	IC -UIR		a				
Form 3160 - 3 (March 2012)	12-010			FORM APPR OMB No. 1004 Expires October	OVED H0137 31, 2014		
	UNITED STAT	ES INTERIOR NAGEMENT		5. Lease Serial No. NM-20965			
	APPLICATION FOR PERMIT TO	D DRILL OR REENTER		6. If Indian, Allotee or Tribe Name			
la. Type of work:	DRILL AT JOUR REEN	TER		7 If Unit or CA Agreement	, Name and No.		
lb. Type of Well:	Gas Well Other	Single Zone 🔲 Mu	tiple Zone	8. Lease Name and Well N RDX FEDERAL 17-35H	lo.		
2. Name of Operate	PT RKI EXPLORATION & PRODUCTIO	N, LLC.		9. API Well Na. <u>30-0/5-4</u>	3884		
3a. Address 210 F OKLA	PARK AVENUE, SUITE 900 AHOMA CITY, OKLAHOMA 73102	3b. Phone No. (include area code) (405) 987-2226 (Sam McCL	irdy)	10. Field and Pool, or Explor	alory Wolfcamp (GAS SPRING (84330)		
4. Location of Well At surface 156 At proposed prov	(Report location clearly and in accordance with FNL & 895 FWL (FIRST TAKE 330 FN 230 330 d: zone 300 FSL & 660 FWL (LAST TAK	any State requirements.*) L & 660 FWL) SECTION 17 720 E 330 FSL & 660 FWL) SECTIO	ON 17	11. Sec., T. R. M. or Blk. and SECTION 17, T. 26 S., J	Survey of Area R. 30 E.		
4. Distance in miles 15 MILES SOUT	and direction from nearest town or post office* HEAST OF MALAGA, NM			12. County or Parish EDDY	13. State NM		
15. Distance from pro- location to neares property or lease (Also to nearest d)	oposed* SHL: 150' it line, ft_ BHL: 300' krig. unit line, if any)	16. No. of acres in lease 520	17. Spaci	ng Unit dedicated to this well			
8. Distance from pro to nearest well, dr applied for, on thi	posed location* SHL: 25' illing, completed, BHL: 330' s lease, ft.	19. Proposed Depth TVD: 8,037' //633' MD: 1 2.449' /6469 *	20. BLM NLM-N	/BLA Bond No. on file MB-000460			
1. Elevations (Show 3073' GL	w whether DF, KDB, RT, GL, etc.)	22. Approximate date work will s	Approximate date work will start* 23. Estimated duration ASA1 35 DAYS				
		· 24. Attachments					
 Well plat certified A Drilling Plan. A Surface Use Planet SUPO must be find 	by a registered surveyor. an (if the location is on National Forest Syste en with the appropriate Forest Service Office).	4. Bond to cove Item 20 above m Lands, the 5. Operator cert 6. Such other si BLM.	r the operation). fication te specific in	ons unless covered by an existin formation and/or plans as may l	ng bond on file (see		
25. Signature	My W. His	Name (Printed/Typed) BARRY W. HUNT		· Date	121/15		
PERMIT AGE	NT FOR RKI EXPLORATION & PROD	JCTION, LLC.					
approved by (Signatu	/s/George MacDon	ell Name (Printed/Typed)		Date AL	JG 1 - 2016		
itle	FIELD MANAGER	Office	CA	RLSBAD FIELD OFFICI	Ē		
Application approval onduct operations the Conditions of approva	does not warrant or certify that the applicant he ereon. al, if any, are attached.	lds legal or equitable title to those ri	ghts in the su	bject lease-which would entitled AP, ROVAL FO	Rapptive Oº YEARS		
itle 18 U.S.C. Section tates any false, fictition	1001 and Title 43 U.S.C. Section 1212, make it a pus or fraudulent statements or representations	crime for any person knowingly and is to any matter within its jurisdiction.	willfully to	make to any department or agen	icy of the United		
(Continued on p	_{Dage} 2)			*(Instruction	ons on page 2)		
arlsbad Con	trolled Water Basin			ми	OIL CONSERVATIO		
					AUG 09 2016		
Approval Subjec & Special S	t to General Requirements Stipulations Attached	SEE ATTA	CHËD NS OF	FOR APPROVAL	RECEIVED		
			• •				

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CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or RKI Exploration and Production, LLC am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 21st. day of May 2015.

Signed: Printed Name: Barry Hunt

Position: Agent for KKI Exploration & Production, LLC. Address: 1403 Springs Farm Place, Carlsbad, NM 88220 Telephone: (575) 361-4078 E-mail: specialtpermitting@gmail.com

DISTRICT III 1220 South St. Francis Dr. 1000 Rep Bragos Rd., Actes, NM 87410 Phone: (505) 334-6178 Fee: (505) 334-6170 □ AMENDED REPORT DISTRICT IV Santa Fe, New Mexico 87505 1220 S. St. Francis Dr., Nanta Fe, NM 87505 Phone. (505) 47(63460 Fey: (505) 476-3462 WELL LOCATION AND ACREAGE DEDICATION PLAT Pool Name Pool Code API Number 4330 30-015-43884 Poss DEAN LOWER WOLFCAMP (GAS) Property Code Property Name Well Number 3902 **RDX FEDERAL 17** Ί 35H Operator Name Elevation OGRID No. 246289 **RKI EXPLORATION & PRODUCTION** 3073' Surface Location UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County 17 30 E 150 NORTH 895 WEST EDDY D 26 S Bottom Hole Location If Different From Surface UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County EDDY 17 230 SOUTH 330 WEST Μ 26 S 30 E Consolidated Code Dedicated Acres Joint or Infill Order No. 320.0

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

			OPERATOR CERTIFICATION
	895' 150' RDX FEDERAL 17-35H	B C	Of Elderon OERen to renord
	O'O' SHL		I hereoy certify that the information contained
	NMSP-F (NAD 83)		herein is true and complete to the ocar of my
	Q N/Y) = 391974 1		entruleage and vericy, and that this organization
	N (1) = 301974,1		mineral interact in the land including the
	E (X) = 5/2/66.0		manared bettern hale lengther or her a might to
	LAT.= 32"02'57.90"N.		drill this well at this location methods to a
	LONG.= 103*54'32.86"W.		contract with an owner of such a mineral or
	NMSP-E (NAD 27)		working interest or to voluntary pooling
ſ.	N (Y) = 381916 5		agreement of a compulsory pooling order
	$E(X) = 631580.2^{\circ}$		heretotore entered by the division.
			· · ·
	LA1,- 52.0452520 N.		
	LONG.≠ 103,9086483*W,		
			$(\cdot) \wedge) \wedge (\cdot) \wedge (\cap) (\cdot) \wedge (\cdot) \wedge (\cdot) \wedge (\cap) $
1	FIRST TAKE POINT		LAVA MINAL GILY 6
11	330' FNL & 330' FWL		- Man and -
11	NMSP-E (NAD 83)		Sratiure Date
11	N (Y) = 381789.9		
	E (X) = 572201.2'		JOSIA WALLE
11	LAT.= 32*02'56.10"N		
И	LONG.≈ 103°54'39.43"W		Print Name
11	NMSP-E (NAD 27)		
Y	N(Y) = 381732.3'		mole in Kerch i Decemper vin
11	E(X) = 631015.3		- Van Lander (a. Wracks) y a
	LAT= 32.0487919*N		E-mail Address
]]	LONG = 103.9104736*W	j j	j j
D		Ε	
. 1 1 -			SURVEYORS CERTIFICATION
	LAST TAKE		7 hander anothing that the shall be addien about an this
	330' FSL & 330' FWL		plat was platted from field pater of actual surveys
11	/ NMSP-E (NAD 83)		made by the or under my supervision and that the
	/ NMSP-E (NAD 83)		same is true and correct to the best of my belief.
	N (Y) # 377135.5		
И	E (X) = 672213.2'		ΠNE 27 2016
<u> </u>	LAT.= 32°02'10.04"N		JUNE 27, 2010
	LONG.= 103*54*39,50*W		Date of Survey
11	NMSP-E (NAD 27)		S TOUR
	N (Y) = 377378.0		Signature and Seal of Professional Service
	$E(X) = 631027.2^{\circ}$		Les NEW F
	LATE 32.03599/0"N	i I I	
	LONG = 103,9104940"W		
	RDX FEDERAL 17-35H		
	BHL		
	NMSP-E (NAD 83)		=
(I	N (Y) = 377035.5		
	F(X) = 672213 d'		ミト ヘノ /ギ//
	1 AT = 22*02/09 05"N		
X I	1 ONG - 402% 4'00 5100	1/	
			The second second second
11	NMSP-E (NAU 27)		Comes S 9948 Takes
330	N (Y) = 376978.0'		Xuno unio
	E (X) = 631027.5'		The state of the s
	"Y		Job No.: WTC51229
F	230' LONG,= 103,9104945'W,		JAMES E. TOMPKINS 14729
_ <u>_</u>	······································		Certitinate Number
Ļ	/ /		

DISTRICT 1 1425 N. Frenk Dr., 1606 N. SM 88240 Flows: U297 201418 Face (575) 30360720 DISTRICT 11 811 S. TOHSI, Arasik, SM 88210 Flows: (375) 748-1233 Face (575) 748-0720 DISTRICT 111 1000 Faco Brazos Fac, Arter, SM 87410 Flows: (355) 334-6176 (sc; 656) 334-6170 DISTRICT 1V 1220 S.N. Flowski Dr., Smith Fe, SM 87205

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

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

n ,)

COORDINATES

 	-					
W COR SEC 17 MSP-E (NAD 83) = 382117.4' N = 671870.3' E AT.= 32°02'59.35"N DNG.=103°54'43.26"W MSP-E (NAD 27) (Y) = 382059.8' (X) = 630684.4' AT.= 32.0496956°N ONG.= 103.9115374°W	B. N1/4 C NMSP- N (Y) = E (X) = LAT = 3 LONG. NMSP- N (Y) = E (X) = LAT.= 3 LONG.	OR SEC 17 E (NAD 83) 382137.7' 674525.3' 32°02'59.45"N =103°54'12.41"W E (NAD 27) 382080.1' 633339.5' 32.0497225°N =103.9029680°W	NE COR SEC 17 NMSP-E (NAD 83 N (Y) = 382158.2 E (X) = 677178.6 LAT.=32°02'59.55"N LONG.=103°53'41.58"M NMSP-E (NAD 27 N (Y) = 382100.6 E (X) = 635992.7 LAT.= 32.0497496°N LONG.=103.8944044°V			
V1/4 COR SEC 17 IMSP-E (NAD 83) (Y) = 379460.3' (X) = 671877.8' AT.= 32°02'33.06"N ONG.= 103°54'43.30"W - IMSP-E (NAD 27) (Y) = 379402.8' (X) = 630691.9' AT.= 32.0423914*N ONG.= 103.9115468*W			E. E1/4 COR SEC 17 NMSP-E (NAD 83) N (Y) = 379499.9' E (X) = 677183.8' LAT.= 32°02'33.24'N LONG.= 103°53'41.65''W NMSP-E (NAD 27) N (Y) = 379442.4' E (X) = 635997.85' LAT.= 32.0424420°N LONG.= 103:8944228*W			
W COR SEC 17 MSP-E (NAD 83) (Y) = 376803.1' (X) = 671884.0' NG.= 103°54'43.34"W MSP-E (NAD 27) (Y) = 376745.6' (X) = 630698.0' XT.= 32.0350868°N DNG.= 103.9115606°W	G. S1/4 CC NMSP-E N (Y) = 3 E (X) = 6 LAT = 3 LONG = NMSP-E N (Y) = 3 E (X) = 6 E (X) = 6 LAT = 3 LONG =	DR SEC 17 E (NAD 83) 376822.4' 574535.2' 2°02'06.85"N 103°54'12.54"W E (NAD 27) 376764.9' 633349.2' 2.0351112"N ± 103.9030048"W	H. SE COR SEC 17 NMSP-E (NAD 83) N (Y) = 376840.9' E (X) = 677188.7' LAT.= 32°02'06.93"N LONG.= 103°53'41.72"W NMSP-E (NAD 27) N (Y) = 376783.4' E (X) = 636002.6' LAT.= 32.0351326°N { ONG = 103 8944421°W			





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WTC, INC. . 405 S.W. 1st Street Andrews, 7X 79714 (432) 523-2181

DRIVING DIRECTIONS:

Beginning at US 285 at the Texas-New Mexico State line go Northerly 3.7 miles to CR 725 (Longhorn Road). On CR 725 go East, South & Southeast for approx. 4.1 miles to a "Y". Take the left fork going East on Ross Ln. for approx. 6.1 miles to a lease road right, Go South on lease road for approx. 1.9 miles to a two track road. Go Southerly on two track road for 1.2 miles to a two track road to the right. Go southwesterly on two track road for 0.4 miles. The location flag is 670 feet West.



SECTION 17, T 26 S, R 30 E, N.M.P.M. COUNTY: EDDY STATE: MM DESCRIPTION: 150' FNL & 895' FWL OPERATOR: RKI EXPLORATION & PRODUCTION WELL NAME: RDX FEDERAL 17-35H



DRIVING DIRECTIONS:

Beginning at US 285 at the Texas-New Mexico State line go Northerly 3.7 miles to CR 725 (Longhorn Road). On CR 725 go East, South & Southeast for approx. 4.1 miles to a "Y". Take the left fork going East on Ross Ln. for approx. 6.1 miles to a lease road right, Go South on lease road for approx. 1.9 miles to a two track road. Go Southerly on two track road for 1.2 miles to a two track road to the right. Go southwesterly on two track road for 0.4 miles. The location flag is 670 feet West.



WTC, INC. 405 S.W. 1st Street Andrews, TX 79714 (432) 523-2181

RKI EXPLORATION & PRODUCTION

AERIAL MAP



GRAPHIC SCALE 1" = 2000' SECTION 17, T 26 S, R 30 E, N.M.P.M. COUNTY: EDDY STATE: NM DESCRIPTION: 150' FNL & 895' FWL OPERATOR: RKI EXPLORATION & PRODUCTION WELL NAME: RDX FEDERAL 17-35H

> WTC, INC. 405 S.W. 1st Street TX 79714 (432) 523-2181

DRIVING DIRECTIONS:

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RKI EXPLORATION & PRODUCTION JOB No.: WTC51229



WELL NAME: RDX FEDERAL 17-35H



WTC, INC. 405 S.W. 1st Street Andrews, TX 79714 (432) 523-2181



Northerly 3.7 miles to CR 725 (Longhorn Road). On CR 725 Take the left fork going East on Ross Ln. for approx, 6.1 miles to a lease road right, Go South on lease road for approx. 1.9 miles to a two track road. Go Southerly on two track road for 1.2 miles to a two track road to the right. Go southwesterly on two track road for 0.4 miles. The location flag is 670 feet West,

RKI EXPLORATION & PRODUCTION

SITE LOCATION



RKI EXPLORATION & PRODUCTION





RKI EXPLORATION & PRODUCTION

		WPX En	ergy		
	GE	OLOGICAL PROGN	OSIS - PERMIAN		
		RDX FED COM	17-35H		
Well Name:	RDX FED CON	1_17-35H	Location:	SHL:	<u>150 FNL 895 FWL</u>
API#:	,			POP:	<u>330 FNL 330 FWL</u>
Target Formation:	Wolfcamp			BHL:	230 FSL 330 FWL
Field:	Ross Draw			Legal:	T265 R30E S17
Elevation:	GL(ft):	3073		State:	NEW MEXICO
-	КВ	25		Rig:	Orion Pheonix (KB 25')
· · ·				KB (ft):	3098

Projected Tops •										
FORMATION	<u>DEPTH (TVD)</u>	<u>SUBSEA</u>	Comments							
Bell Canyon (Base of Salt)	3461	-350								
Cherry Canyon	4536	-1425								
Brushy Canyon	5607	-2496								
Bone Spring	7286	-4175								
1st Bone Spring	8162	-5051								
2nd Bone Spring	8913	-5802								
3rd Bone Spring	10077	-6966								
Wolfcamp Top	10461	-7350								
Landing Point	11633	-8522								
Target Top @BHL	11583	-8472	·							

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WPX Energy

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Well	RDX Fed 17-3	5H											
Location	Surfac	e: 15	0 FNL		895	FWL		Sec 17-26S-3	30E				•
·	Bottom Hol	e: 23	0 FSL		330	FWL		'Sec 17-265-3	30E				
County	Eddy												
State	New Mexico												
		•				•							
i) The elevation	n of the unpre	pared ground is	5					3	3,073	feet above	sea l	evel.
		•		· .									
2	The geologic	name of the s	urface formatio	on is Quate	rnary - A	Alluvium.							
3) A rotary rig w	vill be utilized	to drill the well	to			16,469	feet and run	casing an	d ceme	ent.	•	
	This equipme	nt will then b	e rigged down	and the we	l will be	completed with	a		U				
	workover rig						-						
	workover rig.												
. 1		ath is	16/69	feet MD									
	, rioposed del	511115	10,405										
5) Estimated to												
5	, estimated to	μs.			440		מעד						
					WIL	,	100						
	Roll Convon S	and (Base Sa	1+)		3 1 1 8		3 4 4 8				BHP =	44 n	si/ft y denth
	Chorry Convo	anu (base sa an Sand	(t) ·		J,440 A 525	•	1 573				14	יק דדי 51 7	nsi .
	Brushy Canyo	n Sand	•		4,000 5 600		5 5 6 4				-,- 1 (00N	psi
	Brushy Canyo	limo			3,022		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Oil '		-,- 2,	/61	psi .
	1 st Ropo Spring i	Lime ing Sond			7,321		9 1 40				2,- 2 ·	200	psi
	Tst Bone Spri	ing Sand			8,197		8,149				ג,כ ז כ	200	hzi
	2nd Bone Spi	ring Sano			0,940		10.004		Oli		.,כ סו	000 D16	psi
	3rd Bone Spr	ing sano			10,112		11,004		0:1		;رد ۱	470 910	psi nci
	KUP				11,135		10,084		OII		4,-	+20	µsi nci
	woircamp	-		•	10,496	·	10,448		01		4,0	577	psi
									UII .		4,:	597	psi
	Landing Poin	t (Wolfcamp)			11,983		11,633				F .	-	psi
۵.	TD •				16,469		11,633				5,.	119	psi
r0t													
600 6) Casing progra	am:											
0		_	_								•		_ ,
	Hole	Тор	Bottom	OD Csg		Wt/Grade		Connection	Collapse		Burst		Tension
	Size				•				Design		Design		Design
									Factor		Factor		Factor
			1000)									
	17 1/2"	0	. -680	13 3/8"		54.5#/J-55		ST&C		3.78	18	8.25	13.87
	12 1/4"	0	3,448	9 5/8"		40#/J-55		LT&C		1.33	-	5.21	3.77
	8 3/4"	0	11,983	7"		29#/HCP-110		BT&C		1.18		1.99	2.56
	6 1/8"	. 11,133	3 16,469	4 1/2"		13.5#/HCP-110		CDC-HTC		2.08		1.24	6.15
													x
	Collapse	1.12	5										
	Burst	1.0)										
	Tension	2.0)										

7) Cement program:

Juliace	17.1/2" hole'					
Pipe OD	13 3/8"				•	
Setting Depth	580 ft					
Appular Volume	0.69462.cf/ft	•				
Freese	1		100 %			•
EXCESS	I		. 100 %			
Lead	540 sx	1.75 cf/sk		9.13 gal/sk		13.5 ppg
Tail	200 sx	1.33 cf/sk		6.32 gal/sk		14.8 ppg
Lead: "C" + 4% PF20 (g	gel) + 2% PF1 (CC) + .125 pps	PF29 (CelloFlake) + .4 p	ops PF46 (antifoam)	l		
	Top of comont:	Surface				
	Top of cement.	. Suitace				
Intermediate	12 1/4" hole					
Pipe OD	9 5/8"					
Setting Depth	3,448 ft					•
Annular Volume	0.31318 cf/ft		0.3627 cf/ft			
Excess 🔍	0.5		50 %		·	
Lead	593 sx	2.37 cf/sk		9.95 gal/sk		. 12.6 ppg
Tail	200 sx	1.33 cf/sk		6.32 gal/sk		14.8 ppg
Lead: 35/65 Poz "C" +	5% PF44 + 6% PF20 + 1% PF1	125 pps PF29 + .4 g	pps PF46 + 3 pps PF	42		
Tail: "C" + .2% PF13 (r	etarder)					
	Top of cement:	Surface				
Intermediate	8 3/4" hole			•		
Dine OD						
Pipe OD	7"	,				
Setting Depth	7" 11,983 ft	,				
Setting Depth Annular Volume	7" 11,983 ft 0.15033 cf/ft		0.1585 cf/ft	,	500 ft	
Setting Depth Annular Volume Excess	7" 11,983 ft 0.15033 cf/ft 0.35		0.1585 cf/ft 35 %	,	500 ft	
Setting Depth Annular Volume Excess	7" 11,983 ft 0.15033 cf/ft 0.35		0.1585 cf/ft 35 %		500 ft	
Setting Depth Annular Volume Excess Lead:	7" 11,983 ft 0.15033 cf/ft 0.35	1.89 cf/sk	0.1585 cf/ft 35 %	10.06 gal/sk	500 ft	12.9 ppg
Setting Depth Annular Volume Excess Lead: Tail:	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx	1.89 cf/sk 1.33 cf/sk	0.1585 cf/ft 35 %	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .2	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 %	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .2	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 %	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .3 Top of cement:	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .3 Top of cement: 6 1/8" hole	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13 Production Pipe OD (in OH)	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .7 Top of cement: 6 1/8" hole 4 1/2"	1.89 cf/sk 1.33 cf/sk £25 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13 Production Pipe OD (in OH) Setting Depth	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .: Top of cement: 6 1/8" hole 4 1/2" 16,469 ft	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13 Production Pipe OD (in OH) Setting Depth Annular Volume	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .2 Top of cement: 6 1/8" hole 4 1/2" 16,469 ft 0.0942	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13 Production Pipe OD (in OH) Setting Depth Annular Volume Excess	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx 6 PF44 + 6% PF20 + .2% PF13 + .2 Top of cement: 6 1/8" hole 4 1/2" 16,469 ft 0.0942 0.50	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13 Production Pipe OD (in OH) Setting Depth Annular Volume Excess	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .: Top of cement: 6 1/8" hole 4 1/2" 16,469 ft 0.0942 0.50	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk	500 ft '	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 59 Tail: "C" + .2% PF13 Production Pipe OD (in OH) Setting Depth Annular Volume Excess Lead:	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + .: Top of cement: 6 1/8" hole 4 1/2" 16,469 ft 0.0942 0.50 403 sx	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46 1.87 cf/sk	0.1585 cf/ft 35 % 2,948 ft	10.06 gal/sk 6.32 gal/sk 9.52 gal/sk	500 ft	12.9 ppg 14.8 ppg
Setting Depth Annular Volume Excess Lead: Tail: Lead: 35/65 Poz "C" + 5% Tail: "C" + .2% PF13 Production Pipe OD (in OH) Setting Depth Annular Volume Excess Lead: Lead: Lead: AcidSolid PVL + 5%	7" 11,983 ft 0.15033 cf/ft 0.35 850 sx 175 sx % PF44 + 6% PF20 + .2% PF13 + Top of cement: 6 1/8" hole 4 1/2" 16,469 ft 0.0942 0.50 403 sx PF174 + .7% PF606 + .2% PF153	1.89 cf/sk 1.33 cf/sk 125 ps PF29 + .4 pps PF46 1.87 cf/sk + .5% PF13 + 30% PF151	0.1585 cf/ft 35 % 2,948 ft + .4 pps PF46	10.06 gal/sk 6.32 gal/sk 9.52 gal/sk	500 ft	12.9 ppg 14.8 ppg 13.0 ppg

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8) Pressure control equipment:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a triple ram type

(10,000 psi WP) preventer, a bag-type annular preventer (5,000 psi WP), and rotating head. Both units will

be hydraulically operated and the ram type preventer will be equipped with variable rams on top, blind rams, and pipe rams

(sized to accommodate the drill pipe size being utilized) on bottom. A 13 3/8" SOW x 13 5/8" 5M

casing head will be installed on the 13 3/8" casing and utilized until total depth is reached. All BOP and associated equipment will be tested to 5,000 psi and the annular will be tested to 1,500 psi after setting

13-3/8" casing string & 7" casing string. The 13 3/8" and 9 5/8" casing will be tested to .22 psi per ft of casing string length or 1500 psi whichever is greater, but not to exceed 70% of the minimum yield.

