NIMI (CONSERVA	ATION
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DISTRICT I

DISTRICT II 813 S. First St., Artesia, NM 88210 Phone (575) 748-1283 Fax, (575) 748-9720

Prome (23) 736-1283 (a. (72) 748-720 DISTRUCT III 1000 Bio Banes Rd., Artec, NM 87410 Prome, 5083 (34-6) 78 (acc (8053) 34-6470 DISTRUCT IV 12218 St. Francis D., Santa Fe, NM 87505 Phone, 7595-776-3400 [acc (505) 476-3462

State of New Mexico District In State of Inew INTERIOR Department

Form C-102 Revised August 1, 2011

Submit one copy to appropriate District Office

□ AMENDED REPORT

RECEIVED

SEP 17 2015

WELL LOCATION AND ACREAGE DEDICATION PLAT

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, New Mexico 87505

30-0	PI Number 15 - 4228	0	8	Pool Code 34330	Rose		Pool Name JATED WOLFC	AMP (675	5)	
Property C	ode				Well Ni	unber				
40485	40485 RDX FEDERAL COM 28									
OGRID N	lo,	<u> </u>			Elevat	ion				
246289 RKI EXPLORATION & PRODUCTION									8'	
					Surface Locat	ion				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
В	28	26 S	30 E		330	NORTH	1905	EAST	EDDY	
			Bott	om Hole I	Location If Diffe	erent From Surfac	e	•		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
2	33	26 S	30 E		230	SOUTH	1715	EAST	EDDY	
Dedicated Acres	Joint or	Infill	•							
224.78										

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.

NW COR SEC 28 NMSP-E (NAD 83) N (Y) = 371527.1'		NE COR SEC 28 NMSP-E (NAD 83) N (Y) = 371559.3'	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a
E (X) = 6/7240.1	330' 1905' RDX FEDERAL COM 28 7H SHL NMSP-E (NAD 83) N (Y) = 371217.7' E (X) = 680655.1' LAT. = 32°01'11.14"N LONG. = 103*53'01.72"W NMSP-E (NAD 27) N (Y) = 371160.4' E (X) = 639468.8' LAT. = 32.0196358°N LONG. = 103.8833323°W LONG. = 103.8833323°W	E (A) = 002330.1	Contract with an owner of such a mitteral of working interest, or to voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. HEATHER BREHM Print Name hbrehm@rkixp.com E-mail Address SURVEYORS CERTIFICATION
SW COR SEC 28 NW COR SEC 33 NMSP-E (NAD 83) N (Y) = 366212.5' E (X) = 677272.5'	RDX FEDERAL COM 28 7H BHL NMSP-E (NAD 83) N (Y) = 364309.3' E (X) = 680880:3' LAT. = 32°00'02.76'N LONG. = 103°52'59.43''W NMSP-E (NAD 27) N (Y) = 364252.1' E (X) = 639693.8' LAT. = 32.0006422'N LONG. = 103.8826994'W	SE COR SEC 28 NE COR SEC 33 NMSP-E (NAD 83) N (Y) = 365240.9° E (X) = 682588.0° - LAST TAKE 330° FSL & 1715 FEL NMSP-E (NAD 83) N (Y) = 364409.2° E (X) = 680879.9°	Thereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. April 29, 2013 Revised 02-11-14 Date of Survey Signature and Scal of Protocol Structure, MEX Construction MEX Construction Structure, MEX Construction MEX Construction Structure, S
SW COR SEC 33 NMSP-E (NAD 83) N (Y) = 364062.2' E (X) = 677281.8'	230'	SE COR SEC 33 NMSP-E (NAD 83) N (Y) = 364087.5' E (X) = 682596.1'	Job No.: WTC48881 JAMES E. TOMPKINS 14729 Certificate Number

RKI Exploration & Production, LLC Drilling Program

Well	RDX 28-7H			
Location	Surface:	330 FNL	1,905 FEL	Sec. 28-265-30E
	Bottom Hole:	230 FSL	1,715 FEL	Sec. 30-265-30E

County Eddy

State New Mexico

1) The elevation of the unprepared ground is		3,125 feet above sea level.
	18 KB	3,143

 2) A rotary rig will be utilized to drill the well to
 14,950 feet and run casing.

