896.72	899.69	2.86	2.94	-176.12	54.63	-55.20	75.17	69.37	5.80	12.958		
980.00	979.96	976.84	979.82	3.14	3.22	-173.23	54.79	-55.35	76.21	69.85	6.36	11.989		
1,000.00	999.96	996.87	999.84	3.21	3.29	-168.11	54.78	-55.41	76.54	70.04	6.50	11.783		
1,069.00	1,068.95	1,065.78	1,068.76	3.45	3.53	-153.49	54.74	-55.66	77.73	70.75	6.97	11.145		
1,100.00	1,099.95	1,096.73	1,099.71	3.55	3.64	-145.89	54.74	-55.78	78.28	71.10	7.19	10.889		
1,160.00	1,159.94	1,156.83	1,159.81	3.76	3.85	-132.17	54.74	-55.99	79.25	71.64	7.61	10.420		
1,200.00	1,199.93	1,196.91	1,199.88	3.90	3.99	-136.55	54.74	-56.06	79.79	71.91	7.88	10.121		
1,251.00	1,250.92	1,247.93	1,250.90	4.07	4.17	-143.80	54.71	-56.13	80.41	72.17	8.24	9.761		
1,300.00	1,299.92	1,296.94	1,299.92	4.24	4.34	-125.30	54.63	-56.21	80.84	72.26	8.58	9.424		
1,342.00	1,341.92	1,338.95	1,341.93	4.39	4.48	-100.40	54.55	-56.30	81.00	72.13	8.87	9.132		
1,400.00	1,399.92	1,396.97	1,399.94	4.59	4.69	-109.62	54.39	-56.44	81.16	71.88	9.27	8.753		
1,434.00	1,433.91	1,430.95	1,433.92	4.71	4.80	-113.10	54.29	-56.52	81.32	71.81	9.51	8.553		
1,500.00	1,499.91	1,496.90	1,499.87	4.94	5.03	-102.12	54.17	-56.66	81.61	71.65	9.97	8.188		
1,525.00	1,524.90	1,521.84	1,524.82	5.02	5.12	-97.10	54.14	-56.71	81.68	71.54	10.14	8.054		
1,600.00	1,599.90	1,596.66	1,599.63	5.28	5.38	-114.64	54.12	-56.94	82.06	71.40	10.66	7.695		
1,616.00	1,615.90	1,612.66	1,615.63	5.34	5.44	-119.19	54.13	-57.01	82.19	71.41	10.78	7.627		
1,700.00	1,699.89	1,696.67	1,699.64	5.63	5.73	-85.78	54.12	-57.38	82.63	71.27	11.36	7.271		
1,707.00	1,706.89	1,703.68	1,706.65	5.66	5.76	-82.79	54.11	-57.41	82.65	71.23	11.41	7.241		
1,800.00	1,799.89	1,796.80	1,799.77	5.98	6.08	-105.39	54.05	-57.74	82.84	70.77	12.06	6.867		
1,802.00	1,801.89	1,798.80	1,801.77	5.99	6.09	-106.94	54.05	-57.75	82.84	70.76	12.08	6.859		
1,896.00	1,895.89	1,892.77	1,895.74	6.32	6.42	167.50	53.88	-58.10	83.39	70.66	12.74	6.547		
1,900.00	1,899.89	1,896.77	1,899.74	6.34	6.43	160.05	53.86	-58.12	83.43	70.67	12.76	6.536		
1,991.00	1,990.88	1,987.91	1,990.88	6.65	6.75	65.19	53.47	-58.59	83.39	69.99	13.40	6.223		
2,000.00	1,999.88	1,996.92	1,999.89	6.68	6.79	63.57	53.42	-58.63	83.30	69.84	13.46	6.187		
2,086.00	2,085.82	2,082.72	2,085.69	6.98	7.09	56.98	52.98	-59.11	81.75	67.69	14.06	5.815		
2,100.00	2,099.80	2,096.68	2,099.65	7.03	7.13	57.02	52.92	-59.20	81.41	67.25	14.16	5.751		
2,181.00	2,180.69	2,177.89	2,180.85	7.31	7.42	57.78	52.45	-59.66	79.11	64.39	14.72	5.375		
2,200.00	2,199.66	2,196.93	2,199.89	7.38	7.48	55.96	52.30	-59.75	78.47	63.61	14.85	5.283		
2,275.00	2,274.50	2,272.16	2,275.11	7.64	7.75	51.08	51.50	-59.99	75.10	59.72	15.37	4.885		
2,300.00	2,299.44	2,297.21	2,300.17	7.73	7.83	52.82	51.16	-60.03	73.77	58.23	15.55	4.745		
2,370.00	2,369.28	2,367.25	2,370.19	7.97	8.08	57.97	50.08	-60.07	70.27	54.24	16.03	4.382		
2,400.00	2,399.21	2,397.27	2,400.21	8.08	8.18	59.13	49.55	-60.07	68.85	52.61	16.24	4.239		
2,465.00	2,464.09	2,462.17	2,465.10	8.31	8.41	61.72	48.37	-60.04	65.88	49.18	16.70	3.946		
2,500.00	2,499.02	2,497.12	2,500.04	8.43	8.53	63.12	47.73	-60.01	64.36	47.42	16.94	3.799		
2,560.00	2,558.93	2,556.89	2,559.80	8.64	8.74	65.55	46.69	-59.97	61.96	44.60	17.36	3.569		
2,600.00	2,598.85	2,596.73	2,599.64	8.78	8.88	63.03	46.06	-59.97	60.38	42.74	17.64	3.423		
2,655.00	2,653.73	2,651.56	2,654.46	8.98	9.07	61.27	45.27	-59.97	57.94	39.92	18.03	3.214		
2,700.00	2,698.62	2,696.40	2,699.30	9.14	9.23	62.89	44.67	-59.93	55.90	37.55	18.34	3.047		
2,750.00	2,748.50	2,746.40	2,749.30	9.31	9.40	64.81	44.00	-59.78	53.72	35.03	18.69	2.874		
2,800.00	2,798.40	2,796.41	2,799.29	9.49	9.58	72.54	43.29	-59.39	51.76	32.72	19.05	2.718		
2,845.00	2,843.33	2,841.50	2,844.38	9.65	9.73	80.69	42.56	-58.83	50.32	30.96	19.36	2.599		
2,900.00	2,898.25	2,896.59	2,899.45	9.85	9.93	82.69	41.49	-57.87	48.62	28.87	19.75	2.462		
2,940.00	2,938.18	2,936.55	2,939.39	9.99	10.07	84.94	40.60	-57.03	47.35	27.32	20.03	2.364		