The 9 5/8" casing will be hung in the casing head and the stack will not be nippled down at this point.

The stack will not be isolated and tested after running the 9 5/8" casing, but will be tested along with the 9 5/8" casing. Pipe rams will be operated and checked each 24 hour period and each time the drill string is out of the hole. These function test will be documented on the daily driller's log.

A drilling spool or blowout preventer with 2 side outlets (choke side shall be 3" minimum diameter, kill side shall be at least 2" diameter).

2 kill line valves, one of which will be a check valve.

2 chokes on the manifold along with a pressure gauge.

Upper kelly cock valve with handle available.

Safety valve and subs to fit all drill string connections in use.

All BOP equipment connections subjected to pressure will be flanged, welded, or clamped.

Fill up line above the upper most preventer.

9) Mud program:

Тор	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
•	0 680	8.5 to 8.9	32 to 36	1-6	1-6	NC	Fresh Water
1000	3,448	9.8 to 10.0	28 to 30	1 - 3	1-3	NC	Brine
3,4	148 11,983	8.9 to 9.1	28 to 36	1 - 3	1-3	NC	Cut Brine
11,9	983 16,469	10.5 to 12.5	50 to 55	20-22	8 - 10	8 - 10	OBM

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10) Logging, coring, and testing program:

No drill stem test are planned

KOP to intermediate: No logs planned Intermediate to surface: No logs planned No coring is planned

11) Potential hazards:

No abnormal pressure or temperature is expected. No H2S is known to exist in the area. Lost circulation can occur in, lost circulation material will be on location and readily available if needed.

12) Anticipated start date	ASAP
Duration	30 days







WPX Energy

Eddy County, New Mexico (NAD 83) RDX Federal 17 35H

Wellbore #1

Plan: Design #1

Standard Planning Report

26 July, 2016



WPXENERGY.			Microsoft				Enoral Corvingo					
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Company:		Inergy			TVD Ref	erence:	WELL @	, 3098.0	0usft (Orion	Phoenix)		
Project:	Eddy C	County, New	Mexico (NAI	D 83)	MD Refe	rence:	WELL	3098.0	Ousft (Orion	Phoenix)		
Site:	RDX F	ederal 17			North Re	ference:	Grid	-		,		
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Database: Company: Project: Site: Nell: Nell: Nellbore:		EDM'Conroe WPX Energy Eddy County, RDX Federal 35H Wellbore #1	New Mexico (17	NAD 83)	Local TVD F MD R North Surve	Co-ordinate teference: eference: Reference: ŷ Calculation	Reference: Method:	Well 35H ; WELL @ 3 WELL @ 3 : Grid Minimum C	098.00usft (Ori 098.00usft (Ori Curvature	on Phoenix) on Phoenix)
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г Iали	Measurêd Depth	Inclination	Azimuth.	Vertical `Depth ' (usft)	+N/-S	+E/-W	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate	Turn Rate (°/100usft)
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	1,500.00 1,600.00 1,700.00 1,800.00 1,900.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	1,500.00 1,600.00 1,700.00 1,800.00 1,900.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
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	4,400.00 4,500.00 4,600.00 4,700.00 4,800.00	10.00 10.00 10.00 10.00 10.00	279.61 279.61 279.61 279.61 279.61 279.61	4,389.70 4,488.18 4,586.67 4,685.15 4,783.63	21.28 24.18 27.08 29.98 32.88	-125.61 -142.73 -159.85 -176.97 -194.09	-7.18 -8.16 -9.13 -10.11 -11.09	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
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				Planning	Report		www.msenergyservices.com				
Dațabase:	EDM Conroe			Local	Co-ordinate	Reference:	Well 35H				
Company: Project: Site:	Eddy County	r, New Mexico 17	(NAD 83)	TVD R MD Re North	eference: ference: Reference:	ę.,	WELL @ 3098.00usft (Orion Phoenix) WELL @ 3098.00usft (Orion Phoenix)				
Well: Wellbore: Design:	¹ 35H Wellbore #1			Survey	y Calculation	Method:	 Minimum C 	Curvature	1 1 1		
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Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-Ŵ	Vertical Section	Dogleg Rate	Build Rate	Turn Raté		
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5,500.00	10.00	279,61 279,61	5,473.00 5,571.48	53.18 56.08	-313,92 -331.04	-17.94 -18 92	0.00	0.00 0.00	0.00		
5,700.00	10.00	279.61	5,669.96	58.98	-348.16	-19.90	0.00	0.00	0.00		
, 5,800.00	10.00	279.61	5,768.44	61.88	-365.28	-20.87	0.00	0.00	0.00		
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6,803.19	10.00	279.61	6,756.40	90.97	-537.02	-30.69	0.00	0.00	0.00		
Begin 3.0	0°/100' Drop						•				
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7,100.00	1.09	279.61	7,051.52	95.75	-565.27	-32.30	3.00	-3.00	0.00		
7,136.49	0.00	0.00	7,088.00	95.81	-565.62	-32.32	3.00	-3.00	0.00		
веди ver 7,200.00	0.00	0.00	7,151.51	95.81	-565.62	-32.32	0.00	0,00	0.00		
7,300.00	0.00	0.00	7,251.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
7,400.00	0.00	0.00	7,351.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
7,500.00	0.00	0.00	7,451,51 7,551,51	95.81 95.81	-565.62	-32.32	0.00	0.00	0.00		
7,700.00	0.00	0.00	7,651.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
7,800.00	0.00	0.00	7,751.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
7,900.00	0.00	0.00	7,851.51 7.951.51	95.81 95.81	-565.62	-32.32	0.00	0.00	0.00		
8,100.00	0.00	0.00	8,051.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
, 8,200.00	0.00	0.00	8,151.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
8,300.00	. 0.00	0.00	8,251.51 8.351.51	95.81 95.81	-565.62	-32.32 -32.32	0.00	0.00	0.00		
8,500.00	0.00	0.00	8,451.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
8,600.00	0.00	0.00	8,551.51 8.651.51	95.81 95.81	-565.62 -565.62	-32,32	0.00	0.00	0.00		
8,800,00	0.00	0.00	8,751,51	95.81	-565.62	-32.32	0.00	0.00	0.00		
8,900.00	0.00	0.00	8,851.51	95.81	-565.62	-32,32	0.00	0.00	0.00		
9,000.00	0.00 0.00	0.00 0.00	8,951.51 9,051.51	95.81 95.81	-565,62 -565,62	-32.32 -32 32	0.00 0.00	0.00	0.00		
9,200.00	0.00	0.00	9,151.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
9,300.00	0.00	0.00	9,251.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
+ 9,400.00 9,500.00	0.00 0.00	0.00 0.00	9,351.51 9,451.51	95.81 95.81	-565.62 -565.62	-32.32 -32 32	0.00	0.00	0.00		
9,600.00	0.00	0.00	9,551.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
9,700.00	0.00	0,00	9,651.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
9,800.00 9 000 00	0.00	0.00 0.00	9,751.51 9,851.51	95.81 95.81	-565.62 -565.62	-32.32 -32.32	0.00	0.00 0.00	0.00 0.00		
10,000.00	0.00	0.00	9,951.51	95.81	-565.62	-32.32	0.00	0.00	0.00		
10,100.00	0.00	0.00	10,051.51	95.81	-565.62	-32.32	0.00	0.00	0.00		

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WPXENE	RGY.			Micro	soft			Enoral Services				
A A A A A A A A A A A A A A A A A A A				Planning	Report			WWW.MSENERGYSERVICES.COM				
	• •					• •		· ·				
Database:	EDM Conroe		•	Local (o-ordinate i	Reference:	Well 35H					
Company:	WPX Energy	ow Moxico			eference:		WELL @ 309	8.00ustt (Orior	Phoenix)			
Site	RDX Federal 17			MU Re North I	rerence:		Grid	o.uuusii (Onoi	r Fridenik)			
Well:	35H			Survey	Calculation	Method:	Minimum Cur	vature	1.			
Wellbore:	Wellbore #1			્ય વિં								
Design:	Design #1		· • .				•••		· · ·			
Planned Survey		•. •			The Contraction of the Contracti	المساهلات بين			· · · · · · · ·			
		pt ,					· · · · · ·		en de la constante de la const Esta de la constante de la const			
Measured .	in alternation of	-	Vertical	-1. -1.1/ C		Vertical: Section	Bate a	- Build	· Rate · · ·			
(usft)	inclination A	·(?)	(usft) 5% sc	ن (usft)	1(usft)	(úsft) ⁺ } ∛	(°/100ùsft), .;(°/100usft) ≩_"	(°/100usft) 3			
10,200.00	0.00	0.00	10,151.51	95.81	-565.62	-32,32	0.00	0.00	0.00			
10,300,00	0.00	0.00	10,251,51	95.81	-565.62	-32,32	0.00	0.00	0.00			
10,400.00	0.00	0.00	10,351.51	95.81	-565.62	-32.32	0.00	0.00	0.00			
10,500.00	0.00	0.00	10,451.51	95,81	-565,62	-32.32	0.00	0.00	0.00			
10,700.00	0.00	0.00	10,651.51	95.81	-565.62	-32.32	0.00	0.00	0.00			
10,800.00	. 0.00	0.00	10,751.51	95.81	-565.62	-32.32	0.00	0.00	0.00			
10,900.00	0.00	0.00	10,851.51	95.81	-565.62	-32.32	0.00	0.00	0.00			
	0.00	0.00	10,951.51	95.81 95.81	-565.62	-32.32 -32.32	0.00	0.00	0.00			
11,133.31	0.00	0.00	11,084.82	95.81	-565.62	-32.32	0.00	0.00	0.00			
Begin 12.00	0°/100' Build											
11,150.00	2.00	179.85	11,101.51	95.52	-565.62	-32.03	12.00	12.00	0.00			
11,175.00	5.00	179.85 179.85	11,126.46 11 151 30	93.99 91.16	-565.61 -565.60	-30.51 -27 70	12.00	12.00	0.00			
11,225.00	11.00	179.85	11,175.95	87.04	-565.59	-23.60	12.00	12.00	0.00			
11,250.00	14.00	179.85	11,200.35	81,62	-565.58	-18.22	12.00	12.00	0.00			
11,275.00	17.00	179.85	11,224.44	74.94	-565.56	-11.59	12.00	12.00	0.00			
11,300.00	20,00	179.85	11,248.15	67.01 57.85	-565.52	-3.71 5.40	12.00	12.00	0.00			
11,350.00	26.00	179.85	11,294,15	47.48	-565,49	15.70	12.00	12.00	0.00			
11,375.00	29.00	179.85	11,316.32	35.94	-565.46	27.17	12.00	12.00	. 0.00			
11,400.00	32.00	179.85	11,337.86	23.25	-565.43	39.77 53.48	12.00 12.00	12.00 12.00	0.00			
11,450.00	38.00	179.85	11,378.80	-5.42	-565.35	68.25	12.00	12.00	0.00			
11,475.00	41.00	179.85	11,398.09	-21.32	-565.31	84.05	12,00	12.00	0.00			
11,500.00	44.00	179.85	11,416.51	-38.21	-565.27	100.83	12.00	12.00	0.00			
11,508.31 Begin 45.00	45.00 N° Tangent	179.85	11,422.44	-44.03	-565,25	106.62	12.00	12.00	0.00			
11,608.31	45.00	179.85	11,493.15	-114.74	-565.07	176.87	0.00	0.00	0.00			
Begin 12.00	0°/100' Build						40.00	10.00				
11,625.00 11,650.00	47.00	179.85 179.85	11,504.74	-126.75 -145.47	-565.04 -564.99	188.80 207.40	12.00 12.00	12.00	0.00			
11,675.00	53.00	179.85	11,536.87	-165.04	-564.94	226.84	12.00	12.00	0.00			
11,700.00	56.00	179.85	11,551.38	-185.39	-564.89	247.05	12.00	12.00	0.00			
11,725.00	59.00	179.85	11,564.81	-206.47	-564.83	268,00	12.00	12.00	0.00			
11,775.00	65.00	179.85	11,588,27	-220.23	-564.78	311.84	12.00	12.00	0.00			
11,800.00	68.00	179.85	11,598.24	-273,52	-564.66	334.62	12.00	12.00	0.00			
, 11,825.00	71.00	179.85	11,606.99	-296.94	-564.60	357.88	12.00	12.00	0.00			
' 11,850.00 11,875.00	74.00	179.85	11,614.51	-320.78	-564.54 -564.48	381.57 405.61	12.00 12.00	12.00 12.00	0.00			
11,900.00	80.00	179.85	11,625.75	-369.48	-564.41	429.95	12.00	12.00	0.00			
11,925.00	83.00	179.85	11,629.44	-394.20	-564.35	454.51	12.00	12.00	- 0.00			
11,950.00	86.00	179.85	11,631.83	-419.08	-564.28	479.23	12.00	12.00	0.00			
11,975.00	89.00 90.00	179.85 179.85	11,632,92 11,633,00	-444.05 -452 36	-564.22 -564.20	504.04 512 29	12,00 12.00	12.00 12.00	0.00 0.00			
Beain 90.00)° Lateral	119,00	*1,000.00	-702.00	-307.20	012.20	12.00	12.00	0.00			
12,000.00	90.00	179.85	11,633.00	-469.05	-564.16	528.88	0.00	0.00	0,00			
12,100.00	90.00	179.85	11,633.00	-569.05	-563.90	628.23	0.00	0.00	0.00			
12,200.00	90.00	179.85 179.85	11,633.00	-669.05 -769.05	-563.64	727.58 826 93	0.00	0.00	0,00			
12,400.00	90.00	179.85	11,633.00	-869.05	-563.12	926.28	0.00	0.00	0.00			

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COMPASS 5000.14 Build 83

WP	XENE	RGY			Micro s Planning	soft Report		Energy Servic				
Databa	se:	EDM Conroe	1		Local (Co-ordinate	Reference:	Well 35H	www.k	ISENERGYSERVICES.COM		
Compa Project Site Well:	ny:	RDX Energy Eddy County RDX Federal 35H	, New Mexico I 17	(NAD 83)	TVD R MD Re North: Survey	on Phoenix) on Phoenix)						
Wellbo Design	re:	Wellbore #1 Design #1	- 10 - 10		، ، ، ، ، ، ، ، ، ، ، ، ، ، ، ، ، ، ،	ega de la			1 4 4 47 50 40 - 4	ز 15- اه- محاد محاد م		
Planne	d Survey		مرز ۲۰۰۰ م	ه و م منظر من م	en an	· · · · · · · · · · · · · · · · · · ·	، العالية جاري . مراهدي العراب	an a tha a tha shi shi s	n on here en t	gu enere e u sonare e ≢Constante e e e e		
۰ ۱ ۱ ۱	Measured Depth '(usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (ūsft)	+E/.W' (ūšft)	Vertical Section ((usft)	Dogleg Rate (°/100usft)	Build Rate : (°/100usft)',	Turn Rate *(°/100úsft)		
1	12,500.00 12,600.00	90.00 90.00	179.85 179.85	11,633.00 11,633.00	-969.05 -1,069.05	-562.86 -562.60	1,025.63 1,124.98	0.00 0.00	0.00	0.00		
-	12,700.00 12,800.00 12,900.00 13,000.00 13,100.00	90.00 90.00 90.00 90.00 - 90.00	179.85 179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-1,169.05 -1,269.05 -1,369.05 -1,469.05 -1,569.05	-562.35 -562.09 -561.83 -561.57 -561.31	1,224.33 1,323.68 1,423.04 1,522.39 1,621.74	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
	13,200.00 13,300.00 13,400.00 13,500.00 13,600.00	90.00 90.00 90.00 90.00 90.00 90.00	179.85 179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-1,669.05 -1,769.05 -1,869.05 -1,969.05 -2,069.05	-561.05 -560.79 -560.54 -560.28 -560.02	1,721.09 1,820.44 1,919.79 2,019.14 2,118.49	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
1	13,700.00 13,800.00 13,900.00 14,000.00 14,100.00	90.00 90.00 90.00 90.00 90.00 90.00	179,85 179,85 179,85 179,85 179,85 179,85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-2,169.05 -2,269.05 -2,369.05 -2,469.05 -2,569.05	-559,76 -559,50 -559,24 -558,98 -558,73	2,217.84 2,317.19 2,416.54 2,515.89 2,615.24	0.00 0.00 0.00 0.00 0.00	0.00 0.00 . 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
	14,200.00 14,300.00 14,400.00 14,500.00 14,600.00	90.00 90.00 90.00 90.00 90.00 90.00	179.85 179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-2,669.05 -2,769.05 -2,869.05 -2,969.05 -3,069.05	-558.47 -558.21 -557.95 -557.69 -557.43	2,714.59 2,813.95 2,913.30 3,012.65 3,112.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
1	14,700.00 14,800.00 14,900.00 15,000.00 15,100.00	90.00 90.00 90.00 90.00 90.00 90.00	179.85 179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-3,169.04 -3,269.04 -3,369.04 -3,469.04 -3,569.04	-557.18 -556.92 -556.66 -556.40 -556.14	3,211.35 3,310.70 3,410.05 3,509.40 3,608.75	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
	15,200.00 15,300.00 15,400.00 15,500.00 15,600.00	90.00 90.00 90.00 90.00 90.00	179.85 179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-3,669.04 -3,769.04 -3,869.04 -3,969.04 -4,069.04	-555.88 -555.62 -555.37 -555.11 -554.85	3,708.10 3,807.45 3,906.80 4,006.15 4,105.51	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
	15,700.00 15,800.00 15,900.00 16,000.00 16,100.00	90.00 90.00 90.00 90.00 90.00 90.00	179.85 179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00 11,633.00	-4,169.04 -4,269.04 -4,369.04 -4,469.04 -4,569.04	-554.59 -554.33 -554.07 -553.81 -553.56	4,204.86 4,304.21 4,403.56 4,502.91 4,602.26	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00		
	16,200.00 16,300.00 16,400.00 16,469.56 PBHL	90.00 90.00 90.00 90.00	179.85 179.85 179.85 179.85 179.85	11,633.00 11,633.00 11,633.00 11,633.00	-4,669.04 -4,769.04 -4,869.04 -4,938.60	-553.30 -553.04 -552.78 -552.60	4,701.61 4,800.96 4,900.31 4,969.42	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00		

State	-	r Pla	Microso anning Re	o ft eport	Energy Services. www.msenergyservices.com						
Database:EDM CCompany:WPX EProject:Eddy CSite:RDX FeWell:35HWellbore:WellboreDesign:Design	onroe nergy ounty, New Mex ederal 17 re #1 #1	ico (NAD 83)	Local Co TVD Refe MD Refer North Re Survey C	ordinate Reference rence: ence: erence: alculation Method	e: Well 35H (WELL @ WELL @ Grid Minimum	3098.00usft (Orion 3098.00usft (Orion Curvature	Phoenix) Phoenix)				
Design Targets Target Name - hit/miss target . Dip Ar Shape	ngle Dip Dir. (°)• · · •	TVD +N/-S - (usft)	+E/-W (usft);	Northing (usft)	Easting (usft)	Latitude	Longitude				
VP - RDX Federal 17 - plan hits target center - Point	0.00 0.00	7,088.00 95.81	-565,62	382,069.91	672,200.38 [°] ·	32° 2' 58.871 N	103° 54' 39.429 W				
PBHL - RDX Federal - plan hits target center - Point	0.00 0.00	11,633.00 -4,938.60	-552.60	377,035.50	672,213.40	32° 2' 9.050 N	103° 54' 39.507 W				
Measured Depth (usft) 680.00 3,448.00	Vertical Depth (uşft)) 680.00) 3,448.00	13 3/8" 9 5/8"	Name		Ca Diar (sing Hole neter Diamet ") 13-3/8 17- 9-5/8 12-	er 1/2 1/4				
Formations Measured Depth (usft)	Vertical Depth (usft)	Name		Litholo	9y	Dip (°)					
3,448.00	3,448.00 B	ell Canyon (Base of Sal	lt)	na see of an a coorderate.	- Paulon de la la succ	0.00					
4,535.35	4,523.00 C	herry Canyon				0.00					
5,622.87	5,594.00 B	Irushy Canyon				0.00					
, 7,321.49 9.107.40	7,273.00 B	one Spring				0.00					
8 948 49	8,149.00 1	nd Bone Spring				0.00					
10.112.49	10.064.00 3	rd Bone Spring				0.00					
10 496 49	10,448.00 V	Volfcamp Top				0.00					
10,400.40											
											

