Form 3160-5 FORM APPROVED UNITED STATES (August 2007) OBBS OMB NO. 1004-0135 ARTMENT OF THE INTERIOR Expires: July 31, 2010 BUREAU OF LAND MANAGEMEN Lease Serial No Field Office 1 SUNDRY NOTICES AND REPORTS ON Do not use this form for proposals to drill or to re-enter abandoned well. Use form 3160-3 (APD) for such propos Allottee or Tribe Name 7. If Unit or CA/Agreement, Name and/or No. SUBMIT IN TRIPLICATE - Other instructions on reverse side. 1. Type of Well Well Name and No. WHIRLING WIND 14 FED COM 701H ☑ Oil Well ☐ Gas Well ☐ Other Name of Operator STAN WAGNER API Well No. EOG RESOURCES INCORPORATEDE-Mail: stan_wagner@eogresources.com 30-025-42886-00-X1 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory Ph: 432-686-3689 WC-025 G09 S253336D MIDLAND, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 11. County or Parish, and State Sec 14 T26S R33E NENE 4FNL 556FEL LEA COUNTY, NM 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION □ Acidize ☐ Deepen ☐ Production (Start/Resume) ☐ Water Shut-Off ■ Notice of Intent ☐ Well Integrity ☐ Alter Casing ☐ Fracture Treat ☐ Reclamation ☐ Subsequent Report Other Casing Repair ■ New Construction □ Recomplete Change to Original A ☐ Final Abandonment Notice ☐ Change Plans □ Plug and Abandon ☐ Temporarily Abandon PD ☐ Convert to Injection ☐ Plug Back ■ Water Disposal 13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.) EOG Resources requests an amendment to our approved APD for this well to reflect changes in the drilling plan, notably: Casing design Cement program SEE ATTACHED FOR Plan to batch drill with Whirling Wind 11 Fed Com 702H CONDITIONS OF APPROVAL Anticipated spud date is 8/25/16. Drill plan details attached.

14. I hereby certify the	nat the foregoing is true and correct. Electronic Submission #348485 verifor EOG RESOURCES INCO Committed to AFMSS for processing by DEB	RPORAT	ED, sent to the Hobbs	
Name (Printed/Typ		Title	REGULATORY ANALYST	
Signature	(Electronic Submission)	Date	08/19/2016	
	THIS SPACE FOR FEDER	AL OR	STATE OFFICE USE	
Approved By (BLM	Approver Not Specified) Mustala 1409 ul	Title	PETROLEUM ENGINEER	Date 09/08/2016
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		r	e Hobbs	

States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Whirling Wind 14 Fed Com 701H 30-025-42886 EOG Resources, Inc Surface Location: Sec. 14, T. 26S, R. 33E Conditions of Approval

All previous COAs still apply, except for the following:

A. DRILLING OPERATIONS REQUIREMENTS

The operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well.

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. 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. 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.

Risks:

Possibility of Water Flows in the Castile and in the Salado Possibility of Lost Circulation in the Rustler, in the Red Beds and in the Delaware Abnormal pressures may be encountered upon penetrating the 3rd Bone Spring Sandstones and all subsequent formations.

The intermediate casing must be kept liquid filled while running into hole to meet minimum BLM requirements for collapse.

- 1. The minimum required fill of cement behind the 9 5/8 inch intermediate casing is:
 - Cement to surface. If cement does not circulate to the surface:
 - a. 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 remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - c. If cement falls back, remedial cementing will be done prior to drilling out that string.

Formation below the 9 5/8 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.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-393-3612) prior to tag of bottom plug, which must be a minimum of 200 feet in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Top of Wolfcamp plug is required at 12380', tagged and witness.

Variance is granted for centralizers in the production interval per the drilling program.

- 2. The minimum required fill of cement behind the $5\,1/2$ inch production casing is:
 - Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. Additional cement may be required since excess was calculated negative 61%.
- 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.