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Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,000.00	2,998.04	2,996.41	2,999.22	10.21	10.27	80.33	39.13	-55.70	45.25	24.79	20.46	2.212		
3,035.00	3,032.94	3,031.24	3,034.02	10.33	10.40	79.82	38.22	-54.83	43.89	23.18	20.71	2.120		
3,100.00	3,097.73	3,095.77	3,098.50	10.56	10.62	86.07	36.46	-52.81	41.80	20.63	21.17	1.974		
3,129.00	3,126.63	3,124.53	3,127.23	10.67	10.72	89.52	35.64	-51.75	41.22	19.85	21.37	1.928		
3,171.25	3,168.73	3,166.41	3,169.06	10.82	10.87	95.56	34.41	-50.08	40.89	19.22	21.67	1.887 CC		
3,200.00	3,197.39	3,194.89	3,197.50	10.92	10.97	99.69	33.55	-48.87	41.05	19.17	21.87	1.877 ES, SF		
3,225.00	3,222.31	3,219.65	3,222.23	11.01	11.06	103.20	32.79	-47.78	41.44	19.39	22.05	1.879		
3,300.00	3,297.03	3,293.95	3,296.42	11.28	11.32	112.37	30.66	-44.65	44.01	21.45	22.57	1.950		
3,320.00	3,316.95	3,313.76	3,316.22	11.35	11.39	114.80	30.14	-43.85	45.06	22.36	22.70	1.985		
3,355.00	3,351.80	3,348.49	3,350.91	11.42	11.51	123.33	29.34	-42.57	47.26	24.37	22.88	2.065		
3,400.00	3,396.62	3,393.23	3,395.62	11.43	11.67	128.69	28.53	-41.13	50.50	27.46	23.04	2.192		
3,449.00	3,445.44	3,442.05	3,444.42	11.44	11.84	133.32	27.83	-39.79	54.19	30.98	23.21	2.334		
3,496.00	3,492.28	3,488.93	3,491.28	11.45	12.00	136.48	27.20	-38.66	57.79	34.41	23.38	2.472		
3,500.00	3,496.27	3,492.92	3,495.26	11.45	12.02	136.54	27.14	-38.57	58.10	34.70	23.40	2.483		
3,591.00	3,586.93	3,583.44	3,585.76	11.48	12.33	137.98	25.89	-36.64	65.49	41.76	23.73	2.760		
3,600.00	3,595.89	3,592.39	3,594.70	11.48	12.36	140.27	25.76	-36.45	66.28	42.51	23.76	2.789		
3,685.00	3,680.46	3,676.98	3,679.27	11.52	12.66	158.15	24.54	-34.83	75.10	51.02	24.09	3.118		
3,700.00	3,695.36	3,691.90	3,694.19	11.53	12.71	158.99	24.33	-34.58	76.87	52.73	24.15	3.184		
3,778.00	3,772.87	3,769.39	3,771.66	11.58	12.98	162.80	23.41	-33.40	86.31	61.86	24.45	3.530		
3,800.00	3,794.72	3,791.25	3,793.51	11.60	13.06	161.89	23.19	-33.09	89.00	64.47	24.54	3.627		
3,871.00	3,865.27	3,861.71	3,863.97	11.65	13.30	158.80	22.58	-32.14	97.50	72.68	24.82	3.928		
3,900.00	3,894.09	3,890.48	3,892.74	11.67	13.40	157.51	22.35	-31.75	100.92	75.98	24.94	4.046		
3,965.00	3,958.66	3,955.09	3,957.34	11.73	13.63	154.85	21.88	-30.95	108.60	83.39	25.21	4.308		
4,000.00	3,993.42	3,989.90	3,992.15	11.76	13.75	157.08	21.67	-30.55	112.73	87.37	25.36	4.445		
4,058.00	4,051.03	4,047.30	4,049.54	11.82	13.95	160.58	21.32	-29.91	119.65	94.04	25.60	4.673		
4,100.00	4,092.75	4,088.81	4,091.05	11.86	14.09	161.80	21.03	-29.40	124.74	98.96	25.78	4.838		
4,152.00	4,144.42	4,140.57	4,142.80	11.92	14.27	163.21	20.67	-28.75	131.06	105.05	26.01	5.039		
4,200.00	4,192.10	4,188.47	4,190.70	11.98	14.44	164.09	20.39	-28.24	136.86	110.64	26.22	5.219		
4,246.00	4,237.79	4,234.36	4,236.58	12.03	14.60	164.86	20.17	-27.84	142.45	116.03	26.43	5.390		
4,300.00	4,291.43	4,288.25	4,290.48	12.10	14.79	166.04	19.96	-27.46	148.93	122.26	26.68	5.583		
4,340.00	4,331.16	4,328.15	4,330.38	12.15	14.93	166.86	19.84	-27.25	153.59	126.73	26.86	5.719		
4,400.00	4,390.80	4,388.01	4,390.24	12.24	15.14	167.57	19.69	-27.02	160.31	133.17	27.14	5.908		
4,434.00	4,424.61	4,421.79	4,424.01	12.28	15.25	167.94	19.62	-26.91	163.95	136.66	27.29	6.007		
4,500.00	4,490.23	4,487.17	4,489.39	12.38	15.48	168.70	19.46	-26.66	171.08	143.48	27.60	6.198		
4,528.00	4,518.07	4,514.95	4,517.18	12.42	15.58	169.01	19.37	-26.53	174.18	146.45	27.74	6.280		
4,600.00	4,589.65	4,586.56	4,588.78	12.54	15.83	169.08	19.19	-26.21	182.14	154.06	28.08	6.486		
4,622.00	4,611.53	4,608.44	4,610.66	12.57	15.90	169.09	19.14	-26.11	184.56	156.37	28.19	6.547		
4,700.00	4,689.08	4,685.86	4,688.08	12.70	16.17	169.50	18.95	-25.76	193.12	164.55	28.57	6.759		
4,716.00	4,704.99	4,701.74	4,703.96	12.73	16.23	169.58	18.90	-25.68	194.89	166.24	28.65	6.802		
4,800.00	4,788.50	4,785.11	4,787.32	12.87	16.52	169.64	18.65	-25.26	204.26	175.19	29.07	7.027		
4,810.00	4,798.44	4,795.03	4,797.25	12.89	16.56	169.64	18.62	-25.21	205.39	176.28	29.12	7.054		
4,900.00	4,887.91	4,884.75	4,886.97	13.06	16.87	170.19	18.37	-24.80	215.44	185.86	29.58	7.284		
4,903.00	4,890.90	4,887.74	4,889.96	13.06	16.88	170.21	18.37	-24.79	215.77	186.18	29.59	7.292		
4,998.00	4,985.35	4,982.23	4,984.44	13.25	17.21	169.19	18.17	-24.43	226.15	196.07	30.08	7.518		
5,000.00	4,987.34	4,984.22	4,986.43	13.25	17.21	169.22	18.17	-24.43	226.37	196.28	30.09	7.523		
5,092.00	5,078.83	5,076.01	5,078.23	13.43	17.53	170.91	18.06	-24.13	236.21	205.64	30.57	7.726		
5,100.00	5,086.79	5,084.00	5,086.22	13.45	17.56	171.07	18.05	-24.12	237.05	206.43	30.61	7.743		
5,185.00	5,171.37	5,169.02	5,171.24	13.62	17.86	172.80	17.91	-24.02	245.47	214.40	31.07	7.902		
5,200.00	5,186.31	5,184.04	5,186.25	13.66	17.91	173.04	17.86	-24.03	246.88	215.73	31.15	7.926		
5,279.00	5,264.97	5,262.35	5,264.57	13.82	18.19	174.34	17.41	-24.10	254.15	222.58	31.57	8.051		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 7060-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,300.00	5,285.88	5,283.12	5,285.33	13.87	18.26	173.92	17.24	-24.11	256.09	224.41	31.68	8.083		
5,372.00	5,357.56	5,354.42	5,356.63	14.02	18.51	172.64	16.56	-24.08	263.05	230.98	32.07	8.202		
5,400.00	5,385.43	5,382.15	5,384.36	14.09	18.60	172.79	16.30	-24.05	265.87	233.64	32.22	8.250		
5,466.00	5,451.10	5,447.41	5,449.62	14.23	18.83	173.11	15.70	-23.90	272.67	240.09	32.59	8.368		
5,500.00	5,484.93	5,481.01	5,483.22	14.31	18.95	173.66	15.44	-23.77	276.25	243.47	32.77	8.429		
5,559.00	5,543.64	5,539.68	5,541.88	14.45	19.15	174.59	15.04	-23.50	282.43	249.33	33.10	8.532		
5,600.00	5,584.45	5,580.58	5,582.78	14.55	19.30	175.03	14.75	-23.32	286.67	253.34	33.33	8.600		
5,653.00	5,637.20	5,633.52	5,635.72	14.67	19.48	175.61	14.38	-23.13	292.04	258.41	33.63	8.684		
5,700.00	5,684.00	5,680.51	5,682.71	14.79	19.65	175.21	14.06	-23.00	296.62	262.73	33.90	8.751		
5,747.00	5,730.81	5,727.63	5,729.83	14.90	19.81	174.76	13.75	-22.90	300.94	266.78	34.17	8.808		
5,800.00	5,783.63	5,780.88	5,783.08	15.03	20.00	176.16	13.36	-22.88	305.43	270.96	34.47	8.861		
5,840.00	5,823.52	5,821.01	5,823.21	15.12	20.14	177.37	13.03	-22.92	308.52	273.82	34.70	8.891		
5,900.00	5,883.36	5,881.13	5,883.32	15.27	20.35	-179.36	12.51	-23.05	312.89	277.84	35.05	8.928		
5,934.00	5,917.27	5,915.19	5,917.38	15.35	20.47	-177.44	12.21	-23.14	315.29	280.05	35.24	8.946		
6,000.00	5,983.12	5,981.33	5,983.51	15.51	20.70	-176.25	11.58	-23.40	319.80	284.17	35.63	8.976		
6,027.00	6,010.05	6,008.40	6,010.58	15.58	20.79	-175.75	11.31	-23.52	321.58	285.80	35.78	8.987		
6,100.00	6,082.89	6,081.70	6,083.88	15.76	21.05	-173.18	10.56	-23.94	326.26	290.05	36.21	9.009		
6,121.00	6,103.85	6,102.78	6,104.96	15.81	21.12	-172.43	10.35	-24.07	327.57	291.23	36.34	9.015		
6,200.00	6,182.68	6,180.93	6,183.11	16.01	21.40	-171.33	9.52	-24.52	332.53	295.73	36.80	9.036		
6,215.00	6,197.64	6,195.78	6,197.95	16.05	21.45	-171.12	9.36	-24.59	333.49	296.61	36.89	9.041		
6,300.00	6,282.47	6,280.84	6,283.00	16.27	21.75	-166.74	8.29	-25.04	338.72	301.33	37.39	9.058		
6,309.00	6,291.45	6,289.85	6,292.02	16.29	21.78	-166.24	8.16	-25.09	339.24	301.80	37.45	9.059		
6,400.00	6,382.29	6,380.74	6,382.89	16.53	22.10	-163.27	6.93	-25.65	344.37	306.38	37.99	9.065		
6,403.00	6,385.28	6,383.73	6,385.88	16.53	22.11	-163.17	6.89	-25.66	344.54	306.53	38.01	9.065		
6,497.00	6,479.13	6,477.35	6,479.49	16.78	22.43	-160.83	5.79	-26.15	349.45	310.88	38.57	9.060		
6,500.00	6,482.13	6,480.34	6,482.48	16.79	22.45	-160.95	5.76	-26.17	349.60	311.01	38.59	9.059		
6,587.36	6,569.34	6,567.25	6,569.39	17.02	22.75	-163.89	4.75	-26.54	354.37	315.26	39.12	9.059		
6,600.00	6,581.96	6,579.82	6,581.96	17.05	22.79	-163.69	4.61	-26.58	355.12	315.92	39.19	9.061		
6,684.00	6,665.81	6,663.12	6,665.25	17.27	23.08	-162.29	3.61	-26.83	359.90	320.20	39.70	9.065		
6,700.00	6,681.79	6,678.97	6,681.10	17.32	23.14	-164.93	3.42	-26.86	360.78	320.98	39.80	9.065		
6,777.00	6,758.69	6,755.46	6,757.58	17.53	23.41	180.00	2.49	-26.95	364.86	324.59	40.27	9.061		
6,800.00	6,781.66	6,778.33	6,780.45	17.59	23.49	179.41	2.20	-26.96	366.02	325.61	40.41	9.058		
6,871.00	6,852.59	6,849.01	6,851.13	17.78	23.74	177.38	1.29	-26.98	369.45	328.60	40.85	9.045		
6,900.00	6,881.56	6,877.90	6,880.02	17.86	23.84	177.78	0.95	-26.96	370.78	329.75	41.02	9.038		
6,964.00	6,945.51	6,941.79	6,943.90	18.03	24.06	178.78	0.26	-26.90	373.56	332.14	41.42	9.019		
7,000.00	6,981.49	6,977.77	6,979.88	18.13	24.19	-179.20	-0.11	-26.85	375.03	333.39	41.64	9.006		
7,058.00	7,039.46	7,036.12	7,038.22	18.29	24.39	-175.60	-0.70	-26.78	377.28	335.28	42.00	8.982		
7,100.00	7,081.43	7,077.75	7,079.85	18.40	24.51	-173.74	-1.52	-26.95	378.76	336.52	42.23	8.968		
7,152.00	7,133.41	7,125.71	7,127.65	18.55	24.53	-170.87	-5.17	-27.67	380.89	338.49	42.39	8.984		
7,200.00	7,181.38	7,174.32	7,175.64	18.68	24.54	-157.45	-12.59	-29.52	383.02	340.49	42.53	9.005		
7,245.00	7,226.36	7,215.87	7,216.14	18.80	24.54	-146.21	-21.50	-31.95	385.28	342.62	42.65	9.033		
7,300.00	7,281.32	7,261.38	7,259.65	18.95	24.55	-134.88	-34.41	-35.12	389.11	346.34	42.77	9.098		
7,338.00	7,319.29	7,295.82	7,291.71	19.06	24.56	-126.99	-46.60	-38.18	392.45	349.60	42.85	9.158		
7,400.00	7,381.25	7,350.33	7,341.04	19.23	24.58	-135.89	-68.90	-44.45	399.08	356.12	42.96	9.289		
7,431.00	7,412.23	7,370.67	7,359.13	19.32	24.58	-141.01	-77.90	-46.82	403.51	360.57	42.93	9.398		
7,500.00	7,481.19	7,406.00	7,390.09	19.51	24.59	-155.75	-94.56	-50.22	417.23	374.62	42.61	9.791		
7,525.00	7,506.18	7,420.67	7,402.74	19.58	24.60	-162.36	-101.93	-51.26	423.60	381.11	42.48	9.971		
7,600.00	7,581.16	7,455.46	7,432.10	19.79	24.62	-160.55	-120.52	-52.63	447.11	405.31	41.80	10.696		
7,618.00	7,599.15	7,469.00	7,443.26	19.85	24.63	-159.82	-128.18	-52.79	453.72	411.98	41.74	10.870		
7,700.00	7,681.13	7,509.13	7,475.53	20.08	24.67	-159.27	-152.04	-52.88	487.34	446.42	40.92	11.910		
7,712.00	7,693.12	7,516.25	7,481.15	20.11	24.68	-159.08	-156.41	-52.89	492.71	451.88	40.83	12.068		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 7060-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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
7,800.00	7,781.09	7,558.73	7,513.86	20.37	24.74	-153.29	-183.50	-52.84	535.42	495.50	39.92	13.413		
7,805.00	7,786.09	7,564.00	7,517.80	20.38	24.74	-152.81	-187.00	-52.79	538.05	498.11	39.95	13.469		
7,899.00	7,880.07	7,594.00	7,539.43	20.65	24.79	-115.50	-207.77	-52.35	590.13	551.55	38.58	15.295		
7,900.00	7,881.07	7,594.00	7,539.43	20.66	24.79	-115.18	-207.77	-52.35	590.71	552.15	38.56	15.320		
7,992.00	7,973.06	7,626.00	7,560.92	20.91	24.86	-59.21	-231.46	-51.58	646.95	609.56	37.39	17.304		
8,000.00	7,981.06	7,626.00	7,560.92	20.93	24.86	-57.26	-231.46	-51.58	652.05	614.84	37.21	17.523		
8,086.00	8,067.06	7,648.23	7,574.83	21.16	24.91	-16.08	-248.79	-50.96	709.43	673.38	36.04	19.684		
8,100.00	8,081.06	7,657.00	7,580.07	21.20	24.93	-26.18	-255.82	-50.74	719.19	683.18	36.01	19.973		
8,180.00	8,161.06	7,672.14	7,588.80	21.41	24.96	-104.59	-268.18	-50.38	776.64	741.70	34.95	22.223		
8,200.00	8,181.06	7,676.98	7,591.51	21.47	24.98	-87.24	-272.20	-50.28	791.47	756.74	34.73	22.787		
8,274.00	8,255.06	7,689.00	7,598.07	21.67	25.01	-6.06	-282.26	-50.05	847.52	813.66	33.86	25.029		
8,300.00	8,281.06	7,700.72	7,604.26	21.74	25.04	-2.96	-292.21	-49.86	867.55	833.79	33.77	25.693		
8,368.00	8,349.06	7,721.00	7,614.48	21.92	25.10	1.46	-309.72	-49.67	920.95	887.65	33.30	27.653		
8,400.00	8,381.06	7,721.00	7,614.48	22.01	25.10	3.94	-309.72	-49.67	946.47	913.58	32.89	28.774		
8,462.00	8,443.05	7,733.72	7,620.57	22.17	25.14	9.80	-320.89	-49.60	996.77	964.32	32.45	30.720		
8,500.00	8,481.05	7,739.99	7,623.46	22.28	25.16	-15.27	-326.45	-49.57	1,028.13	995.95	32.17	31.955		
8,556.00	8,537.05	7,752.00	7,628.82	22.43	25.20	-91.51	-337.20	-49.52	1,075.11	1,043.24	31.88	33.728		
8,600.00	8,581.05	7,752.00	7,628.82	22.56	25.20	-132.65	-337.20	-49.52	1,112.58	1,081.09	31.49	35.332		
8,649.00	8,630.05	7,762.49	7,633.29	22.71	25.24	-169.38	-346.69	-49.50	1,154.80	1,123.49	31.30	36.890		
8,700.00	8,681.05	7,769.55	7,636.20	22.85	25.26	44.11	-353.12	-49.49	1,199.10	1,168.04	31.06	38.604		
8,743.00	8,724.05	7,783.00	7,641.52	22.97	25.31	26.72	-365.48	-49.50	1,236.65	1,205.64	31.01	39.881		
8,800.00	8,781.04	7,783.00	7,641.52	23.13	25.31	12.46	-365.48	-49.50	1,286.42	1,255.78	30.64	41.988		
8,836.00	8,817.03	7,783.00	7,641.52	23.23	25.31	8.39	-365.48	-49.50	1,318.02	1,287.60	30.42	43.325		
8,900.00	8,881.00	7,783.00	7,641.52	23.40	25.31	2.92	-365.48	-49.50	1,374.58	1,344.50	30.08	45.705		
8,931.00	8,911.98	7,794.95	7,645.96	23.48	25.36	1.53	-376.57	-49.49	1,401.92	1,371.81	30.11	46.556		
9,000.00	8,980.94	7,800.88	7,648.05	23.67	25.38	4.02	-382.12	-49.47	1,463.48	1,433.59	29.89	48.956		
9,025.00	9,005.93	7,802.92	7,648.75	23.74	25.39	4.98	-384.04	-49.46	1,485.94	1,456.11	29.82	49.825		
9,100.00	9,080.89	7,815.00	7,652.70	23.95	25.44	-16.91	-395.45	-49.37	1,553.78	1,524.06	29.73	52.264		
9,118.00	9,098.88	7,815.00	7,652.70	24.00	25.44	-21.84	-395.45	-49.37	1,570.12	1,540.45	29.67	52.917		
9,200.00	9,180.84	7,815.00	7,652.70	24.24	25.44	-33.82	-395.45	-49.37	1,645.05	1,615.60	29.44	55.872		
9,212.00	9,192.83	7,815.00	7,652.70	24.27	25.44	-35.68	-395.45	-49.37	1,656.08	1,626.67	29.41	56.302		
9,300.00	9,280.81	7,815.00	7,652.70	24.53	25.44	-75.79	-395.45	-49.37	1,737.77	1,708.52	29.25	59.412		
9,305.00	9,285.81	7,815.00	7,652.70	24.55	25.44	-80.40	-395.45	-49.37	1,742.45	1,713.20	29.24	59.587		
9,398.00	9,378.79	7,827.98	7,656.59	24.83	25.49	-101.43	-407.83	-49.16	1,829.71	1,800.41	29.30	62.458		
9,400.00	9,380.79	7,828.09	7,656.62	24.84	25.49	-101.01	-407.94	-49.16	1,831.59	1,802.30	29.29	62.523		
9,492.00	9,472.76	7,832.91	7,657.97	25.13	25.52	-81.39	-412.57	-49.05	1,918.46	1,889.17	29.28	65.515		
9,500.00	9,480.76	7,833.32	7,658.08	25.15	25.52	-84.41	-412.96	-49.04	1,926.02	1,896.74	29.28	65.773		
9,586.00	9,566.75	7,846.00	7,661.38	25.42	25.57	172.47	-425.20	-48.63	2,007.83	1,978.44	29.40	68.302		
9,600.00	9,580.75	7,846.00	7,661.38	25.46	25.57	172.70	-425.20	-48.63	2,021.18	1,991.78	29.40	68.759		
9,680.00	9,660.74	7,846.00	7,661.38	25.71	25.57	174.36	-425.20	-48.63	2,097.56	2,068.16	29.40	71.347		
9,700.00	9,680.74	7,846.00	7,661.38	25.77	25.57	159.28	-425.20	-48.63	2,116.69	2,087.29	29.40	71.987		
9,774.00	9,754.73	7,846.00	7,661.38	25.99	25.57	129.24	-425.20	-48.63	2,187.65	2,158.22	29.43	74.328		
9,800.00	9,780.73	7,846.00	7,661.38	26.07	25.57	132.70	-425.20	-48.63	2,212.63	2,183.19	29.45	75.140		
9,867.00	9,847.72	7,846.00	7,661.38	26.27	25.57	147.60	-425.20	-48.63	2,277.09	2,247.60	29.49	77.212		
9,900.00	9,880.72	7,846.00	7,661.38	26.38	25.57	163.44	-425.20	-48.63	2,308.87	2,279.36	29.52	78.219		
9,961.00	9,941.72	7,846.00	7,661.38	26.57	25.57	-159.54	-425.20	-48.63	2,367.71	2,338.14	29.57	80.060		
10,000.00	9,980.71	7,846.00	7,661.38	26.69	25.57	175.71	-425.20	-48.63	2,405.38	2,375.77	29.62	81.221		
10,054.00	10,034.71	7,846.00	7,661.38	26.86	25.57	138.02	-425.20	-48.63	2,457.59	2,427.91	29.68	82.812		
10,100.00	10,080.71	7,846.00	7,661.38	27.00	25.57	175.38	-425.20	-48.63	2,502.12	2,472.39	29.73	84.147		
10,147.00	10,127.71	7,846.00	7,661.38	27.15	25.57	-146.29	-425.20	-48.63	2,547.68	2,517.88	29.80	85.497		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys													Offset Site Error: 0.00 usft	
Survey Program: 100-GYRO-NS, 7060-MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	10,180.71	7,846.00	7,661.38	27.31	25.57	-120.91	-425.20	-48.63	2,599.11	2,569.23	29.88	86.996		
10,240.00	10,220.70	7,846.00	7,661.38	27.44	25.57	-110.07	-425.20	-48.63	2,637.96	2,608.02	29.94	88.114		
10,300.00	10,280.70	7,860.48	7,664.66	27.63	25.64	-98.13	-439.29	-48.02	2,695.95	2,665.80	30.15	89.411		
10,334.00	10,314.69	7,861.36	7,664.84	27.74	25.64	-91.23	-440.14	-47.98	2,728.97	2,698.75	30.21	90.318		
10,400.00	10,380.68	7,863.03	7,665.18	27.95	25.65	-81.00	-441.78	-47.90	2,793.08	2,762.74	30.34	92.055		
10,428.00	10,408.68	7,863.72	7,665.32	28.04	25.65	-77.52	-442.46	-47.87	2,820.29	2,789.90	30.40	92.784		
10,500.00	10,480.67	7,878.00	7,667.92	28.27	25.72	-66.17	-456.47	-47.10	2,890.52	2,859.89	30.64	94.348		
10,522.00	10,502.66	7,878.00	7,667.92	28.34	25.72	-63.26	-456.47	-47.10	2,911.89	2,881.22	30.68	94.920		
10,600.00	10,580.65	7,878.00	7,667.92	28.58	25.72	-125.72	-456.47	-47.10	2,987.85	2,957.02	30.83	96.911		
10,616.00	10,596.65	7,878.00	7,667.92	28.63	25.72	-152.60	-456.47	-47.10	3,003.47	2,972.60	30.86	97.314		
10,700.00	10,680.65	7,878.00	7,667.92	28.90	25.72	-100.15	-456.47	-47.10	3,085.52	3,054.47	31.04	99.396		
10,709.00	10,689.65	7,878.00	7,667.92	28.93	25.72	-95.33	-456.47	-47.10	3,094.31	3,063.24	31.06	99.616		
10,800.00	10,780.64	7,878.00	7,667.92	29.22	25.72	-54.11	-456.47	-47.10	3,183.11	3,151.85	31.26	101.822		
10,803.00	10,783.64	7,878.00	7,667.92	29.23	25.72	-53.63	-456.47	-47.10	3,186.03	3,154.76	31.27	101.894		
10,897.00	10,877.60	7,878.00	7,667.92	29.53	25.72	-61.71	-456.47	-47.10	3,277.75	3,246.27	31.48	104.114		
10,900.00	10,880.60	7,878.00	7,667.92	29.54	25.72	-61.71	-456.47	-47.10	3,280.68	3,249.19	31.49	104.184		
10,908.00	10,888.59	7,878.00	7,667.92	29.56	25.72	-62.12	-456.47	-47.10	3,288.49	3,256.98	31.51	104.369		
11,000.00	10,980.37	7,878.00	7,667.92	29.84	25.72	-6.99	-456.47	-47.10	3,377.35	3,345.65	31.71	106.521		
11,002.00	10,982.35	7,878.00	7,667.92	29.85	25.72	-6.76	-456.47	-47.10	3,379.26	3,347.55	31.71	106.568		
11,096.00	11,074.07	7,878.00	7,667.92	30.11	25.72	-5.49	-456.47	-47.10	3,465.64	3,433.79	31.85	108.813		
11,100.00	11,077.87	7,878.00	7,667.92	30.12	25.72	-5.59	-456.47	-47.10	3,469.15	3,437.30	31.85	108.911		
11,190.00	11,160.39	7,878.00	7,667.92	30.34	25.72	-6.25	-456.47	-47.10	3,544.42	3,512.50	31.92	111.036		
11,200.00	11,169.14	7,878.00	7,667.92	30.36	25.72	-6.21	-456.47	-47.10	3,552.29	3,520.37	31.92	111.273		
11,284.00	11,238.14	7,896.28	7,670.63	30.53	25.81	-5.69	-474.52	-46.00	3,613.14	3,581.10	32.04	112.760		
11,300.00	11,250.30	7,910.00	7,672.29	30.56	25.88	-5.73	-488.11	-45.14	3,623.85	3,591.74	32.12	112.834		
11,377.00	11,304.89	7,910.00	7,672.29	30.69	25.88	-5.94	-488.11	-45.14	3,670.90	3,638.80	32.10	114.355		
11,400.00	11,319.96	7,910.00	7,672.29	30.73	25.88	-6.02	-488.11	-45.14	3,683.86	3,651.76	32.10	114.776		
11,471.00	11,363.78	7,921.43	7,673.48	30.86	25.94	-6.16	-499.45	-44.44	3,721.71	3,689.55	32.15	115.745		
11,500.00	11,380.37	7,934.00	7,674.63	30.91	26.01	-5.95	-511.95	-43.74	3,736.07	3,703.85	32.22	115.965		
11,564.00	11,413.71	7,934.00	7,674.63	31.08	26.01	-5.57	-511.95	-43.74	3,764.67	3,732.44	32.22	116.837		
11,600.00	11,430.14	7,934.00	7,674.63	31.19	26.01	-5.35	-511.95	-43.74	3,778.68	3,746.46	32.22	117.271		
11,626.00	11,440.71	7,949.05	7,675.78	31.28	26.09	-5.22	-526.94	-42.98	3,787.47	3,755.17	32.29	117.280		
11,680.00	11,460.20	7,966.00	7,676.75	31.46	26.19	-5.23	-543.84	-42.18	3,803.87	3,771.49	32.38	117.479		
11,700.00	11,466.79	7,966.00	7,676.75	31.53	26.19	-5.23	-543.84	-42.18	3,809.44	3,777.05	32.39	117.623		
11,754.00	11,483.27	7,966.00	7,676.75	31.73	26.19	-5.20	-543.84	-42.18	3,823.65	3,791.23	32.42	117.946		
11,800.00	11,495.27	7,966.00	7,676.75	31.92	26.19	-5.06	-543.84	-42.18	3,834.22	3,801.76	32.46	118.135		
11,848.00	11,505.22	7,997.00	7,677.54	32.11	26.37	-4.93	-574.80	-40.75	3,842.89	3,810.27	32.62	117.805		
11,900.00	11,512.59	7,997.00	7,677.54	32.34	26.37	-4.85	-574.80	-40.75	3,849.17	3,816.49	32.67	117.811		
11,941.00	11,515.62	7,997.00	7,677.54	32.52	26.37	-4.82	-574.80	-40.75	3,851.74	3,819.02	32.72	117.710		
12,000.00	11,516.54	8,029.00	7,677.37	32.80	26.56	-4.76	-606.76	-39.16	3,852.48	3,819.57	32.91	117.048		
12,035.00	11,515.53	8,035.33	7,677.28	32.97	26.60	-4.76	-613.08	-38.83	3,851.57	3,818.58	32.99	116.751		
12,100.00	11,513.42	12,100.00	7,676.22	33.32	57.03	-4.50	-759.33	-34.43	3,849.43	3,798.93	50.50	76.224		
12,127.00	11,513.06	8,248.31	7,676.75	33.46	28.15	-4.39	-825.95	-34.14	3,848.58	3,814.57	34.01	113.144		
12,200.00	11,512.79	8,300.18	7,677.20	33.88	28.58	-4.40	-877.81	-35.11	3,847.11	3,812.72	34.39	111.866		
12,221.00	11,512.83	8,315.00	7,677.27	34.00	28.70	-4.40	-892.62	-35.54	3,846.98	3,812.48	34.50	111.505		
12,300.00	11,512.62	8,372.63	7,677.32	34.47	29.21	-4.41	-950.23	-37.23	3,846.73	3,811.76	34.97	109.998		
12,315.00	11,512.48	8,383.53	7,677.29	34.56	29.30	-4.41	-961.13	-37.52	3,846.68	3,811.62	35.06	109.712		
12,400.00	11,511.44	8,481.96	7,677.05	35.11	30.22	-4.46	-1,059.53	-39.71	3,846.04	3,810.24	35.80	107.439		
12,409.00	11,511.31	8,495.28	7,677.07	35.17	30.34	-4.46	-1,072.85	-39.94	3,845.89	3,810.00	35.89	107.153		
12,500.00	11,510.69	8,609.37	7,677.67	35.82	31.48	-4.36	-1,186.90	-42.65	3,844.48	3,807.70	36.78	104.538		
12,505.00	11,510.70	8,615.53	7,677.71	35.85	31.54	-4.35	-1,193.06	-42.86	3,844.42	3,807.59	36.82	104.400		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 7060-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	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)						
12,597.00	11,510.63	8,707.78	7,678.36	36.54	32.52	-4.27	-1,285.23	-46.46	3,843.20	3,805.57	37.63	102.125		
12,600.00	11,510.62	8,710.79	7,678.38	36.57	32.55	-4.27	-1,288.24	-46.58	3,843.16	3,805.50	37.66	102.050		
12,690.00	11,508.33	8,789.00	7,679.00	37.28	33.41	-4.24	-1,366.41	-49.03	3,839.92	3,801.51	38.41	99.978		
12,700.00	11,507.88	8,789.00	7,679.00	37.36	33.41	-4.24	-1,366.41	-49.03	3,839.42	3,800.98	38.44	99.881		
12,784.00	11,504.84	8,843.43	7,679.12	38.05	34.03	-4.24	-1,420.83	-50.13	3,836.25	3,797.20	39.06	98.226		
12,800.00	11,504.46	8,851.64	7,679.08	38.40	34.12	-4.24	-1,429.04	-50.27	3,835.95	3,796.69	39.26	97.702		
12,824.32	11,504.11	8,864.11	7,678.98	38.53	34.26	-4.25	-1,441.51	-50.47	3,835.78	3,796.46	39.32	97.547		
12,844.00	11,504.06	8,883.00	7,678.76	38.63	34.48	-4.24	-1,460.39	-50.75	3,835.91	3,796.46	39.44	97.255		
12,900.00	11,504.17	8,906.71	7,678.38	38.94	34.78	-4.23	-1,484.10	-51.01	3,836.69	3,797.13	39.55	96.998		
12,944.00	11,504.25	8,933.59	7,677.86	39.20	35.07	-4.22	-1,510.97	-51.15	3,837.54	3,797.83	39.72	96.623		
13,000.00	11,504.29	8,977.00	7,676.79	39.54	35.58	-4.19	-1,554.37	-51.00	3,838.89	3,798.89	40.01	95.959		
13,100.00	11,503.98	9,074.98	7,674.32	40.18	36.78	-4.20	-1,652.29	-48.73	3,841.31	3,800.59	40.72	94.333		
13,200.00	11,503.19	9,219.72	7,671.84	40.88	38.60	-4.29	-1,796.96	-44.85	3,842.67	3,800.80	41.87	91.784		
13,300.00	11,501.93	9,366.51	7,671.18	41.61	40.51	-4.47	-1,943.67	-40.39	3,842.51	3,799.43	43.09	89.182		
13,365.21	11,500.86	9,410.54	7,671.10	42.11	41.09	-4.53	-1,987.68	-39.10	3,842.11	3,798.64	43.46	88.405		
13,400.00	11,500.23	9,434.10	7,670.93	42.38	41.40	-4.56	-2,011.23	-38.82	3,842.01	3,798.34	43.67	87.988		
13,414.93	11,499.96	9,444.22	7,670.83	42.50	41.54	-4.58	-2,021.36	-38.78	3,841.99	3,798.24	43.76	87.806		
13,500.00	11,498.43	9,453.00	7,670.73	43.18	41.65	-4.59	-2,030.13	-38.79	3,842.75	3,798.88	43.87	87.602		
13,511.15	11,498.23	9,481.28	7,670.18	43.28	42.03	-4.62	-2,058.41	-38.94	3,842.68	3,798.57	44.11	87.119		
13,514.54	11,498.16	9,482.43	7,670.15	43.30	42.05	-4.62	-2,059.56	-38.94	3,842.73	3,798.61	44.12	87.097		
13,600.00	11,496.81	9,511.48	7,669.14	44.02	42.44	-4.70	-2,088.59	-39.19	3,844.83	3,800.39	44.43	86.533		
13,700.00	11,495.70	9,548.00	7,667.25	44.89	42.93	-4.80	-2,125.06	-39.62	3,849.15	3,804.31	44.85	85.829		
13,800.00	11,495.11	9,721.82	7,658.50	45.79	45.31	-4.91	-2,298.64	-41.55	3,853.79	3,807.40	46.39	83.070		
13,865.14	11,495.00	9,774.19	7,656.38	46.39	46.04	-4.93	-2,350.95	-42.76	3,856.24	3,809.32	46.91	82.196		
13,900.00	11,495.00	9,795.16	7,655.42	46.71	46.33	-4.93	-2,371.89	-43.22	3,857.75	3,810.61	47.14	81.835		
14,000.00	11,495.00	10,115.00	7,648.55	47.67	50.88	-4.86	-2,691.56	-46.42	3,860.57	3,810.56	50.02	77.187		
14,085.71	11,495.00	10,155.47	7,648.93	48.50	51.47	-4.87	-2,732.02	-45.72	3,859.99	3,809.49	50.50	76.437		
14,100.00	11,495.00	10,161.17	7,648.92	48.64	51.55	-4.87	-2,737.72	-45.65	3,860.00	3,809.43	50.57	76.329		
14,200.00	11,495.00	14,200.00	7,648.39	49.65	110.86	-4.88	-2,841.15	-44.25	3,860.62	3,779.78	80.84	47.754		
14,300.00	11,495.00	10,423.58	7,651.05	50.67	55.42	-4.96	-2,999.99	-39.08	3,858.76	3,805.50	53.26	72.452		
14,400.00	11,495.00	10,471.06	7,651.45	51.72	56.12	-4.97	-3,047.45	-38.23	3,858.04	3,804.15	53.89	71.589		
14,402.20	11,495.00	10,472.10	7,651.45	51.74	56.14	-4.97	-3,048.50	-38.23	3,858.04	3,804.14	53.91	71.570		
14,500.00	11,495.00	10,523.92	7,651.09	52.78	56.91	-4.96	-3,100.31	-38.26	3,858.66	3,804.07	54.59	70.681		
14,600.00	11,495.00	14,600.00	7,649.58	53.87	118.22	-4.98	-3,209.22	-36.90	3,860.16	3,774.29	85.87	44.954		
14,700.00	11,495.00	10,780.00	7,649.79	54.97	60.76	-4.99	-3,356.35	-35.48	3,859.88	3,802.51	57.37	67.285		
14,710.06	11,495.00	10,780.00	7,649.79	55.08	60.76	-4.99	-3,356.35	-35.48	3,859.86	3,802.47	57.40	67.249		
14,800.00	11,495.00	10,823.89	7,649.73	56.08	61.43	-5.00	-3,400.24	-35.11	3,860.23	3,802.18	58.05	66.501		
14,900.00	11,495.00	10,874.00	7,648.56	57.22	62.19	-5.00	-3,450.34	-34.90	3,862.31	3,803.51	58.80	65.683		
15,000.00	11,495.00	11,069.88	7,646.13	58.37	65.16	-4.92	-3,646.12	-39.18	3,863.13	3,802.32	60.81	63.532		
15,100.00	11,495.00	11,183.90	7,646.01	59.53	66.90	-4.84	-3,760.01	-44.44	3,862.80	3,800.68	62.12	62.185		
15,156.84	11,495.00	11,227.08	7,645.94	60.20	67.56	-4.82	-3,803.16	-46.04	3,862.70	3,800.01	62.69	61.615		
15,200.00	11,495.00	11,261.21	7,645.79	60.70	68.08	-4.80	-3,837.28	-47.15	3,862.76	3,799.62	63.14	61.179		
15,300.00	11,495.00	11,351.00	7,645.40	61.89	69.46	-4.76	-3,927.04	-49.31	3,862.98	3,798.70	64.28	60.094		
15,400.00	11,495.00	11,388.36	7,644.90	63.09	70.04	-4.75	-3,964.39	-50.07	3,864.23	3,799.23	65.00	59.452		
15,500.00	11,495.00	11,446.00	7,642.67	64.30	70.93	-4.72	-4,021.96	-51.63	3,867.45	3,801.55	65.90	58.690		
15,600.00	11,495.00	11,464.26	7,641.66	65.52	71.21	-4.71	-4,040.19	-52.16	3,871.89	3,805.41	66.48	58.243		
15,700.00	11,495.00	11,704.83	7,632.42	66.75	74.94	-4.66	-4,280.53	-53.98	3,875.97	3,807.03	68.95	56.218		
15,800.00	11,495.00	11,773.59	7,630.94	67.99	76.02	-4.65	-4,349.26	-54.85	3,878.01	3,808.04	69.98	55.418		
15,900.00	11,495.00	11,994.00	7,628.16	69.23	79.46	-4.57	-4,569.57	-59.10	3,879.25	3,806.97	72.28	53.670		
15,957.21	11,495.00	12,028.00	7,628.34	69.95	79.99	-4.57	-4,603.57	-59.34	3,878.98	3,806.14	72.84	53.254		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 12H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 7060-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,000.00	11,495.00	12,028.00	7,628.34	70.49	79.99	-4.57	-4,603.57	-59.34	3,879.21	3,806.17	73.04	53.107		
16,100.00	11,495.00	12,028.00	7,628.34	71.75	79.99	-4.57	-4,603.57	-59.34	3,881.61	3,808.07	73.53	52.788		
16,200.00	11,495.00	12,028.00	7,628.34	73.02	79.99	-4.57	-4,603.57	-59.34	3,886.57	3,812.55	74.02	52.505		
16,240.14	11,495.00	12,028.00	7,628.34	73.53	79.99	-4.57	-4,603.57	-59.34	3,889.28	3,815.06	74.22	52.402		

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 181-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	3.00	0.00	0.00	-27.02	50.40	-25.70	56.65					
100.00	100.00	96.74	99.74	0.14	0.16	55.99	50.61	-25.77	56.61	56.32	0.30	191.038		
154.00	154.00	150.59	153.59	0.24	0.24	56.42	50.92	-25.87	56.68	56.20	0.48	118.085		
200.00	199.99	196.49	199.49	0.40	0.35	51.80	51.29	-25.98	56.76	56.01	0.75	75.713		
245.00	244.99	241.44	244.44	0.56	0.51	48.70	51.73	-26.02	56.81	55.74	1.07	52.997		
300.00	299.99	296.55	299.54	0.76	0.71	56.86	52.35	-25.93	56.89	55.42	1.47	38.817		
335.00	334.98	331.75	334.74	0.89	0.83	62.03	52.65	-25.78	56.85	55.14	1.72	33.134		
400.00	399.98	396.82	399.80	1.12	1.06	68.73	53.02	-25.32	56.67	54.49	2.18	26.005		
406.36	406.33	403.15	406.14	1.14	1.08	69.60	53.06	-25.27	56.67	54.45	2.22	25.475		
431.00	430.98	427.71	430.70	1.23	1.17	73.53	53.24	-25.09	56.70	54.30	2.40	23.625		
500.00	499.97	496.61	499.59	1.48	1.41	91.62	53.87	-24.67	57.06	54.17	2.89	19.732		
522.00	521.97	518.60	521.58	1.56	1.49	97.69	54.04	-24.62	57.22	54.17	3.05	18.769		
600.00	599.97	596.59	599.57	1.83	1.77	152.66	54.58	-24.74	58.06	54.46	3.60	16.133		
613.00	612.97	609.59	612.57	1.87	1.82	160.49	54.66	-24.77	58.24	54.55	3.69	15.781		
700.00	699.97	696.52	699.49	2.18	2.13	130.27	55.22	-25.07	59.38	55.08	4.30	13.799		
705.00	704.97	701.51	704.49	2.19	2.14	128.41	55.26	-25.08	59.44	55.11	4.34	13.701		
797.00	796.97	794.10	797.07	2.51	2.47	-154.26	55.72	-25.20	60.23	55.25	4.98	12.096		
800.00	799.97	797.13	800.10	2.52	2.48	-154.26	55.72	-25.19	60.23	55.23	5.00	12.046		
884.83	884.80	882.07	885.04	2.81	2.76	-154.99	55.35	-24.94	60.07	54.50	5.58	10.775		
888.00	887.97	885.23	888.20	2.82	2.77	-155.01	55.34	-24.94	60.08	54.48	5.60	10.734		
900.00	899.97	897.20	900.17	2.86	2.81	-153.61	55.29	-24.94	60.09	54.41	5.68	10.583		
980.00	979.96	977.12	980.09	3.14	3.08	-151.28	55.01	-25.15	60.61	54.39	6.22	9.740		
1,000.00	999.96	997.12	1,000.09	3.21	3.15	-146.37	54.92	-25.26	60.83	54.47	6.36	9.564		
1,069.00	1,068.95	1,065.99	1,068.95	3.45	3.39	-132.60	54.62	-25.83	61.59	54.75	6.83	9.010		
1,100.00	1,099.95	1,096.91	1,099.88	3.55	3.50	-125.45	54.50	-26.15	61.95	54.90	7.05	8.789		
1,160.00	1,159.94	1,156.94	1,159.90	3.76	3.70	-112.69	54.25	-26.90	62.53	55.07	7.46	8.379		
1,200.00	1,199.93	1,196.97	1,199.93	3.90	3.84	-117.80	54.02	-27.44	62.85	55.10	7.74	8.119		
1,251.00	1,250.92	1,248.03	1,250.98	4.07	4.02	-125.87	53.70	-28.06	63.23	55.14	8.10	7.811		
1,300.00	1,299.92	1,297.08	1,300.02	4.24	4.19	-107.91	53.42	-28.46	63.44	55.01	8.44	7.521		
1,342.00	1,341.92	1,339.05	1,341.99	4.39	4.34	-83.39	53.18	-28.80	63.43	54.70	8.73	7.267		
1,395.66	1,395.58	1,392.67	1,395.62	4.57	4.53	-92.64	52.84	-29.32	63.37	54.27	9.10	6.962		
1,400.00	1,399.92	1,397.01	1,399.95	4.59	4.54	-93.21	52.81	-29.37	63.37	54.24	9.13	6.939		
1,434.00	1,433.91	1,430.98	1,433.92	4.71	4.66	-97.10	52.60	-29.73	63.40	54.03	9.37	6.767		
1,500.00	1,499.91	1,496.99	1,499.92	4.94	4.89	-86.93	52.19	-30.42	63.44	53.61	9.83	6.454		
1,525.00	1,524.90	1,522.02	1,524.96	5.02	4.98	-82.21	52.02	-30.67	63.40	53.39	10.01	6.336		
1,600.00	1,599.90	1,597.10	1,600.03	5.28	5.25	-100.62	51.45	-31.36	63.29	52.76	10.53	6.010		
1,603.74	1,603.64	1,600.84	1,603.77	5.30	5.26	-101.70	51.42	-31.39	63.29	52.73	10.56	5.995		
1,616.00	1,615.90	1,613.11	1,616.04	5.34	5.30	-105.34	51.32	-31.48	63.29	52.65	10.64	5.947		
1,700.00	1,699.89	1,697.16	1,700.08	5.63	5.60	-72.62	50.71	-31.99	63.07	51.84	11.23	5.615		
1,707.00	1,706.89	1,704.16	1,707.09	5.66	5.62	-69.69	50.65	-32.03	63.03	51.75	11.28	5.587		
1,800.00	1,799.89	1,797.27	1,800.19	5.98	5.95	-93.15	49.78	-32.67	62.57	50.63	11.93	5.243		
1,802.00	1,801.89	1,799.28	1,802.20	5.99	5.96	-94.71	49.76	-32.68	62.56	50.61	11.95	5.236		
1,896.00	1,895.89	1,893.40	1,896.31	6.32	6.29	179.09	48.76	-33.03	62.36	49.75	12.61	4.946		
1,900.00	1,899.89	1,897.40	1,900.31	6.34	6.30	171.64	48.73	-33.03	62.36	49.73	12.64	4.935		
1,929.69	1,929.58	1,927.10	1,930.01	6.44	6.41	111.25	48.51	-32.98	62.31	49.47	12.84	4.852		
1,991.00	1,990.88	1,988.35	1,991.25	6.65	6.62	77.51	48.29	-32.61	61.85	48.58	13.27	4.661		
2,000.00	1,999.88	1,997.33	2,000.24	6.68	6.65	76.07	48.29	-32.52	61.74	48.41	13.33	4.632		
2,086.00	2,085.82	2,083.16	2,086.06	6.98	6.94	71.96	48.61	-31.34	60.42	46.50	13.92	4.340		
2,100.00	2,099.80	2,097.13	2,100.03	7.03	6.99	72.49	48.68	-31.13	60.16	46.14	14.02	4.292		
2,181.00	2,180.69	2,177.99	2,180.88	7.31	7.27	76.28	49.04	-29.91	58.74	44.16	14.58	4.029		
2,200.00	2,199.66	2,196.96	2,199.85	7.38	7.33	75.25	49.12	-29.62	58.40	43.70	14.71	3.971		