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WPX Energy

Eddy County, New Mexico (NAD 83) RDX Federal 17 35H

Wellbore #1 Design #1

Anticollision Report

26 July, 2016





WPXENERGY.	Microsoft	SEnarry Sorvices					
	Anticollision Report	WWW.MSENERGYSERVICES.COM					
Company:WPX EnergyProject:Eddy County, New Mexico (NAD 83Reference Site:RDX Federal 17Site Error:0.00 usftReference Well:35HWell Error:0.00 usftReference WellboreWellbore #1Reference Design:Design #1	Local Co-ordinate Reference TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference:	WWW.MSENERGYSERVICES.COM Well 35H WELL @ 3098.00usft (Orion Phoenix) WELL @ 3098.00usft (Orion Phoenix) Grid Minimum Curvature 2.00 sigma EDM Conroe Offset Datum ISCWSA Closest Approach 3D Pedal Curve Not applied Description OWSG MWD - Standard					
Reference Design #1	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·					
Filter type: NO GLOBAL FILTER: Using use Interpolation Method: MD + Stations Interval 100.00ust Depth Range: Unlimited Results Limited by: Maximum center-center distance Warning Levels Evaluated at: 2.00 Sigma	r defined selection & filtering criteria ft Error Model: Scan Method: e of 10,000.00 u Error Surface: Casing Method:	ISCWSA Closest Approach 3D Pedal Curve Not applied					
Survey Tool,Program Date 7/26/2016 From To (usft) (usft) Survey (Wellbore) 0.00 16,469.56 Design #1 (Wellbore #1	Tool Name)) MWD	Description OWSG MWD - Standard					
Summary Site Name Offset Well - Wellbore - Design RDX Federal 17 12H - Wellbore #1 - Surveys 16H - Wellbore #1 - Surveys 16H - Wellbore #1 - Surveys 16H - Wellbore #1 - Surveys 25H - Wellbore #1 - Surveys	Reference Offset Dis Measured Measured Between Depth Depth Centres (usft) (usft) (usft) 4,822.70 4,798.63 67.8 730.73 721.73 346.7 900.00 888.96 347.2 10,200.00 10,129.16 724.0 4,647.60 4,626.04 45.1	tance Between Separation, Ellipses Factor (usft) 2 34.02 2.007 CC, ES, SF 3 343.13 97.245 CC 3 342.84 79.508 ES 3 654.43 10.402 SF 2 12.70 1.392 Level 3, CC, ES, SF					
Offset Design RDX Federal 17 - 12H - Wellbore # Survey Program: 100-GYRO-NS 7060-MWD Reference Offset Semi Major Axis Measured Ventical Measured Ventical, Reference Offset Depth Depth Depth (usit) (usit) (usit) (usit) (usit) (1 - Surveys Azimuth Offset Wellbore Centre Between. For North +N/S (1) </th <th>Offset Site Error: 0.00 ust Co etween Minimum Separation Hipses Separation (ust) (ust)</th>	Offset Site Error: 0.00 ust Co etween Minimum Separation Hipses Separation (ust) (ust)					
100.00 100.00 90.48 90.48 0.13 0.13 200.00 200.00 190.65 190.65 0.49 0.46	-90.32 -1.31 -235.79 235.80 -90.23 -0.93 -236.44 236.45	235.53 0.27 881.781 235.49 0.96 247.477					
300.00 300.00 290.98 290.97 0.85 0.81 400.00 400.00 390.51 390.50 1.21 1.16 500.00 500.00 490.70 490.69 1.57 1.51	-90.17 -0.70 -236.95 236.95 -90.09 -0.35 -237.46 237.47 -89.94 0.24 -238.07 238.08	235.29 1.66 142.329 235.10 2.37 100.118 234.99 3.08 77.268					
600.00 600.00 590.51 590.49 1.93 1.86 700.00 700.00 590.49 690.47 2.29 2.21	-89.78 0.94 -238.65 238.66	234.87 3.79 62.987 234.80 4.50 53.207					
800.00 800.00 791.05 791.02 2.64 2.57	-89.45 2.30 -239.82 239.83	234.62 5.21 46.053					
900.00 900.00 891.68 891.65 3.00 2.92 1.000.00 1.000.00 991.30 991.28 3.36 3.27	-89.33 2.81 -240.09 240.11 -89.29 2.98 -240.29 240.31	234.19 5.92 40.575 233.69 6.62 36.278					
		233.35 7.33 32.826					
1,200.00 1,200.00 1,191.71 1,191.69 4.08 3.97	-89.30 2.94 -240.96 240.98	232.93 8.04 29.960					
1,300.00 1,300.00 1,291.57 1,291.54 4.44 4.32 1,400.00 1,400.00 1,391.43 1,393.40 4.79 4.67	-89.32 2.84 -241.10 241.12 -89.38 2.60 - 241.33 241.34	232.37 8.75 27.552 231.88 9.46 25.515					
1,400,00 1,400,00 1,391,43 1,391,40 4.79 4.67 1,500,00 1,500,00 1,491.60 1,491,57 5.15 5.02	-09,00 2.00 -241.33 241.34 -89,44 2.38 -241,55 241,56	231.39 10.17 23.757					
1,600,00 1,600.00 1.591.07 1.591.04 5.51 5.36	-89.45 2.32 -241.82 241.83	230.96 10.87 22.238					
1,700.00 1,700.00 1,690.95 1,690.92 5.87 5.71	-89,45 2,32 -242.25 242.26	230.68 11.58 20.915					
1,800,00 1,800,00 1,791,35 1,791,32 6.23 6.07	-89.47 2.25 -242.63 242.64 -89.51 2.08 -242.00 243.01	230.34 12.29 19.737 230.00 13.00 18.692					
2,000.00 2,000.00 1,990.81 1,990.78 6.95 6.76	-00.01 2.00 -242.00 243.01	LOUIS 10.00L					
	-89.61 1.66 -243.50 243.51	229.80 13.71 17.763					

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

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Page 2





Anticollision Report

Company:	WPX Energy	Local Co-ordinate Reference: Well 35H	
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference: WELL @ 3098.00usft (Orion Phoenix)	
Reference Site:	RDX Federal 17	MD Reference: WELL @ 3098.00usft (Orion Phoenix)	
Site Error:	0.00 usft	North Reference: Grid	!
Reference Well:	35H	Survey Calculation Method: Minimum Curvature	·
Well Error:	0.00 usft	Output errors are at 2.00 sigma	
Reference Wellbore	Wellbore #1	Database: EDM Conroe	đ
Reference Design:	Design #1	Offset TVD Reference: Offset Datum	t
ا ′دیک ″میں دی میں ایس شدہ	÷4	and the sum of the second s	

Offset	Design	' RDX F	ederal 17	7 - 12H - \	Vellbore	#1 - Survey	s					.,	Offset Sile Err	or:,	0.00 usft
Survey P	odrám: 10	0-GYRO-NS	7060-MWD				5				· · · · ;	معہ مرب ا	Offset Well Err	or:	0.00 usft
Refe	rence.	, Offs	iet (strain	Semi Majo	r Axis" '	بروسية معد ال	المبيد أراجا م		Dist	ance 😁	مخدعه مه .		~~		···
Measured	Vertical	Measured	Vertical	Reference	Offset	Azimuth	Offset Wellbor	e Centre	Between	Between	Minimum	Separation	War	ning	`
Depth	Depth,	Depthy	 Depth 	. 1	· · · · · · · · ·	from North	+N/-S	+E/-W	' Centres	Ellipses	Separation	Factor		1	I
usit)	(usft)	(usft)	(üsft)	(usft)	(usft)	()	(usft) t	(usit)	· · (ûsit)	(üsft);	(usft)		A P		
2 200 0	2 200 00	2 190 92	2 190 88	7.66	7 46	-89.87	0.65	-244 62	244 62	229.50	15.13	16 172	• •		• •
2,200,0	2,200.00	2,130.32	2 291 68	8.02	7.82	-90.13	-0.56	-244 92	244.92	229.09	15.84	15 466			
2,000.0	2,000,00	2 392 05	2,201.00	8 38	8 17	-90,10	-0.00	-244.97	244.98	228 44	16.54	14 807			
2,500.0	2,400.00	2,002.00	2,001,00	8.74	8.52	-90.90	-3.98	-244.91	244,00	227 69	17.25	14 197			
2,000.0	2,000.00	2,752.20	2 552 58	895	9.73	-90,85	-5.04	-244.87	244 92	227.24	17.69	13 852			
2,000.0	2,000.00	2,552.07	2,002.00	9.10	0.75	-91.10	-5.64	-244.07	244 63	226.97	17.00	12 628			
2,000.0	. 2,000.00	2,391.80	2,031.07	5,10	0,00	-91.32	-5.66	-244.07	244.00	220.57	17.50	13.030			
2,700.0	2.700.00	2.692.25	2.692.15	9.45	9.21	-91.66	-7.08	-244.84	244.94	226.27	18.67	13,121			
2,800.0	2.800.00	2,794,40	2,794,29	9.81	9.57	-91.99	-8.48	-244.31	244.47	225.09	9 19.38	12.614			
2,900,0	2,900,00	2,896,86	2 896 72	10.17	9.93	-92 43	-10.32	·242.77	.243.03	222.94	20.09	12,096			
3 000 0	3 3 000 00	2 997 40	2 997 21	10.53	10.28	-93.02	-12.69	+240 58	240.97	220.17	20.80	11 585			
3 100 0	3 100 00	3 100 44	3 100 16	10.89	10.20	_93.73	.15.47	237 54	238.19	216.67	7 21.51	11.073			
3,100.0	5 5,100.00	, 100. 1 1	5,100.10	10.05	10.04	-00.10	-10.41	-207.04	200.12	2 2 10,01	21.51	11.070			
3,200.0	3,200.00	3.202.20	3,201.80	11,25	11.00	-94,53	-18,48	-233,45	234,38	212.16	3 22.22	10,549	1		
3,300.0	3,300.00	3,301,29	3,300,76	11,61	11.35	-95.32	-21.34	-229,25	230,40	· 207.48	3 22,93	10.050	I		
3,400.0	3,400.00	3,398,78	3,398,17	11.96	11.69	-95.90	-23.36	-225.86	227.15	5 203.52	2 23.63	9.612	1		
3,500.0	3,500.00	3.497.22	3,496,56	12.32	12.03	-96.31	-24.71	-223.37	224.78	3 200.45	5 24.34	9.236			
3,600.0	3,599.95	3,596 78	3.596.09	12.67	12.38	-96.92	-26 11	-221 26	220.3	2 195.29	3 25.03	8.801			
0,000.0	,,00	,	0,000,00		12.00	00.02	20.77				20.00	0.001			
3,700.0	3,699.63	3,695.37	3,694.65	13.02	12.72	-97.97	-27.51	-219.43	211.17	7 185.45	5 25.72	8,209	1		
3,800.0	3,798.77	3,793.88	3,793.15	13.37	13.07	-99.49	-28.63	-217.95	197.49	9 171.07	7 26.41	7.477	,		
3.833.2	9 3.831.61	3,826.60	3,825.86	13.49	13.18	-100.14	-28.92	-217.51	191.91	1 165.23	7 26.64	7.204	ł		
3,900.0	3,897.30	3,892.08	3,891.34	13.73	13.41	-101.60	-29,46	-216.63	180.3 ⁻	153.2	1 27.10	6.654	ł		
4,000.0	3,995.78	3,990.02	3,989.26	14.09	13.75	-104.12	' -30.13	, -215.45	163.25	5 135.47	7 27.78	5.876	5		
4,100.0	4,094.26	4,088.52	4,087.76	14.45	14.09	-107.20	-30.76	-214.30	146,60) 118.13	3 28.47	5.149)		
4,200.0	0 4,192.74	4,186,45	4,185.67	14.83	14,43	-111.05	-31.40	-213.16	130,49	9 101.33	3 29.17	4,474			
4,300.0) 4,291,22	4,284.45	4,283.68	15.20	14.78	-115.7 9	-31.83	-212,39	115,39	85.51	29,87	3,862	!		
4,400.0) 4,389.70	4,382.65	4,381.87	15.58	15.12	-121.73	-32.10	-211,93	101,49	9 70.90	0 30.59	3.318	ł		
4,500.0) 4,488.18	4,481.10	4,480.33	15.97	15.46	-129.37	-32,33	-211.59	89.07	7 57.75	5 31.33	2.843	l		
				40.05		100.00			70.00						
4,600.0	4,586.67	4.579.53	4,2/0./5	10,35	15.80	+139.32	-32.59	-211.14	/0,00	40.00	32.08	> Z,452			
4,700.0	J 4,685.15	4,677.91	4,677,13	16.75	16.15	-151.77	-32.83	-210.69	71.29	9 38.43	3 32.86	2.1/0			
4,800.0	J 4,783.63	4,776.29	4,775.51	17.14	16.49	-166.27	-33.12	-210.21	67.94	4 34.3	1 33.63	2.020			
4,822.7	J 4,805.99	4,798.63	4,/9/.85	17.23	16.57	-169.71	-33.19	-210.09	67.82	2 34.02	2 33.80	2.00/	CC, ES, SF		
4,900.0	3 4,882.11	4,874.71	4,873.93	17.54	16.83	178.78	-33.40	-209.74	69.20	J 34.64	+ 34.30	. 2.014			
5.000.0	4.960.59	4.973.18	4.972.40	17.94	17.18	165.30	-33.61	-209.37	74.73	39.69	35.04	2.133			
5,100.0	5.079.07	5.071.70	5.070.92	18.34	17.52	154.20	-33.74	-209.04	83.65	5 47.95	5 35.70	2.343			
5.200.0	5.177.55	5.170.10	5.169.31	18.75	17.86	145 61	-33.89	-208.92	94.97	58.61	1 36.3E	2 6 1 2	•		
5.300.0	5.276.03	5.268.19	5.267.41	19.15	18 21	139 18	-34 43	-209.01	108.12	71.10	37.02	2 921			
5.400.0	5.374.51	5.366.38	5.365.59	19.56	18.55	134.27	-35.35	-208.97	122.67	84.99	37.68	3.256			
	-,	-,													
5,500.0	5,473.00	5,464.69	5,463.90	19,97	18,89	130.37	-36.24	-208.74	138.06	6 99.70	38.35	3.600	ł		
5,600.0	5,571.48	5,563.11	5,562.31	20,39	19,24	127.15	-36.93	-208.29	154.01	114.97	7 39.03	3,945			
5,700.0	5,669.96	5,661.72	5,660.92	20.80	19.58	124.56	-37.61	-207.95	170.27	/ 130.55	5 39.72	4.287			
5,800.0	5,768.44	5,760.46	5,759.65	21.22	19.93	122.45	-38.28	-207.77	186.66	146.25	5 40.41	4.619	I.		
5,900.0	5,866.92	5,859.22	5,858.41	21.64	20.27	120.76	-39.10	-207.89	203.08	3 161.97	7 · 41.11	4.940	I.		
6,000.0	5,965.40	5,957.94	5,957.13	22.06	20.62	119.37	-39.99	-208.20	219.53	3 177.73	3 41,80	5.252			
6,100.0) 6,063.88	6,056.79	6,055.97	22.48	20.96	118.21	-40.99	-208.68	235.99) 193.48	42.50	5.552			
6,200.00	6,162.36	6,155.17	6,154.34	22.90	21.31	117.22	-41.99	-209.29	252.42	209.22	2 43.20	5.843	•		
6,300.00	6,260.84	6,253,45	6,252,61	23,32	21,65	116.37	-43.14	-209.78	269.10	225,19	43.90	6,130			
6,400.00	6,359.33	6,352.09	6,351.24	23.75	22.00	115.66	-44.51	-210.38	285,81	241.20) 44.61	6,408			
F .															
6,500.00	6,457.81	6,450.55	6,449.69	24.17	22.34	115.00	-45.70	-2 10.92	302.54	257.23	45.31	· 6,677			
6,600.00	6,556.29	6,548.77	6,547.91	24.60	22.68	114.39	-46.83	-211,36	319.38	273.37	46.01	6,942			
6,700.00	6,654.77	6,646.77	6,645.90	25.03	23.03	113,84	-48.00	-211.70	336,36	289.65	46,71	7,201			
6,799.99	6,753.24	6,744.64	6,743.77	25,46	23.37	113.34	-49,17	-211,84	353,55	306.14	47,41	7,457		•	
6,803.19	6,756.40	6,747.79	6,746.91	25.47	23.38	113.32	-49.21	-211.84	354.10	306.67	47.43	7.466			
6,900.00	6,852.12	6,843,16	6,842.28	25.87	23.72	112.97	-50.43	-211.88	368,54	320.43	48.11	7.660			<u></u>
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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

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Anticollision Report

Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	• 2.00 sigma
Reference Wellbore	., Wellbore #1	Database:	EDM Conroe
Réference Design:	Design #1	Offset TVD Reference:	Offset Datum
Offset Design	RDX Federal 17 - 12H - Wellbore #1 - Surveys	······································	Offset Site Error: 0.00 ust
Survey Program: 100-G)	(RO-NS, 7060-MWD)	Distance	Offset Well Error: 0.00 ush

Measured	Vertical	Measured	Vertical	Reference ¹	Offset	*Azimuth	Offset Wellbor	e Centre	Between	Between	Minimum	Separation		Warning	
Depth	Depth	, Depth	Depth		10 ⁴ , 5.4	from North	+N/-5	∺+E/-W	Centres '	Ellipses ,	Separation	Factor	•		
(usn) -	ະ (usπ) ອາພະ ຈະຫະ	, (usπ)	(បុទ្ធភ្ញ)	(usn)	(usn)	4. <u>()</u>	ຸງ (usft) ໄດ້ເອັດ	(⊔sft)`{`;	(usπ)	s (usn) Start →	lusn)		•••		2
7,000.00	6,951,63	6,942.57	6,941.68	26.26	24,06	112.78	-51.55	-211.79	378.54	329.72	48.82	7,754			
7,100.00	7,051.52	7,042,99	7,042.09	26.61	24.41	112,76	-52.59	-211.69	383,44	333.92	49.52	7,743			
7,136.49	7,088.00	7,078,04	7,077.14	26.74	24,51	112,86	-53.33	-211.85	383,93	334.19	49.74	7.719			
7,200.00	7,151.51	7,134.61	7,133.46	26.95	24.53	113.57	-58.11	-212.82	385.05	335.10	49.95	7.709			
7,300.00	7,251.51	7,224.69	7,221.66	27.28	24.54	116.20	-75.53	-217.44	388.67	338.43	50.24	7.737			
7,400.00	7,351.51	7,306.08	7,298.11	27.62	24.56	120,13	-102.37	-224.14	397.42	347.07	50.35	7.893			
		~ ~ ~ ~ ~ ~ ~	~ ~ ~ ~ ~									0.005			
7,500.00	7,451.51	7,378.97	7,363.46	27.95	24.58	124.55	-133.48	-232.62	412.15	362.04	50.11	8.225			
7,600.00	7,551.51	7,429,13	7,406.96	28.29	24.60	127.66	-158.10	-230.63	437.44	388.53	46.91	0.944		•	
7,700.00	7,651.51	7,475.20	7,440.37	28.62	24.64	130.44	-183.60	-237.71	4/4.19	420.97	47.22	11.042			
7,000,00	7,731.31	7,533.00	7 520 90	28,95	24.70	133.61	-216,07	-237.62	572.10	473.00	43,90	13.015			
7,900.00	1,001,01	1,312.20	7,520.90	29,29	24.70	130.04	-244,30	-237.00	572.19	520.23	43,90	13.015			
8.000.00	7,951,51	7,604.05	7,543.36	29.63	24.81	137.82	-266.85	-237,05	632,14	590.34	41.80	15,123			
8,100,00	8,051.51	7,626.00	7,557.92	29,97	24.86	139.03	-283.26	-236,48	698.44	658.99	39.45	17,703			
8,200.00	8,151.51	7,657.00	7,577.07	30.31	24.93	140,72	-307.62	-235.64	769.74	731.93	37.81	20.357			
8,300.00	8,251.51	7,680.47	7,590.44	30.65	24.99	141.98	-326.90	-235.11	845.24	809.10	36,14	23.391			
8,400.00	8,351.51	7,702.80	7,602.33	30.99	25.05	143.16	-345.80	-234.74	924.04	889.35	34.69	26.635			
8,500.00	8,451.51	7,721.00	7,611.48	31.33	25.10	144.10	-361.52	-234.57	1,005.50	972.15	33.35	30.153			
8,600.00	8,551.51	7,739.35	7,620.17	31.67	25.16	145.03	-377.68	-234.47	1,089.23	1,056.99	32.24	33.790			
8,700.00	8,651.51	7,752.00	7,625.82	32.01	25.20	145.66	-389.00	-234.42	1,174.92	1,143.78	31.14	37.731			
8,800.00	8,751.51	7,767.57	7,632.40	32.35	25.26	146.42	-403.11	-234.39	1,262.23	1,231.91	30.32	41.636			
8,900.00	8,851.51	7,783.00	7,638.52	32.69	25.31	147.16	-417.28	-234.40	1,350.91	1,321.28	29.64	45.585			
9 000 00	8 951 51	7 783 00	7 638 52	33.03	25 31	147 16	_417.28	-234 40	1 440 82	1 412 14	28.68	50 237			
9 100 00	9 051 51	7 797 44	7.643.85	33 37	25.37	147.83	-430.70	-234 38	1 531 66	1 503 43	28.23	54.255			
9 200 00	9,151,51	7.815.00	7.649.70	33 71	25.44	148.61	-447 25	-234 27	1 623 63	1 595 69	27.95	58,101			
9.300.00	9.251.51	7.815.00	7.649.70	34.05	25.44	148.61	-447.25	-234.27	1,716.08	1.688.74	27.35	62,751	•		
9,400.00	9.351.51	7,815.00	7.649.70	34.40	25.44	148.61	-447.25	-234.27	1.809.34	1,782.49	26.85	67.381		•	
									.,	,					
9,500,00	9 ,451.51	7,815.00	7,649.70	34.74	25.44	148.61	-447.25	-234.27	1,903.28	1,876.83	3 26.45	71.967			
9,600.00	9,551.51	7,828.01	7,653.60	35.09	25.49	149.17	-459.66	-234.06	1,997.56	1,971.21	26.35	75.797			
9,700.00	9,651.51	7,832.72	7,654.92	35,43	25.51	149.36	-464.19	-233.95	2,092.39	2,066.23	3 26.16	79.982			
9,800.00	9,751.51	7,846.00	7,658.38	35.78	25.57	149.90	-477.00	-233.53	2,187.74	2,161.58	3 26.16	83.629			
9,900.00	9,851.51	7,846.00	7,658.38	36.12	25.57	149.90	-477.00	-233.53	2,283.25	2,257.26	5 25.98	87.877			
10.000.00	0.051.61	7 946 00	7 660 20	20.40	06.67	440.00	477.00	222 53	0 970 49	2 252 22		02.029			
10,000.00	10.051.51	7,846.00	7 658 38	30,40	20.07	149.90	-477.00	-233.53	2,3/9.13	2,355.27	25.65	92.020			
10,100,00	10,001.01	7,846.00	7,658.38	30.01	25,57	149.90	-477.00	-233.53	2,473,33	2,449.07	25.70	100.014			
10,300,00	10 251.51	7.846.00	7.658.38	37.50	25.57	149.90	-477.00	-233.53	2,668,58	2 642 88	25.70	103.843			
10.400.00	10.351.51	7.846.00	7.658.38	37.85	25,57	149.90	-477.00	-233.53	2,765.57	2.739.85	5 25.71	107.560			•
		.,			20.01							•			
10,500.00	10,451.51	7,846.00	7,658.38	38,19	25.57	149.90	-477.00	-233.53	2,862.76	2,837.00	25.75	111.164			
10,600.00	10,551.51	7,861,79	7,661,93	38,54	25.65	150.50	-492.36	-232,86	2,959,76	2,933.77	25.99	113,860			
10,700.00	10,651.51	7,864.03	7,662.38	. 38.89	25.66	150.58	-494.55	-232,75	3,057,20	3,031.10) 26.10	117.141		•	
10,800.00	10,751.51	7,878.00	7,664.92	39.23	25.72	151.09	-508.27	-232.00	3,154.99	3,128.65	5 26.34	119.762			
10,900.00	10,851.51	7,878.00	7,664.92	39.58	25.72	151.09	-508.27	-232.00	3,252.64	3,226.19	26.46	122.948			
11 000 00	10 051 51	7 979 00	7 664 02	20.02	05 7 0	154.00	509 37		2 250 42	2 2 2 2 8 6		175 020			
11 100 00	11 061 51	7 979 00	7 664 92	39.93	20.72	151.09	-300.27	-232.00	3,330.43	2,323.00	20.00	120,030			
11 122 21	11,001.01	7,070.00	7,004.92	40.27	23.72	151.09	-200.27	-232.00	3,440,33	2 454 21	20.73	129.010			
11,133.31	11 101 51	7,878,00	7,004.92	40.39	20.12	101.09	-306.27	-232.00	3,400.99	3,404.21	20.70	125.500			
11 175 00	11 126 /6	7 878 60	7 664 97	40,44	23.12	151.00	-000.27	-232,00	3 521 50	3,470,50 3,404,67	20,00	131 236			
1,173,00	+1,120.40	1,010.00	1,004.02	40,52	23,12	131.02	-306.27	-232.00	3,021.00	0,494.0/	20,03	101.200			
11,200.00	11,151.30	7,878.00	7,664.92	40.60	25.72	150.90	-508.27	-232.00	3,545.38	3,518.53	26,85	132.021			
11,225.00	11,175.95	7 878.00	7,664,92	40.68	25.72	150.74	-508.27	-232.00	3,568.88	3,542.01	26.87	132,824			
11,250.00	11,200.35	7,878.00	7,664.92	40,75	25.72	150.51	-508.27	-232.00	3,591.94	3,565.07	26,88	133.642			
11,275,00	11,224.44	7,878.00	7,664.92	40.83	25.72	150,23	-508,27	-232.00	3,614.52	3,587.64	26.88	134,473			
11,300.00	11,248.15	7,878.00	7,664.92	40.90	25.72	149.90	-508.27	-232.00	3,636.55	3,609.67	25.88	135.313			
11,325.00	11,271.40	7,878.00	7,664.92	40.96	25.72	149.50	-508.27	-232,00	3,657,98	3,631.12	. 26.87	136.160			
															_

