Form 3160-5 (August 2007) .

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED OMB NO. 1004-0135 Expires: July 31, 2010

5.	Lease Serial No.
	NMNM22634

	NOTICES AND REPORTION FOR NOTICES AND REPORT IN 1989 IN 1980 I				NMNM22634		
abandoned we	ll. Use form 3160-3 (API	D) for such	proposals.		6. If Indian, Allottee of	r Tribe Name	-
SUBMIT IN TRI	PLICATE - Other instruc	tions on re	erse side.		7. If Unit or CA/Agree	ment, Name and/o	r No.
Type of Well	ner			·	8. Well Name and No. EAST PECOS FE	DERAL 22 3H	
Name of Operator RKI EXPLORATION & PROD	Contact:	HEATHER E	BREHM		9. API Well No. 30-015-42285-0	0-X1	
3a. Address	2 Main 110 Tax III		o. (include area code	2)	10. Field and Pool, or		
210 PARK AVE SUITE 900 OKLAHOMA CITY, OK 73102	2	Ph: 405-99 Fx: 405-99	96-5769		UNDESIGNATE		
4. Location of Well (Footage, Sec., T	., R., M., or Survey Description,)	,		11. County or Parish,	and State	
Sec 22 T26S R29E SWSW 00 32.011573 N Lat, 103.584372					EDDY COUNTY	′, NM	
12. CHECK APPE	ROPRIATE BOX(ES) TO) INDICATI	E NATURE OF	NOTICE, RE	EPORT, OR OTHE	R DATA	
TYPE OF SUBMISSION			ТҮРЕ О	F ACTION			
Notice of Intent	-□ Acidize	☐ Dee	pen	☐ Producti	on (Start/Resume)	☐ Water Shut-	Off
_	Alter Casing	☐ Fra	cture Treat	□ Reclama	ation	■ Well Integri	ty
☐ Subsequent Report	Casing Repair	■ Nev	v Construction	Recomp	lete	Other	
☐ Final Abandonment Notice	Change Plans	Plu Plu	g and Abandon	☐ Tempora	arily Abandon	Change to Orig	ıınaı A
	Convert to Injection	☐ Plu	g Back	□ Water D	isposal		•
If the proposal is to deepen directional Attach the Bond under which the wor following completion of the involved testing has been completed. Final Abdetermined that the site is ready for final Abdetermined	k will be performed or provide operations. If the operation res andonment Notices shall be file in all inspection.)	the Bond No. of the Bond No. o	n file with BLM/BL le completion or rec	A. Required sub completion in a n	sequent reports shall be ew interval, a Form 316 , have been completed, a	filed within 30 days 0-4 shall be filed on and the operator has	s ice
RKI Exploration and Production well, which is scheduled to spu	n seeks approval to chan		tted casing prog	ram on the si	ubject	MOIL CONS ARTESIA DIS	ERVA
Summary of proposed change				Mecepie M			
Landing point: increased from	•		•	SEE ATT	ACHED FOR	RECT	U 4 .
Hole size change: curve and la Casing change: Additional 7 in	teral will be drilled at 6 1/	8 inch instea	ıd of 8 3/4 inch.	CONDITIO		CEIVED	,
Casing change: Additional 7 in	ch casing string will be se	et near 7,738	feet and cemer	nted 500 feet	ON2 OF AI'P	ROVAL	
14. I hereby certify that the foregoing is Committed Name(Printed/Typed) HEATHER	Electronic Submission #2 For RKI EXPLOR ed to AFMSS for procession	ATION & PR	OD LLC, sent to OPHER WALLS	the Carlsbad	(15CRW0024SE)		
	· · · · · · · · · · · · · · · · · · ·						
Signature (Electronic So	ubmission)		Date 11/04/2	2014	ΛPDI	RUVED	
	THIS SPACE FO	R FEDERA	L OR STATE	OFFICE US	SE T	TOVED	
Approved By		t .	Title		NOV	7 2014	
Approved By Conditions of approval, if any, are attached ertify that the applicant holds legal or equi	table title to those rights in the				/s/ Chi		NIT.
which would entitle the applicant to conductive 18 U.S.C. Section 1001 and Title 43 L		rime for any ne	Office	Lwillfully to mal	CARLERAS	FIELD OFFICE	11

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

Additional data for EC transaction #276054 that would not fit on the form

32. Additional remarks, continued

above 9 5/8 inch casing shoe. Production stage will be running a 4-1/2" production liner.