MHH 09082016



Whirling Wind 14 FC #701H & 702H Batch Drilling Procedure August 19, 2016 Option D

- 1. MIRU on the 701H.
- 2. Drill 17 1/2" surface hole to +-1000'
- 3. Run 13 3/8" casing 103/4" casing
- 4. Cement to surface, test casing on plug bump.
- 5. Wait 8 hours prior to cutting off surface casing. Install wellhead, NU BOPE and test same.
- 6. TIH with intermediate assembly.
- 7. Drill 12 1/2" intermediate hole to 11200'.
- 8. Run 9 5/8" casing, cement stage 1, pressure test casing on plug bump, RDMO cementers
- 9. TIH with drillpipe immediately after bumping plug. Once 500 psi CS is reached, drill out shoe track.
- 10. Concurrent operations: Drill pilot hole to 13500' TVD, simultaneously pump stage 2 and 3 int cement
- 11. TD pilot hole circulate hole clean, TOH run logs
- 12. TIH with DP and cement pilot hole back to intermediate casing
- 13. Set CIBP in 9 5/8" casing
- 14. Install dry hole cap with pressure gauge on 701H wellhead
- 15. Skid rig to the 702H
- 16. Drill 14 3/4" surface hole to +-1000'
- 17. Run 10 ¾" casing, makeup pre-welded Streamflo 11" FBD100 wellhead in casing and land same on 20" conductor
- 18. Cement to surface, test casing on plug bump.
- 19. NU BOP immediately after rigging down cement crew, (no WOC time is necessary before NU, as weight of casing/BOP is supported by conductor pipe)
- 20. Test BOP
- 21. Once at least 8 hours has passed trip in hole to drill int section
- 22. Concurrent operations: Drill 9 7/8" / 8 %" int hole on 702H. Simultaneously run CBL on int of 701H.
- 23. Run 7 5/8" casing, cement stage 1, test casing on plug bump, RDMO cementers
- 24. Skid rig back to the 701H.
- 25. TIH with 5" drillpipe and sidetrack off cement plug.
- 26. Concurrent operations: Drill vertical/curve/lateral to TD on 701H. Simultaneously pump stage 2, 3 cement on intermediate of 702H. Run CBL after WOC 24 hours.
- 27. Run and cement 6" production casing on 701H.
- 28. WOC 12 hours and set slips. Lay down 5" drillpipe while WOC.
- 29. Skid rig back to the 702H
- 30. TIH with 6 3/4" assembly, drill vertical/curve/lateral to TD.
- 31. Run 5 1/2" casing, cement same, WOC 12 hours, set slips, ND BOP, install dry hole cap w/ pressure gauge
- 32. RDMO drilling rig

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	900'
Top of Salt	1,255
Base of Salt / Top Anhydrite	4,920'
Base Anhydrite	5,160'
Lamar	5,160'
Bell Canyon	5,187
Cherry Canyon	6,250
Brushy Canyon	7,898
Bone Spring Lime	9,360'
1st Bone Spring Sand	10,275
2 nd Bone Spring Lime	10,470
2 nd Bone Spring Sand	10,805
3 rd Bone Spring Carb	11,155
3 rd Bone Spring Sand	11,905
Wolfcamp	12,330'
TD	13,500°

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0-400	Fresh Water
Cherry Canyon	6,250'	Oil
Brushy Canyon	7,898	Oil
1st Bone Spring Sand	10,275	Oil
2 nd Bone Spring Lime	10,470	Oil
2 nd Bone Spring Sand	11,805	Oil
3 rd Bone Spring Carb	11,155	Oil
3 rd Bone Spring Sand	11,905	Oil
Wolfcamp	12,330'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 10.75" casing at 925' and circulating cement back to surface.

4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0-925,940	10.75"	40.5#	J55	STC	1.125	1.25	1.60
12.25"	0-11,200'	9.625"	43.5#	HCP-110	LTC	1.125	1.25	1.60
8.75"	0'-9,000'	6"	24.5#	P-110EC	VAM Top HT	1.125	1.25	1.60
8.75"	9,000 '-19,962'	5.5"	23#	HCP-110	VAM Top HT	1.125	1.25	1.60

Centralizers will be placed in the 12-1/4" hole interval at least one every third joint.