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

Company: WPX Energy
Project: Eddy County, NM

Reference Site: RDX Federal 17

Site Error: 0.00 usft

Reference Well: 35H

Well Error: 0.00 usft

Reference Wellbore: ST01

Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Output errors are at 2.00 sigma

Database: Gyrodata NWDB

Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 181-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,275.00	2,274.50	2,271.74	2,274.61	7.64	7.59	73.72	49.34	-28.54	56.85	41.62	15.23	3.733		
2,300.00	2,299.44	2,296.65	2,299.52	7.73	7.68	76.59	49.39	-28.26	56.35	40.95	15.40	3.659		
2,370.00	2,369.28	2,366.62	2,369.49	7.97	7.92	84.66	49.40	-27.60	55.43	39.54	15.89	3.488		
2,400.00	2,399.21	2,396.65	2,399.52	8.08	8.02	87.03	49.32	-27.30	55.14	39.05	16.10	3.426		
2,465.00	2,464.09	2,461.57	2,464.44	8.31	8.25	92.05	48.97	-26.64	54.69	38.14	16.55	3.304		
2,500.00	2,499.02	2,496.50	2,499.37	8.43	8.37	94.58	48.77	-26.37	54.59	37.79	16.80	3.250		
2,560.00	2,558.93	2,556.55	2,559.41	8.64	8.58	98.62	48.34	-26.05	54.55	37.34	17.22	3.168		
2,600.00	2,598.85	2,596.62	2,599.48	8.78	8.72	96.99	47.93	-25.96	54.47	36.97	17.50	3.112		
2,655.00	2,653.73	2,651.43	2,654.29	8.98	8.91	96.39	47.30	-25.92	54.26	36.38	17.89	3.034		
2,677.16	2,675.83	2,673.49	2,676.34	9.06	8.99	97.63	47.08	-25.90	54.24	36.20	18.04	3.006 CC		
2,700.00	2,698.62	2,696.22	2,699.07	9.14	9.07	98.86	46.87	-25.88	54.26	36.06	18.20	2.981		
2,750.00	2,748.50	2,746.24	2,749.09	9.31	9.25	101.55	46.34	-25.70	54.39	35.84	18.55	2.932		
2,800.00	2,798.40	2,796.26	2,799.10	9.49	9.42	109.85	45.57	-25.26	54.64	35.73	18.91	2.890 ES		
2,845.00	2,843.33	2,841.09	2,843.92	9.65	9.58	118.23	44.76	-24.61	55.13	35.91	19.22	2.868		
2,900.00	2,898.25	2,895.83	2,898.64	9.85	9.77	120.18	43.68	-23.45	56.12	36.51	19.61	2.862 SF		
2,940.00	2,938.18	2,935.48	2,938.27	9.99	9.91	122.03	42.95	-22.46	57.20	37.31	19.89	2.876		
3,000.00	2,998.04	2,994.94	2,997.70	10.21	10.12	116.18	42.05	-20.83	59.26	38.96	20.31	2.918		
3,035.00	3,032.94	3,029.66	3,032.40	10.33	10.24	114.44	41.61	-19.83	60.65	40.10	20.55	2.951		
3,100.00	3,097.73	3,094.13	3,096.84	10.56	10.47	116.77	40.90	-17.92	63.69	42.68	21.00	3.032		
3,129.00	3,126.63	3,122.90	3,125.60	10.67	10.57	117.90	40.53	-16.99	65.23	44.02	21.21	3.076		
3,200.00	3,197.39	3,193.31	3,195.95	10.92	10.82	121.62	39.35	-14.36	69.46	47.76	21.70	3.201		
3,225.00	3,222.31	3,218.17	3,220.78	11.01	10.91	122.65	38.97	-13.46	71.05	49.18	21.88	3.248		
3,300.00	3,297.03	3,292.87	3,295.44	11.28	11.17	124.26	38.23	-11.12	76.21	53.81	22.40	3.402		
3,320.00	3,316.95	3,312.84	3,315.41	11.35	11.24	124.72	38.16	-10.63	77.67	55.13	22.54	3.445		
3,355.00	3,351.80	3,347.81	3,350.37	11.42	11.36	130.15	38.15	-9.89	80.30	57.57	22.73	3.532		
3,400.00	3,396.62	3,392.81	3,395.36	11.43	11.52	132.35	38.23	-9.13	83.69	60.79	22.90	3.655		
3,449.00	3,445.44	3,441.87	3,444.42	11.44	11.69	134.33	38.43	-8.50	87.20	64.13	23.07	3.779		
3,496.00	3,492.28	3,488.64	3,491.18	11.45	11.86	135.43	38.64	-7.96	90.52	67.27	23.24	3.894		
3,500.00	3,496.27	3,492.62	3,495.16	11.45	11.87	135.33	38.66	-7.92	90.80	67.54	23.26	3.904		
3,591.00	3,586.93	3,583.20	3,585.74	11.48	12.19	133.67	38.98	-6.86	97.45	73.85	23.60	4.130		
3,600.00	3,595.89	3,592.15	3,594.69	11.48	12.22	135.68	39.01	-6.76	98.14	74.51	23.63	4.153		
3,685.00	3,680.46	3,676.63	3,679.16	11.52	12.52	151.67	39.29	-5.76	106.11	82.15	23.96	4.429		
3,700.00	3,695.36	3,691.52	3,694.05	11.53	12.57	152.30	39.33	-5.59	107.76	83.74	24.02	4.486		
3,778.00	3,772.87	3,768.94	3,771.47	11.58	12.84	155.38	39.46	-4.65	116.59	92.26	24.33	4.792		
3,800.00	3,794.72	3,790.78	3,793.30	11.60	12.92	154.36	39.46	-4.39	119.13	94.71	24.42	4.879		
3,871.00	3,865.27	3,861.00	3,863.52	11.65	13.17	151.03	39.42	-3.49	127.15	102.44	24.71	5.146		
3,900.00	3,894.09	3,889.63	3,892.15	11.67	13.27	149.65	39.41	-3.08	130.40	105.58	24.83	5.253		
3,965.00	3,958.66	3,953.82	3,956.32	11.73	13.49	146.82	39.37	-2.04	137.80	112.71	25.10	5.491		
4,000.00	3,993.42	3,988.37	3,990.87	11.76	13.62	149.04	39.27	-1.43	141.87	116.63	25.24	5.620		
4,058.00	4,051.03	4,046.03	4,048.52	11.82	13.82	152.60	39.04	-0.39	148.75	123.26	25.49	5.835		
4,100.00	4,092.75	4,087.92	4,090.41	11.86	13.97	153.90	38.84	0.29	153.72	128.04	25.68	5.986		
4,152.00	4,144.42	4,139.42	4,141.89	11.92	14.15	155.42	38.56	1.08	159.85	133.94	25.91	6.170		
4,200.00	4,192.10	4,186.82	4,189.29	11.98	14.32	156.44	38.21	1.86	165.64	139.52	26.12	6.341		
4,246.00	4,237.79	4,232.27	4,234.73	12.03	14.48	157.38	37.85	2.65	171.37	145.05	26.33	6.509		
4,300.00	4,291.43	4,285.64	4,288.09	12.10	14.67	158.75	37.53	3.62	178.18	151.61	26.57	6.705		
4,340.00	4,331.16	4,325.54	4,327.98	12.15	14.81	159.70	37.34	4.33	183.17	156.41	26.76	6.845		
4,400.00	4,390.80	4,385.51	4,387.94	12.24	15.03	160.61	37.02	5.29	190.37	163.33	27.04	7.040		
4,434.00	4,424.61	4,419.24	4,421.67	12.28	15.15	161.09	36.84	5.79	194.30	167.09	27.20	7.143		
4,500.00	4,490.23	4,484.71	4,487.13	12.38	15.38	162.04	36.53	6.76	201.93	174.42	27.52	7.339		
4,528.00	4,518.07	4,512.50	4,514.92	12.42	15.48	162.42	36.40	7.18	205.23	177.58	27.65	7.423		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 181-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,600.00	4,589.65	4,583.97	4,586.38	12.54	15.73	162.68	36.06	8.25	213.72	185.72	28.00	7.633		
4,622.00	4,611.53	4,606.11	4,608.52	12.57	15.81	162.75	35.96	8.57	216.29	188.18	28.11	7.695		
4,700.00	4,689.08	4,684.86	4,687.26	12.70	16.09	163.36	35.63	9.41	225.11	196.61	28.50	7.898		
4,716.00	4,704.99	4,700.55	4,702.96	12.73	16.15	163.47	35.57	9.54	226.89	198.31	28.58	7.939		
4,800.00	4,788.50	4,783.33	4,785.73	12.87	16.44	163.71	35.21	10.36	236.46	207.45	29.00	8.153		
4,810.00	4,798.44	4,793.25	4,795.64	12.89	16.48	163.74	35.16	10.48	237.62	208.57	29.05	8.179		
4,900.00	4,887.91	4,882.54	4,884.93	13.06	16.80	164.47	34.79	11.50	248.05	218.54	29.51	8.405		
4,903.00	4,890.90	4,885.52	4,887.91	13.06	16.81	164.49	34.78	11.54	248.40	218.87	29.53	8.412		
4,998.00	4,985.35	4,979.89	4,982.27	13.25	17.14	163.65	34.39	12.62	259.30	229.28	30.02	8.637		
5,000.00	4,987.34	4,981.87	4,984.26	13.25	17.15	163.69	34.38	12.64	259.53	229.50	30.03	8.642		
5,092.00	5,078.83	5,073.29	5,075.67	13.43	17.48	165.58	33.93	13.66	269.94	239.42	30.52	8.845		
5,100.00	5,086.79	5,081.24	5,083.62	13.45	17.50	165.75	33.89	13.75	270.84	240.27	30.56	8.862		
5,185.00	5,171.37	5,165.78	5,168.15	13.62	17.81	167.65	33.41	14.66	279.97	248.96	31.02	9.027		
5,200.00	5,186.31	5,180.65	5,183.02	13.66	17.86	167.91	33.32	14.83	281.53	250.43	31.10	9.053		
5,279.00	5,264.97	5,259.10	5,261.47	13.82	18.14	169.26	32.96	15.71	289.59	258.07	31.52	9.186		
5,300.00	5,285.88	5,279.80	5,282.16	13.87	18.21	168.84	32.86	15.95	291.73	260.09	31.64	9.221		
5,372.00	5,357.56	5,350.90	5,353.26	14.02	18.47	167.57	32.35	16.85	299.36	267.33	32.03	9.346		
5,400.00	5,385.43	5,378.92	5,381.27	14.09	18.57	167.73	32.09	17.20	302.42	270.24	32.19	9.395		
5,466.00	5,451.10	5,444.95	5,447.29	14.23	18.80	168.13	31.38	17.94	309.68	277.13	32.56	9.512		
5,500.00	5,484.93	5,478.25	5,480.58	14.31	18.92	168.74	30.97	18.30	313.46	280.71	32.75	9.573		
5,559.00	5,543.64	5,536.08	5,538.41	14.45	19.13	169.79	30.24	19.04	320.08	287.01	33.07	9.678		
5,600.00	5,584.45	5,577.21	5,579.53	14.55	19.27	170.31	29.72	19.60	324.67	291.36	33.31	9.748		
5,653.00	5,637.20	5,630.43	5,632.75	14.67	19.46	170.97	29.11	20.25	330.46	296.85	33.61	9.832		
5,700.00	5,684.00	5,677.22	5,679.52	14.79	19.63	170.64	28.60	20.78	335.41	301.53	33.88	9.900		
5,747.00	5,730.81	5,724.01	5,726.31	14.90	19.80	170.25	28.08	21.30	340.12	305.98	34.15	9.960		
5,800.00	5,783.63	5,777.02	5,779.32	15.03	19.98	171.71	27.47	21.87	345.12	310.66	34.46	10.016		
5,840.00	5,823.52	5,817.07	5,819.36	15.12	20.13	172.97	26.98	22.26	348.62	313.93	34.69	10.050		
5,900.00	5,883.36	5,876.90	5,879.18	15.27	20.34	176.31	26.15	22.80	353.65	318.61	35.04	10.094		
5,934.00	5,917.27	5,910.79	5,913.06	15.35	20.46	178.28	25.60	23.08	356.45	321.21	35.23	10.116		
6,000.00	5,983.12	5,977.89	5,980.15	15.51	20.70	179.62	24.13	23.44	361.68	326.05	35.63	10.152		
6,027.00	6,010.05	6,005.40	6,007.65	15.58	20.80	-179.78	23.31	23.45	363.71	327.93	35.79	10.163		
6,100.00	6,082.89	6,084.04	6,086.22	15.76	21.07	-176.81	20.29	22.66	368.53	332.30	36.24	10.170		
6,121.00	6,103.85	6,106.81	6,108.96	15.81	21.15	-175.90	19.26	22.13	369.67	333.31	36.37	10.165		
6,200.00	6,182.68	6,196.49	6,198.45	16.01	21.46	-174.11	14.79	18.39	372.63	335.79	36.85	10.113		
6,215.00	6,197.64	6,214.07	6,215.98	16.05	21.52	-173.77	13.95	17.34	372.94	336.00	36.94	10.096		
6,300.00	6,282.47	6,315.35	6,316.89	16.27	21.86	-168.86	11.39	9.23	372.29	334.88	37.41	9.952		
6,309.00	6,291.45	6,321.91	6,323.43	16.29	21.88	-168.34	11.35	8.69	372.11	334.64	37.47	9.931		
6,400.00	6,382.29	6,412.76	6,413.92	16.53	22.19	-165.38	12.30	0.73	369.49	331.49	38.00	9.723		
6,403.00	6,385.28	6,415.61	6,416.76	16.53	22.20	-165.29	12.37	0.50	369.41	331.39	38.02	9.716		
6,497.00	6,479.13	6,504.52	6,505.38	16.78	22.49	-163.34	15.77	-5.85	367.10	328.52	38.59	9.514		
6,500.00	6,482.13	6,507.31	6,508.16	16.79	22.50	-163.48	15.90	-6.02	367.04	328.44	38.60	9.508		
6,566.28	6,548.30	6,568.90	6,569.57	16.96	22.71	-166.23	19.20	-9.25	366.41	327.41	39.00	9.394		
6,587.36	6,569.34	6,588.59	6,589.21	17.02	22.78	-167.04	20.38	-10.09	366.47	327.35	39.13	9.366		
6,600.00	6,581.96	6,600.47	6,601.06	17.05	22.82	-166.95	21.10	-10.56	366.56	327.35	39.20	9.350		
6,684.00	6,665.81	6,679.66	6,680.05	17.27	23.08	-166.33	26.11	-13.00	367.58	327.87	39.71	9.258		
6,700.00	6,681.79	6,695.44	6,695.79	17.32	23.14	-169.12	27.14	-13.38	367.83	328.03	39.80	9.242		
6,777.00	6,758.69	6,771.46	6,771.63	17.53	23.40	175.06	32.06	-15.11	368.93	328.66	40.27	9.162		
6,800.00	6,781.66	6,793.69	6,793.81	17.59	23.47	174.25	33.46	-15.57	369.23	328.83	40.40	9.138		
6,871.00	6,852.59	6,862.58	6,862.57	17.78	23.71	171.56	37.49	-16.82	370.25	329.42	40.83	9.068		
6,900.00	6,881.56	6,889.92	6,889.87	17.86	23.80	171.73	38.89	-17.22	370.74	329.74	41.00	9.041		
6,964.00	6,945.51	6,950.37	6,950.27	18.03	24.01	172.32	41.31	-17.81	372.10	330.71	41.38	8.991		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 181-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,000.00	6,981.49	6,985.58	6,985.47	18.13	24.13	174.16	42.35	-18.02	373.00	331.39	41.60	8.966		
7,058.00	7,039.46	7,042.70	7,042.57	18.29	24.32	177.52	43.68	-18.31	374.45	332.49	41.96	8.925		
7,100.00	7,081.43	7,085.51	7,085.37	18.40	24.47	179.19	44.29	-18.59	375.45	333.24	42.22	8.893		
7,152.00	7,133.41	7,138.97	7,138.83	18.55	24.65	-178.44	44.24	-19.28	376.46	333.91	42.54	8.849		
7,200.00	7,181.38	7,189.51	7,189.36	18.68	24.83	-166.02	43.59	-20.31	377.13	334.28	42.85	8.801		
7,245.00	7,226.36	7,237.05	7,236.87	18.80	24.99	-156.00	42.85	-21.64	377.48	334.35	43.14	8.751		
7,300.00	7,281.32	7,290.77	7,290.56	18.95	25.18	-146.47	41.99	-23.26	377.77	334.30	43.47	8.690		
7,338.00	7,319.29	7,327.76	7,327.54	19.06	25.30	-140.30	41.49	-24.22	378.04	334.33	43.71	8.649		
7,400.00	7,381.25	7,387.44	7,387.19	19.23	25.51	-152.27	40.40	-25.69	378.66	334.58	44.09	8.589		
7,431.00	7,412.23	7,413.93	7,413.62	19.32	25.60	-158.44	38.95	-26.23	379.38	335.11	44.26	8.571		
7,500.00	7,481.19	7,472.59	7,471.79	19.51	25.81	-174.26	31.61	-27.15	382.26	337.63	44.64	8.564		
7,525.00	7,506.18	7,493.50	7,492.30	19.58	25.88	178.83	27.56	-27.42	383.75	338.99	44.76	8.573		
7,600.00	7,581.16	7,548.63	7,545.74	19.79	26.07	-179.62	14.03	-27.37	390.39	345.37	45.02	8.671		
7,618.00	7,599.15	7,561.47	7,558.09	19.85	26.12	-179.25	10.55	-27.05	392.57	347.50	45.06	8.711		
7,700.00	7,681.13	7,630.00	7,623.33	20.08	26.36	-178.44	-10.31	-25.09	404.44	359.08	45.36	8.917		
7,712.00	7,693.12	7,639.94	7,632.64	20.11	26.40	-178.24	-13.77	-24.84	406.44	361.04	45.39	8.954		
7,800.00	7,781.09	7,694.00	7,682.47	20.37	26.59	-172.55	-34.50	-21.99	425.60	380.36	45.24	9.408		
7,805.00	7,786.09	7,697.28	7,685.44	20.38	26.60	-172.23	-35.87	-21.76	426.91	381.68	45.23	9.439		
7,899.00	7,880.07	7,760.38	7,741.06	20.65	26.84	-133.22	-65.25	-17.13	454.19	409.19	45.00	10.094		
7,900.00	7,881.07	7,761.23	7,741.79	20.66	26.84	-132.86	-65.69	-17.08	454.50	409.50	45.00	10.101		
7,992.00	7,973.06	7,844.90	7,811.82	20.91	27.16	-73.66	-111.31	-14.17	484.02	438.78	45.24	10.698		
8,000.00	7,981.06	7,850.66	7,816.51	20.93	27.18	-71.33	-114.66	-14.16	486.69	441.47	45.22	10.762		
8,086.00	8,067.06	7,897.22	7,853.12	21.16	27.36	-28.33	-143.40	-14.59	518.58	474.04	44.54	11.643		
8,100.00	8,081.06	7,903.57	7,857.93	21.20	27.39	-38.55	-147.55	-14.65	524.40	480.02	44.39	11.814		
8,180.00	8,161.06	7,936.27	7,881.94	21.41	27.52	-115.81	-169.74	-14.80	561.30	517.91	43.39	12.936		
8,200.00	8,181.06	7,946.00	7,888.78	21.47	27.56	-98.06	-176.66	-14.81	571.45	528.26	43.19	13.231		
8,274.00	8,255.06	7,966.01	7,902.31	21.67	27.64	-16.10	-191.39	-14.79	611.70	569.73	41.97	14.575		
8,300.00	8,281.06	7,977.00	7,909.39	21.74	27.69	-12.92	-199.80	-14.73	626.86	585.19	41.67	15.043		
8,368.00	8,349.06	7,990.90	7,918.00	21.92	27.75	-8.70	-210.71	-14.63	668.61	628.13	40.48	16.517		
8,400.00	8,381.06	7,998.66	7,922.63	22.01	27.78	-5.68	-216.94	-14.57	689.31	649.33	39.99	17.239		
8,462.00	8,443.05	8,008.00	7,928.02	22.17	27.82	0.12	-224.56	-14.49	731.25	692.32	38.93	18.785		
8,500.00	8,481.05	8,020.33	7,934.84	22.28	27.88	-24.60	-234.83	-14.41	758.01	719.50	38.52	19.679		
8,556.00	8,537.05	8,040.00	7,944.95	22.43	27.96	-100.37	-251.70	-14.38	799.19	761.17	38.02	21.023		
8,600.00	8,581.05	8,040.00	7,944.95	22.56	27.96	-141.48	-251.70	-14.38	832.39	795.13	37.26	22.341		
8,649.00	8,630.05	8,040.00	7,944.95	22.71	27.96	-178.76	-251.70	-14.38	870.60	834.11	36.48	23.863		
8,700.00	8,681.05	8,051.97	7,950.61	22.85	28.02	35.38	-262.25	-14.38	911.06	875.03	36.04	25.280		
8,743.00	8,724.05	8,057.17	7,952.94	22.97	28.04	17.79	-266.90	-14.37	945.66	910.08	35.57	26.583		
8,800.00	8,781.04	8,072.00	7,959.17	23.13	28.10	4.60	-280.36	-14.32	992.22	957.03	35.19	28.196		
8,836.00	8,817.03	8,072.00	7,959.17	23.23	28.10	0.59	-280.36	-14.32	1,021.77	987.01	34.76	29.397		
8,900.00	8,881.00	8,072.00	7,959.17	23.40	28.10	-4.87	-280.36	-14.32	1,075.08	1,041.02	34.05	31.570		
8,931.00	8,911.98	8,072.00	7,959.17	23.48	28.10	-6.84	-280.36	-14.32	1,101.24	1,067.50	33.74	32.637		
9,000.00	8,980.94	8,072.00	7,959.17	23.67	28.10	-4.65	-280.36	-14.32	1,160.32	1,127.20	33.12	35.037		
9,025.00	9,005.93	8,084.54	7,963.96	23.74	28.16	-3.01	-291.94	-14.15	1,181.68	1,148.52	33.16	35.635		
9,100.00	9,080.89	8,090.27	7,966.00	23.95	28.19	-25.40	-297.30	-13.99	1,247.18	1,214.47	32.71	38.129		
9,118.00	9,098.88	8,091.59	7,966.46	24.00	28.19	-30.31	-298.54	-13.95	1,263.05	1,230.44	32.61	38.729		
9,200.00	9,180.84	8,104.00	7,970.51	24.24	28.25	-41.77	-310.25	-13.42	1,336.17	1,303.83	32.34	41.316		
9,212.00	9,192.83	8,104.00	7,970.51	24.27	28.25	-43.65	-310.25	-13.42	1,346.93	1,314.65	32.27	41.733		
9,300.00	9,280.81	8,104.00	7,970.51	24.53	28.25	-84.06	-310.25	-13.42	1,426.84	1,394.98	31.86	44.779		
9,305.00	9,285.81	8,104.00	7,970.51	24.55	28.25	-88.69	-310.25	-13.42	1,431.43	1,399.59	31.84	44.951		
9,398.00	9,378.79	8,104.00	7,970.51	24.83	28.25	-110.70	-310.25	-13.42	1,517.50	1,485.97	31.53	48.132		