East Pecos Federal 22-3H Well Location Surface: 50 FSL 530 FWL Section 22-26S-29E Bottom Hole: 230 FNL 330 FWL Section 22-26S-29E County Eddy State New Mexico 1) The elevation of the unprepared ground is 2,876 feet above sea level. 2) The geologic name of the surface formation is Quaternary - Alluvium. 3) A rotary rig will be utilized to drill the well to 13,212 feet and run casing and cement. This equipment will then be rigged down and the well will be completed with a workover rig. 4) Proposed depth is 13,212 feet MD · 5) Estimated tops: MD Rustler 300 300 Salado 700 BHP = .44 psi/ft x depth 700 1,100 psi Castile 2,500 2,500 Lamar Lime 2,807 2,807 1,235 psi Delaware Top 3,153 3,153 1,387 psi Bell Canyon Sand 3,537 3,537 1,556 psi 1,712 psi Cherry Canyon Sand 3,891 3,894 **Bone Spring** 6.635 2,919 psi 6,641 Bone Spring 1st Sand 7,335 7,341 3,227 psi KOP 7,883 7,889 3,469 psi Bone Spring 2nd Lime 8,346 8,421 3,672 psi Landing Point (2nd Bone Spring) 8,526 8,902. 3,751 psi 8,426 13,212 3,707 psi 6) Casing program: ALL NEW CASING OD Csg Hole Top **Bottom** Wt/Grade Connection Collapse Tension Size Design Design Design Factor Factor Factor 17 1/2" 375 13 3/8" 54.5#/J-55 Q. ST&C 6.85 33.09 25.15 2,800 95/8" 12 1/4" 40#/J-55 0 LT&C 1.64 6.41 4.64 8 3/4" 7,739 7" 0 29#/P-110 LT&C 1.82 1.99 4.19 6 1/8" 11.6# HCP-110 7,589 13,212 4 1/2" BT&C 1.49 2.14 12.22 Collapse 1.125 Burst 1.0 Tension 7) Cement program: Surface 17 1/2" hole Pipe OD 13 3/8" Setting Depth 375 ft Annular Volume 0.69462 cf/ft Excess . 1 100 % Lead 298 sx 1.75 cf/sk 9.13 gal/sk 13.5 ppg 200 sx 1.33 cf/sk 6.32 gal/sk 14.8 ppg Lead: "C" + 4% PF20 (gel) + 2% PF1 (CC) + .125 pps PF29 (CelloFlake) + .4 pps PF46 (antifoam) Tail: "C" + 1% PF1 (CC) Top of cement: Surface 12 1/4" hole Intermediate Pipe OD 9 5/8" Setting Depth 2,800 ft Annular Volume 0.31318 cf/ft 0.3627 cf/ft Excess . 0.5 50 %

Top of cement:

Lead: 35/65 Poz "C" + 5% PF44 + 6% PF20 + 1% PF1 _ .125 pps PF29 + .4 pps PF46 + 3 pps PF42

1.92 cf/sk

1.33 cf/sk

Surface

9.95 gal/sk

6.32 gal/sk

12.6 ppg

14:8 ppg

561 sx

200 sx

Tail: "C" + .2% PF13 (retarder)

Lead

Tail

Intermediate		8 3/4" hole	2					
Pipe OD		7"		•				
Setting Depth		7,739 ft						
Annular Volume		0.15033 cf/fi	t ·	0.1585 cf/ft		500 ft		
Excess		0.35		35 %				
DV Tool Depth		5500 ft		•				}
Stage 1			•					
Lead:	307	šx	1.48 cf/sk		7.58 gal/sk		13.0	ppg
Lead: PVL + 1.3% P	F44 + 5% PF1		. + PF153 + .1% PF153 + .4	pps PF46				
		Top of cement:	. DV tool					
Stage 2								
Lead:	223	sx .	1.89 cf/sk		10:06 gal/sk		12.9	ppg
Tail:	. 175 5	sx	1.33 cf/sk		6.32 gal/sk	•	14.8	
Lead: 35/65 Poz "C	" + 5% PF44	+ 6% PF20 + .2% PF	.4 pps F .4 pps F	PF46	J. /			
Tail: "C" + .2% PF1:			, , , , , ,					
	1	Top of cement:	•	, 2,300 ft				
Production		6 1/8" hole	1.					
		4 1/2"				•		
Pipe OD			* #					
Setting Depth		13,212 ft						
Annular Volume		0.0942			*			
Excess		0.32						
Lead:	374 s		1.87 cf/sk		9.52 gal/sk		13.0	ppg
Lead: AcidSolid PVL			F153 + .5% PF13 + 30% PF	• •				
	1	Top of cement:		7.589 ft				