 This equipment will then be rigged down and the well will be completed with a workover rig.
 14,950 feet and run casing.

3) Proposed depth is 14,950 feet measured depth

4) Estimated tops:

	MD	TVD	Thickness	Fluid	5	
Rustler	700	. 700		Freshwater		
Salado	1,100	1,100				
Lamar Lime	3,498	3,498				
Base of Lime	3,523	3,523		Oil	BHP	
Delaware Top	3,564	3,564	1	Oil	1,568	psi
Bell Canyon Sand	3,564	. 3,564		Oil		
Cherry Canyon Sand	4,621	4,621		Oil		
Kingrea .	6,260	6,260		Oil	2,754	psi
Bone Spring	7,329	7,329		Oil		
Bone Spring 1st Sand	8,132	8,132		Oil	3,578	psi
Bone Spring 2nd Sand	8,720	. 8,720		Oil	3,837	psi
Bone Spring 3rd Sand	9,940	9,940		Oil	4,374	psi
KOP	10,047	10,047		Oil	4,421	psi
Wolfcamp '	10,347	10,333		Oil	4,547	psi
Landing Point (Wolfcamp)	. 11,047	. 10,691			4,704	psi
						psi
Fotal Depth	17,315	10,691			230	Degrees F
ateral Length	5 268	MD				

*Note: All mineral resources encountered will be protected by running casing and raising cement across all encountered resources.

See COA 5) Casing program

725

Hole	Тор	Bottom	OD Csg	Weight	Grade	Connection	Burst	Pressure	Burst
Size								Max	SF
17 1/2"	0	-1,000	13 3/8"	54.5	J-55	STC	2730	468	5.83
12 1/4"	0	7,329	9 5/8"	40	HCL-80	LTC	5750	3811	1.S1
8 3/4"	0	17,315	5 1/2"	20	P-110	BTC	12630	10000	1.26
								*Burst SF = Bu	urst / Pmax
Hole	Тор	Bottom	OD Csg	Weight	Grade	Connection	Collapse	Mud	Collapse
Size								Weight	` SF
17 1/2"	0	-1,000	13 3/8"	54.5	J-55	STC	1580	9.0	3.38
12 1/4"	0	7,329	9 5/8"	40	HCL-80	LTC	4230	10.0	1.11
8 3/4"	0	17,315	5 1/2"	20	P-110	BTC	12100	11.5	1.17
						*Colla	ose SF = [Colla	pse/(mw x 0.05	52 x Depth)]
Hole	Тор	Bottom	OD Csg	Weight	Grade	Connection	Tension	Tension	Tension
Size								Load	SF
17 1/2"	0	. ,000	13 3/8"	54.5	J-55	STC	420000	54500	7.71
12 1/4"	0	7,329	9 5/8"	40	HCL-80	LTC	936000	293160	3.19
.8 3/4"	0	17,315	5 1/2"	20	P-110	BTC	641000	346300	1.85

*All casing load assumptions are based on Air Wt. Burst design assumes Max Frac Pressure (10K), & Collapse design assumes evacuated & max Mud Weight during interval.