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

Company: WPX Energy
Project: Eddy County, NM

Reference Site: RDX Federal 17

Site Error: 0.00 usft

Reference Well: 35H

Well Error: 0.00 usft

Reference Wellbore: ST01

Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Output errors are at 2.00 sigma

Database: Gyrodata NWDB

Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 181-MWD													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,400.00	9,380.79	8,104.00	7,970.51	24.84	28.25	-110.28	-310.25	-13.42	1,519.36	1,487.84	31.52	48.200		
9,492.00	9,472.76	8,116.33	7,974.17	25.13	28.30	-89.98	-322.01	-12.69	1,605.06	1,573.60	31.46	51.012		
9,500.00	9,480.76	8,116.84	7,974.31	25.15	28.31	-92.97	-322.49	-12.66	1,612.54	1,581.09	31.45	51.269		
9,586.00	9,566.75	8,121.82	7,975.70	25.42	28.33	-163.71	-327.26	-12.30	1,693.33	1,661.98	31.35	54.009		
9,600.00	9,580.75	8,122.57	7,975.90	25.46	28.33	-163.99	-327.98	-12.25	1,706.55	1,675.21	31.34	54.452		
9,680.00	9,660.74	8,135.00	7,979.13	25.71	28.39	-166.45	-339.94	-11.21	1,782.34	1,750.94	31.40	56.767		
9,700.00	9,680.74	8,135.00	7,979.13	25.77	28.39	-151.41	-339.94	-11.21	1,801.28	1,769.91	31.37	57.413		
9,774.00	9,754.73	8,135.00	7,979.13	25.99	28.39	-121.54	-339.94	-11.21	1,871.58	1,840.28	31.31	59.785		
9,800.00	9,780.73	8,135.00	7,979.13	26.07	28.39	-124.97	-339.94	-11.21	1,896.35	1,865.06	31.29	60.610		
9,867.00	9,847.72	8,135.00	7,979.13	26.27	28.39	-139.81	-339.94	-11.21	1,960.30	1,929.05	31.26	62.718		
9,900.00	9,880.72	8,135.00	7,979.13	26.38	28.39	-155.59	-339.94	-11.21	1,991.87	1,960.62	31.25	63.744		
9,961.00	9,941.72	8,135.00	7,979.13	26.57	28.39	-167.49	-339.94	-11.21	2,050.34	2,019.10	31.24	65.624		
10,000.00	9,980.71	8,135.00	7,979.13	26.69	28.39	-167.86	-339.94	-11.21	2,087.79	2,056.54	31.25	66.813		
10,054.00	10,034.71	8,135.00	7,979.13	26.86	28.39	-130.29	-339.94	-11.21	2,139.72	2,108.45	31.26	68.443		
10,100.00	10,080.71	8,135.00	7,979.13	27.00	28.39	-167.55	-339.94	-11.21	2,184.02	2,152.74	31.28	69.815		
10,147.00	10,127.71	8,135.00	7,979.13	27.15	28.39	-154.22	-339.94	-11.21	2,229.38	2,198.07	31.31	71.202		
10,200.00	10,180.71	8,135.00	7,979.13	27.31	28.39	-128.90	-339.94	-11.21	2,280.61	2,249.26	31.35	72.746		
10,240.00	10,220.70	8,148.51	7,982.25	27.44	28.45	-117.40	-353.02	-9.94	2,319.06	2,287.54	31.52	73.573		
10,300.00	10,280.70	8,150.41	7,982.65	27.63	28.46	-105.87	-354.86	-9.76	2,377.11	2,345.51	31.60	75.236		
10,334.00	10,314.69	8,151.45	7,982.87	27.74	28.47	-98.90	-355.88	-9.65	2,410.02	2,378.38	31.64	76.171		
10,400.00	10,380.68	8,153.44	7,983.28	27.95	28.48	-88.59	-357.82	-9.46	2,473.96	2,442.22	31.73	77.963		
10,428.00	10,408.68	8,167.00	7,985.81	28.04	28.54	-84.48	-371.07	-8.07	2,501.33	2,469.44	31.89	78.430		
10,500.00	10,480.67	8,167.00	7,985.81	28.27	28.54	-73.55	-371.07	-8.07	2,571.08	2,539.10	31.98	80.391		
10,522.00	10,502.66	8,167.00	7,985.81	28.34	28.54	-70.60	-371.07	-8.07	2,592.40	2,560.39	32.01	80.985		
10,600.00	10,580.65	8,167.00	7,985.81	28.58	28.54	-133.33	-371.07	-8.07	2,668.19	2,636.06	32.13	83.054		
10,616.00	10,596.65	8,167.00	7,985.81	28.63	28.54	-160.27	-371.07	-8.07	2,683.78	2,651.63	32.15	83.473		
10,700.00	10,680.65	8,167.00	7,985.81	28.90	28.54	-107.67	-371.07	-8.07	2,765.66	2,733.37	32.29	85.641		
10,709.00	10,689.65	8,167.00	7,985.81	28.93	28.54	-102.84	-371.07	-8.07	2,774.44	2,742.13	32.31	85.871		
10,800.00	10,780.64	8,167.00	7,985.81	29.22	28.54	-61.27	-371.07	-8.07	2,863.10	2,830.63	32.47	88.173		
10,803.00	10,783.64	8,167.00	7,985.81	29.23	28.54	-60.78	-371.07	-8.07	2,866.03	2,833.55	32.48	88.248		
10,897.00	10,877.60	8,167.00	7,985.81	29.53	28.54	-68.95	-371.07	-8.07	2,957.65	2,924.99	32.66	90.571		
10,900.00	10,880.60	8,167.00	7,985.81	29.54	28.54	-68.95	-371.07	-8.07	2,960.58	2,927.92	32.66	90.644		
10,908.00	10,888.59	8,167.00	7,985.81	29.56	28.54	-69.37	-371.07	-8.07	2,968.39	2,935.71	32.68	90.838		
11,000.00	10,980.37	8,167.00	7,985.81	29.84	28.54	-11.99	-371.07	-8.07	3,057.15	3,024.32	32.84	93.098		
11,002.00	10,982.35	8,167.00	7,985.81	29.85	28.54	-11.72	-371.07	-8.07	3,059.06	3,026.22	32.84	93.147		
11,096.00	11,074.07	8,167.00	7,985.81	30.11	28.54	-8.60	-371.07	-8.07	3,145.38	3,112.45	32.93	95.520		
11,100.00	11,077.87	8,167.00	7,985.81	30.12	28.54	-8.67	-371.07	-8.07	3,148.89	3,115.96	32.93	95.623		
11,190.00	11,160.39	8,167.00	7,985.81	30.34	28.54	-8.60	-371.07	-8.07	3,224.29	3,191.35	32.94	97.888		
11,200.00	11,169.14	8,167.00	7,985.81	30.36	28.54	-8.50	-371.07	-8.07	3,232.19	3,199.26	32.93	98.141		
11,284.00	11,238.14	8,194.00	7,989.45	30.53	28.67	-7.51	-397.67	-5.28	3,293.47	3,260.41	33.06	99.622		
11,300.00	11,250.30	8,194.00	7,989.45	30.56	28.67	-7.55	-397.67	-5.28	3,304.11	3,271.07	33.04	99.994		
11,377.00	11,304.89	8,194.00	7,989.45	30.69	28.67	-7.53	-397.67	-5.28	3,351.87	3,318.90	32.97	101.650		
11,400.00	11,319.96	8,194.00	7,989.45	30.73	28.67	-7.56	-397.67	-5.28	3,365.09	3,332.14	32.96	102.111		
11,471.00	11,363.78	8,194.00	7,989.45	30.86	28.67	-7.56	-397.67	-5.28	3,403.96	3,371.05	32.92	103.416		
11,500.00	11,380.37	8,194.00	7,989.45	30.91	28.67	-7.33	-397.67	-5.28	3,418.83	3,385.93	32.90	103.909		
11,564.00	11,413.71	8,225.00	7,991.72	31.08	28.82	-6.92	-428.45	-2.48	3,448.48	3,415.44	33.03	104.392		
11,600.00	11,430.14	8,225.00	7,991.72	31.19	28.82	-6.67	-428.45	-2.48	3,463.03	3,430.01	33.02	104.889		
11,626.00	11,440.71	8,225.00	7,991.72	31.28	28.82	-6.52	-428.45	-2.48	3,472.39	3,439.38	33.01	105.203		
11,680.00	11,460.20	8,225.00	7,991.72	31.46	28.82	-6.48	-428.45	-2.48	3,489.93	3,456.93	33.00	105.758		
11,700.00	11,466.79	8,225.00	7,991.72	31.53	28.82	-6.45	-428.45	-2.48	3,496.03	3,463.02	33.00	105.929		
11,754.00	11,483.27	8,262.90	7,993.10	31.73	29.02	-6.43	-466.20	0.64	3,511.09	3,477.90	33.18	105.809		

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

Company: WPX Energy
Project: Eddy County, NM

Reference Site: RDX Federal 17

Site Error: 0.00 usft

Reference Well: 35H

Well Error: 0.00 usft

Reference Wellbore: ST01

Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Output errors are at 2.00 sigma

Database: Gyrodata NWDB

Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys														Offset Site Error:	0.00 usft
Survey Program: 181-MWD														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
11,800.00	11,495.27	8,277.43	7,993.41	31.92	29.10	-6.31	-480.67	1.91	3,522.40	3,489.13	33.26	105.892			
11,848.00	11,505.22	8,320.00	7,993.63	32.11	29.33	-6.21	-523.05	5.88	3,532.16	3,498.70	33.46	105.575			
11,900.00	11,512.59	8,320.00	7,993.63	32.34	29.33	-6.13	-523.05	5.88	3,539.02	3,505.53	33.49	105.688			
11,941.00	11,515.62	8,320.00	7,993.63	32.52	29.33	-6.10	-523.05	5.88	3,542.08	3,508.56	33.52	105.671			
12,000.00	11,516.54	8,367.90	7,993.15	32.80	29.62	-6.06	-570.74	10.41	3,543.31	3,509.55	33.76	104.957			
12,035.00	11,515.53	8,392.75	7,992.78	32.97	29.77	-6.05	-595.48	12.64	3,542.57	3,508.68	33.89	104.537			
12,100.00	11,513.42	8,436.73	7,991.92	33.32	30.05	-5.98	-639.30	16.32	3,541.29	3,507.15	34.14	103.715			
12,103.85	11,513.35	8,439.22	7,991.86	33.34	30.07	-5.98	-641.78	16.51	3,541.29	3,507.13	34.16	103.668			
12,127.00	11,513.06	8,454.17	7,991.48	33.46	30.17	-5.95	-656.69	17.57	3,541.43	3,507.18	34.25	103.389			
12,200.00	11,512.79	8,510.00	7,989.65	33.88	30.55	-5.77	-712.40	20.62	3,543.31	3,508.70	34.61	102.370			
12,221.00	11,512.83	8,510.00	7,989.65	34.00	30.55	-5.71	-712.40	20.62	3,544.18	3,509.52	34.66	102.248			
12,300.00	11,512.62	8,566.44	7,987.13	34.47	30.98	-5.53	-768.77	21.83	3,547.94	3,512.83	35.10	101.071			
12,315.00	11,512.48	8,576.22	7,986.62	34.56	31.05	-5.50	-778.54	21.80	3,548.68	3,513.50	35.19	100.857			
12,400.00	11,511.44	8,888.67	7,981.97	35.11	33.74	-5.94	-1,090.64	27.89	3,548.70	3,511.72	36.99	95.949			
12,409.00	11,511.31	8,903.70	7,982.24	35.17	33.88	-5.95	-1,105.64	28.70	3,548.47	3,511.37	37.09	95.661			
12,500.00	11,510.69	8,971.10	7,983.15	35.82	34.55	-5.94	-1,172.97	31.91	3,546.83	3,509.12	37.71	94.054			
12,505.00	11,510.70	8,975.22	7,983.20	35.85	34.59	-5.94	-1,177.08	32.09	3,546.78	3,509.04	37.75	93.963			
12,597.00	11,510.63	9,043.42	7,983.85	36.54	35.29	-5.98	-1,245.14	36.12	3,546.08	3,507.68	38.40	92.338			
12,600.00	11,510.62	9,045.61	7,983.87	36.57	35.31	-5.98	-1,247.33	36.30	3,546.07	3,507.64	38.43	92.285			
12,690.00	11,508.33	9,100.59	7,984.20	37.28	35.89	-6.06	-1,302.05	41.68	3,544.15	3,505.11	39.03	90.796			
12,700.00	11,507.88	9,105.55	7,984.21	37.36	35.95	-6.07	-1,306.97	42.22	3,543.81	3,504.72	39.10	90.640			
12,784.00	11,504.84	9,147.08	7,983.98	38.05	36.40	-6.14	-1,348.23	47.00	3,542.42	3,502.78	39.64	89.362			
12,787.09	11,504.76	9,148.60	7,983.96	38.08	36.42	-6.15	-1,349.74	47.18	3,542.42	3,502.76	39.66	89.318			
12,800.00	11,504.46	9,173.00	7,983.62	38.40	36.68	-6.22	-1,373.95	50.21	3,542.55	3,502.71	39.84	88.911			
12,844.00	11,504.06	9,179.03	7,983.51	38.63	36.75	-6.28	-1,379.93	50.98	3,543.33	3,503.50	39.82	88.978			
12,900.00	11,504.17	9,223.62	7,982.66	38.94	37.26	-6.35	-1,424.12	56.80	3,545.18	3,505.07	40.11	88.377			
12,944.00	11,504.25	9,258.60	7,981.92	39.20	37.66	-6.42	-1,458.78	61.55	3,546.77	3,506.42	40.35	87.900			
13,000.00	11,504.29	9,377.44	7,980.32	39.54	39.05	-6.62	-1,576.55	77.28	3,548.28	3,506.98	41.30	85.916			
13,100.00	11,503.98	9,456.00	7,979.67	40.18	40.00	-6.73	-1,654.63	85.98	3,550.22	3,508.34	41.88	84.762			
13,200.00	11,503.19	9,508.55	7,978.61	40.88	40.65	-6.78	-1,706.94	90.82	3,553.03	3,510.73	42.29	84.011			
13,300.00	11,501.93	9,561.35	7,976.55	41.61	41.30	-6.81	-1,759.53	94.94	3,557.21	3,514.46	42.75	83.213			
13,365.21	11,500.86	9,660.00	7,972.73	42.11	42.55	-6.99	-1,857.81	102.70	3,559.93	3,516.33	43.61	81.639			
13,400.00	11,500.23	9,703.38	7,971.26	42.38	43.11	-7.10	-1,901.05	105.85	3,561.18	3,517.18	44.00	80.940			
13,500.00	11,498.43	9,839.18	7,967.24	43.18	44.88	-7.41	-2,036.58	113.16	3,564.16	3,518.92	45.24	78.789			
13,514.54	11,498.16	9,857.00	7,966.79	43.30	45.12	-7.44	-2,054.39	113.86	3,564.51	3,519.11	45.40	78.507			
13,600.00	11,496.81	9,961.10	7,964.33	44.02	46.50	-7.66	-2,158.41	116.90	3,566.37	3,519.98	46.38	76.888			
13,700.00	11,495.70	10,025.00	7,962.88	44.89	47.35	-7.78	-2,222.29	117.54	3,568.58	3,521.55	47.04	75.865			
13,800.00	11,495.11	10,086.20	7,960.79	45.79	48.18	-7.87	-2,283.46	117.79	3,572.03	3,524.34	47.69	74.904			
13,865.14	11,495.00	13,865.14	7,957.05	46.39	100.09	-7.93	-2,370.86	118.99	3,574.89	3,499.42	75.47	47.368			
13,900.00	11,495.00	10,253.29	7,954.78	46.71	50.47	-7.96	-2,450.38	121.08	3,575.92	3,526.66	49.27	72.582			
14,000.00	11,495.00	10,323.39	7,953.09	47.67	51.46	-8.02	-2,520.33	125.29	3,579.09	3,529.04	50.05	71.511			
14,100.00	11,495.00	10,425.76	7,950.63	48.64	52.92	-8.13	-2,622.36	133.19	3,582.52	3,531.36	51.16	70.029			
14,200.00	11,495.00	10,515.47	7,948.16	49.65	54.20	-8.21	-2,711.86	138.84	3,586.11	3,533.94	52.17	68.740			
14,300.00	11,495.00	10,603.50	7,945.45	50.67	55.48	-8.29	-2,799.68	144.25	3,590.01	3,536.82	53.19	67.495			
14,400.00	11,495.00	10,699.70	7,941.84	51.72	56.87	-8.34	-2,895.73	148.03	3,594.25	3,539.96	54.29	66.203			
14,500.00	11,495.00	10,876.85	7,938.49	52.78	59.48	-8.50	-3,072.46	159.40	3,596.77	3,540.61	56.17	64.037			
14,600.00	11,495.00	11,042.01	7,937.97	53.87	61.94	-8.62	-3,237.41	167.32	3,597.66	3,539.71	57.95	62.081			
14,700.00	11,495.00	11,187.26	7,939.13	54.97	64.10	-8.68	-3,382.59	171.41	3,597.26	3,537.70	59.56	60.398			
14,800.00	11,495.00	11,277.16	7,940.58	56.08	65.46	-8.72	-3,472.44	174.01	3,596.09	3,535.41	60.69	59.257			
14,850.36	11,495.00	11,300.84	7,940.83	56.66	65.81	-8.74	-3,496.10	175.11	3,595.90	3,534.83	61.07	58.881			

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 25H - Wellbore #1 - Surveys													Offset Site Error:	0.00 usft
Survey Program: 181-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,900.00	11,495.00	11,324.16	7,940.93	57.22	66.17	-8.76	-3,519.39	176.40	3,596.09	3,534.63	61.45	58.518		
15,000.00	11,495.00	11,350.00	7,940.88	58.37	66.56	-8.78	-3,545.17	178.07	3,597.69	3,535.64	62.05	57.979		
15,100.00	11,495.00	11,414.32	7,939.83	59.53	67.54	-8.85	-3,609.31	182.63	3,600.58	3,537.56	63.03	57.129		
15,200.00	11,495.00	11,471.61	7,937.79	60.70	68.42	-8.91	-3,666.42	186.80	3,605.09	3,541.14	63.95	56.371		
15,300.00	11,495.00	11,561.48	7,934.12	61.89	69.81	-8.99	-3,755.98	193.19	3,610.20	3,545.01	65.19	55.378		
15,400.00	11,495.00	11,635.00	7,931.04	63.09	70.94	-9.08	-3,829.20	199.09	3,615.64	3,549.34	66.30	54.530		
15,500.00	11,495.00	11,707.93	7,927.40	64.30	72.07	-9.15	-3,901.82	204.66	3,621.82	3,554.39	67.42	53.717		
15,600.00	11,495.00	12,070.50	7,923.51	65.52	77.74	-9.57	-4,263.09	232.92	3,621.92	3,550.67	71.25	50.832		
15,658.83	11,495.00	12,112.00	7,924.28	66.24	78.39	-9.63	-4,304.42	236.68	3,621.73	3,549.80	71.93	50.352		
15,700.00	11,495.00	12,112.00	7,924.28	66.75	78.39	-9.63	-4,304.42	236.68	3,621.96	3,549.84	72.13	50.216		
15,800.00	11,495.00	12,175.31	7,924.62	67.99	79.39	-9.72	-4,367.47	242.42	3,623.17	3,549.95	73.22	49.482		
15,900.00	11,495.00	12,230.49	7,923.76	69.23	80.26	-9.79	-4,422.41	247.36	3,626.09	3,551.84	74.25	48.837		
16,000.00	11,495.00	12,351.04	7,921.22	70.49	82.17	-9.91	-4,542.61	256.18	3,629.41	3,553.52	75.89	47.828		
16,100.00	11,495.00	12,481.20	7,919.64	71.75	84.22	-10.04	-4,672.47	264.69	3,631.66	3,554.04	77.61	46.791		
16,200.00	11,495.00	12,542.00	7,919.32	73.02	85.19	-10.11	-4,733.04	269.98	3,633.88	3,555.14	78.73	46.153		
16,240.14	11,495.00	12,542.00	7,919.32	73.53	85.19	-10.11	-4,733.04	269.98	3,635.34	3,556.39	78.95	46.043		

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 35H - 35H - #35H Actual													Offset Site Error:	0.00 usft
Survey Program: 154-MWD+HDGM, 3355-MWD+HDGM													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
12,784.00	11,504.84	12,784.00	11,504.84	0.00	0.00	0.00	-1,432.71	-333.97	0.00	0.00	0.00	N/A		
12,785.77	11,504.79	12,785.77	11,504.79	0.60	0.01	70.85	-1,434.48	-334.01	0.00	-0.30	0.30	0.005 Level 1		
12,800.00	11,504.46	12,800.00	11,504.43	5.44	0.14	79.93	-1,448.70	-334.39	0.17	-1.99	2.16	0.078 Level 1		
12,844.00	11,504.06	12,843.91	11,503.64	5.46	0.51	79.94	-1,492.56	-336.32	2.37	-0.70	3.07	0.771 Level 1		
12,900.00	11,504.17	12,899.60	11,503.40	5.49	0.99	84.12	-1,548.11	-340.25	7.50	4.37	3.14	2.393		
12,944.00	11,504.25	12,943.35	11,503.76	5.52	1.38	87.65	-1,591.71	-343.75	11.91	9.52	2.39	4.985		
13,000.00	11,504.29	12,998.88	11,504.72	5.55	1.87	91.41	-1,647.03	-348.50	17.48	13.73	3.75	4.661		
13,100.00	11,503.98	13,097.75	11,504.53	5.62	2.78	91.11	-1,745.29	-359.43	27.91	22.69	5.23	5.341 CC, ES		
13,200.00	11,503.19	13,197.13	11,506.15	5.69	3.72	94.52	-1,843.88	-371.76	37.26	29.79	7.47	4.990		
13,300.00	11,501.93	13,296.67	11,508.63	5.79	4.69	98.61	-1,942.61	-384.30	44.49	34.92	9.58	4.646		
13,365.21	11,500.86	13,361.83	11,510.41	5.87	5.33	101.37	-2,007.19	-392.78	48.30	37.48	10.82	4.463		
13,400.00	11,500.23	13,397.30	11,510.98	5.92	5.69	102.46	-2,042.39	-397.08	49.71	38.46	11.25	4.419		
13,500.00	11,498.43	13,498.48	11,509.78	6.16	6.71	102.74	-2,143.00	-407.56	51.45	38.91	12.54	4.104		
13,514.54	11,498.16	13,513.07	11,509.25	6.21	6.86	102.40	-2,157.51	-409.03	51.58	38.83	12.75	4.046 SF		
13,600.00	11,496.81	13,536.00	11,508.24	6.59	7.09	101.87	-2,180.30	-411.35	82.09	66.38	15.72	5.224		
13,700.00	11,495.70	13,536.00	11,508.24	7.22	7.09	103.24	-2,180.30	-411.35	172.26	160.16	12.10	14.235		
13,800.00	11,495.11	13,536.00	11,508.24	7.99	7.09	106.33	-2,180.30	-411.35	269.88	259.39	10.49	25.717		
13,865.14	11,495.00	13,536.00	11,508.24	8.54	7.09	109.81	-2,180.30	-411.35	334.39	324.48	9.91	33.732		
13,900.00	11,495.00	13,536.00	11,508.24	8.84	7.09	109.81	-2,180.30	-411.35	369.04	359.36	9.68	38.111		
14,000.00	11,495.00	13,536.00	11,508.24	9.75	7.09	109.81	-2,180.30	-411.35	468.60	459.39	9.21	50.879		
14,100.00	11,495.00	13,536.00	11,508.24	10.70	7.09	109.81	-2,180.30	-411.35	568.31	559.40	8.91	63.789		
14,200.00	11,495.00	13,536.00	11,508.24	11.68	7.09	109.81	-2,180.30	-411.35	668.11	659.40	8.71	76.706		
14,300.00	11,495.00	13,536.00	11,508.24	12.69	7.09	109.81	-2,180.30	-411.35	767.96	759.38	8.58	89.548		
14,400.00	11,495.00	13,536.00	11,508.24	13.72	7.09	109.81	-2,180.30	-411.35	867.85	859.36	8.49	102.262		
14,500.00	11,495.00	13,536.00	11,508.24	14.78	7.09	109.81	-2,180.30	-411.35	967.75	959.33	8.43	114.811		
14,600.00	11,495.00	13,536.00	11,508.24	15.86	7.09	109.81	-2,180.30	-411.35	1,067.68	1,059.29	8.40	127.172		
14,700.00	11,495.00	13,536.00	11,508.24	16.96	7.09	109.81	-2,180.30	-411.35	1,167.62	1,159.24	8.38	139.328		
14,800.00	11,495.00	13,536.00	11,508.24	18.07	7.09	109.81	-2,180.30	-411.35	1,267.57	1,259.19	8.38	151.267		
14,900.00	11,495.00	13,536.00	11,508.24	19.21	7.09	109.81	-2,180.30	-411.35	1,367.52	1,359.13	8.39	162.981		
15,000.00	11,495.00	13,536.00	11,508.24	20.35	7.09	109.81	-2,180.30	-411.35	1,467.49	1,459.07	8.41	174.465		
15,100.00	11,495.00	13,536.00	11,508.24	21.51	7.09	109.81	-2,180.30	-411.35	1,567.45	1,559.01	8.44	185.715		
15,200.00	11,495.00	13,536.00	11,508.24	22.69	7.09	109.81	-2,180.30	-411.35	1,667.42	1,658.95	8.48	196.730		
15,300.00	11,495.00	13,536.00	11,508.24	23.87	7.09	109.81	-2,180.30	-411.35	1,767.40	1,758.88	8.52	207.510		
15,400.00	11,495.00	13,536.00	11,508.24	25.07	7.09	109.81	-2,180.30	-411.35	1,867.37	1,858.81	8.56	218.055		
15,500.00	11,495.00	13,536.00	11,508.24	26.28	7.09	109.81	-2,180.30	-411.35	1,967.35	1,958.74	8.61	228.366		
15,600.00	11,495.00	13,536.00	11,508.24	27.50	7.09	109.81	-2,180.30	-411.35	2,067.34	2,058.67	8.67	238.445		
15,700.00	11,495.00	13,536.00	11,508.24	28.73	7.09	109.81	-2,180.30	-411.35	2,167.32	2,158.59	8.73	248.294		
15,800.00	11,495.00	13,536.00	11,508.24	29.97	7.09	109.81	-2,180.30	-411.35	2,267.30	2,258.51	8.79	257.917		
15,900.00	11,495.00	13,536.00	11,508.24	31.22	7.09	109.81	-2,180.30	-411.35	2,367.29	2,358.43	8.86	267.315		
16,000.00	11,495.00	13,536.00	11,508.24	32.47	7.09	109.81	-2,180.30	-411.35	2,467.28	2,458.35	8.92	276.493		
16,100.00	11,495.00	13,536.00	11,508.24	33.74	7.09	109.81	-2,180.30	-411.35	2,567.26	2,558.27	8.99	285.454		
16,200.00	11,495.00	13,536.00	11,508.24	35.01	7.09	109.81	-2,180.30	-411.35	2,667.25	2,658.19	9.07	294.201		
16,240.14	11,495.00	13,536.00	11,508.24	35.52	7.09	109.81	-2,180.30	-411.35	2,707.38	2,698.29	9.10	297.652		