8) Pressure control equipment:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram type (3,000 psi WP) preventer, a bag-type annular preventer (3,000 psi WP), and rotating head. Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top 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 3,000 psi and the annular will be tested to 1,500 psi after setting each casing string. The 13 3/8" and 9 5/8" casing will be tested to .22 psi per ft of casing string length or 1,500 psi whichever is greater, but not to exceed 70% of the minimum yield.

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	В	ottom .	Mud Wt.	Vis	PV	ΥP	Fluid Loss	Type System
	. 0	375	8.5 to 8.9	32 to 36	1 - 6	1 - 6	NC	Fresh Water
	375	2,800	9.8 to 10.0	28 to 30	1 - 3	1 - 3	NC	Brine
	2,800	7,739	8.9 to 9.1	28 to 36	1 - 3	1 - 3	NC	Fresh Water
	7,739	13,212	8.9 to 9.1.	28 to 36	1 - 3	1 - 3	N/A	Fresh Water

10) Logging, coring, and testing program:

No drill stem test are planned

KOP to intermediate: CNL, Caliper, GR, DLL,

Intermediate to surface: CNL, GR

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 will be on location and readily available if needed.

12) Anticipated start date ASAP

Duration 25' days

50 23 URVEY DEPTH 1000.0 2000.0 2800.0 2900.0 3000.0 3100.0 3150.0 3500.0	st Pecos ' FSL & 5(Fed 22-3H 00' FWL 22-3 330' FWL 22 AZMTH	TVD 1000 2000 2800 2900	N-S	Target Direction: North/South H East/West Har	ard Line:	357.07 deg
50 23 URVEY DEPTH 1000.0 2000.0 2800.0 2900.0 3000.0 3100.0 3150.0 3500.0	' FSL & 50 0' FNL & : INC	00' FWL 22- 330' FWL 22 AZMTH	TVD 1000 2000 2800 2900	N-S	North/South H East/West Har	ard Line: rd Line: VERT:	DLS/100
50 23 URVEY DEPTH 1000.0 2000.0 2800.0 2900.0 3000.0 3100.0 3150.0 3500.0	' FSL & 50 0' FNL & : INC	00' FWL 22- 330' FWL 22 AZMTH	TVD 1000 2000 2800 2900	N-S	North/South H East/West Har	ard Line: rd Line: VERT:	DLS/100
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	5.1	270.0	3150	0	-11	1	2.1
	5.1	270.0	3498	0	-42 ·	. 2	
3894.0	5.1	270.0	3891	0	-77	4	
4000.0	5.1	270.0	3996	0	-86	4	
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8689.0	70.0	358.8	8492	448	-159	455	10.0
8789.0	80.0	358.8	8518	544	-161	552	10.0
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CONDITIONS OF APPROVAL

OPERATOR'S NAME: | RKI Exploration & Production, LLC

LEASE NO.: | NMNM-22634

WELL NAME & NO.: East Pecos Federal 22-3H SURFACE HOLE FOOTAGE: 0050' FSL & 0530' FWL BOTTOM HOLE FOOTAGE 0230' FNL & 0330' FWL

LOCATION: Section 22, T. 26 S., R 29 E., NMPM

COUNTY: Eddy County, New Mexico

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. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. **As a result, the Hydrogen Sulfide area must meet** Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.
- 2. 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. 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.).

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

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. 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.

High Cave/Karst
Possibility of water flo

Possibility of water flows in the Salado and Castile. Possibility of lost circulation in the Delaware.

- 1. The 13-3/8 inch surface casing shall be set at approximately 375 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt. Fresh water mud to setting depth.
 - 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, which shall be set at approximately 2800 feet, is:
 - □ 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.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

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

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

- a. First stage to DV tool:
- Ement 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 should tie-back at least 300 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 liner is:
 - Cement should tie-back to the top of the liner. 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 3000 (3M) 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.
- 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.

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