Minimum Design Standards								
Collapse	1.1							
Burst	1							
Tension	1.9							

All casing will be new Casing design subject to revision based on geologic conditions encountered

* * -310	ed Hiw ool hood	comotic monod smotiliser -	annot bre frans nam, (a			
		T per ioint bottom 3 ioints.	t then every 3rd ioint t	· tramap to got i	1	
		Ton of cement:		4 6CU Z	an an edal an a mana a	
	:lisT	AcidSolid PVL + 5% PF174 +	1 + '2% bEe0e + '2% bE1	34 °2% bE134 + 30% bE	7439 200 4. + 12139	
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duction		alori "4/£ 8				
		.1 per joint bottom 3 joints,	ti then 1 every 3th jt			
		Top of cement: SURFACE		н .		
	:lisT	"C" + .2% PF13				
	:peəJ	32\65 boz "C" + 2% bE44 +	+ 6% PF20 + .2% PF13 +	9 2qq 4. + 6239 2q 221.	2 PF46	
	21	. xs s	1.33 cf/sk	L	3dd 8.41	4s/I68 IEE.8
p	130	xs 8	32/15 78.2	г ·	9dd 9.11	16.793 Bal/sk
:Z 95						
		1 per joint bottom 3 joints,	ti dfc yrew 1 every 3th jt			
				i ando i		
		Top of cement:		4 005 S	:loot VQ	4 0055
	:peəŋ	Top of cement: PVL + 1.3% PF44 + 5% PF17	1 %Þ. + 90919 %S. + Þ\T	dd 7 . + ESI39 %I. + EI:	DV tool: DV tool:	4 005'S
5ء 1: ط	:peəŋ	9 sx PVL + 1.3% PF44 + 5% PF17 Top of cement:	۶۲/۱۵ ۲۹/۱۶ ۲۹۶ ۲۹۶۶ ۲۹۶۶ ۲۰۱۹ ۲۹۶۶ ۲۰۱۹ ۲۹۶۶ ۲	qq 4. + 62139 %L. + 61:	13 ppg pr PF45	λ≥\leg 603.7 11 002.2
ge 1:	sta :beat :beat	۲.۵۵ مار دوسومات ۲۰۷۹ + ۲3% ۱۹۹4 + 5% ۱۹۹۲ ۲.۵۹ مار دوسومات	۶¢. ۲ حال على 14% مار على 14% مار على 14% مار 14% مار 14% م	4 005 5	13 ppg 13 ppg DV tool: DV tool:	λε\ίε₿ 60∂.Γ 11 002 2
859 I: 26 I: 2	23675 tage 2nd Stage 213	6 0. 2 x 1.3% PF44 + 5% PF1 1.3% PF44 + 5% PF1 2.00 Of cernent:	אר א מען אין אין אין אין אין אין אין אין אין אי	4 005 S	60 % 13 ppg 14 PF45 1001:	¥2\lsg 900.7 11 002.2
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amulo Valune Tool 25 1 : 45	Lead: 213 215 Stage 257 Jage 257 Jage	0,200 0f cernent: 2,500 ft 0,5 7,00 0f cernent: 0,6 7,00 0f cernent: 0,3132 cf/ft	א פו/א פו/א א איז א איז א איז א איז א א פו/א איז	2 200 E	DA £00; bbs bE42 J3 bb8 F90 % 900 %	λε∕ίε <u>β</u> 60∂.7
ting Depth rular Volume ess d d	Feaq: 519 Sud Stage Jat Stage	1, 92.6,7 1,723, 95.17 1,00.0,2 1,00.0,4 1,23% 95.4,4 + 5% 95.17 2,20 1,00.0,567 1,00.0,567 1,00.0,567 1,00.0,567 1,00.0,567 1,00.0,57	₩5, + 90999 %2, + 471 ¥2\7	2 200 E	DA £00; bbs bE42 J3 bbg F90 % 90 %	λ≥\lsg 90∂.7
e OD ting Depth Tool ess d d	Lead: 2nd Stage 2st Stage	"8/2 6 11 25 25 11 25 25 11 25 25 11 25 12 25 12 25 13 25 14 25 15 26 15 26 16 26 16 26 16 26 16 26 16 26 16 26 16 26 16 26 16 26 17	۲.48 دا/۶۴ א ۲.48 גו/۶۴ א	£ 200 £ 100 £	DA £00]: 13 bb8 13 bb8 90 800 %	42\16 <u>8</u> 603.7
errediate e OD tulat Depth Tool ess d	Lead: 2nd 575 fage 2r5 7rd	121/4" hole 95/8" 1,922 cf/f 0.3122 cf/f 0.500 f 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6	۲.48 دار/۴۴ א ۲.48 دار/۴۴ א	9, 2, 200 £ 19, 17, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14	DA £00; bbs bE42 J3 bb8 F90 % 60 %	¥ε\Isg e0∂.Υ 11 002 2