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 35H - 35H - Design #7													Offset Site Error:	0.00 usft
Survey Program: 154-MWD+HDGM, 3355-MWD+HDGM, 11626-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (")	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)						
11,626.00	11,440.71	11,626.00	11,440.71	0.00	0.00	0.00	-288.80	-379.93	0.00	0.00	0.00	N/A		
11,631.92	11,442.97	11,631.92	11,442.96	0.04	0.04	-35.33	-294.26	-379.69	0.01	-0.04	0.05	0.212 Level 1		
11,680.00	11,460.20	11,679.98	11,459.57	0.36	0.36	-35.81	-339.32	-377.92	0.81	0.43	0.38	2.133		
11,700.00	11,466.79	11,699.94	11,465.56	0.49	0.48	-33.20	-358.35	-377.28	1.53	1.05	0.48	3.174		
11,754.00	11,483.27	11,753.64	11,478.96	0.84	0.83	-24.31	-410.32	-375.84	4.82	4.18	0.64	7.551		
11,800.00	11,495.27	11,799.09	11,487.17	1.12	1.11	-13.43	-455.00	-374.93	8.42	7.83	0.59	14.305		
11,848.00	11,505.22	11,846.14	11,492.62	1.41	1.41	1.23	-501.73	-374.31	12.64	12.05	0.59	21.269		
11,900.00	11,512.59	11,912.00	11,495.01	1.67	1.83	15.11	-551.92	-373.99	18.20	16.94	1.26	14.474		
11,941.00	11,515.62	11,936.99	11,495.01	1.88	1.98	24.86	-592.51	-373.92	22.73	21.03	1.70	13.349		
12,000.00	11,516.54	12,004.60	11,495.01	2.13	2.40	39.25	-650.92	-373.84	27.95	25.41	2.54	11.002		
12,035.00	11,515.53	12,029.97	11,495.01	2.28	2.55	47.94	-685.48	-373.79	30.97	27.95	3.02	10.252		
12,100.00	11,513.42	12,105.79	11,495.01	2.56	3.01	60.37	-749.73	-373.69	37.63	33.69	3.94	9.546		
12,127.00	11,513.06	12,120.97	11,495.01	2.68	3.10	63.40	-776.49	-373.65	40.63	36.42	4.21	9.647		
12,200.00	11,512.79	12,206.29	11,495.01	3.06	3.62	67.17	-849.23	-373.54	45.82	40.71	5.11	8.964		
12,221.00	11,512.83	12,214.71	11,495.01	3.17	3.67	67.32	-870.22	-373.51	46.19	40.91	5.28	8.750		
12,300.00	11,512.62	12,293.64	11,495.01	3.69	4.15	66.19	-949.16	-373.39	43.66	37.51	6.14	7.107		
12,315.00	11,512.48	12,308.59	11,495.01	3.78	4.24	65.71	-964.11	-373.37	42.52	36.22	6.30	6.746		
12,400.00	11,511.44	12,406.54	11,495.01	4.38	4.86	64.59	-1,048.98	-373.24	38.26	30.89	7.37	5.194		
12,409.00	11,511.31	12,402.46	11,495.01	4.45	4.84	64.71	-1,057.98	-373.23	38.13	30.74	7.40	5.155		
12,427.79	11,511.06	12,421.25	11,495.01	4.58	4.96	65.03	-1,076.77	-373.20	38.03	30.38	7.65	4.969		
12,500.00	11,510.69	12,506.57	11,495.01	5.08	5.52	66.61	-1,148.95	-373.09	39.52	30.78	8.75	4.519		
12,505.00	11,510.70	12,501.57	11,495.01	5.11	5.49	66.73	-1,153.94	-373.08	39.74	30.99	8.75	4.541		
12,597.00	11,510.63	12,609.63	11,495.01	5.76	6.23	68.45	-1,245.89	-372.95	42.55	32.32	10.23	4.159		
12,600.00	11,510.62	12,606.63	11,495.01	5.78	6.21	68.50	-1,248.89	-372.94	42.59	32.36	10.23	4.163		
12,690.00	11,508.33	12,683.33	11,495.01	6.46	6.76	71.67	-1,338.85	-372.81	42.29	30.68	11.60	3.644		
12,700.00	11,507.88	12,706.68	11,495.01	6.54	6.93	72.22	-1,348.84	-372.79	42.07	30.19	11.88	3.541		
12,784.00	11,504.84	12,777.25	11,495.01	7.22	7.46	75.78	-1,432.77	-372.67	39.93	26.70	13.23	3.018		
12,800.00	11,504.46	12,806.75	11,495.01	7.80	7.69	76.20	-1,448.76	-372.64	39.56	25.93	13.63	2.902		
12,819.98	11,504.15	12,813.22	11,495.01	7.91	7.74	76.58	-1,468.74	-372.61	39.40	25.59	13.81	2.854		
12,844.00	11,504.06	12,837.24	11,495.01	8.03	7.93	76.81	-1,492.76	-372.58	39.63	25.49	14.14	2.803		
12,900.00	11,504.17	12,906.77	11,495.01	8.33	8.48	77.01	-1,548.75	-372.49	40.72	25.68	15.05	2.706		
12,944.00	11,504.25	12,937.22	11,495.01	8.57	8.74	77.16	-1,592.74	-372.43	41.58	26.01	15.58	2.670		
13,000.00	11,504.29	13,006.78	11,495.01	8.89	9.32	77.32	-1,648.73	-372.34	42.27	25.73	16.53	2.556		
13,100.00	11,503.98	13,093.21	11,495.01	9.51	10.07	77.51	-1,748.73	-372.20	41.44	23.48	17.96	2.307		
13,200.00	11,503.19	13,206.85	11,495.01	10.19	11.09	77.58	-1,848.66	-372.05	38.01	18.30	19.71	1.928		
13,300.00	11,501.93	13,307.04	11,495.01	10.91	12.03	77.51	-1,948.48	-371.90	31.96	10.57	21.39	1.494 Level 3		
13,365.21	11,500.86	13,357.95	11,495.01	11.41	12.52	77.34	-2,013.47	-371.80	26.61	4.24	22.37	1.190 Level 2		
13,400.00	11,500.23	13,407.40	11,495.01	11.68	13.00	77.18	-2,048.11	-371.75	23.46	0.35	23.11	1.015 Level 2		
13,500.00	11,498.43	13,507.81	11,495.01	12.49	14.00	76.31	-2,147.70	-371.60	14.41	-10.44	24.85	0.580 Level 1		
13,514.54	11,498.16	13,506.66	11,495.01	12.61	13.99	76.09	-2,162.18	-371.58	13.09	-11.84	24.93	0.525 Level 1		
13,600.00	11,496.81	13,608.14	11,495.01	13.33	15.03	73.44	-2,247.37	-371.45	6.32	-20.11	26.43	0.239 Level 1		
13,700.00	11,495.70	13,708.30	11,495.01	14.18	16.08	43.04	-2,347.22	-371.30	0.95	-20.91	21.86	0.043 Level 1		
13,719.63	11,495.55	13,711.31	11,495.01	14.35	16.11	-11.68	-2,366.83	-371.27	0.55	-10.64	11.19	0.049 Level 1		
13,800.00	11,495.11	13,808.34	11,495.01	15.05	17.15	-87.34	-2,447.17	-371.15	2.20	-28.84	31.04	0.071 Level 1		
13,865.14	11,495.00	13,856.79	11,495.01	15.63	17.68	-90.15	-2,512.30	-371.05	2.66	-29.59	32.26	0.083 Level 1		
13,900.00	11,495.00	13,908.35	11,495.01	15.95	18.24	-90.15	-2,547.17	-371.00	2.63	-30.54	33.16	0.079 Level 1		
14,000.00	11,495.00	14,008.35	11,495.01	16.86	19.36	-90.15	-2,647.17	-370.85	2.51	-32.75	35.26	0.071 Level 1		
14,100.00	11,495.00	14,108.35	11,495.01	17.81	20.49	-90.15	-2,747.17	-370.70	2.40	-35.00	37.41	0.064 Level 1		
14,200.00	11,495.00	14,191.65	11,495.01	18.78	21.45	-90.15	-2,847.17	-370.55	2.29	-37.10	39.39	0.058 Level 1		
14,300.00	11,495.00	14,308.35	11,495.01	19.78	22.81	-90.15	-2,947.17	-370.40	2.18	-39.63	41.80	0.052 Level 1		
14,400.00	11,495.00	14,391.65	11,495.01	20.80	23.79	-90.15	-3,047.17	-370.25	2.06	-41.79	43.85	0.047 Level 1		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - 35H - 35H - Design #7													Offset Site Error:	0.00 usft
Survey Program: 154-MWD+HDGM, 3355-MWD+HDGM, 11626-MWD+HDGM													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,500.00	11,495.00	14,508.35	11,495.01	21.84	25.18	-90.15	-3,147.17	-370.10	1.95	-44.38	46.33	0.042 Level 1		
14,600.00	11,495.00	14,608.35	11,495.01	22.91	26.39	-90.15	-3,247.17	-369.95	1.84	-46.81	48.65	0.038 Level 1		
14,700.00	11,495.00	14,708.35	11,495.00	23.99	27.61	-90.15	-3,347.17	-369.80	1.73	-49.26	50.99	0.034 Level 1		
14,800.00	11,495.00	14,808.35	11,495.00	25.09	28.84	-90.15	-3,447.17	-369.65	1.62	-51.74	53.35	0.030 Level 1		
14,900.00	11,495.00	14,908.35	11,495.00	26.21	30.08	-90.15	-3,547.17	-369.50	1.50	-54.24	55.74	0.027 Level 1		
15,000.00	11,495.00	15,008.35	11,495.00	27.34	31.34	-90.15	-3,647.17	-369.36	1.39	-56.77	58.16	0.024 Level 1		
15,100.00	11,495.00	15,108.35	11,495.00	28.49	32.60	-90.15	-3,747.17	-369.21	1.28	-59.31	60.59	0.021 Level 1		
15,200.00	11,495.00	15,208.35	11,495.00	29.66	33.87	-90.15	-3,847.17	-369.06	1.17	-61.88	63.05	0.019 Level 1		
15,300.00	11,495.00	15,308.35	11,495.00	30.83	35.14	-90.15	-3,947.17	-368.91	1.05	-64.47	65.53	0.016 Level 1		
15,400.00	11,495.00	15,408.35	11,495.00	32.02	36.43	-90.15	-4,047.17	-368.76	0.94	-67.08	68.02	0.014 Level 1		
15,500.00	11,495.00	15,508.35	11,495.00	33.22	37.72	-90.15	-4,147.17	-368.61	0.83	-69.70	70.53	0.012 Level 1		
15,600.00	11,495.00	15,608.35	11,495.00	34.43	39.02	-90.15	-4,247.17	-368.46	0.72	-72.34	73.06	0.010 Level 1		
15,700.00	11,495.00	15,708.35	11,495.00	35.66	40.33	-90.15	-4,347.17	-368.31	0.61	-75.00	75.61	0.008 Level 1		
15,800.00	11,495.00	15,808.35	11,495.00	36.89	41.64	-90.15	-4,447.17	-368.16	0.49	-77.67	78.16	0.006 Level 1		
15,900.00	11,495.00	15,908.35	11,495.00	38.13	42.96	-90.15	-4,547.17	-368.01	0.38	-80.36	80.74	0.005 Level 1		
16,000.00	11,495.00	16,008.35	11,495.00	39.38	44.28	-90.15	-4,647.17	-367.86	0.27	-83.05	83.32	0.003 Level 1		
16,100.00	11,495.00	16,108.35	11,495.00	40.64	45.61	-90.15	-4,747.17	-367.71	0.16	-85.76	85.92	0.002 Level 1		
16,200.00	11,495.00	16,191.65	11,495.00	41.90	46.72	-90.15	-4,847.17	-367.56	0.05	-88.26	88.31	0.001 Level 1, ES		
16,240.14	11,495.00	16,231.79	11,495.00	42.41	47.25	0.00	-4,887.30	-367.50	0.00	0.00	0.00	0.000 Level 1, CC, SF		

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 931-MWD													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-139.78	-130.30	-110.20	170.65				
100.00	100.00	99.25	99.25	0.14	0.14	0.14	-57.21	-130.54	-110.25	170.69	170.42	0.28	619.404	
154.00	154.00	153.64	153.64	0.24	0.32	0.24	-57.39	-130.77	-110.25	170.62	170.06	0.56	304.051	
200.00	199.99	199.99	199.98	0.40	0.49	0.40	-62.67	-130.89	-110.19	170.42	169.54	0.89	191.910	
245.00	244.99	244.97	244.97	0.56	0.64	0.56	-66.58	-130.95	-110.12	170.18	168.98	1.21	141.077	
300.00	299.99	299.95	299.95	0.76	0.84	0.76	-59.59	-130.98	-110.10	169.85	168.26	1.60	106.465	
335.00	334.98	335.01	335.00	0.89	0.96	0.89	-55.25	-130.97	-110.11	169.59	167.75	1.84	92.017	
400.00	399.98	400.10	400.10	1.12	1.18	1.12	-50.03	-130.93	-110.12	169.09	166.79	2.30	73.423	
431.00	430.98	431.08	431.08	1.23	1.29	1.23	-45.88	-130.89	-110.13	168.88	166.35	2.52	66.962	
500.00	499.97	500.02	500.02	1.48	1.53	1.48	-29.07	-130.83	-110.16	168.40	165.39	3.01	55.975	
522.00	521.97	522.08	522.08	1.56	1.61	1.56	-23.29	-130.81	-110.17	168.24	165.07	3.16	53.172	
600.00	599.97	600.29	600.29	1.83	1.88	1.83	31.19	-130.73	-110.12	167.61	163.90	3.71	45.191	
613.00	612.97	613.27	613.27	1.87	1.93	1.87	39.00	-130.71	-110.10	167.51	163.71	3.80	44.084	
700.00	699.97	700.14	700.14	2.18	2.23	2.18	8.62	-130.62	-110.02	166.82	162.41	4.41	37.856	
705.00	704.97	705.13	705.13	2.19	2.25	2.19	6.74	-130.61	-110.02	166.78	162.34	4.44	37.550	
777.66	777.63	777.35	777.35	2.45	2.46	2.45	53.06	-130.56	-110.12	166.49	161.59	4.90	33.975 CC	
797.00	796.97	796.55	796.55	2.51	2.49	2.51	83.93	-130.57	-110.16	166.51	161.51	5.00	33.284	
800.00	799.97	799.53	799.53	2.52	2.50	2.52	83.94	-130.58	-110.17	166.52	161.50	5.02	33.181	
888.00	887.97	886.88	886.88	2.82	2.66	2.82	83.31	-130.89	-110.42	166.89	161.41	5.48	30.452 ES	
900.00	899.97	898.79	898.79	2.86	2.68	2.86	84.77	-130.96	-110.46	166.96	161.42	5.54	30.117	
980.00	979.96	977.49	977.48	3.14	2.77	3.14	87.93	-131.70	-110.78	167.70	161.80	5.91	28.395	
1,000.00	999.96	996.86	996.85	3.21	2.78	3.21	93.15	-132.08	-110.81	168.04	162.05	5.99	28.054	
1,069.00	1,068.95	1,063.65	1,063.60	3.45	2.84	3.45	107.99	-134.43	-110.58	169.98	163.70	6.28	27.072	
1,100.00	1,099.95	1,093.41	1,093.31	3.55	2.88	3.55	115.62	-136.00	-110.31	171.28	164.85	6.42	26.666	
1,160.00	1,159.94	1,150.95	1,150.71	3.76	2.95	3.76	129.22	-140.02	-109.49	174.61	167.91	6.70	26.076	
1,200.00	1,199.93	1,189.66	1,189.25	3.90	3.01	3.90	124.53	-143.44	-108.63	177.30	170.40	6.89	25.717	
1,251.00	1,250.92	1,238.87	1,238.16	4.07	3.09	4.07	116.49	-148.65	-107.02	181.02	173.88	7.15	25.332	
1,300.00	1,299.92	1,286.98	1,285.88	4.24	3.19	4.24	133.96	-154.42	-105.01	184.96	177.56	7.41	24.975	
1,342.00	1,341.92	1,328.32	1,326.85	4.39	3.27	4.39	157.92	-159.58	-103.11	188.56	180.93	7.63	24.710	
1,400.00	1,399.92	1,385.32	1,383.31	4.59	3.41	4.59	147.47	-166.91	-100.37	193.91	185.96	7.96	24.374	
1,434.00	1,433.91	1,418.73	1,416.41	4.71	3.49	4.71	143.40	-171.23	-98.82	197.26	189.11	8.15	24.208	
1,500.00	1,499.91	1,484.35	1,481.41	4.94	3.67	4.94	153.33	-179.70	-95.91	203.99	195.45	8.54	23.889	
1,525.00	1,524.90	1,509.32	1,506.16	5.02	3.73	5.02	157.97	-182.87	-94.82	206.54	197.85	8.69	23.772	
1,600.00	1,599.90	1,584.06	1,580.25	5.28	3.95	5.28	139.29	-192.14	-91.68	214.10	204.95	9.15	23.405	
1,616.00	1,615.90	1,600.00	1,596.06	5.34	4.00	5.34	134.52	-194.07	-91.05	215.69	206.44	9.25	23.327	
1,700.00	1,699.89	1,681.90	1,677.28	5.63	4.25	5.63	166.86	-204.16	-87.90	224.33	214.56	9.76	22.975	
1,707.00	1,706.89	1,688.66	1,683.97	5.66	4.27	5.66	169.76	-205.03	-87.62	225.10	215.29	9.81	22.953	
1,800.00	1,799.89	1,779.85	1,774.25	5.98	4.57	5.98	145.62	-217.25	-83.65	235.50	225.10	10.40	22.654	
1,802.00	1,801.89	1,781.83	1,776.21	5.99	4.58	5.99	144.04	-217.51	-83.56	235.72	225.31	10.41	22.648	
1,896.00	1,895.89	1,879.14	1,872.61	6.32	4.91	6.32	56.76	-230.09	-79.20	245.49	234.44	11.04	22.231	
1,900.00	1,899.89	1,883.39	1,876.82	6.34	4.93	6.34	49.26	-230.58	-79.03	245.85	234.78	11.07	22.208	
1,991.00	1,990.88	1,976.24	1,969.08	6.65	5.24	6.65	-47.46	-240.45	-75.51	252.92	241.24	11.68	21.658	
2,000.00	1,999.88	1,985.29	1,978.08	6.68	5.27	6.68	-49.34	-241.38	-75.17	253.55	241.81	11.74	21.603	
2,086.00	2,085.82	2,068.89	2,061.16	6.98	5.57	6.98	-59.05	-250.13	-72.20	259.47	247.19	12.29	21.116	
2,100.00	2,099.80	2,082.37	2,074.55	7.03	5.61	7.03	-59.64	-251.61	-71.75	260.48	248.10	12.38	21.045	
2,181.00	2,180.69	2,163.01	2,154.66	7.31	5.90	7.31	-62.85	-260.54	-69.08	266.41	253.50	12.91	20.634	
2,200.00	2,199.66	2,182.07	2,173.59	7.38	5.97	7.38	-65.65	-262.61	-68.44	267.79	254.75	13.04	20.540	
2,275.00	2,274.50	2,254.35	2,245.38	7.64	6.23	7.64	-74.70	-270.64	-66.10	273.77	260.25	13.52	20.247	
2,300.00	2,299.44	2,278.29	2,269.16	7.73	6.32	7.73	-74.47	-273.43	-65.38	276.00	262.32	13.68	20.173	
2,370.00	2,369.28	2,347.79	2,338.14	7.97	6.58	7.97	-73.54	-281.62	-63.23	282.45	268.30	14.15	19.962	
2,400.00	2,399.21	2,377.70	2,367.82	8.08	6.69	8.08	-74.16	-285.12	-62.21	285.23	270.88	14.35	19.874	

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

Company: WPX Energy
Project: Eddy County, NM

Reference Site: RDX Federal 17

Site Error: 0.00 usft

Reference Well: 35H

Well Error: 0.00 usft

Reference Wellbore: ST01

Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Output errors are at 2.00 sigma