Dependent emailed about not running 6:00"

Variance is also requested to wave any centralizer requirements for the 5-1/2" casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation.

Cementing Program: -DSEE COA

Depth	No. Sacks	Wt.	Yld Ft ³ /ft	Mix Water Gal/sk	Slurry Description
10-3/4" 925	600	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	300	14.8	1.34	6.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
7-5/8"	730	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2
11,200'	3275	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2
	675	15.6	1.19	5.20	Class H + 0.2% ASM-3 + 0.3% SCA-6 + 0.65% LTR + 0.3% SPC-2
13,500	110	17.8	0.91	11.56	230' Btm Hole Plug - Class 'H' + 1.20% CD-31 + 0.20% R-3 + 5.00% Salt (1.252 lb/sk)
11,700' - -12,000'12	350 380 ′	17.8	0.91	11.56	600' Sidetrack Plug - Class 'H' + 1.20% CD-31 + 0.20% R-3 + 5.00% Salt (1.252 lb/sk)
5-1/2" 19,962'	725	14.1	1.26	5.80	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,700')

(Cervent

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/250 psig and the annular preventer to 5000/250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/250 psig and the annular preventer to 5000/250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0-925 990	Fresh - Gel	8.6-8.8	28-34	N/c
925' - 11,200'	Brine	8.8-10.0	28-34	N/c
11,200' – 13,500' Pilot Hole	Oil Base	8.7-10.5	58-68	3-6
11,200' - 19,962' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

Triple Combo Open-hole logs are planned for this well.

GR-CCL Will be run in cased hole during completions phase of operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 182 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 7504 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 7,300' to Intermediate casing point.

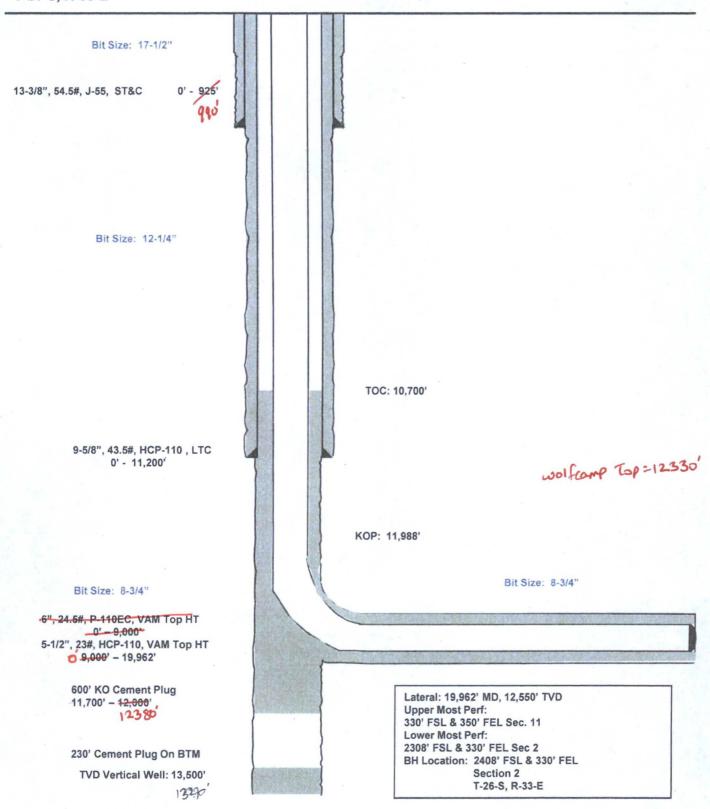
10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

Whirling Wind 14 Fed Com #701H

4' FNL 556' FEL Section 14 T-26-S, R-33-E Lea County, New Mexico Proposed Wellbore Revised 8/19/16 API: 30-025-42886

KB: 3,370' GL: 3,340'



VAM® TOP HT Coupling Length 10.748 Make-Up Loss 0.415 4.382 **Box Critical Area** Wall SWAGED DESIGN Connection Pipe Pin Connection Pipe O.D. O.D. Critical 6.156 I.D. 5.500 I.D. Area 4.607 4.670

O.D. 5.500 WEIGHT 23.00 WALL 0.415 GRADE NSSMC P110HC

Connection OD

DRIFT 4.545

6 156 in

PIPE BODY PROPERTIES

Material Grade	NSSMC P110HC
Min. Yield Strength	125 ksi
Min. Tensile Strength	125 ksi
Outside Diameter	5.500 in
Inside Diameter	4.670 in
Nominal Area	6.630 sq.in.