ermediate e OD inig Depth Tool ess d	Lead: 2nd 512ge 1st 5tage	2 centralitacrs on bottom 2. 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	J أَبِّه لَ الْحَدَ الَّهُ (14 مَالَ 14 مَوْدَ أَنَّهُ الْمَعَانَ عَالَمَ مَالَ عَالَ مَالَ عَالَ مَالًا عَالَ 1.48 دار/sk 174 م.(2% 24 مالي 2	y orher Jt 0,323 c1/ft 0,323 c1/ft 7 pp: 22 7 pp: 2	DA £00 : bbs PF45 13 ppg 60 %	ł≥\/isg e0∂.Υ 11 002 2
ermediate e OD rular Volume Tool ess d	eger? tage 2015 bn2 2015 bn2	Top of cement: 3 centralizers on bottom 3 9 centralizers on bottom 3 9 5,500 1,2,200 1,6 0,6 1,6 0,6 1,6 1,6 1,6 1,6 1,6 1,6 1,6 1,6 1,6 1	5 الأبة 1 وود إلى تأموس 1 وينو يابع 1.48 داراغلا 174 + .5% PF606 + .4% ا	y orther Jt 1) - 252 در/بر 0, 200 ft 1, 200 ft 1, 200 ft	DA £00]: J3 bbg 909 642 60 %	ł≥\isg e0∂.Υ 1 002 2
d O s Colme tular Volume ess ess	Lead: 21d Stage 2nd Stage 2nd Stage	"C" + 1% PF1 (CC) 10p of cernent: 3 centralizers on bottom 3 5,500 ft 0.512 cf/ft 5,500 ft 0.6 1.6 2,500 ft 0.6 1.6 2,6 1.6 2,6 1.6 2,6 1.6 2,500 ft 1.6 2,500 ft 1.6	Surface 3 إزه 1 per إز، ثلثونا 1 وبرو 1.48 دار/sk 174 + .5% PF606 + .4% F	y other jt 1,1941 مرارد 0,323 درارد 1,4 pr	DA £00; 13 bbg 190 % 190 %	¥≥\ie <u>9</u> e0∂.Υ
ereidere OD e Go Betth Tool Cool ess d	Lead: Lead: Let Stage Znd Stage Lead: Lead: Lead: Lead: Lead: Lead:	"(c" + 4% PF20 (gei) + 2% Pf "(c") Top of cement: 3 contrailisers on bortom 3, 9 cm 9 cm 9 cm 9 cm 9 cm 9 cm 9 cm 9 cm	۲۹ (CC) ۲۹۹ کال ۲۹۵ کال ۲۹۵ کال 2011غ کال ۲۹۹ کال ۲۹۹ کال ۲.48 دار ۶۶ ۲۵۹ - ۲۵۹ کال ۲۹۹ کال	(CetiloFlake) + ، 4 pps P! y other Jt 0.323 cf/ft ft 13 + .1% Pf.I53 + .4 pp	9 ٩٩6 (antifoam) 13 ٩٩٤ 140 ٩٩٤ 140 %	if 002.7
diate e OD truis Depth Tool tool tool tool tool tool	Lead: 2nd Stage 2nd Stage	2 xx 2 (C) 2 x 2 (C) 1 0 p of cernent: 2 (C) 1 0 p of cernent: 2 (C) 1 2 1/4" hole 9 5/8" 1 2 1/4" hole 1 2 1/4"	1.33 crl/sk ۲.48 crl/sk ۲.48 crl/sk ۲.48 crl/sk ۲.48 crl/sk ۲.48 crl/sk	1 (1901/1986) + (1901/1990) بارین 19/1- (1992) 19/1- (19	DV tool: ۱۹۹۹ (antifoam) 13 ppg 60 % 60 % 160 % 160 %	Ae\iss Sc.a Ae\iss 600.7
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d d d d d d d d d d d d d d d d d d d	Lead: 201 Stage 201 Stage 201 Stage 1ai: 201 Stage 201 S	Z sx Top of cement: "C" + 1% PF20 (ge!) + 2% PF17 PVL + 1.3% PF44 + 5% PF17 "C" + 1% PF2 (CC) "C" + 1% PF20 (fe 0.55% 7.329 (f 0.5132 cf/ft 0.5132 cf/ft 0.528 7.66 1.2.6 2.5% 06 1.2.6 2.5% 06 1.2.6 2.5% 06 1.2.6 2.5% 06 1.2.6 2.5% 06 1.2.6	1.75 cf/sk PF1 (CC) + .125 pps PF2 Surface 3 fis 1 per Jf, then 1 eve 2 fis 1 per Jf, then 1 eve	۲ ۲ ۲ مرابط (CelloFlake) + (A pps Pl ۲ مرابط الا ۲ مری ۲ مربط ۲ مربط ۱ ۲ مری ۲ مربط ۲ مربط ۱ ۲ مری ۲ مربط ۲ مربط ۲ مربط ۱ ۲ مری ۲ مربط ۲ ۲ مربط ۲ مربط	DV tool: 13.5 PPg 14.6 (antifoam) 60 % 60 % 60 % 60 % 91 00 60 % 93 00 60 % 93 00 60 % 93 00 60 % 93 00 60 % 94 00 60 % 94 00 60 % 95 00 60 % 96 00 60 % 90 % 90 % 90 % 90 % 90 % 90 % 90 % 9	λέ\ίε§ £1.6 λέ\ίε§ \$£.∂ λέ\ίε§ 60∂.Υ
