Form 3160 -3 (March 2012)

# Carlsbad Field Office OCD Artesia

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED OMB No. 1004-0137 Expires October 31, 2014

5. Lease Serial No. NMNM0438001

6. If Indian, Allotee or Tribe Name

la. Type of work: DRILL REENTI	ER			7. If Unit or CA Agr	reement, Name and No.				
lb. Type of Well: Oil Well Gas Well Other	Sin	gle Zone Multi	ple Zone	8. Lease Name and EASY WIND 30 F					
2. Name of Operator EOG RESOURCES INCORPORATED		7321	K	9. API Well No.	015-44923				
3a. Address 1111 Bagby Sky Lobby2 Houston TX 77002	3b. Phone No. (713)651-7	(include area code)		10. Field and Pool, or Exploratory RED HILLS / WILDCAT WOLFCAMP OIL					
4. Location of Well (Report location clearly and in accordance with an	ny State requireme	ents.*)		11. Sec., T. R. M. or I	Blk. and Survey or Area				
At surface   SESW / 760 FSL / 2015 FWL / LAT 32.00817	The same of	SEC 30 / T26S / F	R31E / NMP						
At proposed prod. zone NENW / 230 FNL / 2332 FWL / LA	T 32.034748	/ LONG -103.8186	6279						
4. Distance in miles and direction from nearest town or post office* 36 miles				12. County or Parish EDDY	13. State NM				
5. Distance from proposed* location to nearest 230 feet property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of ac 2201.36	cres in lease	17. Spacin 321.6	g Unit dedicated to this	well				
8. Distance from proposed location* to nearest well, drilling, completed, 679 feet applied for, on this lease, ft.	19. Proposed	Depth / 21229 feet	20. BLM/I FED: NI	BIA Bond No. on file M2308					
I. Elevations (Show whether DF, KDB, RT, GL, etc.) 3087 feet	22 Approxim 07/01/201	nate date work will sta	rrt*	23. Estimated duration 25 days	on and the second				
	24. Attac	hments			The state of the s				
he following, completed in accordance with the requirements of Onsho	re Oil and Gas (	Order No.1, must be a	ttached to th	is form:	general and Smith State				
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office).</li> </ol>	Lands, the	Item 20 above).  5. Operator certification of the state o	cation		n existing bond on file (see				
5. Signature	Name	(Printed/Typed)		<u> </u>	Date				
(Electronic Submission)	Stan \	Nagner / Ph: (432)	)686-3689	<u> </u>	03/09/2017				
tle Regulatory Specialsit	to the				10 1.50g h.g. 1				
pproved by (Signature) (Electronic Submission)		( <i>Printed/Typed)</i> Layton / Ph: (575)2	234-5959		Date 04/18/2018				
itle Supervisor Multiple Resources	Office CARL	SBAD	12		and a state of the				
pplication approval does not warrant or certify that the applicant hole onduct operations thereon. onditions of approval, if any, are attached.	ls legal or equit	able title to those righ	nts in the sub	ject lease which would	entitle the applicant to				
itle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a c tates any false, fictitious or fraudulent statements or representations as			willfully to n	nake to any department	or agency of the United				
Visit North Control of the Control o					A STATE OF THE PARTY OF THE PAR				

(Continued on page 2)

\*(Instructions on page 2)

NM OIL CONSERVATION ARTESIA DISTRICT

APR 26 2018

RECEIVED

APPROVED WITH CONDITIONS
Approval Date: 04/18/2018

RW 5-1-18

#### INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

# NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396, 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts. ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

(Form 3160-3, page 2)

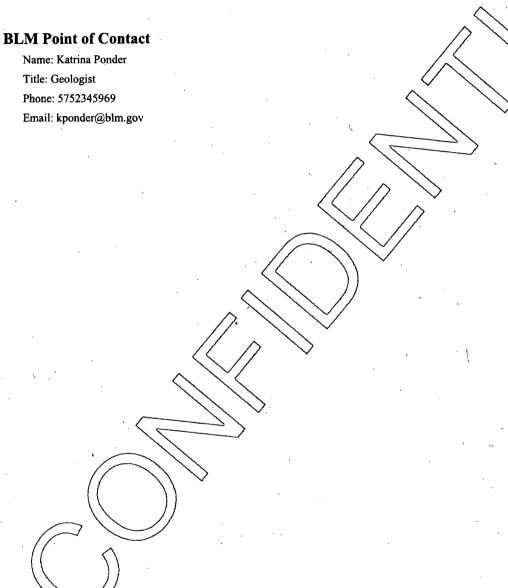
# **Additional Operator Remarks**

# Location of Well

1. SHL: SESW / 760 FSL / 2015 FWL / TWSP: 26S / RANGE: 31E / SECTION: 30 / LAT: 32.0081739 / LONG: -103.8196248 ( TVD: 0 feet, MD; 0 feet )