Database: Gyrodata NWDB

Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 931-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,465.00	2,464.09	2,444.55	2,434.21	8.31	6.94	-75.46	-292.62	-59.96	291.10	276.30	14.80	19.665		
2,500.00	2,499.02	2,480.67	2,470.11	8.43	7.07	-76.14	-296.42	-58.82	294.12	279.07	15.05	19.546		
2,560.00	2,558.93	2,542.91	2,532.01	8.64	7.30	-77.26	-302.53	-56.74	298.98	283.51	15.47	19.328		
2,600.00	2,598.85	2,583.80	2,572.71	8.78	7.45	-82.26	-306.27	-55.23	302.08	286.33	15.75	19.184		
2,655.00	2,653.73	2,638.54	2,627.18	8.98	7.65	-87.93	-311.17	-53.11	306.55	290.42	16.12	19.016		
2,700.00	2,698.62	2,683.34	2,671.77	9.14	7.81	-89.87	-315.15	-51.29	310.39	293.96	16.43	18.895		
2,750.00	2,748.50	2,733.16	2,721.35	9.31	7.99	-92.10	-319.54	-49.02	314.78	298.01	16.77	18.770		
2,800.00	2,798.40	2,781.86	2,769.80	9.49	8.18	-88.74	-323.82	-46.50	319.17	302.06	17.11	18.657		
2,845.00	2,843.33	2,824.65	2,812.32	9.65	8.34	-84.63	-327.79	-43.88	323.21	305.81	17.41	18.569		
2,900.00	2,898.25	2,878.17	2,865.46	9.85	8.54	-88.08	-333.01	-40.17	328.47	310.69	17.78	18.475		
2,940.00	2,938.18	2,918.12	2,905.13	9.99	8.69	-90.34	-336.89	-37.53	332.43	314.38	18.06	18.411		
3,000.00	2,998.04	2,976.90	2,963.52	10.21	8.92	-102.59	-342.57	-33.94	338.92	320.45	18.47	18.352		
3,035.00	3,032.94	3,010.54	2,996.93	10.33	9.04	-108.30	-345.91	-31.86	343.26	324.55	18.70	18.352		
3,100.00	3,097.73	3,072.41	3,058.34	10.56	9.28	-113.36	-352.26	-27.90	352.17	333.03	19.14	18.400		
3,129.00	3,126.63	3,099.78	3,085.49	10.67	9.39	-115.52	-355.19	-26.06	356.47	337.13	19.33	18.438		
3,200.00	3,197.39	3,166.18	3,151.31	10.92	9.65	-119.69	-362.63	-21.38	367.70	347.90	19.80	18.569		
3,225.00	3,222.31	3,189.38	3,174.29	11.01	9.75	-121.18	-365.37	-19.73	371.89	351.93	19.97	18.627		
3,300.00	3,297.03	3,263.00	3,247.17	11.28	10.04	-126.40	-374.40	-14.57	385.36	364.88	20.49	18.810		
3,320.00	3,316.95	3,283.91	3,267.89	11.35	10.13	-127.63	-376.88	-13.26	389.03	368.39	20.64	18.853		
3,355.00	3,351.80	3,320.61	3,304.29	11.42	10.27	-124.93	-381.09	-11.13	395.25	374.40	20.85	18.961		
3,400.00	3,396.62	3,366.99	3,350.33	11.43	10.46	-125.74	-386.17	-8.76	402.84	381.82	21.02	19.164		
3,449.00	3,445.44	3,417.23	3,400.23	11.44	10.65	-126.54	-391.47	-6.47	410.80	389.59	21.21	19.370		
3,496.00	3,492.28	3,465.54	3,448.26	11.45	10.84	-127.76	-396.37	-4.54	418.20	396.81	21.39	19.549		
3,500.00	3,496.27	3,468.83	3,451.53	11.45	10.85	-128.04	-396.71	-4.41	418.84	397.44	21.40	19.568		
3,591.00	3,586.93	3,558.41	3,540.59	11.48	11.20	-134.05	-405.77	-1.02	433.76	412.02	21.75	19.947		
3,600.00	3,595.89	3,567.38	3,549.50	11.48	11.23	-132.44	-406.68	-0.70	435.29	413.51	21.78	19.984		
3,685.00	3,680.46	3,652.11	3,633.76	11.52	11.56	-120.00	-415.18	2.10	449.21	427.10	22.12	20.310		
3,700.00	3,695.36	3,667.10	3,648.67	11.53	11.62	-119.98	-416.66	2.56	451.60	429.42	22.18	20.361		
3,778.00	3,772.87	3,745.05	3,726.21	11.58	11.92	-119.87	-424.24	5.00	463.95	441.46	22.50	20.621		
3,800.00	3,794.72	3,767.03	3,748.08	11.60	12.00	-121.70	-426.34	5.67	467.45	444.86	22.59	20.691		
3,871.00	3,865.27	3,838.00	3,818.70	11.65	12.28	-127.66	-433.01	7.75	479.01	456.12	22.89	20.925		
3,900.00	3,894.09	3,866.30	3,846.87	11.67	12.38	-130.07	-435.66	8.55	483.90	460.88	23.01	21.025		
3,965.00	3,958.66	3,930.90	3,911.16	11.73	12.63	-135.24	-441.70	10.31	495.30	472.00	23.30	21.262		
4,000.00	3,993.42	3,968.75	3,948.84	11.76	12.77	-134.32	-445.06	11.28	501.40	477.93	23.46	21.368		
4,058.00	4,051.03	4,032.17	4,012.05	11.82	13.01	-132.77	-450.11	12.77	510.82	487.08	23.75	21.512		
4,100.00	4,092.75	4,079.34	4,059.10	11.86	13.18	-132.82	-453.30	13.75	517.06	493.10	23.96	21.584		
4,152.00	4,144.42	4,135.32	4,114.98	11.92	13.38	-132.85	-456.47	14.76	524.16	499.96	24.20	21.657		
4,200.00	4,192.10	4,184.22	4,163.81	11.98	13.56	-133.14	-459.04	15.52	530.54	506.11	24.43	21.720		
4,246.00	4,237.79	4,229.79	4,209.32	12.03	13.72	-133.41	-461.36	16.15	536.64	512.01	24.64	21.783		
4,300.00	4,291.43	4,282.06	4,261.50	12.10	13.91	-133.38	-464.09	16.92	543.88	519.00	24.88	21.857		
4,340.00	4,331.16	4,323.42	4,302.80	12.15	14.05	-133.35	-466.27	17.51	549.20	524.12	25.08	21.902		
4,400.00	4,390.80	4,388.77	4,368.08	12.24	14.28	-133.72	-469.38	17.85	556.54	531.16	25.38	21.929		
4,434.00	4,424.61	4,425.73	4,405.01	12.28	14.41	-133.88	-470.93	17.74	560.34	534.79	25.55	21.932		
4,500.00	4,490.23	4,497.57	4,476.80	12.38	14.65	-134.04	-473.43	17.15	567.14	541.26	25.88	21.912		
4,528.00	4,518.07	4,526.49	4,505.71	12.42	14.74	-134.10	-474.30	16.79	569.89	543.87	26.02	21.903		
4,600.00	4,589.65	4,601.15	4,580.33	12.54	14.99	-134.93	-476.29	15.55	576.66	550.28	26.38	21.864		
4,622.00	4,611.53	4,623.31	4,602.48	12.57	15.06	-135.18	-476.84	15.16	578.68	552.19	26.48	21.851		
4,700.00	4,689.08	4,700.99	4,680.13	12.70	15.31	-135.65	-478.64	13.85	585.79	558.92	26.87	21.802		
4,716.00	4,704.99	4,716.55	4,695.68	12.73	15.37	-135.75	-479.02	13.59	587.26	560.31	26.95	21.793		
4,800.00	4,788.50	4,800.04	4,779.13	12.87	15.64	-136.59	-481.14	12.20	595.23	567.86	27.37	21.747		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H													Offset Site Error: 0.00 usft	
Survey Program: 100-GYRO-NS, 931-MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,810.00	4,798.44	4,810.41	4,789.50	12.89	15.67	-136.69	-481.38	12.04	596.18	568.75	27.42	21.740		
4,900.00	4,887.91	4,902.96	4,882.02	13.06	15.97	-137.12	-483.23	10.59	604.38	576.49	27.89	21.670		
4,903.00	4,890.90	4,906.01	4,885.07	13.06	15.98	-137.13	-483.28	10.55	604.64	576.74	27.91	21.668		
4,998.00	4,985.35	5,001.28	4,980.32	13.25	16.29	-139.11	-484.78	9.15	613.02	584.62	28.40	21.585		
5,000.00	4,987.34	5,003.26	4,982.29	13.25	16.30	-139.10	-484.81	9.12	613.20	584.79	28.41	21.584		
5,092.00	5,078.83	5,094.92	5,073.94	13.43	16.60	-138.28	-486.24	7.87	621.26	592.37	28.90	21.500		
5,100.00	5,086.79	5,102.99	5,082.00	13.45	16.62	-138.20	-486.36	7.76	621.94	593.00	28.94	21.492		
5,185.00	5,171.37	5,187.68	5,166.68	13.62	16.90	-137.19	-487.55	6.63	628.76	599.37	29.39	21.392		
5,200.00	5,186.31	5,202.43	5,181.43	13.66	16.95	-137.07	-487.76	6.44	629.91	600.44	29.47	21.372		
5,279.00	5,264.97	5,280.14	5,259.11	13.82	17.21	-136.39	-488.94	5.50	635.89	605.99	29.90	21.268		
5,300.00	5,285.88	5,300.79	5,279.76	13.87	17.27	-136.97	-489.27	5.26	637.48	607.47	30.01	21.240		
5,372.00	5,357.56	5,372.60	5,351.56	14.02	17.51	-138.83	-490.48	4.38	643.25	612.84	30.41	21.153		
5,400.00	5,385.43	5,400.92	5,379.87	14.09	17.61	-138.93	-490.94	4.02	645.56	614.99	30.57	21.120		
5,466.00	5,451.10	5,466.44	5,445.38	14.23	17.82	-139.14	-492.00	3.10	651.06	620.13	30.93	21.047		
5,500.00	5,484.93	5,499.73	5,478.66	14.31	17.93	-138.86	-492.59	2.61	653.94	622.82	31.12	21.011		
5,559.00	5,543.64	5,558.76	5,537.67	14.45	18.13	-138.34	-493.70	1.67	658.90	627.45	31.46	20.946		
5,600.00	5,584.45	5,600.38	5,579.27	14.55	18.27	-138.17	-494.48	0.90	662.24	630.55	31.69	20.896		
5,653.00	5,637.20	5,657.29	5,636.16	14.67	18.46	-137.92	-495.46	-0.36	666.34	634.34	32.00	20.822		
5,700.00	5,684.00	5,709.15	5,688.00	14.79	18.62	-138.59	-496.09	-1.84	669.50	637.23	32.28	20.742		
5,747.00	5,730.81	5,760.34	5,739.17	14.90	18.79	-139.29	-496.39	-3.46	672.20	639.66	32.55	20.652		
5,800.00	5,783.63	5,818.07	5,796.86	15.03	18.97	-138.18	-496.28	-5.27	674.64	641.79	32.86	20.534		
5,840.00	5,823.52	5,856.10	5,834.88	15.12	19.08	-137.18	-496.07	-6.26	676.21	643.14	33.08	20.445		
5,900.00	5,883.36	5,915.10	5,893.87	15.27	19.26	-134.22	-495.60	-7.41	678.36	644.95	33.41	20.304		
5,934.00	5,917.27	5,948.83	5,927.59	15.35	19.37	-132.47	-495.28	-7.92	679.49	645.89	33.60	20.223		
6,000.00	5,983.12	6,014.28	5,993.03	15.51	19.57	-131.62	-494.62	-8.75	681.57	647.60	33.97	20.063		
6,027.00	6,010.05	6,041.02	6,019.77	15.58	19.65	-131.25	-494.36	-9.08	682.39	648.27	34.12	19.998		
6,100.00	6,082.89	6,112.76	6,091.51	15.76	19.87	-129.01	-493.74	-10.00	684.54	650.00	34.54	19.821		
6,121.00	6,103.85	6,133.09	6,111.83	15.81	19.93	-128.35	-493.60	-10.26	685.15	650.49	34.66	19.770		
6,200.00	6,182.68	6,210.58	6,189.32	16.01	20.17	-127.58	-493.19	-11.16	687.55	652.44	35.11	19.583		
6,215.00	6,197.64	6,225.65	6,204.38	16.05	20.22	-127.43	-493.12	-11.32	688.00	652.81	35.20	19.548		
6,300.00	6,282.47	6,309.99	6,288.71	16.27	20.48	-123.40	-492.66	-12.22	690.32	654.63	35.69	19.343		
6,309.00	6,291.45	6,318.76	6,297.48	16.29	20.51	-122.93	-492.62	-12.31	690.54	654.80	35.74	19.321		
6,400.00	6,382.29	6,408.28	6,387.00	16.53	20.80	-120.30	-492.28	-13.07	692.74	656.47	36.27	19.099		
6,403.00	6,385.28	6,411.26	6,389.98	16.53	20.80	-120.21	-492.28	-13.09	692.81	656.53	36.29	19.092		
6,497.00	6,479.13	6,503.75	6,482.47	16.78	21.10	-118.14	-492.02	-13.81	694.82	657.98	36.84	18.860		
6,500.00	6,482.13	6,506.65	6,485.37	16.79	21.11	-118.27	-492.01	-13.83	694.88	658.02	36.86	18.852		
6,587.36	6,569.34	6,593.28	6,571.99	17.02	21.39	-121.46	-491.90	-14.21	697.12	659.74	37.38	18.651		
6,600.00	6,581.96	6,606.30	6,585.02	17.05	21.43	-121.31	-491.87	-14.26	697.47	660.02	37.45	18.622		
6,684.00	6,665.81	6,689.87	6,668.58	17.27	21.70	-120.18	-491.58	-14.66	699.55	661.60	37.96	18.430		
6,700.00	6,681.79	6,705.11	6,683.82	17.32	21.75	-122.85	-491.55	-14.70	699.97	661.91	38.05	18.395		
6,777.00	6,758.69	6,779.74	6,758.45	17.53	21.99	-138.21	-491.52	-14.77	702.43	663.92	38.51	18.240		
6,800.00	6,781.66	6,802.55	6,781.27	17.59	22.06	-138.89	-491.55	-14.79	703.25	664.60	38.65	18.195		
6,871.00	6,852.59	6,872.42	6,851.14	17.78	22.30	-141.22	-491.73	-14.94	705.76	666.67	39.08	18.057		
6,900.00	6,881.56	6,900.68	6,879.40	17.86	22.40	-140.93	-491.85	-15.01	706.78	667.52	39.26	18.001		
6,964.00	6,945.51	6,963.59	6,942.30	18.03	22.61	-140.15	-492.24	-15.16	708.97	669.32	39.66	17.878		
7,000.00	6,981.49	6,999.34	6,978.05	18.13	22.74	-138.24	-492.48	-15.23	710.14	670.26	39.88	17.807		
7,058.00	7,039.46	7,056.78	7,035.49	18.29	22.93	-134.80	-492.88	-15.32	711.90	671.66	40.24	17.691		
7,100.00	7,081.43	7,098.24	7,076.95	18.40	23.08	-133.11	-493.20	-15.37	713.11	672.61	40.50	17.607		
7,152.00	7,133.41	7,149.28	7,127.99	18.55	23.25	-130.84	-493.65	-15.43	714.57	673.74	40.83	17.503		
7,200.00	7,181.38	7,196.11	7,174.81	18.68	23.42	-118.59	-494.14	-15.48	715.84	674.71	41.12	17.407		
7,245.00	7,226.36	7,240.98	7,219.68	18.80	23.57	-108.72	-494.66	-15.52	716.88	675.47	41.41	17.313		

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

Company: WPX Energy
Project: Eddy County, NM

Reference Site: RDX Federal 17

Site Error: 0.00 usft

Reference Well: 35H

Well Error: 0.00 usft

Reference Wellbore: ST01

Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid
Survey Calculation Method: Minimum Curvature

Output errors are at 2.00 sigma

Database: Gyrodata NWDB

Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 931-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,300.00	7,281.32	7,296.99	7,275.69	18.95	23.77	-99.35	-495.24	-15.54	717.84	676.08	41.76	17.191		
7,338.00	7,319.29	7,335.72	7,314.41	19.06	23.90	-93.26	-495.59	-15.56	718.27	676.27	42.00	17.103		
7,400.00	7,381.25	7,398.95	7,377.64	19.23	24.12	-105.39	-496.19	-15.82	719.00	676.61	42.39	16.960		
7,431.00	7,412.23	7,429.91	7,408.60	19.32	24.23	-111.78	-496.51	-16.05	719.51	676.92	42.59	16.894		
7,500.00	7,481.19	7,498.40	7,477.09	19.51	24.46	-128.70	-497.39	-16.75	720.99	677.96	43.03	16.756		
7,525.00	7,506.18	7,523.48	7,502.16	19.58	24.55	-136.20	-497.77	-17.09	721.62	678.43	43.19	16.709		
7,600.00	7,581.16	7,599.04	7,577.70	19.79	24.81	-136.57	-499.08	-18.42	723.46	679.79	43.67	16.567		
7,618.00	7,599.15	7,618.20	7,596.85	19.85	24.88	-136.67	-499.42	-18.82	723.84	680.05	43.79	16.531		
7,700.00	7,681.13	7,704.98	7,683.60	20.08	25.18	-138.61	-500.56	-20.70	725.27	680.95	44.32	16.363		
7,712.00	7,693.12	7,717.36	7,695.97	20.11	25.22	-138.86	-500.69	-20.99	725.46	681.06	44.40	16.339		
7,800.00	7,781.09	7,807.22	7,785.79	20.37	25.52	-135.71	-501.65	-23.48	726.71	681.75	44.97	16.161		
7,805.00	7,786.09	7,812.19	7,790.77	20.38	25.54	-135.55	-501.70	-23.62	726.78	681.79	45.00	16.151		
7,899.00	7,880.07	7,908.45	7,886.98	20.65	25.87	-99.89	-502.75	-26.52	727.23	681.63	45.61	15.946		
7,900.00	7,881.07	7,909.54	7,888.07	20.66	25.87	-99.57	-502.76	-26.56	727.22	681.61	45.61	15.944		
7,992.00	7,973.06	8,006.99	7,985.43	20.91	26.20	-45.08	-503.50	-30.45	725.71	679.51	46.20	15.708		
8,000.00	7,981.06	8,015.04	7,993.48	20.93	26.22	-43.09	-503.54	-30.79	725.53	679.28	46.25	15.687		
8,086.00	8,067.06	8,098.50	8,076.86	21.16	26.51	-2.75	-503.93	-34.07	723.66	676.88	46.78	15.471		
8,100.00	8,081.06	8,111.33	8,089.69	21.20	26.55	-13.37	-504.00	-34.50	723.42	676.56	46.86	15.437		
8,180.00	8,161.06	8,185.90	8,164.23	21.41	26.80	-92.74	-504.52	-36.44	722.66	675.31	47.35	15.262		
8,200.00	8,181.06	8,205.12	8,183.45	21.47	26.87	-75.59	-504.69	-36.88	722.57	675.10	47.47	15.220		
8,274.00	8,255.06	8,277.02	8,255.33	21.67	27.11	5.23	-505.51	-38.43	722.22	674.29	47.94	15.067		
8,300.00	8,281.06	8,302.88	8,281.18	21.74	27.20	7.71	-505.83	-38.97	722.05	673.96	48.10	15.013		
8,368.00	8,349.06	8,370.67	8,348.95	21.92	27.44	11.12	-506.68	-40.39	721.46	672.94	48.52	14.870		
8,400.00	8,381.06	8,402.75	8,381.02	22.01	27.55	13.70	-507.09	-41.06	721.13	672.41	48.72	14.802		
8,462.00	8,443.05	8,465.59	8,443.84	22.17	27.77	19.06	-507.86	-42.39	720.50	671.40	49.11	14.672		
8,500.00	8,481.05	8,505.00	8,483.24	22.28	27.90	-6.57	-508.31	-43.31	720.13	670.78	49.35	14.592		
8,556.00	8,537.05	8,563.33	8,541.54	22.43	28.10	-83.82	-508.88	-44.80	719.69	669.97	49.71	14.477		
8,600.00	8,581.05	8,609.46	8,587.66	22.56	28.26	-124.66	-509.20	-46.04	719.40	669.40	50.00	14.388		
8,649.00	8,630.05	8,660.72	8,638.90	22.71	28.43	-161.61	-509.38	-47.44	719.14	668.82	50.32	14.290		
8,700.00	8,681.05	8,713.97	8,692.13	22.85	28.61	51.96	-509.32	-48.80	718.58	667.93	50.65	14.187		
8,743.00	8,724.05	8,757.72	8,735.87	22.97	28.76	34.25	-509.10	-49.83	717.62	666.70	50.92	14.092		
8,800.00	8,781.04	8,815.01	8,793.15	23.13	28.95	19.98	-508.69	-51.03	715.82	664.55	51.27	13.961		
8,836.00	8,817.03	8,851.72	8,829.84	23.23	29.07	15.91	-508.36	-51.75	714.39	662.89	51.50	13.872		
8,900.00	8,881.00	8,917.17	8,895.28	23.40	29.28	10.28	-507.72	-53.13	711.34	659.45	51.89	13.707		
8,931.00	8,911.98	8,945.24	8,923.34	23.48	29.38	8.21	-507.47	-53.70	709.76	657.68	52.08	13.628		
9,000.00	8,980.94	9,008.05	8,986.14	23.67	29.59	10.64	-507.19	-54.69	706.65	654.15	52.50	13.460		
9,025.00	9,005.93	9,031.75	9,009.84	23.74	29.67	11.59	-507.18	-54.98	705.69	653.04	52.65	13.403		
9,100.00	9,080.89	9,103.15	9,081.24	23.95	29.91	-12.48	-507.39	-55.79	703.07	649.95	53.12	13.236		
9,118.00	9,098.88	9,120.76	9,098.85	24.00	29.97	-17.82	-507.50	-55.98	702.48	649.25	53.23	13.196		
9,200.00	9,180.84	9,201.12	9,179.19	24.24	30.25	-30.52	-508.15	-56.92	700.12	646.36	53.76	13.024		
9,212.00	9,192.83	9,212.86	9,190.93	24.27	30.29	-32.49	-508.26	-57.07	699.82	645.99	53.84	12.999		
9,298.87	9,279.67	9,298.17	9,276.23	24.53	30.59	-71.00	-509.20	-58.02	698.78	644.38	54.40	12.845		
9,300.00	9,280.81	9,299.34	9,277.40	24.53	30.60	-71.99	-509.21	-58.03	698.78	644.38	54.41	12.843		
9,305.00	9,285.81	9,304.48	9,282.55	24.55	30.62	-76.56	-509.27	-58.09	698.79	644.35	54.44	12.835		
9,398.00	9,378.79	9,401.63	9,379.69	24.83	30.95	-99.86	-510.12	-59.08	699.07	644.00	55.07	12.694		
9,400.00	9,380.79	9,403.92	9,381.97	24.84	30.96	-99.45	-510.13	-59.11	699.08	643.99	55.09	12.691		
9,492.00	9,472.76	9,506.38	9,484.41	25.13	31.31	-80.15	-510.07	-61.14	698.10	642.38	55.72	12.529		
9,500.00	9,480.76	9,514.68	9,492.71	25.15	31.34	-82.81	-510.02	-61.35	697.94	642.17	55.77	12.514		
9,586.00	9,566.75	9,602.83	9,580.83	25.42	31.64	177.71	-509.38	-63.63	696.71	640.37	56.34	12.367		
9,600.00	9,580.75	9,616.80	9,594.79	25.46	31.68	177.95	-509.25	-63.98	696.60	640.17	56.43	12.345		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 931-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	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)						
9,680.00	9,660.74	9,696.03	9,673.99	25.71	31.95	179.60	-508.47	-65.79	695.90	638.95	56.95	12.220		
9,700.00	9,680.74	9,715.54	9,693.51	25.77	32.01	165.09	-508.28	-66.20	695.74	638.66	57.08	12.189		
9,774.00	9,754.73	9,788.26	9,766.21	25.99	32.26	137.28	-507.65	-67.63	695.40	637.85	57.56	12.082		
9,800.00	9,780.73	9,814.16	9,792.10	26.07	32.34	140.30	-507.45	-68.13	695.34	637.61	57.72	12.046		
9,867.00	9,847.72	9,880.65	9,858.57	26.27	32.57	154.02	-506.95	-69.44	695.04	636.88	58.16	11.951		
9,900.00	9,880.72	9,913.16	9,891.07	26.38	32.68	169.26	-506.77	-70.12	694.86	636.48	58.37	11.903		
9,961.00	9,941.72	9,973.25	9,951.15	26.57	32.88	-154.85	-506.55	-71.50	694.53	635.76	58.77	11.817		
10,000.00	9,980.71	10,011.45	9,989.33	26.69	33.01	-178.74	-506.51	-72.45	694.34	635.31	59.03	11.762		
10,054.00	10,034.71	10,064.21	10,042.08	26.86	33.19	144.80	-506.64	-73.93	694.12	634.74	59.39	11.688		
10,082.29	10,063.00	10,091.02	10,068.88	26.94	33.28	165.28	-506.78	-74.71	694.06	634.49	59.57	11.651		
10,100.00	10,080.71	10,099.76	10,077.61	27.00	33.32	-178.88	-506.91	-74.96	694.15	634.49	59.67	11.634		
10,147.00	10,127.71	10,121.00	10,098.83	27.15	33.39	-141.66	-507.68	-75.56	695.47	635.58	59.88	11.614		
10,200.00	10,180.71	10,153.00	10,130.71	27.31	33.51	-117.39	-510.26	-76.42	698.83	638.70	60.13	11.622		
10,240.00	10,220.70	10,165.93	10,143.54	27.44	33.56	-107.43	-511.85	-76.74	702.74	642.53	60.21	11.672		
10,300.00	10,280.70	10,184.00	10,161.38	27.63	33.63	-95.95	-514.69	-77.13	711.08	650.86	60.22	11.808		
10,334.00	10,314.69	10,203.55	10,180.55	27.74	33.71	-88.94	-518.50	-77.32	716.93	656.64	60.29	11.891		
10,400.00	10,380.68	10,228.89	10,205.18	27.95	33.81	-79.14	-524.43	-77.00	730.92	670.68	60.23	12.135		
10,428.00	10,408.68	10,247.00	10,222.58	28.04	33.89	-75.80	-529.39	-76.35	737.96	677.67	60.29	12.240		
10,500.00	10,480.67	10,269.34	10,243.81	28.27	33.99	-64.94	-536.24	-75.22	758.16	698.13	60.03	12.629		
10,522.00	10,502.66	10,278.00	10,251.98	28.34	34.02	-62.01	-539.09	-74.73	765.00	705.03	59.97	12.757		
10,600.00	10,580.65	10,310.00	10,281.77	28.58	34.17	-121.48	-550.53	-72.41	792.27	732.54	59.73	13.264		
10,616.00	10,596.65	10,310.00	10,281.77	28.63	34.17	-147.74	-550.53	-72.41	798.53	738.98	59.55	13.408		
10,700.00	10,680.65	10,348.19	10,316.43	28.90	34.34	-95.98	-566.11	-68.70	833.47	774.13	59.34	14.047		
10,709.00	10,689.65	10,351.90	10,319.75	28.93	34.36	-91.24	-567.73	-68.30	837.42	778.12	59.30	14.121		
10,800.00	10,780.64	10,392.67	10,355.63	29.22	34.55	-52.59	-586.46	-63.46	879.04	820.00	59.04	14.888		
10,803.00	10,783.64	10,394.17	10,356.93	29.23	34.56	-52.19	-587.18	-63.28	880.46	821.42	59.04	14.914		
10,897.00	10,877.60	10,436.00	10,392.62	29.53	34.76	-61.36	-608.38	-58.16	926.94	868.17	58.77	15.772		
10,900.00	10,880.60	10,436.00	10,392.62	29.54	34.76	-61.36	-608.38	-58.16	928.47	869.74	58.74	15.808		
10,908.00	10,888.59	10,436.00	10,392.62	29.56	34.76	-61.83	-608.38	-58.16	932.61	873.97	58.64	15.904		
11,000.00	10,980.37	10,467.00	10,417.87	29.84	34.92	-3.33	-625.92	-54.20	979.19	921.04	58.15	16.840		
11,002.00	10,982.35	10,467.00	10,417.87	29.85	34.92	-3.06	-625.92	-54.20	980.15	922.03	58.12	16.864		
11,096.00	11,074.07	10,498.00	10,442.11	30.11	35.08	-5.35	-644.90	-50.65	1,019.54	962.05	57.49	17.734		
11,100.00	11,077.87	10,498.00	10,442.11	30.12	35.08	-5.73	-644.90	-50.65	1,020.92	963.49	57.43	17.776		
11,190.00	11,160.39	10,530.00	10,466.24	30.34	35.25	-10.66	-665.71	-47.75	1,046.95	990.19	56.76	18.445		
11,200.00	11,169.14	10,541.50	10,474.67	30.36	35.31	-10.90	-673.48	-46.91	1,049.14	992.29	56.85	18.455		
11,284.00	11,238.14	10,597.90	10,514.55	30.53	35.62	-12.52	-713.26	-44.10	1,062.00	1,005.30	56.71	18.728		
11,300.00	11,250.30	10,619.88	10,530.07	30.56	35.75	-13.21	-728.79	-43.08	1,063.00	1,006.08	56.91	18.677		
11,377.00	11,304.89	10,702.96	10,589.95	30.69	36.23	-16.47	-786.18	-38.35	1,061.49	1,004.03	57.45	18.475		
11,400.00	11,319.96	10,718.00	10,600.61	30.73	36.32	-17.39	-796.75	-37.40	1,060.00	1,002.59	57.41	18.463		
11,471.00	11,363.78	10,749.00	10,621.91	30.86	36.51	-19.96	-819.21	-35.84	1,054.38	997.43	56.96	18.512		
11,500.00	11,380.37	10,749.00	10,621.91	30.91	36.51	-19.56	-819.21	-35.84	1,051.55	995.06	56.49	18.613		
11,564.00	11,413.71	10,781.00	10,642.54	31.08	36.71	-18.96	-843.65	-34.84	1,043.00	986.83	56.17	18.569		
11,600.00	11,430.14	10,789.46	10,647.70	31.19	36.76	-18.70	-850.35	-34.66	1,036.63	980.86	55.77	18.587		
11,626.00	11,440.71	10,799.09	10,653.44	31.28	36.82	-18.59	-858.07	-34.53	1,031.09	975.53	55.56	18.557		
11,680.00	11,460.20	10,820.40	10,665.64	31.46	36.96	-19.79	-875.55	-34.50	1,018.49	963.33	55.17	18.462		
11,700.00	11,466.79	10,829.19	10,670.51	31.53	37.01	-20.04	-882.86	-34.53	1,013.71	958.66	55.04	18.417		
11,754.00	11,483.27	10,852.30	10,682.91	31.73	37.17	-20.70	-902.37	-34.65	1,000.66	945.96	54.71	18.291		
11,800.00	11,495.27	10,875.00	10,694.44	31.92	37.32	-19.94	-921.92	-34.78	988.69	934.20	54.49	18.145		
11,848.00	11,505.22	10,893.69	10,703.51	32.11	37.44	-19.17	-938.26	-34.94	974.30	920.15	54.15	17.992		
11,900.00	11,512.59	10,916.72	10,714.18	32.34	37.60	-18.91	-958.67	-35.23	956.28	902.44	53.84	17.760		
11,941.00	11,515.62	10,938.00	10,723.46	32.52	37.75	-18.77	-977.81	-35.47	940.28	886.60	53.68	17.517		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 931-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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,000.00	11,516.54	10,954.12	10,730.04	32.80	37.86	-18.76	-992.53	-35.66	915.39	862.24	53.15	17.224		
12,035.00	11,515.53	10,969.00	10,735.70	32.97	37.96	-18.77	-1,006.29	-35.89	900.06	847.11	52.95	16.999		
12,100.00	11,513.42	10,989.40	10,742.79	33.32	38.11	-19.01	-1,025.41	-36.30	873.30	820.86	52.44	16.654		
12,127.00	11,513.06	11,001.00	10,746.48	33.46	38.19	-19.09	-1,036.40	-36.58	863.49	811.21	52.28	16.515		
12,200.00	11,512.79	11,032.00	10,754.92	33.88	38.41	-20.69	-1,066.21	-37.57	841.28	789.34	51.94	16.197		
12,221.00	11,512.83	11,032.00	10,754.92	34.00	38.41	-21.07	-1,066.21	-37.57	836.00	784.28	51.72	16.163		
12,300.00	11,512.62	11,064.00	10,761.49	34.47	38.65	-22.07	-1,097.49	-38.99	820.32	768.72	51.60	15.899		
12,315.00	11,512.48	11,064.00	10,761.49	34.56	38.65	-22.19	-1,097.49	-38.99	818.03	766.52	51.52	15.878		
12,400.00	11,511.44	11,113.00	10,767.99	35.11	39.00	-21.87	-1,145.95	-41.90	806.36	754.65	51.71	15.594		
12,409.00	11,511.31	11,113.00	10,767.99	35.17	39.00	-21.83	-1,145.95	-41.90	805.23	753.56	51.67	15.583		
12,500.00	11,510.69	11,162.91	10,771.16	35.82	39.37	-21.37	-1,195.66	-44.94	796.42	744.64	51.78	15.381		
12,505.00	11,510.70	11,166.29	10,771.29	35.85	39.39	-21.34	-1,199.04	-45.13	796.05	744.26	51.79	15.372		
12,597.00	11,510.63	11,247.68	10,774.13	36.54	40.02	-21.01	-1,280.24	-49.78	789.96	737.83	52.13	15.153		
12,600.00	11,510.62	11,249.29	10,774.17	36.57	40.03	-21.01	-1,281.84	-49.86	789.80	737.66	52.14	15.148		
12,690.00	11,508.33	11,315.70	10,774.26	37.28	40.56	-20.87	-1,348.17	-53.24	785.51	733.00	52.52	14.958		
12,700.00	11,507.88	11,325.58	10,774.18	37.36	40.64	-20.85	-1,358.03	-53.78	784.99	732.42	52.58	14.930		
12,784.00	11,504.84	11,404.76	10,773.18	38.05	41.30	-20.68	-1,437.09	-57.96	782.01	728.91	53.10	14.727		
12,800.00	11,504.46	11,420.75	10,773.01	38.40	41.44	-20.65	-1,453.07	-58.66	781.65	728.31	53.33	14.656		
12,844.00	11,504.06	11,469.21	10,772.72	38.63	41.87	-20.47	-1,501.49	-60.77	780.76	727.22	53.54	14.584		
12,900.00	11,504.17	11,516.47	10,772.24	38.94	42.29	-20.24	-1,548.70	-62.83	780.13	726.55	53.58	14.560		
12,944.00	11,504.25	11,561.94	10,771.56	39.20	42.71	-20.03	-1,594.12	-64.70	779.89	726.15	53.73	14.514		
13,000.00	11,504.29	11,619.11	10,771.02	39.54	43.25	-19.83	-1,651.25	-66.72	779.48	725.52	53.96	14.445		
13,100.00	11,503.98	11,723.18	10,770.44	40.18	44.26	-19.66	-1,755.28	-69.71	778.96	724.44	54.52	14.288		
13,200.00	11,503.19	11,833.99	10,772.32	40.88	45.40	-19.92	-1,866.07	-70.62	777.40	721.97	55.42	14.026		
13,300.00	11,501.93	11,926.91	10,774.22	41.61	46.39	-20.39	-1,958.96	-70.28	776.40	720.15	56.25	13.803		
13,321.08	11,501.61	11,946.50	10,774.53	41.77	46.60	-20.51	-1,978.55	-70.16	776.37	719.92	56.45	13.754		
13,365.21	11,500.86	11,987.46	10,775.06	42.11	47.04	-20.77	-2,019.51	-69.90	776.51	719.63	56.88	13.651		
13,400.00	11,500.23	12,018.21	10,775.32	42.38	47.38	-21.00	-2,050.25	-69.69	776.82	719.60	57.22	13.576		
13,500.00	11,498.43	12,116.56	10,775.04	43.18	48.48	-21.64	-2,148.60	-69.42	778.67	720.30	58.37	13.340		
13,514.54	11,498.16	12,136.65	10,775.06	43.30	48.71	-21.76	-2,168.69	-69.64	778.83	720.20	58.63	13.284		
13,600.00	11,496.81	12,227.83	10,775.77	44.02	49.76	-22.13	-2,259.82	-72.36	778.40	718.75	59.65	13.050		
13,633.60	11,496.38	12,257.07	10,775.66	44.31	50.10	-22.17	-2,289.03	-73.68	778.34	718.41	59.92	12.989		
13,700.00	11,495.70	12,323.03	10,774.85	44.89	50.87	-22.16	-2,354.90	-77.13	778.36	717.85	60.51	12.863		
13,800.00	11,495.11	12,424.98	10,773.87	45.79	52.09	-21.95	-2,456.68	-82.80	777.62	716.26	61.36	12.673		
13,865.14	11,495.00	12,484.68	10,773.18	46.39	52.81	-21.71	-2,516.28	-86.26	776.96	715.20	61.76	12.580		
13,887.95	11,495.00	12,502.81	10,772.77	46.60	53.03	-21.62	-2,534.37	-87.40	776.89	715.04	61.86	12.560		
13,900.00	11,495.00	12,512.38	10,772.49	46.71	53.15	-21.57	-2,543.92	-88.03	776.91	715.01	61.90	12.551		
14,000.00	11,495.00	12,600.57	10,768.56	47.67	54.24	-21.02	-2,631.79	-94.30	778.35	715.99	62.36	12.481		
14,100.00	11,495.00	12,700.07	10,764.09	48.64	55.49	-20.45	-2,730.99	-100.56	780.23	717.23	63.00	12.384		
14,200.00	11,495.00	12,804.43	10,759.68	49.65	56.82	-19.91	-2,835.09	-106.52	782.15	718.41	63.75	12.270		
14,300.00	11,495.00	12,905.48	10,756.70	50.67	58.13	-19.51	-2,935.99	-111.02	783.35	718.79	64.56	12.134		
14,400.00	11,495.00	13,038.52	10,755.10	51.72	59.88	-19.10	-3,068.92	-116.03	783.33	717.46	65.88	11.891		
14,500.00	11,495.00	13,140.68	10,757.11	52.78	61.25	-18.94	-3,171.02	-118.76	780.52	713.60	66.92	11.663		
14,600.00	11,495.00	13,243.49	10,759.54	53.87	62.63	-18.73	-3,273.73	-122.38	777.05	709.09	67.96	11.434		
14,700.00	11,495.00	13,339.86	10,760.28	54.97	63.94	-18.23	-3,369.83	-129.51	773.89	705.20	68.69	11.267		
14,800.00	11,495.00	13,441.10	10,760.41	56.08	65.32	-17.54	-3,470.62	-138.99	770.80	701.45	69.35	11.114		
14,900.00	11,495.00	13,532.02	10,759.89	57.22	66.56	-16.78	-3,560.95	-149.27	767.95	698.15	69.80	11.002		
14,962.12	11,495.00	13,580.14	10,758.65	57.93	67.22	-16.35	-3,608.73	-154.87	767.37	697.38	69.99	10.964		
15,000.00	11,495.00	13,615.55	10,757.33	58.37	67.71	-16.03	-3,643.89	-158.85	767.51	697.36	70.16	10.940		
15,100.00	11,495.00	13,723.49	10,754.96	59.53	69.22	-15.31	-3,751.41	-167.91	767.27	696.35	70.92	10.818		