دده المعافية المعافي المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافي الما المعافية المعافي المعافية المعافية المعافية المعافية المعافية المعافي المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافي المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافية المعافي الما المعافي المعافي المعافي المعافي الما المعافي المعافي المعافي المعافي الممافي الما المعافي المعافي المعافي المعافي الممافي الما معافي المعافي الممافي الما معافي المعافي المعافي الما معافي المعافي الممافي الما معافي المعافي المعافي المعافي المالما ممافي الما معمافي المالما مما معافي المعافي المماما ممالما مما مع مالي المماما لما ممالي المماما لمال	Fead: 510 2506 721 21966 Tat 21966 Fead: 643	2 sx 7 cpp of cernent: 2 cx 2 cx 2 cx 2 cx 2 cv freilizers on bottom 3 2 contrailizers on bottom 3 2 contrailizers on bottom 3 2 contrailizers on bottom 3 2 cv freilizers on bottom 3 3 cv freilizers on bottom 3 3 cv freilizers on bottom 3 2 cv freilizers on bottom 3 3 cv freilizers on bottom	1.75 cf/sk PF1 (CC) + .125 pps PF2 Surface 3 fts 1 per Jf, then 1 eve 3 fts 1 per Jf, then 1 eve	۲ ۲ ۲ (Ceflofieke) + (exiotric) ۲ (Ceflofieke) + (exiotric) ۲ (ft ۲ (ft ۲ (ft) ۲ (ft) 1 (ft)	DA 2001: 13 bb8 13 bb8 14 8 bb8 14 8 bb8 14 8 bb8 10 % 100 % 100 %	¥ε\\sg £1.6 ¥ε\\sg £6.8 ¥ε\\sg 608.7
a loint و ودی ط a e o b a nulor volume Tool tool cos css d	دوهم: 121 كولوو 200 كولوو 131 كولوو 131 - 131 -	۲ 2. x 2. x 2. x 3. c 2. x 3. confredicers on bottom 3. 3. confredicer	1.75 cf/sk PF1 (CC) + .125 pps PF2 Surface 3 fis 1 per Jf, then 1 eve 3 fis 1 per Jf, then 2 eve	1 7 7 (Cellofiake) + (ayaci 7 9 other Jt 0.323 cf/ft 0.323 cf/ft	DA 2001: 13.5 PPg 13.5 PPg 14.8 Ppg 60 % 14.8 Ppg 10. % 100 % 100 % 100 %	łz\leg ε1.e kz\leg 26.∂ łz\leg 60∂.7
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d dular Yolume ess ge 1 do ge 1: tool ess ess fool ess fool fool fool fool fool fool fool fo	Lead: 161 161 161 161 161 161 161 101 10	Top of cernent:	1.75 cf/sk PF1 (CC) + .125 pps PF2 Surface 3 fts 1 per Jt, fhen 1 eve 3 fts 1 per Jt, fhen 1 eve	1 19 2qq b. + (9x612d16) 7 0.1223 cf/ft 9 0.323 cf/ft 9 0.323 cf/ft	DV tool: 13.5 PF46 (antifoam) 14.8 PP8 14.8 PP8 14.8 PP8 14.8 PP8 14.8 PP8 13.5 PP8 14.8 PP8 13.5 PP8 14.8	it fog 2. it fog 2.6. it fog 2.6. it fog 2.
ding Depth inits Yolume sess dinit Yolume sess ding Depth ting Depth col rool cess di fool	Lead: Lead: Tat Stage Cod Lead: 64: 64: 64: 64: 64: 64: 64: 64	Top of cerment:	1.75 cf/sk PF1 (CC) + .125 pps PF2 Surface 3 fts 1 per Jt, then 1 eve 3 fts 1 per Jt, then 1 eve	۲ ۲ ۲ (Tethof k, + (exterior) ۲ (Tethof k) ۲ (Tethof k) 1 (Tethof k)	DV tool: 13.5 ppg 14.8 ppg 14.8 ppg 14.8 ppg 14.8 ppg 14.8 ppg 14.9 ppg 14.9 ppg 14.9 ppg 100 %	λε\/ιεg £1.6 λε\/ιεg 55.0 λε\/ιεg 600.7