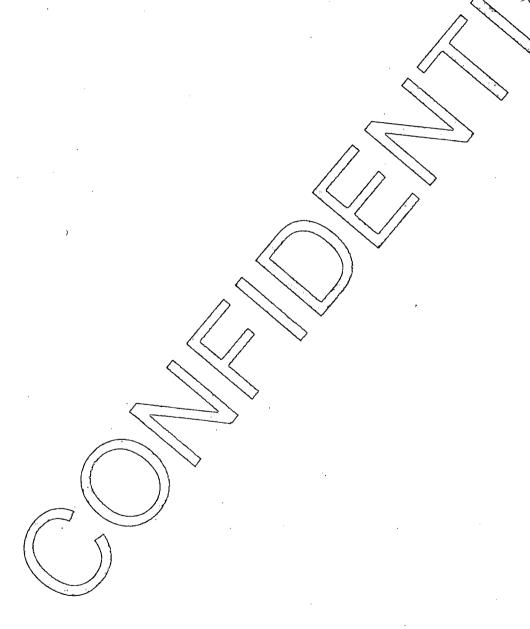
PPP: SESW / 330 FSL / 2338 FWL / TWSP: 26S / RANGE: 31E / SECTION: 30 / LAT: 32.0069979 / LONG: -103.8186279 ( TVD: 10971 feet, MD: 11129 feet )

BHL: NENW / 230 FNL / 2332 FWL / TWSP: 26S / RANGE: 31E / SECTION: 19 / LAT: 32.034748 / LONG: -103.8186279 ( TVD: 11015 feet, MD: 21229 feet )



# **Review and Appeal Rights**

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.



# GENERAL 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)
  - Chaves and Roosevelt Counties
    Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
    During office hours call (575) 627-0272.
    After office hours call (575)
  - Eddy County
    Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
  - ✓ Lea CountyCall the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 1. 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.
  - a. In the event 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(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. 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 are located, this does not include the dog house or stairway area.

3. 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.

#### A. CASING

- 1. 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.
- 2. Wait on cement (WOC) for Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. 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 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. 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.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

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- 7. 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.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### B. 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. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher 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.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - 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. 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.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
- 5. 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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
- d. 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.
- 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. 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.

#### C. 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.

#### D. 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.

# Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

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Approval Date: 04/18/2018

# PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

OPERATOR'S NAME: EOG Resources Inc.

LEASE NO.: NMNM0438001

WELL NAME & NO.: | 704H-Easy Wind 30 Fed Com

SURFACE HOLE FOOTAGE: 760'/S & 2015'/W BOTTOM HOLE FOOTAGE 230'/N & 2332'/W

LOCATION: | Section 30, T.26 S., R.31 E., NMPM

COUNTY: | Eddy County, New Mexico

# A. DRILLING OPERATIONS REQUIREMENTS

#### A. Hydrogen Sulfide

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.

#### **B. CASING**

- 1. The 10 3/4 inch surface casing shall be set at approximately 1050 feet (a minimum of 25 feet into the Rustler Anhydrite and 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 will be a minimum of **8** hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - 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.

Intermediate casing must be kept 1/3 fluid filled to meet safety factor requirements.

- 2. The minimum required fill of cement behind the 7 5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  - ❖ In <u>High Cave/Karst Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- 3. The minimum required fill of cement behind the 5 1/2 inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Additional cement maybe required excess only calculates to 6%.

#### C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be radily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2. 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.
- 3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7 5/8 intermediate casing shoe shall be 10,000 (10M) psi.

\*See attached for General Requirements

CLN 10/23/2017

# PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG Resources Inc.
LEASE NO.:	NMNM0438001
WELL NAME & NO.:	704H-Easy Wind 30 Fed Com
SURFACE HOLE FOOTAGE:	760'/S & 2015'/W
BOTTOM HOLE FOOTAGE	230'/N & 2332'/W
LOCATION:	Section 30, T.26 S., R.31 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
Phantom Bank Heronries
Watershed
Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
Road Section Diagram
□ Production (Post Drilling)
Well Structures & Facilities
Pipelines
Interim Reclamation
Final Abandanasa & Dadamatian

# 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.

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**Approval Date: 04/18/2018** 

# 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 ½ 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 Heronries

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.