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

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

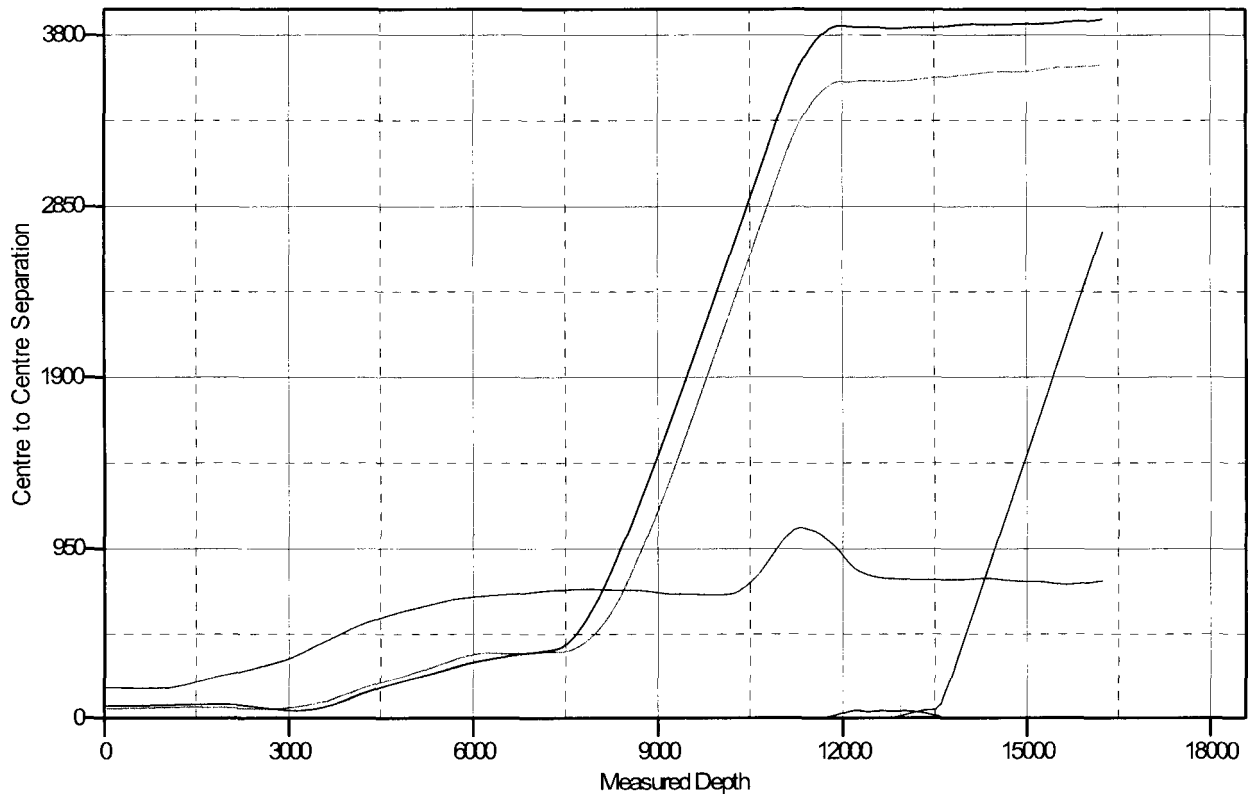
Offset Design RDX Federal 17 - Fed 17 16H - 16H - 16H												Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS, 931-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,200.00	11,495.00	13,829.55	10,753.91	60.70	70.71	-14.74	-3,857.22	-175.17	766.40	694.61	71.79	10.675	
15,300.00	11,495.00	13,945.21	10,754.68	61.89	72.36	-14.22	-3,972.65	-182.33	764.15	691.31	72.84	10.490	
15,400.00	11,495.00	14,055.74	10,757.94	63.09	73.94	-13.83	-4,082.98	-188.13	759.94	686.00	73.94	10.278	
15,500.00	11,495.00	14,158.86	10,762.05	64.30	75.44	-13.54	-4,185.91	-192.81	754.92	679.92	75.01	10.065	
15,600.00	11,495.00	14,223.91	10,763.09	65.52	76.38	-13.28	-4,250.84	-196.48	752.02	676.48	75.54	9.955	
15,611.58	11,495.00	14,231.39	10,762.99	65.66	76.49	-13.23	-4,258.30	-196.99	751.99	676.39	75.59	9.948	
15,700.00	11,495.00	14,312.77	10,760.57	66.75	77.67	-12.74	-4,339.44	-202.84	753.01	676.78	76.23	9.878	
15,800.00	11,495.00	14,405.63	10,758.40	67.99	79.03	-12.30	-4,432.12	-208.03	754.06	677.00	77.06	9.786	
15,900.00	11,495.00	14,498.83	10,754.71	69.23	80.40	-11.86	-4,525.12	-213.04	756.74	678.84	77.90	9.715	
16,000.00	11,495.00	14,592.56	10,750.71	70.49	81.78	-11.42	-4,618.63	-217.90	759.84	681.08	78.76	9.647	
16,100.00	11,495.00	14,684.95	10,745.71	71.75	83.15	-10.99	-4,710.78	-222.46	764.13	684.51	79.63	9.596	
16,200.00	11,495.00	14,786.07	10,739.76	73.02	84.65	-10.52	-4,811.60	-227.47	768.96	688.36	80.59	9.541	
16,240.14	11,495.00	14,827.33	10,737.51	73.53	85.26	-10.34	-4,852.74	-229.42	770.75	689.75	81.00	9.515 SF	

Company: WPX Energy
Project: Eddy County, NM
Reference Site: RDX Federal 17
Site Error: 0.00 usft
Reference Well: 35H
Well Error: 0.00 usft
Reference Wellbore: ST01
Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Gyrodata NWDB
Offset TVD Reference: Reference Datum

Reference Depths are relative to Orion Pegasus 9 @ 3093.00usft (Orion Coordinates are relative to: 35H)
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.33334
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.22°

Ladder Plot



LEGEND

35H, 35H Design #7 V/O
 35H, 35H Actual V/O
 12H, Wellbore #1, Surveys V/O
 Fed 17 16H, 16H, 16H V/O

Company: WPX Energy
Project: Eddy County, NM

Reference Site: RDX Federal 17

Site Error: 0.00 usft

Reference Well: 35H

Well Error: 0.00 usft

Reference Wellbore: ST01

Reference Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Output errors are at 2.00 sigma

Database: Gyrodata NWDB

Offset TVD Reference: Reference Datum

Reference Depths are relative to Orion Pegasus 9 @ 3093.00usft (Orion Coordinates are relative to: 35H)

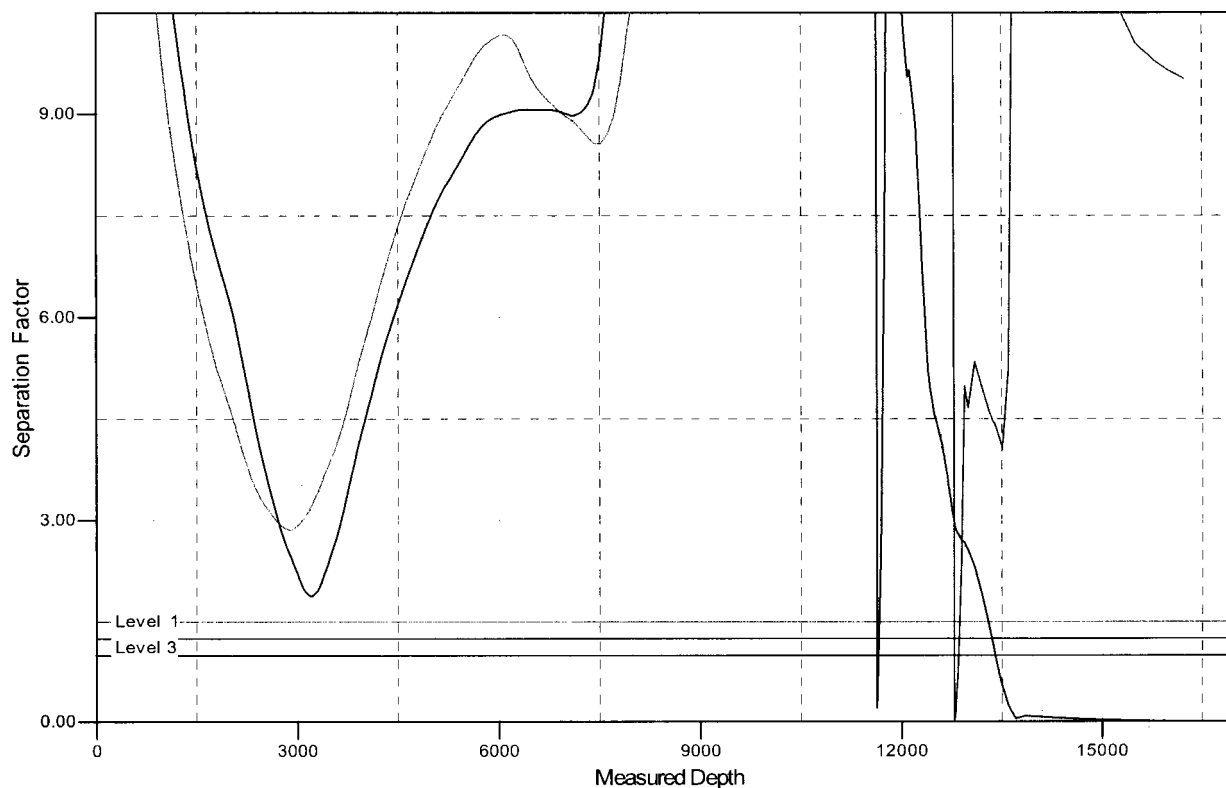
Offset Depths are relative to Offset Datum

Central Meridian is -104.33334

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

Grid Convergence at Surface is: 0.22°

Separation Factor Plot



LEGEND



35H, 35H, Design #7 V/O
35H, 35H, #35H Actual V/O



25H, Wellbore #1: Surveys V/O
12H, Wellbore #1: Surveys V/O



Fed 17 16H, 16H, 16H V/O

WPXENERGY

A black graphic element consisting of a horizontal bar with a rectangular block attached to its left side, positioned below the WPXENERGY text.

WPX Energy

Eddy County, NM

RDX Federal 17

35H

ST01

Plan: Design #1

Standard Planning Report

11 June, 2017

ST01
Plan Design #1 (35H/ST01)
Chiro Programs 9/15/2015 09:56 (Chiro Programs)

PROJECT DETAILS Eddy County, NM
Geoid: System: US State Plane 1983
Datum: North American Datum 1983
Zone: 12N
Spheroid: GRS 80
Datum: North American Datum 1983
System: Datum: Ground Level
To convert a Magnetic Direction to a Grid Direction, Add 6.71°
To convert a True Direction to a Grid Direction, Subtract 1.22°



SECTION DETAILS

Sec	MD	inc	AN/S	TWD	+E-W	Ding	Target
1	12744.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82
2	12844.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82
3	12944.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82
4	13044.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82
5	13144.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82
6	13244.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82
7	13344.00	89.89	178.79	11504.66	-1462.70	-323.89	1451.82

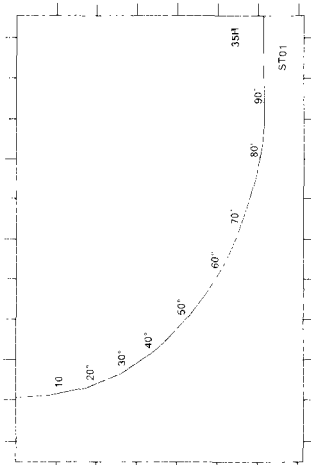
WELLS TARGET DETAILS

Name	TWD	+N/S	+E-W	Existing	Shape
ST01 - RDX Federal 17 35H	11495.00	-4287.30	-387.70	672213.40	Point
PBHL v2 - RDX Federal 17 35H	11495.00	-4287.30	-387.70	672213.40	Point

CASING DETAILS
No casing data is available
Notice: Casing Depths Are Estimates Only

Notice: Section Lines and Headlines are estimates only and are subject to customer approval

FORMATION TOPS ALONG WELLPATH
No formation data is available

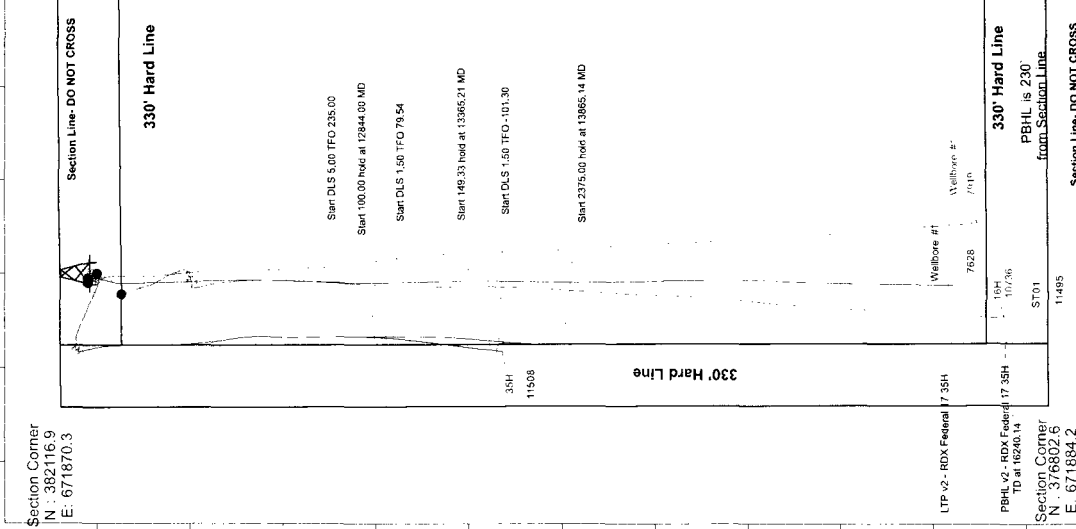


Start DLS 5.00 TFO 235.00
Start 100.00 hold at 12844.00 MD
Start DLS 1.50 TFO 79.54
Start 145.33 hold at 13965.21 MD
Start DLS 1.50 TFO -101.30
Start 2375.00 hold at 13865.14 MD