.

Cement program: 6) **Surface**

Duration

916h Tisted start date

Lost circulation can occur, lost circulation material will be readily available if needed. No H25 is known to exist in the area.

skep SE

9A2A

20) Potential hazards:

Neutron, Gamma Ray, Caliper will be run from TD to surface. Neutron/Density, Resistivity, Gamma Ray, Caliper will be run at Pilot Hole Total Depth. No drill stem test or cores are planned

Conting, coring, and testing program:

Pason PVT equipment will monitor all pit levels at all times, in the event an influx occurred. system). Formula: Barite Required (Ibs) = ((ع3.05 × (Wf-Wi))/(W-20.25). (Rels). ldd 000S - gqq 2.11 of gqq 6.0 mori xe I2CS) bebeen ii frigiew bum gqq 2.11 ne of meteve bum qu frigiew of noifesol no betofe ed lliw efite8 riguon3

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Brine	NC	1-15	0T - T	28 to 30	01 of 8.6	625'2	-996'?	YCF
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Type System	sso1 biuli	٨b	٨d	siV 🗧	.1W buM	mottoa		dol

:meigoiq buM (8

out of the hole. These function test will be documented on the daily driller's log.

Pipe rams will be operated and checked each 24 hour period and each time the drill string is

After drilling approximately 10 feet of new formation an EMM test of 1.10 ppg will be performed.

depth or 1,500 psi whichever is greater, but not exceeding 70% of the burst rating of the pipe.