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

7/26/2016 1:41:02PM



Microsoft



Anticollision Report

Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	, WELL @ 3098.00usft (Orion Phoenix)
Site Error:	0.00 usft	North Reference:	. Grid
Reference Well:	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset D	esign	RDX F	ederal 17	- 12H - W	/ellbore	#1 - Surveys	S				a	1	Offset Site Error:	0.00 usft
Survey Pro	gram: 400	-GYRO NS 7	060-MWD	·····				, i v		a ta i			Offset Well Error:	0.00 usft
, Refer	ance: "*	Offse	at 2 11 1	Sami Major	Axis 1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		·······	° s≩ Dista	nco '''''		195 - C.		-
Measured Depth	Vertical Depth	Measured Depth	Vertica) Depth	Reference	Offset	Azimuth	Unset Weilbor	e Centre +F/.W	Centres	Ellipses -	Separation	.Factor	vvarning.	
(usft)	(usfi)	(usft)	(usft)	· (usft)	(usft)	0	(usft)	(usft)	(usft)	(usft)	(usft)	T. 3		· ,
11 350 00	11 294 15	7 878 00	7 664 92	41.03	25.72	149.03	-508.27	-232.00	3.678.78	3.651.93	26.85	137.010	• •	-
11.375.00	11.316.32	7.878.00	7.664.92	41.09	25.72	148.50	-508.27	-232.00	3,698,89	3,672.06	26.83	137.861		
11,400.00	11,337.86	7,878,00	7,664.92	41.15	25.72	147.90	-508,27	-232.00	3,718.26	3,691.46	26,81	138.710		
11,425.00	11,358.70	7,878.00	7,664.92	41.21	25.72	147.22	-508.27	-232.00	3,736.87	3,710.09	26.78	139.551		
11,450.00	11,378.80	7,878.00	7,664.92	41.26	25.72	146.46	-508.27	-232.00	3,754.67	3,727.92	26.75	140.383		
11,475.00	11,398.09	7,892.77	7,667.15	41.31	25.80	146.32	-522.85	-231.12	3,771.40	3,744.58	26.82	140.593		•
11 500 00	11 416 51	7 895 36	7 667 50	41.36	25.81	145.54	-525.41	-230.96	3,787,39	3.760.58	26,80	141.295		
11,508.31	11.422.44	7.896.24	7.667.62	41.37	25.81	145.27	-526.28	-230.90	3,792.49	3,765.70	26.80	141.536		
11,599.98	11,487.26	7,910.00	7,669.29	41.53	25,68	142.14	-539.91	-230.04	3,848.89	3,822.10	26,79	143.650		
11,608.31	11,493,15	7,910.00	7,669.29	41.55	25.88	141.76	-539,91	-230.04	3,854.06	3,827.28	26,79	143.883		
11,625.00	11,504.74	7,910.00	7,669.29	41.58	25.88	140.96	-539.91	-230.04	3,864.24	3,837.47	26,77	144.348		
11 650 00	14 501 34	7 010 00	7 660 00	44 62	25.99	130 66	530.01	. 220.04	3 878 60	3 851 95	26.74	145 033		
11,050,00	11,521.31	7,910.00	7,009.29	41.02	20.00	139.00	-539.91	-230.04	3,670,05	3 865 46	26,74	145 692		
11 700 00	11 551 38	7,910.00	7 670 42	41.07	25.00	137 43	-550.65	-229.37	3,904,59	3.877.84	26.76	145.924		
11.725.00	11.564.81	7.934.00	7.671.63	41.75	26.01	136.74	-563.75	-228.64	3,916.03	3.889.22	26,81	146.047		
11,750.00	11,577.12	7,934.00	7,671.63	41.79	26.01	134.95	-563.75	•228.64	3,926.32	3,899.54	26,78	146.599		
			· · .											
11,775.00	11,588.27	7,934.00	7,671.63	41.83	26,01	132.98	-563.75	-228.64	3,935.54	3,908.79	26.75	147.102		
11,800.00	11,598.24	7,934.00	7.671.63	41.87	26,01	130.82	-563.75	-228.64	3,943.68	3,916.96	26.73	147.552		
11,825.00	11,606.99	7,934.00	7,071.03	41.92	26.01	128.46	-303.73	-220.04	3,900.72	3,924.02	20.70	147.540		
11,850.00	11,614.51	7,947,57	7,672.05 7672.05	41.96	26.00	127.31	-577.27	-227.90	3,950.52	3 934 47	26.70	147.844		
11,010.00	11,020.10	1,501.01	,,012.07	-2.01	20/11	Ecitor	001100		0,007,000					
11,900.00	11,625.75	7,956.00	7,673.75	42.06	26.19	123.84	-595.64	-227.08	3,964.85	3,938. 02	26,83	147.788		
11,925.00	11,629.44	7,966.00	7,673.75	42,12	26,19	120.85	-595.64	-227.08	3,967,19	3,940.37	26.81	147.951		
11,950.00	11,631.83	7,966.00	7,673,75	42,18	26,19	117.64	-595.64	-227.08	3,968.38	3,941,57	26.81	148.043	•	
11,975.00	11,632.92	7,966.00	7,673.75	42.24	26.19	114.21	-595,64	-227.08	3,968.43	3,941.62	26.80	148,063		•
11,983,31	11,633.00	7,966.00	7,673.75	42.27	26.19	113.03	-595.64	-227.08	3,968.19	3,941.39	26.80	148,053		
12,000.00	11,633.00	7,966.00	7,673.75	42.31	26.19	110.58	-595.64	-227,08	3,967.62	3,940.81	26.80	148.019		
12,100.00	11,633.00	7,997.00	7,674,54	42.63	26.37	99.65	-626.60	-225.65	3,965.33	3,938.32	27,02	146.780		
12,158.41	11,633.00	7,997.00	7,674.54	· 42.85	26.37	89.85	-626.60	-225.65	3,964.90	3,937.79	27.11	146.242	•	
12,200.00	11,633.00	8,009.55	7,674.54	43.01	26.44	. 84.95	-639.13	-225.05	3,965.06	3,937.81	27.24	145.547		
12,300.00	11,633.00	8,056.08	7,673.95	43.46	26.74	76.24	-685.60	-222.68	3,966.59	3,938.91	27.67	143.347		
12,400.00	11.633.00	8,278.74	7,674.06	43.97	28.40	96.50	-908.18	-219.51	3,966.05	3,937.14	28.90	137.210		
12,500.00	11.633.00	8.350.42	7.674.33	44.53	29.01	91.81 .	-979.83	-221.51	3,965.40	3,935.85	29.54	134.216		
12,541,59	11,633.00	8,380.37	7.674.30	44.79	29.28	89.85	-1,009.77	-222.34	3,965.34	3,935.50	29.83	132.928		
12,600.00	11,633.00	8,435.84	7.674.08	45,15	29.78	89.35	+1,065,22	-223,69	3,965.43	3,935.12	30.31	130.822		
12,700.00	11,633.00	8,572.46	7,674.42	45.83	31.11	95.57	-1,201.81	-226,44	3,964.96	3,933.53	31.43	126,138		
12 800 00	11 633 00	8 681 32	7 676 17	46 55	32 24	97 14	-1 310 60	-230.24	3 963 96	3 931 51	32.45	122 148		
12,800.00	11,633,00	8 781 75	7 675 94	40.00	32.24	97.14	-1,310.00	-233.76	3 962 88	3 929 42	33.47	118 416		
12,993.42	11,633.00	8,832,43	7.676.16	48.07	33.90	89.85	-1.461.63	-234.83	3,962,34	3.928.17	34.17	115,960		
13,000.00	11,633.00	8,835.75	7,676.15	48.13	33.94	89.28	-1,464.95	-234,89	3,962.34	3,928.12	34.22	115.796		
13,100.00	11,633.00	8,883.00	7,675.76	48.98	34.48	80.10	-1,512.19	-235.65	3,963.05	3,928.09	34.97	113.339		
								200.05						
13,200.00	11,633.00	· 8,946.79	7,674.56	49.88	35.23	74.02	-1,575.97	-236.05	3,964.87	3,929.01	35.80	110,575		
13,300.00	11,633.00	9,033.52	7,072.30	50.81	35.27	71.92	-1,002.00	-234.93	3,907.03	3,930.02	30.92	102 524		
13,400,00	11,033.00	9,172.09	7,009.40	51.70	37,99	70.30	-1,001.14	-230.01	3,909.01	3,931,47	30.34	99.475		
13,500,00	11 633 00	9,323,34	7,008,11	53.81	41 11	85 27	-2 041 25	-223.97	3,971,24	3,930,18	41.07	96.698		
10,000,00		914 12.01	, 1000,00	35.01	-1.11	00.27	-2,041,20	-40.01	0,011,24	0,000,10	-1,07	55.555		
13,700.00	11,633.00	9,453.00	7,667.73	54.88	41,65	75.47	-2,081.93	-223.69	3,972,46	3,930.55	41.91	94.776		
13,800.00	11,633.00	9,499.63	7,666.60	55.97	42.28	67,28	-2,128.55	-223.98	3,975.07	3,932.25	42.83	92.818		
13,900.00	11,633.00	9,548.00	7,664.25	57,09	42,93	60,14	-2,176.86	-224.52	3,979.51	3,935,74	43,77	90.918	•	
14,000.00	11,633.00	9,652.12	7,658.58	58.24	44.35	60.56	-2,280.82	-225,49	3,984.86	3,939.77	45.09	88,377		
14,100.00	11,633.00	9,773.65	7,653.40	59.41	46.03	63.26	-2,402.21	-227.65	3,988.86	3,942.32	46.54	85.710		
14,200.00	11,633.00	9,981.78	7,645.77	60.60	48.96	79.79	-2,610.15	-231.44	3,993.07	- 3,944.46	48.61	82,146		•
			the seals	<u>a to operator</u>			ant a sint O				maine allie		otion	

WPXENE	RGY.	Microsoft Anticollision Report	WWW.MSENERGYSERVICES.COM
Company: Project: Reference Site:	WPX Energy Eddy County, New Mexico (NAD 83) RDX Federal 17 0.00 usft	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference	Well 35H WELL @ 3098.00usft (Orion Phoenix) WELL @ 3098.00usft (Orion Phoenix) Grid
Réference Well: Well Error: Reference Wellbore	35H 0.00 usft Wellbore #1	Survey Calculation Method: Output errors are at Database:	Minimum Curvature 2.00 sigma EDM Conroe
internet in the set of	D		

Offset TVD Reference: Offset Datum

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Offset Sile Error:

Offset Well Error:

Warning

D.00 usft

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Unset U	eşign 		euerar 17 Men Nuvri	- <u>izn</u> -v	velipore	#1-Surve	ys		م يديہ ہو.	: : : : :	· · ·.	· .
Refer	énce (r * Offs	et ' ' " ·	Semi Maio	Axis	المعالين بوالمعال		. 	Dista	ince:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical, Depth (usft)	Reference	Offset (usft)	Azimuth from North	Offset Wellboi +N/-S (usft)	re Centre +E/-W: (usit)	Between Centres (usft)	Between Ellipses (usft).	Minimum Separation (usit)	Separation Factor
14.300.00	11.633.00	10.149.43	7.645.91	61.82	51.38	91.53	2,777,78	-230.71	3.992.55	3.942.09	50.46	79.126
14.315.69	11,633,00	10,155,54	7,645.93	62.01	51.47	89.85	-2.783.89	-230.62	3,992,53	3,941.93	50,60	78.901
14,400.00	11,633.00	14,400.00	7,645.39	63.05	113,80	88,95	-2,863.03	-229,70	3,993.13	3,910.53	82,60	48.344
14,500.00	11,633.00	10,399.00	7,647.55	64.30	55.05	99.92	-3,027.23	-224.86	3,991.78	3,938.18	53.59	74.481
14,600.00	11,633.00	10,457.17	7,648.41	65.57	55.92	92.80	-3,085.37	-223.27	3,990.64	3,935.97	54.68	72.988
14,629.60	11,633.00	10,470.94	7,648.45	65.95	56.12	90.08	-3,099.14	-223,14	3,990.57	3,935.60	54,97	72.594
14,700.00	11,633.00	10,494.00	7,648.37	66.86	56.46	82.02	-3,122.19	-223.12	3,990.91	3,935.30	55.61	71.772
14,800.00	11,633.00	10,563.05	7,647.50	68.16	57.50	76.89	-3,191.24	-222.83	3,992.26	3,935.48	56.78	70.305
14,900.00	11,633.00	10,770.93	7,646.71	69.48	60.63	95.11	-3,399.09	-220.47	3,992.58	3,933.57	59.01	67.657
14,939.98	11,633.00	10,780.00	7,646.79	70.01	60.76	89.85	-3,408.15	-220.38	3,992.39	3,933.04	59.35	67,269
15,000.00	11,633.00	10,812.71	7,646.83	70.81	61.26	85.21	-3,440,86	-220.08	3,992.46	3,932.46	60.00	66.540
15,100.00	11,633.00	10,874.00	7,645.56	72.16	62.19	78,75	-3,502,14	-219.80	3,994.19	3,933.04	61.14	65.324
15,200.00	11,633.00	11,034,01	7,643.31	73.52	64.62	88.81	-3,662,09	-222.33	3,995.64	3,932,62	63.02	63,401
15,300.00	11,633.00	11,162.37	7,642.99	74,89	66,57	93.72	-3,790.31	-228.47	3,995.48	3,930.82	64.66	61.794
15,385.45	11,633.00	11,225.77	7,642.94	76.07	67.54	89.85	-3,853.66	-230,89	3,995.26	3,929.53	65.72	60.789
15,400.00	11,633.00	11,236.75	7,642.90	76.27	67.71	89.22	-3,864.63	-231.27	3,995.26	3,929.36	65.91	60.621
15,500.00	11,633.00	11,332.42	7,642.47	77.66	69.18	88.43	-3,960.26	-233.86	3,995.47	3,928.15	67.32	59.350
15,600.00	11,633.00	11,351.00	7,642.40	79.06	69.46	74.29	-3,978.84	-234.21	3,996.50	3,928.33	68.17	58.628
15,700.00	11,633.00	11,410.11	7,641.27	80.48	70.37	67.66	-4,037.92	-235.50	3,998.64	3,929.32	69.32	57.685
15,800.00	11,633.00	11,446.00	7,639.67	81,90	70.93	58.43	-4,073.76	-236.53	4,002,75	3,932.45	70.30	56.939
15,900.00	11,633.00	11,677.86	7,629.88	83.33	74.52	78.58	-4,305.36	-238.72	4,008.05	3,935.30	72.75	55.091
16,000.00	11,633.00	11,753.04	7,628,46	84.76	75.70	74.28	-4,380.52	-239.36	4,009.87	3,935.82	74,04	54.157
16,100.00	11,633.00	11,973.22	7,625,01	86.21	79.13	94.27	-4,592.15	-243.80	4,012.03	3,935.62	76,41	52.504
16,187.12	11,633.00	12,028.00	7,625.34	87.47	79.99	89.85	-4,655.37	-244.24	4,011.58	3,934.12	77,46	51.787
16,200.00	11,633.00	12,028.00	7,625.34	87.66	79.99	87.47	-4,655.37	-244.24	4,011.61	3,934.05	77,56	51.724
16,300.00	11,633.00	12,028.00	7,625.34	89.12	79.99	69.79	-4,655.37	-244.24	4,013.17	3,934.88	78,29	51.261
16,400.00	11,633.00	12,028.00	7,625.34	90.59	79.99	55.30	-4,655.37	-244.24	4,017.23	3,938.22	79,01	50.844

7/26/2016 1:41:02PM

'Reference Design: Design #1

16,400.00 11,633.00 12,028.00 7,625.34

16,469.56 11,633.00 12,028.00 7,625.34

90.59

91.61

79.99

79.99

55.30

47.43

-4,655.37

-4,655.37

-244.24

4,017.23 3,938.22

4,021.52 3,942.01

79,51

50.580

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

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





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Anticollision Report

Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	-MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	′⊧ 0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	' 0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum
آية أهالك مست			