ST01 15240

35H 13536

LTP v2 - RDX Federal 17 35H
PBHL v2 - RDX Federal 17 35H
TD at 16240.14



Section Corner
N - 382116.9
E - 671870.3

330' Hard Line

Start DLS 5.00 TFO 235.00

Start 100.00 hold at 12844.00 MD

Start DLS 1.50 TFO 79.54

Start 145.33 hold at 13965.21 MD

Start DLS 1.50 TFO -101.30

Start 2375.00 hold at 13865.14 MD

330' Hard Line

35H

11508

LTP v2 - RDX Federal 17 35H

Wellbore #1

7628

Wellbore #2

10776

ST01

11495

330' Hard Line

PBHL is 230'

from Section Line

Section Corner

N - 376802.6

E - 671884.2

Section Line - DO NOT CROSS

Database: Gyrodata NWDB
Company: WPX Energy
Project: Eddy County, NM
Site: RDX Federal 17
Well: 35H
Wellbore: ST01
Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site RDX Federal 17

Site Position: **From:** Map **Northing:** -0.01 usft **Latitude:** 30.98845
Position Uncertainty: 0.00 usft **Easting:** 0.00 usft **Longitude:** -106.06083
Slot Radius: 13.20 in **Grid Convergence:** -0.89 °

Well 35H

Well Position **+N/-S** 381,922.31 usft **Northing:** 381,922.30 usft **Latitude:** 32.04928
+E/-W 672,581.10 usft **Easting:** 672,581.10 usft **Longitude:** -103.90973
Position Uncertainty 0.00 usft **Wellhead Elevation:** **Ground Level:** 3,071.00 usft

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	06/11/17	6.97	59.73	47,966.20000000

Design Design #1

Audit Notes:

Version: **Phase:** PROTOTYPE **Tie On Depth:** 12,784.00

Vertical Section: **Depth From (TVD) (usft)** **+N/-S (usft)** **+E/-W (usft)** **Direction (°)**

0.00	0.00	0.00	179.85
------	------	------	--------

Plan Survey Tool Program Date 06/11/17

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1 12,784.00	16,240.10	Design #1 (ST01)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
12,784.00	91.61	181.25	11,504.84	-1,432.71	-333.97	0.00	0.00	0.00	0.00	
12,844.00	89.89	178.79	11,504.06	-1,492.70	-333.99	5.00	-2.87	-4.10	235.00	
12,944.00	89.89	178.79	11,504.25	-1,592.68	-331.89	0.00	0.00	0.00	0.00	
13,365.21	91.03	185.01	11,500.86	-2,013.43	-345.84	1.50	0.27	1.48	79.54	
13,514.54	91.03	185.01	11,498.16	-2,162.16	-358.87	0.00	0.00	0.00	0.00	
13,865.14	90.00	179.85	11,495.00	-2,512.31	-373.72	1.50	-0.29	-1.47	-101.30	
16,240.14	90.00	179.85	11,495.00	-4,887.30	-367.50	0.00	0.00	0.00	0.00	PBHL v2 - RDX Fer

Database: Gyrodata NWDB
Company: WPX Energy

Project: Eddy County, NM

Site: RDX Federal 17
Well: 35H
Wellbore: ST01
Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.38	277.30	100.00	0.04	-0.33	-0.04	0.38	0.38	0.00
200.00	0.68	282.40	199.99	0.19	-1.27	-0.19	0.31	0.30	5.10
300.00	0.79	278.88	299.99	0.49	-2.56	-0.50	0.12	0.11	-3.52
400.00	0.59	268.98	399.98	0.58	-3.83	-0.59	0.23	-0.20	-9.90
500.00	0.45	247.85	499.97	0.43	-4.66	-0.44	0.23	-0.14	-21.12
600.00	0.42	187.59	599.97	-0.07	-5.13	0.05	0.44	-0.03	-60.26
700.00	0.40	210.27	699.97	-0.77	-5.29	0.76	0.16	-0.02	22.68
800.00	0.15	135.06	799.97	-1.16	-5.38	1.15	0.39	-0.25	-75.21
900.00	0.34	134.35	899.97	-1.43	-5.12	1.42	0.19	0.19	-0.71
1,000.00	0.87	126.19	999.96	-2.17	-4.28	2.16	0.54	0.53	-8.16
1,100.00	1.02	103.27	1,099.95	-2.86	-2.77	2.85	0.40	0.15	-22.92
1,200.00	0.95	92.89	1,199.93	-2.98	-0.97	2.98	0.19	-0.06	-10.38
1,300.00	0.60	80.86	1,299.92	-3.08	0.39	3.08	0.38	-0.35	-12.03
1,400.00	0.73	64.25	1,399.92	-2.63	1.31	2.63	0.23	0.12	-16.61
1,500.00	0.74	55.62	1,499.91	-2.01	2.55	2.02	0.11	0.02	-8.63
1,600.00	0.59	67.19	1,599.90	-1.37	3.51	1.38	0.20	-0.15	11.57
1,700.00	0.50	37.52	1,699.89	-0.89	4.28	0.91	0.29	-0.09	-29.67
1,800.00	0.16	56.53	1,799.89	-0.44	4.65	0.45	0.35	-0.34	19.01
1,900.00	0.42	150.78	1,899.89	-0.69	5.00	0.71	0.46	0.27	94.26
2,000.00	1.46	247.69	1,999.88	-1.50	3.99	1.51	1.57	1.04	96.91
2,100.00	2.79	255.99	2,099.80	-2.59	0.35	2.59	1.37	1.34	8.30
2,200.00	3.40	259.71	2,199.66	-3.78	-4.87	3.77	0.64	0.61	3.72
2,300.00	4.02	266.18	2,299.44	-4.43	-11.53	4.40	0.75	0.62	6.47
2,400.00	3.65	263.46	2,399.21	-5.06	-18.16	5.02	0.41	-0.37	-2.72
2,500.00	3.38	263.22	2,499.02	-5.78	-24.26	5.71	0.27	-0.27	-0.24
2,600.00	3.58	267.36	2,598.85	-6.38	-30.05	6.30	0.32	0.20	4.13
2,700.00	3.97	272.88	2,698.62	-6.26	-36.91	6.16	0.53	0.39	5.53
2,800.00	3.39	269.59	2,798.40	-5.95	-43.44	5.84	0.62	-0.58	-3.29
2,900.00	3.33	266.86	2,898.25	-6.30	-48.98	6.17	0.17	-0.06	-2.73
3,000.00	4.15	279.39	2,998.04	-6.10	-55.38	5.95	1.15	0.82	12.53
3,100.00	4.73	288.16	3,097.73	-4.07	-63.01	3.90	0.90	0.59	8.77
3,200.00	4.63	292.50	3,197.39	-1.18	-70.75	1.00	0.37	-0.11	4.34
3,300.00	5.21	297.45	3,297.03	2.36	-78.35	-2.57	0.72	0.59	4.95
3,400.00	4.99	295.11	3,396.62	6.38	-86.50	-6.61	0.30	-0.22	-2.34
3,500.00	4.76	296.10	3,496.27	9.96	-94.06	-10.21	0.25	-0.23	0.99
3,600.00	5.30	299.49	3,595.89	14.18	-101.70	-14.45	0.61	0.54	3.39
3,700.00	6.34	286.03	3,695.36	17.87	-111.18	-18.17	1.71	1.05	-13.46
3,800.00	6.54	286.49	3,794.72	20.90	-122.05	-21.22	0.20	0.19	0.46
3,900.00	6.51	293.69	3,894.09	24.77	-132.64	-25.11	0.82	-0.03	7.20
4,000.00	6.66	296.95	3,993.42	29.93	-142.97	-30.30	0.40	0.16	3.26
4,100.00	6.55	294.42	4,092.75	34.85	-153.36	-35.25	0.31	-0.12	-2.53
4,200.00	6.62	293.82	4,192.10	39.49	-163.75	-39.92	0.10	0.08	-0.61
4,300.00	6.60	293.21	4,291.43	44.14	-174.41	-44.60	0.07	-0.02	-0.61
4,400.00	6.18	292.71	4,390.80	48.49	-184.72	-48.97	0.42	-0.42	-0.50
4,500.00	6.15	292.39	4,490.23	52.56	-194.51	-53.07	0.05	-0.03	-0.32
4,600.00	6.14	292.73	4,589.65	56.67	-204.45	-57.20	0.04	-0.01	0.34
4,700.00	6.13	292.96	4,689.08	60.82	-214.28	-61.38	0.03	-0.01	0.23
4,800.00	6.26	293.43	4,788.50	65.06	-224.18	-65.64	0.14	0.13	0.47
4,900.00	6.14	293.44	4,887.91	69.37	-234.11	-69.98	0.11	-0.11	0.01
5,000.00	6.14	294.92	4,987.34	73.75	-243.87	-74.39	0.16	-0.01	1.48
5,100.00	5.90	293.55	5,086.79	78.06	-253.44	-78.72	0.28	-0.24	-1.37

Database: Gyrodata NWDB
Company: WPX Energy
Project: Eddy County, NM
Site: RDX Federal 17
Well: 35H
Wellbore: ST01
Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,200.00	5.38	291.96	5,186.31	81.85	-262.47	-82.53	0.54	-0.51	-1.59
5,300.00	5.27	291.44	5,285.88	85.20	-271.02	-85.91	0.12	-0.11	-0.52
5,400.00	5.63	293.01	5,385.43	88.84	-279.82	-89.57	0.39	0.36	1.57
5,500.00	5.72	292.55	5,484.93	92.71	-288.99	-93.47	0.10	0.09	-0.46
5,600.00	5.57	291.49	5,584.45	96.40	-298.11	-97.18	0.18	-0.15	-1.06
5,700.00	5.20	291.58	5,684.00	99.84	-306.94	-100.64	0.37	-0.37	0.09
5,800.00	4.52	290.89	5,783.63	102.99	-314.86	-103.81	0.69	-0.69	-0.68
5,900.00	4.09	286.63	5,883.36	105.40	-321.83	-106.24	0.54	-0.43	-4.26
6,000.00	3.91	283.65	5,983.12	107.17	-328.57	-108.03	0.27	-0.17	-2.98
6,100.00	3.78	280.68	6,082.89	108.61	-335.12	-109.48	0.24	-0.13	-2.97
6,200.00	3.79	278.88	6,182.68	109.70	-341.60	-110.60	0.12	0.00	-1.80
6,300.00	3.54	274.32	6,282.47	110.48	-347.97	-111.39	0.38	-0.25	-4.56
6,400.00	3.39	270.84	6,382.29	110.74	-354.00	-111.67	0.25	-0.14	-3.48
6,500.00	3.10	268.44	6,482.13	110.70	-359.65	-111.64	0.32	-0.29	-2.40
6,600.00	3.49	271.11	6,581.96	110.71	-365.48	-111.67	0.42	0.39	2.66
6,700.00	3.14	272.26	6,681.79	110.76	-371.31	-111.73	0.36	-0.35	1.15
6,800.00	2.67	288.00	6,781.66	111.72	-376.21	-112.71	0.92	-0.47	15.74
6,900.00	2.35	289.83	6,881.56	113.17	-380.35	-114.17	0.33	-0.32	1.83
7,000.00	2.05	286.98	6,981.49	114.42	-383.97	-115.42	0.32	-0.30	-2.85
7,100.00	1.86	281.70	7,081.43	115.25	-387.25	-116.26	0.27	-0.20	-5.28
7,200.00	1.89	267.04	7,181.38	115.63	-390.40	-116.65	0.48	0.03	-14.66
7,300.00	2.11	247.57	7,281.32	114.80	-393.83	-115.83	0.71	0.22	-19.46
7,400.00	2.07	253.37	7,381.25	113.30	-397.22	-114.34	0.22	-0.04	5.80
7,500.00	1.72	276.56	7,481.19	112.94	-400.55	-113.99	0.83	-0.35	23.19
7,600.00	1.38	284.45	7,581.16	113.56	-403.19	-114.62	0.40	-0.34	7.89
7,700.00	1.45	286.57	7,681.13	114.20	-405.51	-115.26	0.08	0.07	2.12
7,800.00	1.64	283.76	7,781.09	114.91	-408.11	-115.98	0.20	0.19	-2.81
7,900.00	0.75	247.73	7,881.07	115.03	-410.16	-116.10	1.12	-0.89	-36.03
8,000.00	0.45	191.49	7,981.06	114.37	-410.82	-115.44	0.63	-0.31	-56.24
8,100.00	0.23	162.03	8,081.06	113.81	-410.76	-114.88	0.27	-0.21	-29.46
8,200.00	0.23	224.41	8,181.06	113.50	-410.96	-114.58	0.24	0.00	62.38
8,300.00	0.40	141.29	8,281.06	113.10	-410.84	-114.18	0.44	0.17	-83.12
8,400.00	0.61	135.50	8,381.06	112.39	-410.21	-113.46	0.21	0.20	-5.79
8,500.00	0.34	156.00	8,481.05	111.73	-409.55	-112.80	0.31	-0.26	20.49
8,600.00	0.33	274.27	8,581.05	111.38	-409.87	-112.46	0.58	-0.02	118.27
8,700.00	0.19	97.85	8,681.05	111.65	-410.23	-112.72	0.51	-0.14	-176.43
8,800.00	1.19	130.00	8,781.04	110.99	-409.16	-112.06	1.04	1.01	32.16
8,900.00	1.84	139.87	8,881.00	109.04	-407.26	-110.11	0.70	0.65	9.87
9,000.00	1.89	139.64	8,980.94	106.42	-405.13	-107.48	0.05	0.05	-0.24
9,100.00	1.89	162.84	9,080.89	103.71	-403.43	-104.77	0.76	0.00	23.20
9,200.00	1.84	180.88	9,180.84	100.45	-403.01	-101.50	0.59	-0.05	18.04
9,300.00	0.86	222.36	9,280.81	98.17	-403.54	-99.23	1.32	-0.98	41.47
9,400.00	1.44	249.78	9,380.79	97.25	-405.23	-98.31	0.78	0.58	27.42
9,500.00	1.31	233.07	9,480.76	95.99	-407.35	-97.06	0.42	-0.13	-16.71
9,600.00	0.71	332.41	9,580.75	96.04	-408.47	-97.11	1.58	-0.60	99.34
9,700.00	0.65	345.39	9,680.74	97.02	-408.97	-98.09	0.16	-0.06	12.98
9,800.00	0.99	10.37	9,780.73	98.61	-408.81	-99.68	0.48	0.34	24.98
9,900.00	0.55	341.57	9,880.72	99.88	-408.79	-100.95	0.57	-0.44	-28.80
10,000.00	0.45	329.72	9,980.71	100.57	-409.33	-101.64	0.14	-0.10	-11.85
10,100.00	0.40	330.07	10,080.71	101.32	-409.47	-102.39	0.05	-0.05	0.36
10,200.00	0.70	268.81	10,180.71	101.63	-410.28	-102.70	0.62	0.30	-61.26
10,300.00	0.85	247.58	10,280.70	101.30	-411.71	-102.38	0.32	0.15	-21.23

Database: Gyrodata NWDB
Company: WPX Energy

Project: Eddy County, NM

Site: RDX Federal 17

Well: 35H

Wellbore: ST01

Design: Design #1

Local Co-ordinate Reference: Well 35H

TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,400.00	0.99	231.11	10,380.68	100.49	-413.02	-101.57	0.30	0.14	-16.47
10,500.00	1.16	217.19	10,480.67	99.14	-414.34	-100.22	0.31	0.17	-13.92
10,600.00	0.46	273.77	10,580.65	98.11	-415.38	-99.20	0.99	-0.70	56.58
10,700.00	0.47	248.60	10,680.65	98.20	-416.12	-99.29	0.20	0.01	-25.17
10,800.00	1.45	205.86	10,780.64	96.96	-417.05	-98.05	1.15	0.98	-42.74
10,900.00	1.74	215.15	10,880.60	94.55	-418.48	-95.64	0.38	0.29	9.29
11,000.00	6.32	156.62	10,980.37	88.55	-417.43	-89.64	5.61	4.58	-58.53
11,100.00	18.44	160.17	11,077.87	68.65	-409.73	-69.73	12.14	12.12	3.55
11,200.00	29.54	167.66	11,169.14	29.64	-399.07	-30.68	11.49	11.10	7.49
11,300.00	41.26	171.84	11,250.30	-27.54	-388.72	26.52	11.97	11.73	4.19
11,400.00	49.74	177.64	11,319.96	-98.83	-382.42	97.83	9.43	8.48	5.79
11,500.00	56.20	180.35	11,380.37	-178.45	-382.14	177.45	6.81	6.45	2.71
11,600.00	64.68	178.03	11,430.14	-265.07	-380.86	264.07	8.72	8.48	-2.32
11,700.00	71.15	179.30	11,466.79	-358.01	-378.13	357.02	6.57	6.47	1.27
11,800.00	76.42	177.73	11,495.27	-453.82	-376.93	452.83	5.48	5.27	-1.57
11,900.00	84.04	173.74	11,512.59	-551.91	-369.25	550.94	8.57	7.62	-3.99
12,000.00	90.71	171.38	11,516.54	-650.89	-356.02	649.96	7.08	6.67	-2.36
12,100.00	91.09	172.04	11,513.42	-749.68	-340.86	748.79	0.76	0.38	0.66
12,200.00	89.96	178.08	11,512.79	-849.16	-331.30	848.29	6.15	-1.13	6.05
12,300.00	90.48	184.03	11,512.62	-949.10	-333.44	948.22	5.97	0.51	5.95
12,400.00	90.81	180.65	11,511.44	-1,048.93	-338.69	1,048.04	3.40	0.33	-3.39
12,500.00	89.95	177.36	11,510.69	-1,148.89	-336.81	1,148.01	3.40	-0.86	-3.29
12,600.00	90.26	178.86	11,510.62	-1,248.83	-333.31	1,247.95	1.53	0.31	1.50
12,700.00	92.54	180.43	11,507.88	-1,348.78	-332.74	1,347.90	2.77	2.28	1.57
12,784.00	91.61	181.25	11,504.84	-1,432.71	-333.97	1,431.83	1.48	-1.11	0.98
Start DLS 5.00 TFO 235.00									
12,800.00	91.15	180.59	11,504.46	-1,448.71	-334.23	1,447.83	5.00	-2.87	-4.10
12,844.00	89.89	178.79	11,504.06	-1,492.70	-333.99	1,491.82	5.00	-2.87	-4.09
Start 100.00 hold at 12844.00 MD									
12,900.00	89.89	178.79	11,504.17	-1,548.69	-332.81	1,547.81	0.00	0.00	0.00
12,944.00	89.89	178.79	11,504.25	-1,592.68	-331.89	1,591.80	0.00	0.00	0.00
Start DLS 1.50 TFO 79.54									
13,000.00	90.04	179.62	11,504.29	-1,648.67	-331.11	1,647.80	1.50	0.27	1.48
13,100.00	90.31	181.09	11,503.98	-1,748.67	-331.73	1,747.79	1.50	0.27	1.48
13,200.00	90.59	182.57	11,503.19	-1,848.61	-334.93	1,847.73	1.50	0.27	1.48
13,300.00	90.86	184.04	11,501.93	-1,948.43	-340.70	1,947.53	1.50	0.27	1.48
13,365.21	91.03	185.01	11,500.86	-2,013.43	-345.84	2,012.52	1.50	0.27	1.48
Start 149.33 hold at 13365.21 MD									
13,400.00	91.03	185.01	11,500.23	-2,048.08	-348.88	2,047.16	0.00	0.00	0.00
13,500.00	91.03	185.01	11,498.43	-2,147.68	-357.60	2,146.74	0.00	0.00	0.00
13,514.54	91.03	185.01	11,498.16	-2,162.16	-358.87	2,161.21	0.00	0.00	0.00
Start DLS 1.50 TFO -101.30									
13,600.00	90.78	183.75	11,496.81	-2,247.36	-365.39	2,246.40	1.50	-0.29	-1.47
13,700.00	90.49	182.28	11,495.70	-2,347.22	-370.65	2,346.24	1.50	-0.29	-1.47
13,800.00	90.19	180.81	11,495.11	-2,447.18	-373.34	2,446.19	1.50	-0.30	-1.47
13,865.14	90.00	179.85	11,495.00	-2,512.31	-373.72	2,511.32	1.50	-0.30	-1.47
Start 2375.00 hold at 13865.14 MD									
13,900.00	90.00	179.85	11,495.00	-2,547.17	-373.63	2,546.19	0.00	0.00	0.00
14,000.00	90.00	179.85	11,495.00	-2,647.17	-373.36	2,646.19	0.00	0.00	0.00
14,100.00	90.00	179.85	11,495.00	-2,747.17	-373.10	2,746.19	0.00	0.00	0.00
14,200.00	90.00	179.85	11,495.00	-2,847.17	-372.84	2,846.19	0.00	0.00	0.00

Database: Gyrodata NWDB
Company: WPX Energy

Project: Eddy County, NM

Site: RDX Federal 17
Well: 35H
Wellbore: ST01
Design: Design #1

Local Co-ordinate Reference: Well 35H
TVD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
MD Reference: Orion Pegasus 9 @ 3093.00usft (Orion Pegasus)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,300.00	90.00	179.85	11,495.00	-2,947.17	-372.58	2,946.19	0.00	0.00	0.00
14,400.00	90.00	179.85	11,495.00	-3,047.17	-372.32	3,046.19	0.00	0.00	0.00
14,500.00	90.00	179.85	11,495.00	-3,147.17	-372.06	3,146.19	0.00	0.00	0.00
14,600.00	90.00	179.85	11,495.00	-3,247.17	-371.79	3,246.19	0.00	0.00	0.00
14,700.00	90.00	179.85	11,495.00	-3,347.17	-371.53	3,346.19	0.00	0.00	0.00
14,800.00	90.00	179.85	11,495.00	-3,447.17	-371.27	3,446.19	0.00	0.00	0.00
14,900.00	90.00	179.85	11,495.00	-3,547.17	-371.01	3,546.19	0.00	0.00	0.00
15,000.00	90.00	179.85	11,495.00	-3,647.17	-370.75	3,646.19	0.00	0.00	0.00
15,100.00	90.00	179.85	11,495.00	-3,747.17	-370.48	3,746.19	0.00	0.00	0.00
15,200.00	90.00	179.85	11,495.00	-3,847.17	-370.22	3,846.19	0.00	0.00	0.00
15,300.00	90.00	179.85	11,495.00	-3,947.17	-369.96	3,946.19	0.00	0.00	0.00
15,400.00	90.00	179.85	11,495.00	-4,047.17	-369.70	4,046.19	0.00	0.00	0.00
15,500.00	90.00	179.85	11,495.00	-4,147.17	-369.44	4,146.19	0.00	0.00	0.00
15,600.00	90.00	179.85	11,495.00	-4,247.17	-369.18	4,246.19	0.00	0.00	0.00
15,700.00	90.00	179.85	11,495.00	-4,347.17	-368.91	4,346.19	0.00	0.00	0.00
15,800.00	90.00	179.85	11,495.00	-4,447.17	-368.65	4,446.19	0.00	0.00	0.00
15,900.00	90.00	179.85	11,495.00	-4,547.17	-368.39	4,546.19	0.00	0.00	0.00
16,000.00	90.00	179.85	11,495.00	-4,647.17	-368.13	4,646.19	0.00	0.00	0.00
16,100.00	90.00	179.85	11,495.00	-4,747.17	-367.87	4,746.19	0.00	0.00	0.00
16,200.00	90.00	179.85	11,495.00	-4,847.17	-367.61	4,846.19	0.00	0.00	0.00
16,240.14	90.00	179.85	11,495.00	-4,887.30	-367.50	4,886.32	0.00	0.00	0.00

TD at 16240.14

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
LTP v2 - RDX Federa			0.00	0.00	11,495.00	-4,787.30	-367.70	377,135.00	672,213.40	32.03612	-103.91098
- plan misses target center by 0.06usft at 16140.13usft MD (11495.00 TVD, -4787.30 N, -367.76 E)											
- Point											
PBHL v2 - RDX Federa			0.00	0.00	11,495.00	-4,887.30	-367.50	377,035.00	672,213.60	32.03585	-103.91098
- plan hits target center											
- Point											

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,784.00	11,504.84	-1,432.71	-333.97	Start DLS 5.00 TFO 235.00
12,844.00	11,504.06	-1,492.70	-333.99	Start 100.00 hold at 12844.00 MD
12,944.00	11,504.25	-1,592.68	-331.89	Start DLS 1.50 TFO 79.54
13,365.21	11,500.86	-2,013.43	-345.84	Start 149.33 hold at 13365.21 MD
13,514.54	11,498.16	-2,162.16	-358.87	Start DLS 1.50 TFO -101.30
13,865.14	11,495.00	-2,512.31	-373.72	Start 2375.00 hold at 13865.14 MD
16,240.14	11,495.00	-4,887.30	-367.50	TD at 16240.14



Haque, Mustafa <mhaque@blm.gov>

WPX Energy (RKI) RDX Federal 17-35H Sidetrack Request

2 messages

Goudie, Dylan <Dylan.Goudie@wpxenergy.com>

Sun, Jun 11, 2017 at 6:31 PM

To: "mhaque@blm.gov" <mhaque@blm.gov>

Cc: "Walker, Josh" <Josh.Walker@wpxenergy.com>, "Cutler, Jeff" <Jeffrey.Cutler@wpxenergy.com>

Haque, thank you for talking to me earlier today and giving me a verbal approval for the OH sidetrack of the RDX Federal 17-35H well.

Please see the new proposed directional plan for the OH lateral sidetrack that we will be performing on the RDX Federal 17-35H well.

RDX Federal 17-35H

API #: 30-015-43884

Previous depth: 13,591 ft

Proposed sidetrack depth: 12,784' – 12,798'

Once the well reaches TD, we will run 4-1/2" casing and cement the entire lateral back up to the proposed liner top.

Please let me know if you have any questions, or need any additional information at this time.

Thank you,

Dylan Goudie

Drilling Engineer - Permian Basin

Email: Dylan.Goudie@wpxenergy.com

Cell: (970) 319-8089

Office: (539) 573-2536

WPXENERGY