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eached in the state of the sta

See CDA

Fill-up line above uppermost preventer

All BOPE subjected to pressure shall be flanged, welded, or clamped

Pressure gauge on choke manifold

eldelisve teolt to 908 ebiant

Safety valves and subs to fit all drill string connections in use shall be readily available

Upper and lower kelly cock valves with handles readily available

2 kill line valves and a check valve, 2" minimum diameter ,

Kill line, 2" minimum diameter

2 chokes with 1 remotely controlled from the rig floor 2 choke line valves, 3" minimum diameter

Choke line shall be 3" minimum diameter

Drilling spool or blowout preventer with 2 side outlets (choke side shall be a 3" minimum diameter, kill side shall be at least 2" diameter

eripe rams

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Pipe rams

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The blowout preventer equipment will be 5,000 psi rated as shown in the attached BOP diagram and consist of the following:

Pressure control equipment:

RKI EX	KPLORAT	ION ·				RIG:				500 -					AZ (Hard)	MUTH ine in Red)			
								•	1										
WELL:		RDX 28-	7H (Eddý, NN	1}		Target Direction		178.13 deg		<u>u</u> -				_			·		
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BHL:		230' FSL	& 1715' FEL	Sec. 33-26	S-30E	East/West Ha	rd Line:			-1000			·						
STATION	SURVEY						VERT.	DLS/100 B	R	-1000								11	
NUMBER	DEPTH	·· _ 1N0	AZMTH	TVD	N-S	E-W	SECTION			-1500 -		†				- 1-			
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	13147.0	90,00	178.13	10691	-2742	89.5	2743.7												
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Directional Survey

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AZIMUTH (Hardline in Red)

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Directionel Survey



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NM OIL CONSERVATION

ARTESIA DISTRICT

AUG 2 1 2015

PECOS DISTRICT CONDITIONS OF APPROVAL

RECEIVED

OPERATOR'S NAME:	RKI Exploration & Production, LLC
LEASE NO.:	NMNM-0480904A
WELL NAME & NO.:	RDX Federal Com 28-7H
SURFACE HOLE FOOTAGE:	0330' FNL & 1905' FEL
BOTTOM HOLE FOOTAGE:	0230' FSL & 1715' FEL Sec. 33, T. 26 S., R 30 E.
LOCATION:	Section 28, T. 26 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

I. 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. Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts 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 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. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

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

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

ON A THREE STRING DESIGN; IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

Possibility of water flows in the Salado and Castile. Possibility of lost circulation in the Delaware. Abnormal pressure may be encountered when entering in the 3rd Bone Spring Sand.

- 1. The 13-3/8 inch surface casing shall be set at approximately 725 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, 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.

Formation below the 13-3/8 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing, which shall be set at approximately **7329** feet, is:

Operator has proposed DV tool at depth of 5500 feet. Operator is to submit sundry if DV tool depth varies by more than 100 feet from approved depth.

a. First stage to DV tool:

- Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.
- b. Second stage above DV tool:
- Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

The intermediate casing must be kept filled with fluid to satisfy BLM's collapse rating conditions.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

Cement should tie-back at least 300 feet into previous casing string. Operator shall provide method of verification.

4. 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 that has a weld on head with no o-ring seals. 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 manufacturer is supplying the test plug/retrieval tool for the operator's third party tester to use during the BOP/BOPE test. Operator shall use the supplied test plug/retrieval tool.
 - b. Operator shall install the wear bushing required by the wellhead manufacturer. This wear bushing shall be installed by using the test plug/retrieval tool.
 - c. Wellhead manufacturer representative shall be on location when the intermediate casing mandrel is landed. Operator shall submit copy of manufacturer's wellsite report with subsequent report.
 - d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5M 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.
 - g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Proposed mud weight may not be adequate for drilling through Wolfcamp.

E. DRILL STEM TEST

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

F. 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.

KGR 08142015