Offset D	esign	RDX F	ederal 17	- 16H - V	Vellbore	#1 - Surve	ys	• • •	• • • •	• • • •	-		, Offse	t Site Er	ror:	0.00 us	ft
Survey Pro	gram: 100	IS'GYRO-W	LINE 931-M	IWD			1. 1.						Offset	Woll Er	ror:	0.00 us	ħ
- Refer	encer i	Offs	el	Semi Major	r Axis'		سو^د هام بو رسمین _ ا الا د _ ا		Dist	ince	·····			ميو. 1.	• • •	•••	
Measured	Vertical	Measured	Vertical	Reference	Offset	Azimuth	Offset Wellbo	e Centre	Between Contros	Between	Minimum	Separation	•••	Wa	rning		
usft)	uepth (usfil)	ueptn ; (usft)	 Deptn · _ · (usft) 	(usft)	์(usfi) ้	irom North	+N/-S	+E/-W (usit)	(usft)	(usft)	usft)	ractor,	5	٢		ʻ1 ·	1
	177 A.							205.00	240.04			·····		1' '	·	• · •	•
0.00	0,00	0.00	0.00	0,00	0.00	-121.67	-182.02	-295.06	340.81 346.82	346 64	0.22	1 575 489					
100.00	200.00	101 16	09,94 101 16	0,13	0.10	-121,70	-182.23	-293,10	340,03	346.25	0,22	465 751					
200.00	200,00	191,10 274 67	274 57	0,49	0,34	-121,73	-182.00	-290,07	346.06	345 77	1 20	290.193					
300.00	300.00	290.94	290.94	0.85	0.52	-121.77	-182.70	-294.96	346.95	345.68	1.28	270.291					
400.00	400.00	391.14	391.14	1.21	0.63	-121.77	-182.66	-294.99	346.96	345.14	1,82	190.786					
					2,20							_					
500.00	500.00	490.99	490.99	1.57	0.77	-121.75	-182.56	-295.02	346.94	344.60	2.34	148.333					
537.88	537.88	529.05	529.05	1.70	0.84	-121.74	-182.53	-295.03	346.93	344.39	2.54	136.721					
600.00	600.00	591.60	591.60	1.93	0.96	-121.74	-182.46	-294.99	346.86	344.00	2.86	121.243					
700.00	700.00	691.34	691.34	2.29	1.15	-121.73	-182.35	-294.89	346.71	343.31	3.40	101.952	~~			•	
730.73	730.73	721.73	721.73	2.40	1,21	-121.73	-182.32	-294.68	346.70	543.13	3.57	97.245					
800.00	800.00	790 12	790.12	2.64	1.32	-121.71	-182.29	-295.01	346.79	342.88	3,91	88.776					
900.00	900.00	888.96	888.96	3.00	1.44	-121.74	-182.63	-295.29	347.21	342.84	4.37	79.508	ES				
1,000.00	1,000.00	986.77	986.76	3.36	1.56	-121.84	-183.59	-295.66	348.05	343,22	4.83	72.010					
1,100.00	1,100.00	1,083.73	1,083.64	3.72	1.71	-122,37	-187.17	-295.27	349.68	344.33	5.35	65.374					
1,200.00	1,200.00	1,180.53	1,180.16	4.08	1.92	-123.48	-194,31	-293.73	352.35	346.43	5.92	59.482					
					-	•				· • • • • •	n						
1,300.00	1,300.00	1,279.53	1,278.49	4.44	2.17	-125.27	-205.23	-290.20	355.66	349.10	6.56	54.258					
1,400.00	1,400.00	1,378.21	1,376.27	4.79	2.46	-127.32	-217.72	-285.57	359.40	352.17	7.23	49.742					
1,500.00	1,500.00	1.476.61	1,473.74	5.15	2.79	-129.34	-230.44	-281.12	363.90	355.95	a (.91	45.961				•	
1,600.00	1,500,00	1,5/5.99	1,572.25	5.51	3,15	-131,20	-242.00 DEA DE	-2/0.0/	300./5	26/ 95	גים אינים א	42.709					
1,700.00	1,700.00	1,0/3.84	,009.∠9	2.67	3,51	-133,92	-204.65	-275.09	374,10	JD4.62	. 9.04	40.075					
1,800.00	1,800.00	1,772.16	1,766.64	6.23	3.89	-134.90	-267.93	-268.87	380.35	370,29	9 10.06	37.813					
1,900.00	1,900.00	1,875.32	1,868.81	6.59	4.30	-136.80	-281,37	-264.22	386.62	375.82	2 10,81	35,780					
2,000.00	2,000.00	1,977.57	1,970.41	6.95	4,69	-138,31	-292.32	-260.32	391,97	380.43	3 11.54	33.958					
2,100.00	2,100.00	2,074.13	2,066.38	7.30	5.06	-139.65	-302.43	-256.89	397.57	385.32	2 12.25	32.447					
2,200,00	2,200.00	2,173.72	2,165.29	7.66	5.45	-141.02	-313.43	-253.58	403.98	391.00) 12,98	31.127					
0.000.00	0.000.00	0.000.04	7 200 44	0.00	E 00	140.00	224 40	250 50	A10 70	207 4/	12 60	30.046					
2,300.00	2,300.00	2,269.51	2,260.44	8.02	5,63	-142,30	-324.12	-250.50	410.78	397.10) 13.05) 17.45	7 30.010 9 20.010					
2,400.00	2,400.00	2,309.84	2,300.02	0,38 9.74	0.23	-143.03	-333.92	-247.30	410.31	403.90 ⊉10.24	2 14.42 1 15.16	29.013					
2,500.00	2,500.00	2,472.90	2,902.39	0.74 Q 10	0.04 7.05	-144.92	-347.59	-240.93	431.40	415.49	-15.92	20.009					
2,000.00	2,000.00	2,579.59	2 668 42	9.45	7 44	-147 19	-366.58	-236.30	436.72	420.08	3 16.64	26.241					
1,00.00	2,700.00	2,010.01	2,000.72	0.40	1.74		000.00	200,00				200200					
2,800.00	2,800.00	2,782.21	2,770.14	9.81	7,83	-148.37	-375.58	-231.34	441.60	424.22	2 17.38	25.411					
2,900.00	2,900.00	2,881.23	2,868.49	10,17	8.22	-149,72	-385.03	-224.82	446.43	428.33	3 _ 18.10	24.660					
3,000.00	3,000,00	2,978.90	2,965.51	10.53	8.61	-151.00	-394,50	-218.68	451,77	432.95	5 18.82	24.000					
3,100.00	3,100.00	3,076.15	3,062,06	10.89	9.00	-152.28	-404.38	-212.52	457.74	438.20) 19.54	23,425					
3,200.00	3,200.00	3,171.59	3,156.67	11.25	9,39	-153.62	-414.99	-205.86	464.51	444.26	.20,25	22.938					
3,300.00	3,300.00	3,268,33	3,252.46	11.61	9.79	-154.99	-426.76	-199,10	472.50	451.53	3 20.97	22.537					
3,400.00	3,400.00	3,369.70	3,353.01	11.96	10.20	-156.17	-438.18	-193,50	480.51	458.80	21.70	22,140					
3,500.00	3,500,00	3,470.13	3,452.82	12.32	10.60	-157.13	-448.57	-189.22	488.34	465.91	22.43	21.771	·				
3,600.00	3,599.95	3,568,79	3,550.90	12.67	10.99	-158.27	-458.55	-185.51	495.72	472.58	3 23.13	21.429					
3,700.00	3,699.63	3,667.77	3,649.33	13.02	11.38	-159.91	-468.45	-182.28	502.36	478.54	23.82	21.089					
												<u> </u>					
3,800.00	3,798.77	3,767.42	3,748.47	13,37	11.78	-162,07	-478.10	-179.18	508.32	483.81	24.51	20.742					
3,833.29	3,831.61	3,800.16	3,781.05	13.49	11.90	-162.89	-481.20	-178.20	510.24	485.51	24.73	20.631					
3,900.00	3,897.30	3,865.12	3,845.70	13.73	12.16	-164.57	-487.27	-176.35	514.29	489.11	25.18	20.424					
4,000.00	3,995.78	3,965.93	3,946.04	14.09	12.55	-167.04	-496.55	-173.65	521,06	495.18	25.87	20,138					
4,100.00	4,094.26	4,0/4.64	4,054.41	14,45	12,96	-169,38	-504.73	-171,21	527.22	500,61	26,61	19.812					
4,200.00	4,192 74	4,178.03	4,157.63	14.83	13.33	-171.56	-510.44	-169.43	532,33	505.01	27.32	19.485					
4 300 00	4,291 22	4.275.42	4.254.88	15.20	13.68	-173 63	-515.47	-168.05	537.85	509.84	28.01	19.204					
4,400.00	4,389.70	4,376.82	4,356.14	15.58	14.05	-175.63	-520.57	-167.02	543.98	515.27	28,72	18,944		•			•
4,500.00	4,488.18	4,482.02	4,461.26	15,97	14.41	-177,41	-524,67	-167.54	549,70	520.26	29.44	18,673					
4,600.00	4,586.67	4,584.23	4,563.42	16.35	14.75	-179.05	-527.59	-169.01	554.93	524.78	30.15	18.407					
,					-							•					
4,700.00	4,685.15	4,684,64	4,663.78	16.75	15.08	179.36	-529,99	-170,74	560.13	529.28	30.85	18.154					
			Min cent	re to cente	er distan		aent point. S	F - min se	paration t	actor ES	S - min elli	ose separ	ation				

7/26/2016 1:41:02PM

Page 7







Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	[*] Minimum Curvature
Well Error:	0.00 [°] usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offse	Design	RDX F	ederal 17	- 16H - V	Vellbore	#1 - Surve	ys	~					Offset	Site Erro	r:	0.00 usft
Survey	Program: 100	I-IS-GYRO-W	LINE 931-	/wd	,		· · ·	-			•	н. •	Offset	Well Erro	n: î	0,00 usft
" " Re	ference	Offs	el 📫 📫	Semi Majo	r Axis	در میشمد 	a	1.3	Dist	ance						
Measure	d Vertical	Measured	Vertical	Reference	Offset	Azimuth	Offset Wellbor	e Centre	Between	Between	Minimum	Separation		Warn	ing	· ,:
(usft)	(usft) •	(usft)	usft)	(usft)	(usit)	1011 North	+N/-S	+E/-W 5.	vr(usit)	(ûsft),	(usit)		·	- 44 1 (12)	x. :	1. . .
	00 4 707 07	4 701 99	4 760 42	47.44	15.40	477.00	522.40	170.25	ی نہیں۔ یے 1955 ع	624.21	21.56	17 021	1		•	··· `·
4,800	00 4,783.63	4,781.33	4,/60.43	17.14	15.40	177.80	-534.62	-172.30	571 70	539.41	32.28	17 709				
5,000	00 4 980 59	4,004.21	4,863,53	17.54	16.07	174 75	-536 25	-175.33	577.40	544.40	33.00	17,496				
5 100	00 5 079 07	5 083 17	5 062 19	18.34	16.39	173.25	-537 78	-176.84	583.46	549.74	33.72	17.302				
5,200	.00 5.177.55	5,182.35	5,161.35	18.75	16.72	171.77	-539.20	-178.17	589.79	555.34	34.45	17.121				
5,300	.00 5,276.03	5,279.89	5,258,86	19.15	17.05	170.32	-540.66	-179.36	596,59	561.42	35.17	16.962				
5,400	.00 5,374.51	5,378.28	5,357.24	19.56	17.37	168.90	-542.30	•180.55	603.93	568.03	35.90	16.821				
5,500	.00 5,473.00	5,476.63	5,455.57	19.97	17.70	167.53	-543.90	-181.91	611.55	574.92	36.63	16.693				
5,600	.00 5,571.48	5,574.93	5,553.84	20.39	18.03	166.22	-545.73	-183.48	619.69	582.32	37.37	16.583				
5,700	00 5,669,96	5,679.06	5,657.93	20.80	18,38	165.01	-547,49	-185.61	627.82	589,71	30.12	10.471				
5,800	.00 5,768.44	5,787.13	5,765.93	21.22	18.72	163.90,	-546.12	-169.17	034.93	590.00	30.00	10.330				
5.900	.00 5.866.92	5.887.73	5.866.50	21.64	19.04	162.71	-547,56	-191,80	641,37	601.78	39.59	16.201				
6,000	00 5,965,40	5,986,53	5,965.28	22.06	19.34	161.44	-546,63	-193,29	648,06	607.76	40,31	16,079				
6,100	00 6,063.88	6,084.33	6,063.07	22.48	19.64	160.18	-545.69	-194.50	655,13	614.11	41.02	15,970				
6,200	00 6,162.36	6,180.18	6,158.92	22.90	19.94	158.95	-545,06	-195.68	662.79	621.06	41.74	15.880				
6,300	.00 6,260.84	6,279.44	6,258.17	23.32	20.25	157.74	-544.55	-196.78	670.93	628.47	42.46	15.802				
6,400	.00 6,359.33	6,375.89	6,354.61	23.75	20.56	156.56	-544.12	-197,67	679.49	636.32	43.18	15./38				
6,500	.00 6,457.81	6,473.99	6,452.71	24.17	20.87	155.40	-543.81	-198.47	688.50) 644.61	43.90	15.684				
6,600	.00 6,556.29	6,570.36	6,549.07	24.60	21.19	154.25	-543.66	-198.98	598.05	> 653.43	9 44.51	15.646				
6,700	.00 6,654.77	6,670.70	6,649.41	25.03	21.51	153.13	-543.37	-199.45	707.77	671.05	45.34	15.010				
0,/99	.99 0,755.24	0,700.37	0,744.06	23.40	21.02	152.02	-043,24	-155.02	/ 10.03	011.90	40.00	10,052				
6,803	19 6,756.40	6,768.50	6,747.21	25.47	21.83	151.99	-543.24	-199.62	718,37	672.29	46.07	15.592				
6,900	00 6,852.12	6,863.04	6,841.76	25,87	22.14	151.11	-543.42	-199.78	727,32	680.55	46.77	15.551				
7,000	.00 6,951.63	6,960,49	6,939.21	26.26	22.48	150.55	-543,94	-200.02	733,78	686.30	47.48	15.455				
7,100	.00 7,051.52	7,059.56	7,038.27	26.61	22.82	150.31	-544.62	-200.19	737.15	688.97	48.18	15.300				
7,136	49 7,088.00	7,095.57	7,074.28	26.74	22.95	150.31	-544,90	-200,23	737.59	689.16	6 48.43	15.229				
		7 457 05	7 400 00	00.05	00.43	450.00	- · · · · ·	000.04	700.04	000 47	40.03	40.400				
7,200	.00 7,151.51	7,157.85	7,136.56	26.95	23.17	150.33	-545.45	-200.31	738.04	009,17	40.0/	10.103				
7,300	00 7,251.51	7,257.08	7,235.78	27.28	23.51	150.38	-546.57	-200.39	730.57	009.41 690.40	49.30	14.911				
7,400	00 7,351.51	7,359.04	7,337.73	27.02	23.01	150.42	-347.33	-200.49	740.25	005.45	50.20	14.770				
7,500	00 7,451.51	7 559 02	7 537 69	28.25	24.56	150.66	-550.08	-201.10	740.97	689.32	51.65	14 345	•			
1,000	.00 1,001.01	1,303.02	7,001,00	20.23	24.00	155.55	-556.66	-202.02	740.07	000.04		11.010				
7,700	.00 7,651.51	7,663.37	7,642.00	28.62	24.92	150.87	-551.82	-204.64	741.43	689.07	52.37	14.158				
7,800	.00 7,751.51	7,767.17	7,745.76	28.96	25.28	151.08	-552.94	-207.17	741.20	688.12	53,08	13,965				
7,900	.00 7,851.51	7,867.17	7,845.72	29,29	25,62	151,32	-554.03	-210.11	740.74	686.96	53,77	13,775				
8,000	.00 7,951,51	7,974.95	7,953,42	29,63	25,99	151,62	-555.02	-213,96	739,84	685.35	54.49	13.577				
8,100	.00 8,051.51	8,075.55	8,053.93	29.97	26.32	151.92	-555.55	-218.11	738.35	683.16	55,19	13.379				
8 200	00 8 151 51	8 167 15	8 145 40	30 31	26.63	152 13	-556.09	-220.88	737 45	681 59	55.86	13 202				
8 274	10 8 225 61	8 238 29	8 216 61	30.56	26.88	152.15	-556 77	-222 47	737.30	680.93	56.37	13 080				
8 300	00 8 251 51	8 263 49	8 241 80	30.65	26.97	152.31	-557.07	-223.01	737.31	680.77	56.55	13.039				
8,400	00 8.351.51	8 363.04	8.341.32	30.99	27.31	152.50	-558.31	-225.10	737.45	680.20	57.24	12.882				
8,500	00 8,451.51	8,463.93	8,442.18	31.33	27.66	152.69	-559.57	-227.22	737.59	679.64	57.95	12,728				
										,						
8,600	00 8,551.51	8,567.95	8,546.16	· 31.67	28.02	152.91	-560.65	-229.79	737.38	678.72	58.66	12.570				
8,700	00 8,651.51	8,672.93	8,651.10	32.01	28,38	153.12	-561.11	-232.63	736.55	677.18	59.37	12.406				
8,800	00 8,751.51	8,775.90	8,754.05	32.35	28.72	153.28	-560.70,	-235.10	735.11	675.04	60.07	12.238				
8,900	00 8,851,51	8,877,58	8,855,70	32,69	29,06	153.39	-559.85	-237.14	733.45	672,69	60,76	12,071				
· 9,000.	00 8,951.51	8,972.85	8,950.94	33.03	29.38	153,50	-559.03	-239.06	731.80	670.36	61,44	11,911				
9 100	00 0.051 64	0 066 22	9 044 34	70 77	70 60	153 SR	_559 OF	-240.24	731 16	660.05	62 17	11 771				
9,100. 0 12¢	00 0,007 60	9,000.23 0.100.44	0,044,31 0,079.50	33.37	29,09 20 04	162.50	-336.90	-240.24	731.10	668 76	62.12	\$1.724				
a nón	00 0,007.00 00 0,151.54	3,100.41 0.161.01	9,070.00	20.00	23.01	153.01	-209.10	-240.02	731.12	668 20	62.30 62.90	11 640				
9,200	00 0,101,01	9 260 75	0,140,33 0,238,82	33.71	30,03	153,07	-559.55 _560.40	-241.33	731.15	668.05	63 50	11 521				
9 400	00 0,201.01	9 362 19	9 340 24	34.00	30.37	153 90	-561 56	-243 54	732.04	667 83	64 21	11 401				
5,400.		0,002.10	3,370.24	U4.4U	50.75	100.00	-001.00	-E-J.04	, 52.04	001.00	UT.21	1				
9,500.	00 9,451.51	9,473.88	9,451.92	34.74	31.11	154.03	-561.93	-245.22	731.69	666.75	64.94	11.267				
		- CC -	Min cont	re to cente	r distan		gent point SI	E - min se	naration	actor ES	s - min elli	nse senar	ation			

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Page 8

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COMPASS 5000.14 Build 83





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Anticollision Report

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Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	^f 0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbo	re Wellbore #1	Database:	EDM Conroe
Reference Design	Design #1	Offset TVD Reference:	Offset Datum
· · · · · · · · · · · · · · · · · · ·	, estation a second		n a ser en
		مرین ورسان در در استفاد می رامینو جورو معدد	Offset Site Front

Offset D	esign .	RDXF	ederal 17	7 - 16H - V	Vellbore	#1 - Surveys	••••••••••••••••••••••••••••••••••••••	د السلم، بال				i	Offset Site Error:	0.00 ustį
Survey Pro	gram: 100	-IS-GYRO-W	LINE 931-	wwd			· · · · · · · · · · · · · · · · · · ·	· · · · ·				u	Offset Well Error:	0.00 usfi
A.S. Refer	ence 🚬 💒	""Offs Massurad	et Vertical	* 'Semi Major Reference	Axis"	Azimuth	Offset Wellbor	e Centre	Dista	Retween	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth .	Neletence	Ulağı '.	from North	+N/-S	+E/-W	Centres	Ellipses -	Separation	Factor	manning	, , , , , , , , , , , , , , , , , , ,
(üsft)	(usft),	• .(usft).;•"	(usft)	(usft)	(usft)	()	(usft);	(usit) ;	(usit)	(usft)	(usft)	1.1.1	المعنية وتبيية منهانين الأعديني	
9,600.00	9,551.51	9,578.47	9,556.47	35.09	31,47	154,19	-561.31	-247.87	730.05	664.40	65,65	11.121		
9,700.00	9,651.51	9,678.39	9,656.36	35.43	31,80	154,33	-560.37	-250.27	728.15	661.81	66.34	10,976		
9,800.00	9,751.51	9,775.95	9,753,90	35,78	32,13	154,44	-559.48	-252.26	726.45	659.42	67,03	10,838		
9,900.00	9,851.51	9,875.28	9,853.20	36.12	32.46	154.56	-558.71	-254.20	724.91	657.20	67.72	10.705		
10,000.00	9,951.51	9,973.47	9,951.37	36.46	32.80	154.70	-558.28	-256.37	723.57	655.15	68.41	10.577	1	
10,100.00	10,051.51	10,070,50	10,048.36	36.81	33.13	154.89	-558.39	-258.98	722.53	653.42	69.11	10.455		
10,132.81	10,084.32	10,096.16	10,074.02	36.92	33.22	154.95	-558.56	-259.72	722.34	653.03	69.31	10.421		
10,200.00	10,151.51	10,129.16	10,106.97	37.16	33.34	155.06	-559.90	-260.65	724.03	654.43	69.60	10.402	SF ·	
10,300.00	10,251.51	10,171.58	10,149.13	37.50	33.50	155.28	-564.38	-261.74	732.75	663.04	69.71	10.512		
10,400.00	10,351.51	10,215.00	10,191.71	37.85	33.67	155.59	-572.76	-262,13	749.56	680.06	69.50	10.785		
10,500.00	10,451.51	10,247.00	10,222.58	38,19	33.81	155.79	-581,12	-261.22	774.12	705.37	68.75	11,260		
10,600.00	10,551.51	10,288.50	10,261.82	38,54	33,99	156.04	-594,42	-258,93	805.77	737.78	67.98	11,853		
10,700.00	10,651.51	10,326,46	10,296,84	38.89	34.16	156,26	-608.71	-255.78	843.70	776.72	66.98	12.596		
10,800,00	10,751.51	10,365,07	10,331.45	39.23	34.34	156.47	-625.32	-251.66	887.45	821.52	65.93	13.461		
10,900.00	10,851.51	10,404.00	10,365.45	39.58	34.53	156.69	-643.66	-246.97	935.92	871.04	64.88	14.425		
11,000.00	10,951.51	10,436.00	10,392.62	39.93	34.68	156.89	-660.11	-243.03	988.87	925.25	63.61	15,545		
11.100.00	11.051.51	10.467.00	10 417 87	40.27	34.84	157.11	-677.64	-239.07	1.046.45	984.07	62.37	16.778		
11,133.31	11.084.82	10.477.27	10,425,99	40.39	34.89	157,19	-683,80	-237.81	1,066.55	1,004.57	61.97	17.210		
11,150.00	11,101.51	10,483.03	10,430.50	40.44	34.92	157.24	-687.30	-237.13	1,076.55	1,014.76	61.79	17.422		
11,175.00	11,126.46	10,498.00	10,442.11	40.52	35.00	157.34	-696.62	-235.51	1,090.93	1,029.20	61.73	17.673		
11,200.00	11,151.30	10,498.00	10,442,11	40.60	35,00	157.27	-696.62	-235.51	1,104.46	1,043.35	61.11	18.073		
11 225 00	11 175 05	10 510 15	10 461 39	40.69	35.07	157.20	. 704 20	224.22	1 117 20	1 056 29	60.02	18 3/0		
11,225,00	11 200 35	10,510,15	10,458,54	40.08	35.12	157.29	-710 58	-234.32	1 129 11	1.068.50	60.61	18 629		
11,275.00	11.224.44	10.530.00	10.466.24	40.83	35,17	157.21	-717.43	-232.62	1,140,18	1.079.86	60.32	18,903		
11,300.00	11,248.15	10,530.00	10,466.24	40.90	35.17	157.00	-717.43	-232.62	1,150.47	1,090.82	59,64	19.290		
11,325.00	11.271.40	10,546.96	10,478.62	40.96	35.26	156.99	-728.96	-231.43	1,159.74	1,100.18	59,56	19.471	•	
44 353 00		40.004.00	40.400.00			450.00	700 70	000.05		4 400 00	50.00			
11,350.00	11,294.15	10,561.00	10,488.62	41.03	35.34	156.93	-738.79	-230.65	1,168.25	1,108.88	59.37	19.6/9		
11,375.00	11 337 86	10,571,10	10,495.72	41.09	35.40	156.86	-743.96	-230.17	1 182 21	1 123 01	59.02	19.923		
11.425.00	11.358.70	10.637.48	10.542.59	41.21	35.77	157.14	-792.86	-227.07	1.187.26	1.127.31	59.95	19,804		
11,450.00	11,378.80	10,682.85	10,575,38	41.26	36.04	157.40	-824.11	-224.49	1,190.60	1,129.77	60.83	19.572	•	
							•				-			
11,475.00	11,398.09	10,695.98	10,584.93	41.31	36.12	157.17	-833.08	-223.66	1,192.62	1,132.04	60.58	19.687		
11,500.00	11,410.51	10,706.02	10,592.13	41.36	35.18	156.89	-840.04	-223.03	1,193.70	1,133,49	60.21	19.826		
11 500 08	11,422.44	10,709.30	10,594.50	41,57	36.44	155.68	-642,37	-222.01	1,193.00	1 138 15	58.80	20.356	•	
11,608.31	11.493.15	10,749.00	10,621,91	41.55	36.44	155.52	-870.94	-220.70	1,197.45	1,138,89	58.55	20.450		
11,625.00	11,504,74	10,749.00	10,621.91	41.58	36.44	155.17	-870.94	-220.70	1,198.32	1,140.27	58.05	20,642		
11,650.00	11,521.31	10,763,08	10,631.20	41.62	36.52	154.90	-881.50	-220.22	1,198.73	1,140.92	57.81	20,736		
11,6/5.00	11,536.87	10,770.34	10,635,86	41.67	36.57	154.46	-887.05	-220.00	1,198.33	1,141.01	57.32	20.907		
11 725 00	11.551.36	10,781.00	10,642.54	41.75	36.64	153.39	-895.37	-219.71	1,197.05	1 138.71	56.18	21.269		
					20.01		000.01	LIGHT	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			2200		
11,750.00	11,577.12	10,793.77	10,650.29	41.79	36.72	152.99	-905.51	-219.46	1,191.79	1,135.90	55.89	21.324		
11,775.00	11,588.27	10,802.09	10,655.21	41.83	36.77	152,44	-912.23	-219.38	1,187.82	1,132.38	55.44	21.427	-	
11,800.00	11,598.24	10,812.00	10,660.91	41.87	36.83	151.90	-920.33	-219.35	1,182.96	1,127.91	55.05	21.490	•	
11,825,00	11,606.99	10,812.00	10,660.91	41,92	36.83	151.02	-920.33	-219.35	1,177.26	1,122,97	54.29	21,684		
11,850,00	11,614,51	10,829.96	10,670,93	41.96	· 36,95	150,68	-935.23	-219.40	1,170.51	1,116.29	54.22	21,589		
11,875.00	11,620.76	10,844.00	10,678.53	42.01	37.04	150.19	-947.04	-219.47	1,162.95	1,108.94	54.01	21,533		
11,900.00	11,625.75	10,844.00	10,678,53	42,06	37,04	149,15	-947,04	-219.47	1,154.48	1,101.20	53.28	21.667		
11,925.00	11,629,44	10,857.93	10,685.83	42.12	37,14	148.59	-958.90	-219.55	1,145.11	1,092.01	53,10	21,566		
11,950.00	11,631.83	10,866,67	10,690,28	42,18	37,19	147,80	-966.42	-219,60	1,134,92	1,082,18	52.73	21.522		
11,975.00	11,632.92	10,875.00	10,694.44	42.24	37.25	146.95	-973.64	-219.65	1,123.89	1,071.52	52.37	21.460		
11.983 31	11.633.00	10.875.00	10.694 44	47 77	37 25	146 54	-973 64	-219.65	1,120.05	1.067.90	52 15	21 477		
									.,.20.00	.,	52.15			
		- CC	Min cent	re to cente	r distanı	ce or coverae	ent point. SF	min se	paration f	actor. ES	i - min elli	ose separ	ation	