Yield Strength	829	kips
Ultimate Strength	829	kips
Min Internal Yield	16,510	psi
*High Collapse	16,220	psi

Contact: <u>tech.support@vam-usa.com</u> Ref. Drawing: SI-PD 100526 Rev.B

Date:

30-Apr-15 10:24 AM

CONNECTION PROPERTIES

Connection of	0.130 111
Connection ID	4.607 in
Make up Loss	4.382 in
Coupling Length	10.748 in
Box Critical Area	6.757 sq.in.
%PB Section Area	101.9%
Pin Critical Area	6.630 sq.in.
%PB Section Area	100.0%
Yield Strength	829 kips
Parting Load	829 kips
Min Internal Yield	16,510 psi
*High Collapse	16,220 psi
Wk Compression	663 kips
Max Pure Bending	30 °/100 ft
_	

TORQUE DATA ft-lb

min	opt	max
13,700	15,200	16,700

Max. Liner Torque: 20,000 ft-lb



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VAM® TOP HT Coupling Length 10.748 Make-Up Loss 0.400 4.382 **Box Critical Area** Wall SWAGED DESIGN Connection Pipe Pin Connection O.D. O.D. Pipe Critical I.D. 6.640 I.D. 6.000 Area 5.151 5.200

O.D. 6.000 WEIGHT 24.50 WALL 0.400

GRADE VST P110EC

Connection OD

DRIFT 5.075

6.640 in

PIPE BODY PROPERTIES

Material Grade	VST P110EC	
Min. Yield Strength	125 ksi	
Min. Tensile Strength	135 ksi	
Outside Diameter	6.000 in	
Inside Diameter	5.200 in	
Nominal Area	7.037 sq.in.	

Yield Strength	880	kips
Ultimate Strength	950	kips
Min Internal Yield	14,580	psi
Collapse	12,500	psi

Contact: tech.support@vam-usa.com Ref. Drawing: SI-PD 101720 Rev.A

Date: Time: 07-Jun-16 10:25 AM

CONNECTION PROPERTIES

Connection ID	5.151 in
Make up Loss	4.382 in
Coupling Length	10.748 in
Box Critical Area	7.179 sq.in.
%PB Section Area	102.0%
Pin Critical Area	7.037 sq.in.
%PB Section Area	100.0%
Yield Strength	880 kips
Parting Load	950 kips
Min Internal Yield	14,580 psi
Ext Pressure	12,500 psi
Wk Compression	704 kips
Max Pure Bending	30 °/100 ft

TORQUE DATA ft-lb

TOTAL BATTA ILIB		
min	opt	max
15,900	17,360	19,090

Max. Torque with Sealability: 21,400 ft-lb



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Haque, Mustafa <mhaque@blm.gov>

Whirling Wind 14 Fed Com #701H Sundry

Bruce Coit <Bruce_Coit@eogresources.com>

Wed, Aug 31, 2016 at 9:09 AM

To: "Haque Mustafa (mhaque@blm.gov)" <mhaque@blm.gov>

Cc: Kirby Castille < Kirby_Castille@eogresources.com >, Stan Wagner < Stan_Wagner@eogresources.com >

Mustafa,

Just touching base . . Have you had an opportunity to look at the Sundry that was filed on 8/19/16?

We have some time, as we anticipate spud around 9/10/16, but I just wanted to make sure you didn't have any major concerns.

Also, it looks like we will not be running the 6" in the long string. We'll go with a full string of the 5-1/2" 23# HCP-110 VAM Top HT.

Thanx,

>>>Bruce Coit Sr. Engineering Associate EOG Resources Office: (432) 686-3702 Mobile: (432) 553-4379

Bruce_Coit@EOGResources.com