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Page 9

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Microsoft Anticollision Report



Company: WPX Energy	Local Co-ordinate Reference:	Well 35H
Project: Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site: RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error: 0.00 usft	North Reference:	Grid
Reference Well: 35H	Survey Calculation Method:	Minimum Curvature
Well Error: 0.00 usft	Output érrors are at	2.00 sigma
Reference Wellbore Wellbore #1	Database:	' EDM Conroe
Reference Design: Design #1	Offset TVD Reference:	Offset Datum

Offset D	esign	RDX F	ederal 17	7 - 16H - V	Vellbore	#1 - Survey	/s	• •			•	-	Offset	Site Error:	0.00 usft
Survey Pro	gram: 100	-IS-GYRO-W	LINE 931-	WD.	• • • • •		1	•	• v	,	.م به ای		Offset	Nell Error:	0.00 usft
Measured Depth	Vertical Depth	Measured Depth	et Vertical Depth	Semi Major Reference	Axis Offset	Azimuth from North	. Offset Wellbor +N/-S	e Centre +E/-W	Dista Between Centres	nce Between Ellipses	Minimum Separation	Separation Factor	μ.	Warning	·•••••••••••••••••••••••••••••••••••••
(usft)	(usft)	(usft)	(usft) .	(usft)	(usft)	0	(usft)	(usft)	(usft)	· (usfl)	(usft)	· · ·		<i>, •</i> .	1.1
12,000.00	11,633.00	10,885.71	10,699.68	42.31	37,32	146.17	-982.98	-219.73	1,112.26	1,060.14	52.11	21.343			
12,100.00	11,633,00	10,924.52	10,717.65	42.63	37,59	142.52	-1,017.37	-220.20	1,067,98	1,017.08	50.91	20.978		•	
12,200.00	11,633.00	10,958.30	10,731.67	43.01	37.83	137.85	-1,048.10	-220.58	1,028.40	978.89	49.51	20,772			
12,300.00	11,633.00	10,991.82	10,743.58	43.46	38.07	132.21	-1,079.42	-221.23	994.25	946.10	48.15	20.650			
12,400.00	11,633.00	11,032.00	10,754.92	43.97	38.35	120.15	-1,117.93	-222.44	900,07	910.97	47.11	20.507	•		•
12,500.00	11,633.00	11,064.00	10,701.49	44.00	36.55	117.55	*1,143.21	-223.00	344.03	030.11	40.00	20,000			
12,600.00	11,633.00	11,101.92	10,766.84	45.15	38.67	109.26	-1,186.68	-226.04	928.35	883.08	45.26	20.510			
12,700.00	11,633.00	11,144.00	10,770.29	45.83	39.16	100.11	-1,228.53	-228.71	918.52	873.61	44.91	20.452			
12,800.00	11,633.00	11,233.56	10,773,65	46.55	39.66	98.46	-1,317.87	-233.91	912.78	867.41	45.37	20.120			
12,900.00	11,633.00	11,296,91	10,774,40	47.31	40.36	92.13	-1,381.13	-237.12	909.62	864.02	45.60	19,948			
13,000.00	11,633.00	11,389.70	10,773.34	48.13	41.13	90.85	-1,473,78	-242.16	908.66	862.51	46.15	19.688			
13,100.00	11,633.00	11,490.61	10,772.57	48.98	42.02	91.01	-1,574.59	-246.57	907,75	860.88	46.88	19,365			
13,200,00	11,633.00	11,588,85	10,771.29	49.88	42.93	90,68	-1,672,74	-250.55	907.49	859,87	47,63	19.055			
13,300.00	11,633.00	11,689.77	10,770.50	50.81	43.91	90.85	-1,773.60	-253.80	907.04	858.54	48,49	18.704			
13,400.00	11,633.00	11,808.80	10,771.69	51.78	45.12	94.42	-1,892.61	-255.47	905.56	855.82	49.74	18.206			
13,500.00	11,633.00	11,899.92	10,773.74	52.78	46.09	92.75	-1,983.70	-255.30	903.42	852.64	50.78	17.790			
12 600 00	11 833 00	11 000 11	10 775 11	E3 01	47.00	01.79	2 075 99	254.74	002.14	850.25	51 90	17 385			
13,600.00	11,633,00	12 030 58	10,775.38	54.40	47.05	91.20	-2,075.88	-254.45	902.14	849 43	57.03	17.303			
13,000.09	11,633,00	12,035.30	10,775,27	54.88	48.06	88.68	-2,123.34	-254 27	902.06	849 12	52.94	17.038			
13,800,00	11 633 00	12,070.25	10,775.67	55.97	49.49	93.31	-2,286,58	-256.27	901.06	846.68	54.38	16.568			
13,900,00	11 633 00	12 290 02	10 775 26	57.09	50.51	90.88	-2.373.66	-260.24	899.88	844.62	55.26	16.283			
	,	.=,=00.0=													
14,000.00	11,633.00	12,394.28	10,774.16	58.24	51.75	91.70	-2,477.76	-265.94	898.98	842.70	56.28	15,972			
14,100,00	11,633.00	12,486.65	10,773.14	59.41	52.88	90,18	·2,569,97	-271.26	898.11	840.92	57.19	15,703			
14,106,93	11,633.00	12,491.93	10,773.03	59,49	52,94	89.85	-2,575.24	-271.59	898.10	840.86	57,24	15,689			
14,200.00	11,633.00	12,563.90	10,770.35	60.60	53,83	85.53	-2,646.99	-276.56	899.26	841.35	5 57,91	15.529			
14,300.00	11,633,00	12,665.31	10,765.63	61.82	55.10	85.63	-2,748.05	-283.33	901.55	842.73	58.82	15.328			•
14 400 00	11 633 00	12 765 51	10 761 18	63.05	56 38	85 52	-2 847 97	-289 30	903 92	844 14	59.78	15 121			
14,500.00	11.633.00	12.873.23	10.757.62	64.30	57.78	87.05	-2.955.51	-294.57	905.55	844.65	5 60.90	14.870			
14,600.00	11,633.00	12,992.87	10,754.83	65.57	59.36	91.33	-3,075.03	-299.17	906.75	844.51	62.24	14.570			
14,700.00	11,633.00	13,112.35	10,756.42	66.86	60.95	95.70	-3,194.42	-303.05	904.38	840.67	63,71	14.195			
14,800.00	11,633.00	13,218.30	10,759.00	68.16	62.39	97.10	-3,300.29	-306.09	901.17	836.08	65.09	13.846			
14,900.00	11,633.00	13,309.93	10,760.22	69.48	63.64	95.29	-3,391.74	-311.80	898.10	832.00	0 66.09	13.588			
15,000,00	11,633.00	13,411.53	10,760.40	70.81	65.02	95.79	-3,492.92	-320.93	090,44	020.41	07.03	10,000			
15 170 14	11 622 00	13,500,11	10,700,10	(∠,10 72.00	67 14	90,00	-3,300.84	-001,04 _329.04	092.01 801 00	824.90	, 07.04) 68.21	12.057			
15.200.00	11.633.00	13.582.78	10.758 56	73.52	67.38	88.42	-3,663.08	-340.05	891.97	823.53	68.43	13.034			
.0,200.00	. 1,000.00	10,002.70		10,02	51,50	JU.72	2,000.00	070.00	001.01	220.00		,0,004			
15,300.00	11,633.00	13,690,96	10,755.44	74.89	68.88	90.46	-3,770.69	-350.44	892.46	823.10	69.37	12.866			
15,400.00	11,633.00	13,795,25	10,754.12	76.27	70.36	91.64	-3,874.72	-357.77	892.06	821.60	70.45	12.662			
15,500.00	11,633.00	13,911.34	10,754.15	77.66	72.01	96.47	-3.990.57	-365.21	890.60	818.88	71.71	12.419			
15,600.00	11,633.00	14,028.20	10,756.97	79.06	73.69	101.77	-4,107.21	-371.69	886.98	813.91	73.08	12.138			
15,700.00	11,633.00	14,133.66	10,761.01	80.48	75.23	103.71	-4,212.49	-376.55	882.23	807.84	74.39	11.859			•
15,800.00	11 633 00	14.205.03	10 763 15	81.90	76 27	94 82	4,283 72	-380 14	878 42	803.11	75.31	11.664			
15.838.09	11.633.00	14.228.04	10.763.04	82.44	76.60	89.85	-4,306.68	-381.64	878.09	802.50	75.60	11.616			
15,900.00	11.633.00	14.274.76	10,761.67	83.33	77.28	84.66	-4,353.25	-385.13	878.87	802.76	76.11	11.547			
16,000.00	11,633.00	14,377.93	10,759.19	84.76	78,79	85.48	-4,456.20	-391.42	880,01	802.75	77.26	11.390			
16,100.00	11,633.00	14,463,33	10,756.17	86,21	80,05	80.05	4,541.42	-396.03	882.44	804,16	78.28	11.272			
							. –								
16,200.00	11,633.00	14,560.85	10,752.17	87,66	81,49	78.73	-4,638.72	-401.17	885.53	806.10	79.43	11.149			
16,300.00	11,633.00	14,649.90	10,747.70	89.12	82.82	74.28	-4,727.55	-405,61	889.58	809.07	80.51	11.050			
16,400,00	11,633.00	14,746,36	10,742.04	90,59	84.25	72.34	-4,823.72	-410.42	894.52	812.86	81.66	10.954			
16,469.56	11,633.00	14,819.94	10,737.91	91.61	85.35	73,33	-4,897.10	-413,96	897,83	815.30	82.54	10,878			

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

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Microsoft Anticollision Report



Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	, 0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	∿(0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	(† Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #1	'Offset TVD Reference:	. Offset Datum
		· · · · · · · · · ·	
F		·	

Offset D	eşign .	" RDX F	ederal 17	- 25H - V	Vellbore	#1 - Survey	/S					المرجب بالم	Unset Sile Error:	UUU USIL
Survey Pro	gram: 181	-MWD				به به به در الم محمد الم			14	<u>, , , ,</u> , ,		• • • •	Offset Well Error:	0.00 usit
Rofer	ence	Offs	el 👘 👘	Semi Major	Axis	r y			Dist	ance ''				
Measured	Vertical	Measured	Vertical	Reference	Offset	Azimuth	Offset Wellbor	e Centre	Between	Ellineas	Minimum	Separation Factor	Warning	
Usft)	ູບອpເກ ົ່າ (usfi)	uepin (usft)	, (usft) "*	(usft)	(usft)		+N/-S	tustt)	(usft).	(usft)	(usft)			
14, 14, 14			(1 51)	1					R	الطبيعة لأ	1 Mahre	م المشاهمية الم	. 191.	The stand the
0.00	0.00	0.00	0.00	0.00	0.00	-90.38	-1.40	-210.60	210.76		0.00	745 400		
100,00	100.00	91.72	91.72	0,13	0.15	-90.33	-1.21	-210.66	210.67	210.38	0,28	145.423		
200.00	200.00	191.55	191.55	0.49	0.33	-90,15	-0.56	-210.87	210.8/	210,04	0,82	200.241		
300.00	300.00	292.63	292.62	0.85	0.69	-89.86	0.51	-210.84	210.84	209.30	1.54	130.092		
400.00	400.00	393.57	393.56	1.21	1.05	-89.67	1.20	-210.24	210.25	207.99	2.26	93.087		
500.00	500.00	492.77	492.75	1.57	1.40	-89.44	2.03	-209.58	209.59	206.62	2.97	70.591		
537 53	537 53	529 55	520 53	1 70	1 53	-89 36	2.33	-209.51	209.53	206.29	3.23	64.774		
600.00	557.55 600.00	501 45	591 41	1 93	1.55	-89.35	2.33	-209.67	209.64	205.96	3,68	56.986		
700.00	700.00	691.40	591.45 691.30	7.70	2 11	-89.08	3.38	-209.95	209.99	205.50	4.39	47.803		
800.00	800.00	702 46	702 49	2.49	246	-88.00	3,00	-210.00	210 14	200.08	5.10	41.170		
900,000	900.00	192.40 802.60	892.45	2.04	2,40 2 80	-89.04	3.51	-209.84	209.87	203.00	5.10	36,191		
000.00		032.00	UJ2.00	0.00	2,00	00.04	5.01	200.04	200.07	_007	0.00	20,.01		
904.24	904,24	896.27	896.24	3.02	2.81	-89.05	3.50	-209.84	209,87	204.04	5.83	36.010		
1,000.00	1,000.00	990.79	990.76	3.36	3,13	-89,14	3.15	-210.12	210.15	203.66	6,49	32.376		
1,100.00	1,100.00	1,089.72	1,089.68	3.72	3,47	-89,26	2.73	-210.97	211.00	203.81	7.19	29.349		
1,200.00	1,200.00	1,189.07	1,189.03	4.08	3.82	-89.39	2.27	-212.23	212,27	204.37	7.89	26.893		
1,300.00	1,300.00	1,290.66	1,290.61	4.44	4,17	-89.55	1.66	-213.31	213.33	3 204.72	8.61	24.789		
							_							
1,400.00	1,400.00	1,389.83	1,389.78	4.79	4,52	-89.72	1.06	-214.19	214.21	204.90	9.31	23.006		
1,500.00	1,500.00	1,489.84	1,489.77	5.15	4.87	-89.88	0.44	-215.25	215.26	6 205.24	10.02	21.481		
1,600.00	1,600.00	1,590.29	1,590.22	5.51	5.22	-90.08	-0.30	-216.20	216.21	1 205.48	8 10.73	20.145		
1,700.00	1,700.00	1,690.77	1,690.69	5.87	5.58	-90.27	-1.04	-216.85	216.86	5 205.41	11.44	18.948		
1,800,00	1,800.00	1,790.70	1,790.61	6.23	5.93	-90.51	-1.95	-217.53	217.54	205.39	12.15	17.898		
								a a -	.					
1,900.00	1,900.00	1,892.01	1,891.92	6.59	6.28	-90.80	-3.03	-217.93	217.95	205.09	12.87	. 16.937		
2,000.00	2,000.00	1,994.27	1,994.18	6.95	6.64	-90.93	-3,51	-217.45	217.49	9 203.91	13,58	16.016		
2,100.00	2,100.00	2,095,35	2,095,25	7.30	6,98	-90.83	-3.13	-216.05	216.10	201.82	14,28	15.129		
2,200.00	2,200.00	2,195.40	2,195.28	7.66	7.33	-90.72	-2.69	-214.55	214.59	9 199.60) 14,99	14.319		
2,300.00	2,300.00	2,294.41	2,294,28	8.02	7,67	-90.65	-2.42	-213.18	213.21	197,52	15.69	13.591		
0.400.00	0.400.00	0.004.00	0.004.44	0.00	0.04	00.07	a (a	040.00	040.07		40.00	40.070		
2,400.00	2,400.00	2,394.32	2,394.19	8.38	8.01	-90.67	-2,48	-212.22	212.25	J 195.60	0 10,35	12.949		
2,500.00	2,500.00	2,493.63	2,493.50	8.74	8.36	-90.82	-3.01	-211.29	211.31	1 194.22	: 17.10	12,360		
2,600.00	2,600.00	2,592.37	2,592.22	9.10	8.71	-91.04	-3.82	-210.86	210.90	J 193.09	17.80	11.847		
2,700.00	2,700.00	2,692.34	2,692.20	9.45	9.06	-91.33	-4.90	-210.78	210.84	+ 192.33	18,51	11.390		
2,800.00	2,800.00	2,794.45	2,794.29	9.81	9.42	-91.69	-6.19	-210.18	, 210.28	3 191.06	9 19.23	10.937		
2 900 00	2 900 00	2 897 22	2 897 02	10 17	9.78	-92.24	_A14	-208 32	208 54	188.50	10.04	10 457		
3,000,00	3 000.00	2 907 09	2,007.02	10.17	10 12	-92.24	-0,70	-200.32 -205 64	200.54	5 185.30) 20.65	9 972		
3 100 00	3 100 00	3 098 57	3 098 28	10.00	10.13	-93.09	-9.79	-203,04	200.00	3 181 72	2136	9 506		
3 200 00	3 200 00	3 100 52	3 199 16	11 25	10.40	-93.61	-17 44	-100 03	100.00	177 49	21.00	9 041		
3 300 00	3 300 00	3 207 41	3 296 98	11.20	11 18	-93.01	-13.59	-195.03	196.44	. 173.40 I 173.66	. <u>22.0</u> 7 22.79	8.622		
3,300,00	0,000,00	3,237,4	0,200,30	11.01	11,10	-33.31	-13.33	-100.01	100.44	. 175.00	22.10	0.022		
3,400.00	3,400.00	3,395.36	3,394.91	11.96	11.53	-94.00	-13.56	-193.99	194.48	3 170.99	23.49	8.280		
3,500.00	3,500.00	3,494.73	3,494.27	12.32	11.88	-93,90	-13,14	-192,79	193.25	5 169.06	24.20	7.987	•	
3,600.00	3,599.95	3,594.68	3,594.21	12.67	12.23	-94.00	-12.78	-191.63	189.52	164.62	24.90	7.612		
3,700.00	3,699.63	3,694.29	3,693.82	13.02	12.58	-94,51	-12.47	-190.45	180.71	155.12	25.59	7.062		
3,800.00	3,798.77	3,793.26	3,792.78	13,37	12.93	-95.59	-12.34	-189.26	166.88	3 140.60	26.28	6.350		
3,833.29	3,831.61	3,826.10	3,825.62	13.49	13.04	-96.13	-12.36	-188.85	161.19	134.68	26.51	6.080		
3,900.00	3,897.30	3,892.01	3,891.53	13.73	13.28	-97.38	-12.39	-187.94	149.17	122.20	26.97	5.531		
4,000.00	3,995.78	3,990.57	3,990.07	14.09	13.62	-99.76	-12.53	-186.29	131.07	103.41	27.66	4,739		
4,100.00	4,094.26	4,088.35	4,087.84	14.45	13.97	-103.03	-12,96	-184,60	113,27	84.92	28.35	3,995		
4,200,00	4,192.74	4,186,58	4,186.05	14,83	14,32	-107.59	-13.59	-183.05	96,18	67.12	29.05	3,310		
4,300.00	4,291.22	4,284,97	4,284.42	15.20	14.67	-114.15	-14.27	-181.30	79,79	50.03	. 29.76	2.681		
4,400.00	4,389,70	4,382,87	4,382.30	15.58	15,02	-123.70	-14.76	-179.65	64.96	34.46	30.50	2.130		
4,500,00	4,488.18	4,481,12	4,480.54	15,97	15,37	-138.04	-15.26	-178,19	53.03	21.77	31,27	1.696		
4,600.00	4,586.67	4,579,30	4,578,71	16,35	15,72	-158,49	-15.72	-176.72	46.00	13.94	32,06	1.435	Level 3	
4,647.60	4,633.54	4,626.04	4,625.45	15.54	15.88	-169.69	-15.93	-176.08	45.12	12.70	32.42	1.392	Level 3, CC, ES, SF	
4,700.00	4,685.15	4,677.56	4,676.97	16.75	16.07	1/8.24	-16,14	-175.55	45.14	13.34	32,80	1.407	Level 3	
	·	CC -	Min centr	e to cente	r distanc	e or cover	gent point, SI	F - min se	paration f	factor, ES	6 - min elli	pse separ	ation	

7/26/2016 1:41:02PM

Page 11



	CC - Min centre to center	distance or covergent point,	SF - min separation fac
PM	•	Pag	e 12

Warning

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Separation

Factor

1.588

1 901

2.279

2.683

3 095

3.504

3,912

4.312

4 707

5.085

5.450

5.802

6.142

6.459

6.719

6.894

6.986

7.068

7.177

7.321

7.487

7.492

7 613

7.659

7.621

7.581 7.497

7 349

7.210

7.143

7 123

7.164

7.369

7.751

8.361

9.080

9.949

11,288

13.039

15 084

17.385

20 253

23.283

26.680

29.981

34.042

38.273

42.021

45.701

50.079

54 477

58.867

Centres ' Ellipses Separation

19.67

30.74

44.45

59.63

75.64

92.13

109 17

126.47

144.12

161.73

179.31

196.87

214.47

231.67

247.05

258.91

267.06

275.00

284.26

295.27

307.44

307.83

317.92

324.58

327.19

326.91

325.67

322.83

319.98

318.85

319.04

323.52

335.33

353.48

380.89

415.52

454,46

502.54

559 35

623.36

693.52

769.11

848.41

931.04

1,016.02

1,103.37

(usft)

33 46

34.11

34,76

35.43

36.11

36.80

37.49

38.18

38.88

39.59

40.29

41.00

41.71

42.44

43.20

43.93

44.62

45.32

46.02

46.71

47 40

47.42

48.08

48.74

49.42

49.68

50.12

50.84

51,53

51.90

52 11

52.49

52.65

52.36

51.74

51.43

50.79

48.84

46 46

44 26

42.33

39.95

38.07

36.26

35.06

33.39

32.00

31.26

30,73

29.87

(üsft) (usft)

53 13

64.85

79.21

95.06

111.75

128.93

146.65

164.65

183.00

201.32

219,61 237 87

256.17

274.11

290.24

302.83

311.67

320.32

330.28

341.97

354.83

355.25

366.00

373.32

376.61

376.58

375.79

373.68

371.51

370.75

371.15

376.01

387.97

405.84

432.63

466.95

505,24

551.38

605.81

667.62

735,84

809.06

886.48

967.29

1,051.08

1,136.77

. .

1

Measured Vertical

Depth

(usit)

4,800.00

4,900.00

5.000.00

5 100 00

5,200.00

5,300.00

5.400.00

5,500.00

5 600 00

5,700,00

5,800.00

5,900.00

6,000.00

6.100.00

6.200.00

6,300.00

6,400.00

6,500.00

6.600.00

6.700.00

6,799,99

6.803.19

6,900.00

7,000,00

7.100.00

7.136.49

7.200.00 7,300.00

7,400.00

7.460.46

7.500.00

7,600.00

7 700 00

7.800.00

7,900.00

8.000.00

8.100.00

8,200.00

8 300 00

8,400.00

8.500.00

8,600.00

8,700.00

8.800.00

8,900.00

9,000.00

9.100.00

9,200,00

9,300.00

9,400,00

9 500 00

9,600,00

Depth

(usft)

4,783,63

4,882,11

4,980,59

5 079.07

5,177.55

5,276.03

5.374.51

5,473.00

5 571 48

5,669.96

5.768.44

5.866.92

5.965.40

6.063.88

6.162.36

6.260.84

6.359.33

6.457.81

6,556.29

6.654.77

6,753.24

6.756.40

6,852.12

6,951.63

7.051.52

7.088.00

7.151.51

7,251.51

7.351.51

7.411.97

7.451.51

7,551.51

7 651 51

7.751.51

7.851.51

7.951.51

8,051.51

8,151,51

8 251 51

8,351.51

8.451.51

8,551.51

8,651.51

8 751.51

8,851.51

8,951,51

9.051.51

9.151.51

9,251,51

9.351.51

9,451,51

9,551.51

Measured Vertical -

· Depth 5

(usft)

4 775,17

4,873.48

4,971.70

5.069.94

5,168.20

5,266.42

5,364.25

5,462.47

5,560,29

5,658.98

5.757.32

5.855.68

5,954,15

6.055.11

6.161.15

6,273.79

6.378.29

6.475.10

6,568.87

6 662 63

6,759.82

6 762 95

6,855,81

6.949.27

7.047.10

7.084.15

7.148.94

7,252.89

7.350.53

7.403.97

7.435.86

7,512.75

7 586 14

7,650,16

7,709.53

7.774.76

7.831.83

7,863.48

7 885 78

7,906.39

7,925.02

7,932.77

7,941.95

7.947.36

7,956,17

7,956.17

7.956.17

7.961.83

7,967,51

7.967.51

Depth

(usft)

4 775 77

4,874.09

4,972,32

5.070.56

5,168.83

5,267.06

5.364.90

5,463.13

5 560 96

5,659.67

5.758.02

5.856.39

5.954.88

6.055.90

6.162.11

6,275.08

6,380.00

6,477.16

6,571.20

6 665 21

6,762.63

6 765 76

6,858,81

6,952,37

7.050.23

7.087.29

7.152.08

7,256.08

7.353.76

7,407.26

7.439.29

7,517.60

7 593 89

7.662.00

7,727.56

7.803.86

7,873.58

7,915,00

7 946 00

7,977.00

8.008.00

8,022.05

8,040.00

8 051.42

8,072.00

8,072.00

8.072.00

8.086.95

8,104,00

8.104.00

Reference Offset

(usit)

17 14

17,54

17 94

18.34

18.75

19.15

19.56

19.97

20.39

20.80

21.22

21.64

22,06

22.48

22.90

23.32

23.75

24.17

24.60

25.03

25.46

25 47

25.87

26.26

26.61

26.74

26.95

27.28

27.62

27.82

27.95

28.29

·28.62

28 96

29.29

29.63

29,97

30,31

30.65

30.99

31.33

31.67

32.01

32.35

32,69

33.03

33,37

33.71

34,06

34,40

(usft)

16 42

16.77

17.12

17.47

17.82

18.17

18.52

18.87

19.21

19.57

19.92

20.27

20.62

20.97

21.34

21.72

22.08

22.40

22.72

23.03

23.37

23.38

23,69

24.01

24.35

24.48

24.70

25.06

25.39

25.58

25.69

25.97

26.23

26.48

26.71

27.00

27.27

27.43

27.56

27.69

27.82

27.88

27.96

28.01

28,10

28,10

from North

0

158 50

144,44

135 05

128.70

124.25

120.93

118.45

116.64

115.22

114.03

113.05

112 27

111,71

111.60

112.02

112.63

112.62

111.97

110.89

109.60

108.28

108 23

107.15

106.40

105.99

105.92

105.99

106.34

106.66

106.97

107 42

109.58

112 42

115 40

118.59

122.83

126.99

129.60

131 55

133.51

135.46

136.34

137.47

138.18

139,43

139,43

+N/-S

(usft)

.

-16 56

-16.98

-17.38

-17.86

-18.41

-18:88

-19.57

-20.64

-21.88

-23.01

-24.10

-25.34

-27,08

-30.31

-35.31

-39.87

-40.15

-37.30

-32.46

-26.63

-20,30

-20 10

-14.52

-10.42

-7.97

-7.49

-7.71

-9.27

-10.70

-12.38

-15.30

-29.77

-50.53

-73.61

-101.01

-140.23

-180.23

-206.93

-228 46

-251.60

-276.36

-288.09

-303.50

-313.57

-332.16

-332.16

+E/-W.

(usft)⁶

-174 62

-173.50

-172.37

-171.27

-170.20

-169.10

-167.87

-166.77

-165.51

-164.32

-163.23

-162 28

-161.54

-161.77

-164.75

-172.02

-181 37

-188.99

-194.25

-197.54

-199.82

-199.69

-201.66

-202.73

-203.25

-203.50

-204.41

-207.14

-209.77

-211.01

-211 57

-212.53

-210.91

-208.84

-204,41

-199.77

-199.20

-199.62

-199 71

-199.63

-199.39

-199,30

-199.28

-199.28

-199.22

-199.22

28.10 139.43 -332.16 -199.22 1,224,62 1.192.63 -198.99 28.17 140.31 -345.991.313.77 1.282.50 28,25 141,26 -362,05 -198.32 1,404,54 1,373.81 28.25 141.26 -362.05 -198.32 1.495.97 1.466.10

1,559.28 8.104.00 7.967.51 34 74 28.25 141 26 -362.05-198.32 1 588 44 29.16 8,104.00 7,967,51 35.09 28.25 141.26 -362.05 -198.32 1,681.76 1,653.20 28.57

tor, ES - min ellipse separation





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An	ticol	lision	кер	no

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Company:	WPX Energy	Local Co-ordinate Reference:	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum
	tumer e e e	A Anna I A Anna I	·• · · · · · · · · · · · · · · · · · ·

Öffset D Survey Pro	esign gram: 181	RDX F	ederal 1	7 - 25H - V	Velibore	#1 - Surve	ys		<u> </u>	;	 ۳۰	پسو م •	Offset Site Error: Offset Well Error:	0.00 usft
Rofer	ence ""	"Offs	el'	" Semi Majo	r Axis ····		Offent Walls	s	Dist	ance: '_ ^	Minimium	Senaration	مسیر (م به مربع مربع م ه مستدانه	
neasured Depth	vertical Depth	Depth	Depth		Unset	from North	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor ,	warning	· · · · ›
: (usft)	. (usit)	(usft)	(usft) "	, (usft) ⊊	, `(uşft) , <u>`</u>	(), (°),	, (usft), ~	`(usft) ≪ α₽/iii.d	(usft)	(usft) j	(usft)		Sec. 11-	· .
9,700.00	9,651.51	8 116.72	7,971.28	35.43	28.31	141.94	-374.18	-197.56	1,775.59	1.747,23	28.35	62.617		
9,800.00	9,751,51	8,122.13	7,972.79	35.78	28.33	142,21	-379.36	-197.18	1,870.03	1,841.97	28,06	66.647		
9,900,00	9,851,51	8,135.00	7,976.13	36.12	28.39	142,84	-391.74	+196.11	1,965.03	1,937.06	27,97	70.251		
10,000.00	9,951.51	8,135.00	7,976.13	36.46	28.39	142.84	-391.74	-196.11	2,060.30	2,032.60	27.70	74.392		
10,100.00	10,051.51	8,135.00	7,976.13	36.81	28.39	142.84	-391.74	-196.11	2,155.99	2,128.51	27,48	78.453		
10,200.00	10,151.51	8,135.00	7,976.13	37.16	28.39	142.84	-391.74	-196,11	2,252.06	2,224.74	27.32	82.426		
10,300.00	10,251.51	8,135.00	7,976.13	37.50	28.39	142.84	-391.74	-196.11	2,348.46	2,321.25	27.21	86.305		
10,400.00	10,351.51	8,135.00	7,976.13	37.85	28.39	142.84	-391.74	-196.11	2,445.15	2,418.00	27.14	90.086		
10,500.00	10,451.51	8,149.43	7,979.45	38.19	28.46	143.52	-405.71	-194.75	2,541.79	2,514.48	27.31	93,074		
10,600,00	10,551,51	8,152.24	7,980.04	38.54	28.47	143.65	-408.45	-194.48	2,638,83	2,611.50	27.34	96,525		
10,700.00	10,651.51	8,167.00	7, 98 2.81	38.89	28.54	144.30	-422.87	-192.97	2,736.28	2,708.73	27.55	99.336		
10,800,00	10,751 <i>.</i> 51	8,167.00	7,982.81	39.23	28.54	144.30	-422.87	-192.97	2,833.61	2,806.03	27,58	102.724		
10,900,00	10,851.51	8,167.00	7,982.81	39.58	28.54	144.30	-422.87	-192.97	2,931.13	2,903.48	27,65	106.013		
11,000,00	10,951.51	8,167.00	7,982.81	39.93	28.54	144.30	-422.87	-192.97	3,028,80	3,001.07	27.74	109.204		
11,100.00	11,051.51	8,167.00	7,982.81	40.27	28,54	144,30	-422.87	-192,97	3,126.63	3,098.78	27.84	112.296		
11,133,31	11,084.82	8,167.00	7,982.81	40.39	28.54	144.30	-422.87	-192.97	3,159,24	3,131.36	27.88	113.305		
11,150.00	11,101.51	8,167.00	7,982.81	40.44	28.54	144.29	-422.87	-192.97	3,175,54	3,147.64	27.90	113.817		
11,175.00	11,126.46	8,167.00	7,982.81	40.52	28.54	144.21	-422.87	-192.97	3,199.73	3,171.82	27.92	114.607		
11,200.00	11,151.30	8,167.00	7,982.81	40.60	28.54	144.06	-422.87	-192.97	3,223.62	3,195.69	27.93	115.421		
11,225.00	11,175.95	8,167.00	7,982.81	40.68	28.54	143.84	-422.87	-192.97	3,247.15	i 3,219.22	27.93	116.252		
11,250.00	11,200.35	8,167.00	7,982.81	40.75	28.54	143,55	-422.87	-192.97	3,270.25	3,242.32	27.93	117.100		
11,275.00	11,224.44	8,167.00	7,982.81	40.83	28.54	143.19	-422.87	-192.97	3,292.87	3,264.96	5 27.91	117.961		
11,300.00	11,248.15	8,167.00	7,982.81	40.90	28.54	142.75	-422.87	-192.97	3,314.97	3,287.07	27,90	118.833		
11,325.00	11,271.40	8,167.00	7,982.81	40,96	28.54	142.23	-422.87	-192,97	3,336,49	3,308.62	27.87	119.712		
11,350.00	11,294.15	8,167.00	7,982.81	41.03	28.54	141.62	-422.87	-192.97	3,357.35	3,329.55	5 27.84	120.595		
11,375.00	11,316.32	8,167.00	7,982.81	41.09	28.54	140.93	-422.87	192.97	3,377.61	3,349.81	27.80	121.479	•	
11,400.00	11,337.86	8,167.00	7,982.81	41.15	28,54	140.14	-422.87	-192.97	3,397.13	3,369.37	27.76	122.360		
11,425.00	11,358,70	8,167.00	7,982.81	41,21	28,54	139.26	-422.87	-192.97	3,415.89	3,388.17	27.72	123.236		
11,450.00	11,378.80	8,179.85	7,984.78	41.26	28,60	139.01	-435.49	-191.64	3,433.62	3,405.84	27.78	123.602	•	
11,475.00	11,398.09	8,181.66	7,985.02	41.31	28.61	138.05	-437.28	-191.45	3,450.69	3,422.95	27.74	124.390		
11,500.00	11,416.51	8,194.00	7 ,98 6.45	41.36	28.67	137.63	-449,47	-190,18	3,467.04	3,439.25	27.79	124.777		
11,508.31	11,422.44	8,194.00	7,986.45	41.37	28.67	137.23	-449.47	-190.18	3,472.20	3,444.44	27.76	125.064		
11,599,98	11,487.26	8,194.00	7,986.45	41.53	28,67	132.26	-449.47	-190.18	3,529.35	3,501.75	27.60	127.869		
11,608.31	11,493,15	8,194.00	7,986.45	41,55	28,67	131,76	-449.47	-190.18	3,534.61	3,507.02	27.59	128,115		
11,625.00	11,504,74	8,194,00	7,986,45	41.58	28,67	130,73	-449.47	-190,18	3,544.97	3,517.41	27.56	128.605		
11,650.00	11,521,31	8,194.00	7,986.45	41.62	28.67	129.04	-449,47	-190.18	3,559,72	3,532.20	27,53	129.326		
11,675.00	11,536.87	8,194.00	7.986.45	41.67	28.67	127.20	-449.47	-190.18	3,573,52	3,546.04	27.48	130.019		
11,700.00	11,551.38	8,194.00	7,986.45	41.71	28.67	125.17	-449.47	-190.18	3,586.35	3,558.91	27.44	130,674		
11,725.00	11,564.81	8,194.00	7,986.45	.41.75	28.67	122.97	-449.47	-190.18	3,598.18	3,570.77	27.41	131.287		
11,750.00	11,577.12	8,208.52	7,987.72	41.79	28.74	122.07	-463.86	-188.78	3,608.79	3,581.33	27.46	131.412		
11,775.00	11,588.27	8,211.91	7,987.96	41.83	28.76	119.93	-467.23	-188.47	3,618.45	3,591.01	27.45	131.839		
11.800.00	11.598.24	8,225.00	7.988 72	41.87	28.82	118.72	-480.25	-187.38	3,627.12	3,599,63	27.49	131.947		
11,825.00	11,606.99	8,225.00	7,988.72	41.92	28.82	115.92	-480.25	-187.38	3,634.55	3,607.09	27.46	132.375		
11,850.00	11,614.51	8,225.00	7,988.72	41.96	28.82	112.92	-480.25	-187.38	3,640.89	3,613.46	27.43	132.741		
11,875.00	11,620,76	8,225,00	7,988.72	42.01	28.82	109,73	-480.25	-187,38	3,646.12	3,618.71	27.41	133,041		
11,900.00	11,625.75	8,225.00	7,988.72	42.06	28.82	106.37	-480,25	-187,38	3,650,24	3,622.85	27,39	133.273		
11 025 00	11 620 44	8 275 00	7 0 20 70	40.40	70 07	100.96	400 DE	107 70	7 653 74	3 635 64	37.50	133 433		
11,925.00	11,029,44	8,225.00 8 335 00	7,968.72	42.12	28.82	102,86	-460.25	-187.38	3,003.24	3,625.86	27.38	133.433		
11,950,00	11 637.03	0,225.00 8 259 60	7,966.72	42.18	20.82	99.22 100.40	-46U.25	107.30	3,000.11	3,027.74	21.30	133,319		·
11 093 31	11 633 00	6,200.0U 8 261 22	7,909,98 7,909,98	42,24	29.00 29.01	00,40 00 KR	-516.74	-104.03	3,000,37	3,627,74	21.03	132.707		
12.000.00	11.633.00	8,266.52	7,990.19	42.21	29.04	97.87	-571.60	-183.95	3,655.02	3.627.45	27.57	132.573		
.2,000.00		0,200.02	1,000.10	42.01	20.04	01.007	041.00		01000.04	-,- <u>-</u> ,-	2			
12,070.68	11,633.00	8,288.89	7,990.57	42.53	29.16	90.62	-543.88	-181.96	3,654.45	3,626.74	27.71	131.886		
		<u> </u>	Min cent	re to cente	r distan	ce or cover	aent point. S	F - min eo	naration f	actor ES	- min elli	nse senar	ation	

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Microsoft



Anticollision Report

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Company:	WPX Energy	Local Co-ordinate Reference:	Weil 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well: 🕠	35H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Conroe
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum
and the second	a a construction and the second se	والمراجع والمستحجية المراجع المراجع المراجع المتركب	· · · · · · · · · · · · · · · · · · ·

Offset D	esign	RDX F	ederal 17	- 25H - V	Vellbore	#1 - Surve	eys		· · · · ·				Offset S	ite Error:	0.00 usft
Survey Pro	gram: 181	i-MWD					T D	· · · ·	2.2.2.1		• . • ·		Offset W	ell Error:	0.00 usfi
Refer	ence" ····	Offs	el 👘 👘	Semi Major	Axis 🧭	••• `,•• ··	ما میں وسی میں اور		i Dista	ince 🖅 🤲	چېد، مد	د. و معان بی مساحی ۲	5 S. S. S.	- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19	العد ماتية ب.
Measured	Vertical	Measured	Vertical,	Reference	Offset	Azimuth	Offset Wellbor	re Centre	Between	Between	Minimum	Separation	•	Warning	
Depth	Depth	Depth	Depth	110 41	(11841)	Irom North	+N/-S	+E/-W	Centres	Ellipses	Separation	~ Factor		,	· ·
(usn)	(usit)	(usij)	(usn)	(usn)	(usit)	. 01	(usit)	(usn)	• (usit)	(usit)	(usit)		e.	•	•
12,100.00	11,633.00	8,320.00	7,990.63	42.63	29.33	90.86	-574,85	-179.02	3,654.70	3,626.83	27.86	131.175			
12,106,79	11,633.00	8,320.00	7,990.63	42.65	29.33	89.85	-574.85	-179.02	3,654.69	3,626.82	27.87	131,136			
12,200.00	11,633.00	8,341.77	7,990.44	43.01	29.46	79,38	-596.52	-176,92	3,655.79	3,627.67	28.12	130,026			
12,300.00	11,633.00	8,415.00	7,989.38	43.46	29.90	75.78	-669.44	-170.33	3,658.15	3,629.52	28.63	127.776			
12,400.00	11,633.00	8,476.65	7,987.82	43,97	30.33	70.82	-730.91	-165.93	3,661.41	3,632.24	29.17	125.512			
12,500.00	11,633.00	8,541.65	7,985.32	44.53	30.79	66.56	-795,81	-163,32	3,665.64	3,635.86	29.77	123,116			
12 600.00	11 622 00	8 824 21	7 079 19	45 15	22.22	02 72	1 098 17	160.01	3 660 02	3 637 51	31 51	116 438			
12,000.00	11 622 00	9 044 90	7 070 92	45.15	34.20	92.72	-1,000.17	-150.01	3,603.02	3 635 56	32.51	112 8/3			
12,700.00	11,653.00	9,944.00	7 980 66	45.05	35.06	94.12 00.80	-1,130.45	-150.42	3,667,52	3 634 20	32.31	110.058			
12,000.00	11 633 00	9.021.20	7 980 80	46.33	35.00	89.85	-1,274,75	-149 21	3 667 50	3 633 98	33.52	109 417			
12,020.00	11 633 00	9.078.00	7 981 11	47 31	35.65	84.83	-1 331 38	-145.61	3 667 77	3 633 71	34.06	107 679			
12,300.00	11,000.00	0,070.00	1,001.11		00.00	01.00	1,001.00	110.01	0,007.77	0,000,71	01.00	101.070			
, 13,000.00	11,633.00	9,136.42	7,981.08	48.13	36.28	79.33	-1,389.45	-139.17	3,669.18	3,634,31	34.87	105.233			
13,100.00	11,633.00	9,192.29	7,980.27	48.98	36.90	73.86	-1,444.88	-132.22	3,672.00	3,636,30	35,70	102.861			
13,200.00	11,633.00	9,285.48	7,978.34	49.88	37.97	73.37	-1,537.19	-119.63	3,675.64	3,638.83	36,81	99.858			
13,300.00	11,633.00	9,435,54	7,976,87	50.81	39.75	79.77	-1,686,08	-101.01	3,677.92	3,639.58	38.34	95.929			
13,400.00	11,633.00	9,491.18	7,976.07	51.78	40.43	74.65	-1,741.44	-95.59	3,680.64	3,641.38	39.25	93.766			
1			w												
13,500.00	11,633.00	9,551.00	7,974.02	52.78	41.17	70.31	-1,801.03	-90.72	3,684.88	3,644.66	40.22	91,618			
13,600.00	11,633.00	9,655.53	7,969.88	53.81	42.49	71.05	-1,905.15	-82.57	3,689.81	3,648.31	41.50	88.903			
13,700.00	11,633.00	9,790.48	7,965.57	54.88	44.24	75.10	-2,039.76	-73.96	3,693.79	3,650.77	43.02	85.863			
13,800.00	11,633.00	9,922.24	7,962.21	55.97	45.98	78.74	-2,171.37	-68.89	3,696.79	3,652.26	44.53	83.013			
13,900.00	11,633.00	10,037.51	7,959,59	57.09	47.52	80.48	-2,286.60	-67.36	3,699,18	3,653.24	45.94	80.519			
14 000 00	11 633 00	10 071 22	7 958 43	58 24	47 97	73 17	-2 320 29	-67.20	.3 702 30	- 3 655 50	46.80	79 116			
14,000,00	11 633 00	14 100 00	7 95/ 05	59.24	103 32	73.17	-2,320.29	-65.92	3 706 77	3 630 01	76.76	48 292			
14 200 00	11 633 00	10 295 97	7 950 80	50.60	51.07	75.96	-2,422,00	-61.51	3 709 74	3 660 07	49.67	74 690			
14,200.00	11,633,00	10,200.07	7 948 36	61.82	52.47	75.90	-2,643 32	-54 17	3 713 16	3 662 10	51.06	72 715			
14 400 00	11 633 00	10 485 41	7 946 05	63.05	53 77	75.14	-2 733 66	-47 73	3 716 62	3.664.21	52 41	70.912			
1.1.100.00	11,000.00	10,400.47	1,040.00	00.00	00.77	10.14	-2,100.00		0,710.02	0,001,21	V- , i				
14,500.00	11,633.00	10,573.58	7,943.39	64.30	55.04	74.03	-2,821.64	-42.58	3,720.39	3,666.64	53.75	69.221	,		
14,600.00	11,633.00	10,660.19	7,940.43	65.57	56.30	72.78	-2,908.07	-37.93	3,724.49	3,669.41	55.08	67.621			
14,700.00	11,633.00	10,838.42	7,935.92	66.86	58.91	81.07	-3,085.93	-28.26	3,727.73	3,670.60	57.13	65.253			
14,800.00	11,633.00	11,002.67	7,934.89	68.16	61.35	87.96	-3,249.91	-19.16	3,729.13	3,670.03	59.10	63.094			
14,900.00	11,633.00	11,148.39	7,935.70	69.48	63.52	92.80	-3,395.54	-14.13	3,729.07	3,668.14	60,93	61.199			
15 000 00	11 000 00		7 007 07	70.0-	101.00		2 + + 0 00		7 767	2 000					
15,000.00	11,633.00	15,000.00	7,937.35	70.81	121.28	94.40	-3,510,93	-11.51	3,727.93	3,636.49	91,43	40.773			
15 100 00	11 623 00	11,301.00	7.037.03	71.91	.03.83	89.85	-3,548./2	-9.75	3,727.44	3,004.05	63.35	. 08.803 E9.647			
15 200 00	11 622 00	11,310,41	7 937 99 7 937 99	72.10	00.90	00./9 00.50	-3,337/.40	-9.29	3,121,40	3,003,07	03,55 64,64				
15 300.00	11 633 00	11,350.00	7 037 10	73,52	67.22	02.02 77.50	-3,390,97	-0.83	3,720.05	3,003.80	65 73	56 761			
13,300.00	11,033.00	11,588,71	7,837.18	74.05	07,32	11,00	-3,040.33	-3,31	3,750,80	3,003,22	00,70	30.701			
15,400.00	11,633.00	11,446.00	7,935.79	76.27	68.03	72.38	-3,692.70	0.04	3,734.95	3,668.12	66.83	55,890			
15,500.00	11,633.00	11,529,56	7,932.45	77.66	69,31	71,01	-3,775,98	6,02	3,739.93	3,671.70	68.23	54,813			
15,600,00	11,633.00	11,619,47	7,928.69	79.06	70.70	70.28	-3,865.55	12.86	3,745.19	3,675.49	69.70	53.735			
15,700,00	11,633.00	11,685.10	7,925.66	80.48	71.72	67.42	-3,930.88	18.18	3,750.98	3,680.01	70.97	52.851			
15,800.00	11,633.00	12,047.87	7,920.05	81.90	77.38	92.22	-4,292.36	45.97	3,753.34	3,678.58	74,76	50.205			
			·						•						
15,888.56	11,633.00	12,112.00	7,921.28	83,16	78.39	89.87	-4,356.22	51,78	3,752.95	3,676.97	75.98	49.397			
15,900.00	11,633.00	12,112.00	7,921.28	83.33	78.39	88.79	-4,356.22	51.78	3,752.97	3,676.91	76.06	49.342			
16,000.00	11,633.00	12,162.59	7,921.67	84.76	79.19	84.16	-4,406.59	56.36	3,753.78	3,676.53	77.25	48.593			
16,100.00	11,633,00	12,208.00	7,921,20	86.21	79.91	79.19	-4,451.81	60.48	3,756.19	3,677.79	78.39	47.915	,		
16,200.00	11,633.00	12,297,80	7,919,33	87,66	81,33	78,38	-4,541,30	67,74	3,759,52	3,679.61	79,92	47.041			
10 200 00	44 000 00	10 1 10 01	7 042 02	00.45	66 6 -	00 TC	1 000 00		0 700 / 0			45 047			
16,300.00	11,633.00	12,446,01	7,916.90	89.12	83,67	82.78	-4,689,20	77.02	3,762.10	3,680.16	81.93	45.917			
16,400,00	11,633.00	12,542.00	7,916,32	90.59	05.19	62.48	-4,784.84	85.08	3,764,08	3,080.54	83,54	45.060			
10,409.56	11,033.00	12,542,00	7,916.32	91.61	03,19	/6.44	-4,/84,84	85.08	3,700.25	3,082.18	64.05	44.803			

WPXENERGY.	Microsoft Anticollision Report	WWW.MSENERGYSERVICES.COM			
Company: WPX Energy	Local Co-ordinate Reference:	Weil 35H			
Project:	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)			
Reference Site: RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)			
Site Error: , '0.00 usft	North Reference:	Grid			
Reference Well: 35H	Survey Calculation Method:	Minimum Curvature			
Well Error: 0.00 usft	Output errors are at	2.00 sigma			
Reference Wellbore Wellbore #1	Database:	EDM Conroe			
Reference Design: 🔮 Design #1	Offset TVD Reference:	Offset Datum			

Reference Depths are relative to WELL @ 3098.00usft (Orion Phoenix)Coordinates are relative to: 35HOffset Depths are relative to Offset DatumCoordinate System is US State Plane 1983, New Mexico Eastern ZoneCentral Meridian is 104° 20' 0.000 WGrid Convergence at Surface is: 0.23°



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

WPXENER	RGY.	Microsoft Anticollision Report	Energy Services.
Company:	WPX Energy	Local Co-ordinate Reference	Well 35H
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Reference Site:	RDX Federal 17	MD Reference:	WELL @ 3098.00usft (Orion Phoenix)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	35H	Survey Calculation Method:	' Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	, EDM Conroe
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

 Reference Depths are relative to WELL @ 3098.00usft (Orion Phoenix)Coordinates are relative to: 35H

 Offset Depths are relative to Offset Datum

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

 Central Meridian is 104° 20' 0.000 W

Grid Convergence at Surface is: 0.23°





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GE Dilt Gas multi-bowl wellhead

System Drawing



GE Imagination At Work

RKI Exploration & Production 13-3/8" x 8-5/8" x 5-1/2" x 2-7/8" 5M LSH Wellhead Assembly With T-EBS Tubing Head RP-1998 Page 1 GE ©2011 - All Rights Reserved



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RKI Exploration and Production 3817 N. W. Expressway, Suite 950 Oklahoma City, OK. 73112

Closed Loop System

Design Plan

Equipment List

- 2-414 Swaco Centrifuges
- 2-4 screen Mongoose shale shakers
- 2-250 bbl. tanks to hold fluid
- 2-CRI Bins with track system
- 2-500 bbl. frac tanks for fresh water
- 2-500 bbl. frac tanks for brine water

Operation and Maintenance

- Closed Loop equipment will be inspected daily by each tour and any necessary maintenance performed
- Any leak in system will be repaired and/or contained immediately
- OCD notified within 48 hours
- Remediation process started

Closure Plan

During drilling operations, all liquids, drilling fluids and cuttings will be hauled off via CRI (Controlled Recovery Incorporated). Permit #: R-9166.

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SURFACE USE PLAN

RKI Exploration & Production, LLC RDX Federal **Cons** 17-35H Surface Hole: 150' FNL & 895' FWL Bottom Hole: 300 FSL & 660' FWL Section 17, T. 26 S., R. 30 E Eddy County, New Mexico

This plan is submitted with form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

- A. DIRECTIONS: Go south of Carlsbad, NM, on Highway 285, for 30 miles. Turn east onto the Longhorn road (County Road 725) for 12.6 miles. Turn east on lease road for 1.7 miles. Turn north 0.6 miles to RDX 17-5 and turn west for 0.5 mile to the RDX Fed 17-12H & 25H well. The access will be off this pad. All existing roads are either paved or a caliche lease road.
- B. See attached plats and maps provided by WTC Surveys.
- C. The access routes from Eddy County Road 725 to the well location is depicted on **Exhibit A.** The route highlighted in red has been authorized under a ROW permit.
- D. Existing roads on the access route will be improved and maintained to the standard set forth in Section 2 of this Surface Use Plan of Operations.
- E. A right-of-way (ROW) was obtained in September of 2010 to access this well and other leases within the RDX and RDU field.

2. NEW OR RECONSTRUCTED ACCESS ROADS:

- A. No new access will be required. The access will begin at the southwest corner of the proposed well location, which will be on the southeast corner of the existing RDX Fed 17-12H & 25H well pad.
- B. The maximum width of the driving surface will be 14 feet. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

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- C. Surface material will be native caliche. The average grade of the entire road will be approximately 3%.
- D. Fence Cuts: No
- E. Cattle guards: No

- F. Turnouts: No
- G. Culverts: No
- H. Cuts and Fills: Not significant
- I. Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
- J. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.
- K. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: <u>Surface Operating Standards for Oil and Gas Exploration and Development. The Gold Book,</u> <u>Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on</u> projects subject to federal jurisdiction.
- 3. LOCATION OF EXISTING WELLS:

See attached map (Exhibit B) showing all wells within a one-mile radius.

- 4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
 - A. In the event the well is found productive, a TANK BATTERY, will be constructed on the south portion of the pad. (SEE EXHIBIT C). The company also proposes to install a buried 6" gas line to the gas lateral line, and a 4" surface poly SWD line to the existing RKI SWD line next to the gas lateral line (both tie-in just south of the RDX Fed 17-12H & 25H well). Gas line will be 260 ft. and SWD will be 280 ft. in length. The SWD line will be 90 psi and gas line 125 psi. Power is in place (12.5 KV) and one pole for 50' will be installed. (SEE EXHIBIT E).
 - B. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted to BLM specifications.
 - C. Containment berms will be constructed completely around production facilities designed to hold fluids. The containment berns will be constructed or compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas.

5. LOCATION AND TYPE OF WATER SUPPLY:

The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck using the existing and proposed roads shown in the attached survey plats. If a commercial water well is nearby, a temporary, surface poly line, will be laid along existing roads or other ROW easements and the water pumped to the well. No water well will be drilled on the location.

6. SOURCE OF CONSTRUCTION MATERIALS:

Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from Federal lands without prior approval from the appropriate surface management agency. All roads will be constructed of 6" rolled and compacted caliche.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.
- B. Drilling fluids will be contained in steel mud pits.
- C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Portable, self-contained chemical toilets will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location, not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

8. ANCILLARY FACILITIES:

No campsite, airstrip, or other facilities will be built as a result of the operation of this well. No staging areas are needed.

9. WELL SITE LAYOUT:

- A. Exhibit D shows the dimensions of the proposed well pad.
- B. The proposed 3 well (two wells 25' apart and #37H is 150' apart) pad size will be 525' x 400'. There will be no reserve pit due to the well being drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.
- C. The WTC Surveyor's plat, Form C-102 and Exhibit D, shows how the well will be turned to a V-Door East.
- D. A 600' x 600' area has been staked and flagged.
- E. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad, and topsoil storage areas)

10. PLANS FOR SURFACE RECLAMATION:

- A. After concluding the drilling and/or completion operations, if the well is found non-commercial, all the equipment will be removed, the surface material, caliche, will be removed from the well pad and road and transported to the original caliche pit or used for other roads. The original stock piled top soil will be returned to the pad and contoured, as close as possible, to the original topography. The access road will have the caliche removed and the road ripped, barricaded and seeded as directed by the BLM.
- B. If the well is a producer, the portions of the location not essential to production facilities or space required for workover operations, will be reclaimed and seeded as per BLM requirements.
 (SEE EXHIBIT C FOR INTERIM RECLAMATION PLAT FOR THIS WELL)
- C. <u>Reclamation Performance Standards</u> The following reclamation performance standards will be met:

Interim Reclamation – Includes disturbed areas that may be redisturbed during operations and <u>will be</u> redisturbed at final reclamation to achieve restoration of the original landform and a natural vegetative community.

• Disturbed areas not needed for active, long-term production operations or vehicle travel will be recontoured, protected from erosion, and revegetated with a self-sustaining, vigorous, diverse, native (or as otherwise approved) plant community sufficient to minimize visual impacts, provide forage, stabilize soils, and impede the invasion of noxious, invasive, and non-native weeds.

Final Reclamation – Includes disturbed areas where the original landform and a natural vegetative community will be restored and it is anticipated the site will not be redisturbed for future development.

- The original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors.
- A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site, with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
- Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gullying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.
- The site will be free of State- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds are controlled.

D. Reclamation Actions

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Earthwork for interim and final reclamation will be completed within 6 months of well completion or plugging unless a delay is approved in writing by the BLM authorized officer.

The following minimum reclamation actions will be taken to ensure that the reclamation objectives and standards are met. It may be necessary to take additional reclamation actions beyond the minimum in order to achieve the Reclamation Standards.

Reclamation - General

Notification:

• The BLM will be notified at least 3 days prior to commencement of any reclamation operations.

Housekeeping:

• Within 30 days of well completion, the well location and surrounding areas(s) will be cleared of, and maintained free of, all debris, materials, trash, and

equipment not required for production.

• No hazardous substances, trash, or litter will be buried or placed in pits.

Topsoil Management:

- Operations will disturb the minimum amount of surface area necessary to conduct safe and efficient operations.
- Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the topsoil will be stripped and stockpiled around the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil will include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.
- Salvaging and spreading topsoil will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment or so dry that dust clouds greater than 30 feet tall are created. If such equipment creates ruts in excess of four (4) inches deep, the soil will be deemed too wet.
- No major depressions will be left that would trap water and cause ponding unless the intended purpose is to trap runoff and sediment.

.Seeding:

- <u>Seedbed Preparation</u>. Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4 6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.
- If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
- <u>Seed Application</u>. Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used.
- If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

11. SURFACE OWNERSHIP:

A. The surface is owned by the U. S. Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.

12. OTHER INFORMATION:

- A. The area surrounding the well site is in a gentle sloped, shallow gravelly loam, rolling hills type area. The vegetation consists of Mesquite, Creosote, White-Thorn Acacia with three-awns and some dropseed species.
- B. There is no permanent or live water in the immediate area.

- C. There are no dwellings within 2 miles of this location.
- D. The location falls within the MOA area and all known sites were avoided. A check for \$1552 was submitted with this application.
- 13. BOND COVERAGE:

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Bond Coverage is Nationwide; Bond Number NMB-000460.

OPERATORS REPRESENTATIVE:

The RKI Exploration and Production, LLC representatives responsible for ensuring compliance of the surface use plan are listed below:

Surface: Barry W. Hunt – Permitting Agent 1403 Springs Farm Place Carlsbad, NM 88220 (575) 885-1417 (Home) (575) 361-4078 (Cell)

Drilling & Production: Ken Fairchild – RKI Exploration and Production, LLC. 210 Park Avenue, Suite 900 Oklahoma City, Ok.73102 (405) 996-5764 (Office) (469) 693-6051 (Cell)

ON-SITE PERFORMED ON 8/20/14 RESULTED IN PROPOSED LOCATION BEING MOVED 200 FT. WEST TO ALLOW FOR ENOUGH ROOM FROM THE DROP OFF TO A DRAINAGE AREA TO THE EAST. IT WAS FURTHER AGREED TO TURN THE LOCATION TO A V-DOOR EAST, TANK BATTERY TO SOUTH, ROAD FROM SOUTHWEST CORNER, TO RDX FED 17-12H & 25H WELL PAD, TOPSOIL TO BE PLACED TO THE NORTH AND CONSTRUCT A BERM ALONG THE ENTIRE EAST SIDE OF THE PAD. IT WAS FURTHER AGREED TO RECLAIM THE NORTH, NORTHEAST AND NORTHWEST PORTIONS OF THE PAD.

PRESENT AT ON-SITE: BARRY HUNT – PERMITTING AGENT FOR RKI EXPLORATION & PRODUCTION INDRA DAHAL – BLM BECKIE HILL - BOONE ARCHAEOLOGICAL SERVICES WTC SURVEYORS

RKI Exploration & Production LLC

3817 NW Expressway, Suite 950, Oklahoma City, OK 73112 405-949-2221 Fax 405-949-2223

June 25th, 2012

To Whom It May Concern:

Please be advised that Mr. Barry Hunt has been retained by RKI Exploration & Production to sign as our agent on Application for Permit to Drill (APD) as well as Right of Way applications within the States of New Mexico and Texas.

If you have any questions or require additional information, please feel free to contact me at (405) 996-5771.

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Sincerely,

K. An

Charles K. Ahn EH&S/Regulatory Manager

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RK1 Exploration & Production, LLC
LEASE NO.:	NMNM20965
WELL NAME & NO.:	RDX Federal 17 35H
SURFACE HOLE FOOTAGE:	150'/N & 895'/W
BOTTOM HOLE FOOTAGE	230'/S & 330'/W
LOCATION:	Section 17, T.26 S., R.30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

General Provisions Permit Expiration Archaeology, Paleontology, and Historical Sites **Noxious Weeds** Special Requirements Cave/Karst VRM Cultural **Construction** Notification Topsoil Closed Loop System Federal Mineral Material Pits Well Pads Roads **Road Section Diagram** 🛛 Drilling Medium Cave/Karst Logging Requirements Waste Material and Fluids **Production (Post Drilling)** Well Structures & Facilities Pipelines **Electric Lines Interim Reclamation Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S) Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm:
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain $1\frac{1}{2}$ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing

electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cavebearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Phantom Bank Heronry

Surface disturbance will not be allowed within up to 200 meters of active heronries or by delaying activity for up to 120 days, or a combination of both.

Exhaust noise from engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 400' + 100' = 200' lead-off ditch interval 4%

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.





VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)
 - **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.
- Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. If the drilling rig is removed without approval an Incident of Non-Compliance will be written and will be a "Major" violation.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
- 4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst

Possibility of water flows in the Salado and Castile. Possibility of lost circulation in the Rustler, Red Beds and Delaware.

- The 13-3/8 inch surface casing shall be set at approximately 1000 feet (in a competent bed <u>below the Magenta Dolomite</u>, which is a <u>Member of the Rustler</u>, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Cement to surface. If cement does not circulate see B.1.a, c-d above.

Medium Cave/Karst: If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

3. The minimum required fill of cement behind the 7 inch production casing is:

Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

4. The minimum required fill of cement behind the 4-1/2 inch production casing is:

Cement should tie-back to top of liner. Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. Operator has proposed a **multi-bowl wellhead assembly**. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.

5M/10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

- 3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
- c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CLN 072916

VIII. PRODUCTION (POST DRILLING) IX.

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, <u>Shale Green</u> from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing

- (2) Earth-disturbing and earth-moving work
- (3) Blasting
- (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of <u>20</u> feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of <u>24</u> inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on

public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 <u>et seq.</u> (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, <u>et seq</u>. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, <u>et seq</u>.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands,

the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-ofway.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be $\underline{30}$ feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed <u>20</u> feet. The trench is included in this area. (Blading is defined as the complete removal of brush and ground vegetation.)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed <u>30</u> feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately <u>6</u> inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be

recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

() seed mixture 1	(x) seed mixture 3
() seed mixture 2	() seed mixture 4
() seed mixture 2/LPC	() Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and
any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. <u>Escape Ramps</u> - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 <u>et seq</u>. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the

reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, <u>et seq</u>. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, <u>et seq</u>.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

X. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

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At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	<u>lb/acre</u>
Plains Bristlegrass (Setaria macrostachya)	1.0
Green Sprangletop (Leptochloa dubia)	2.0
Sideoats Grama (Bouteloua curtipendula)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

NMOCD CONDITION OF APPROVAL

The *Newl* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.