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**Approval Date: 04/18/2018** 

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.

# Watershed

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

# 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)

Page 6 of 16

#### **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**

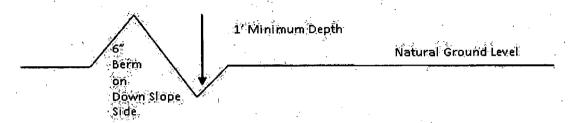
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

#### **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: 
$$\frac{400'}{4\%} + 100' = 200'$$
 lead-off ditch interval

#### Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards 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 cattle guards 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.

# **Construction Steps**

- 1. Salvage topsoil
- 3. Redistribute topsoil
- 2. Construct road
- 4. Revegetate slopes

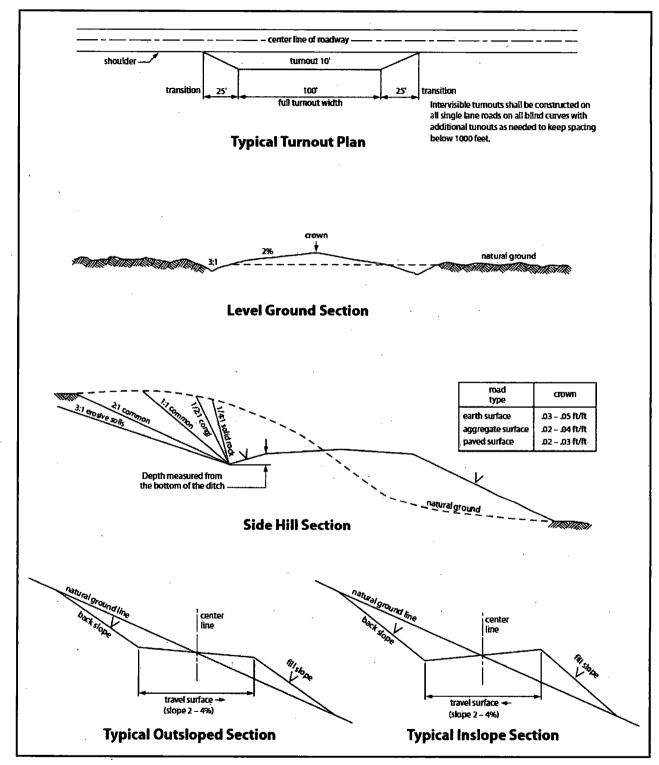


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

# VII. PRODUCTION (POST DRILLING).

#### 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 until the operator removes 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, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

#### **B.** PIPELINES

#### **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 et seq. (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, 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 the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of

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Approval Date: 04/18/2018

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-of-way.
- 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 30 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 \_\_\_6\_\_ 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.

Page, 12 of 16

- 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.

(X) seed mixture 1	( ) 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.

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**Approval Date: 04/18/2018** 

- 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.

#### VIII. 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).

#### IX. FINAL ABANDONMENT & RECLAMATION

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 1 for Loamy Sites**

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 no primary or secondary noxious weeds in the seed mixture. Seed shall 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 shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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 lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

<sup>\*</sup>Pounds of pure live seed:

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



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

# Operator Certification Data Report

# **Operator Certification**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently 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 the company I represent, 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.

NAME: Stan Wagner

Signed on: 03/09/2017

Title: Regulatory Specialsit

Street Address: 5509 Champions Drive

City: Midland

State: TX

Zip: 79702

Phone: (432)686-3689

Email address: Stan Wagner@eogresources.com

# **Field Representative**

Representative Name: Michael Yemm

Street Address: 5509 Champions Drive

City: Midland

State: TX

**Zip:** 79706

Phone: (432)556-7258

Email address: michael\_yemm@eogresources.com



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

# Application Data Report

APD ID: 10400010845

Submission Date: 03/09/2017

Highlighted data reflects the most

Operator Name: EOG RESOURCES INCORPORATED

recent changes

Well Name: EASY WIND 30 FED COM

Well Number: 704H

**Show Final Text** 

Well Type: OIL WELL

Well Work Type: Drill

#### Section 1 - General

APD ID:

10400010845

Tie to previous NOS?

Lease Acres: 2201.36

Federal or Indian agreement:

Submission Date: 03/09/2017

**BLM Office: CARLSBAD** 

User: Stan Wagner

Title: Regulatory Specialsit

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM0438001

Reservation:

Surface access agreement in place?

Allotted?

Agreement in place? NO

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: EOG RESOURCES INCORPORATED

Operator letter of designation:

#### **Operator Info**

Operator Organization Name: EOG RESOURCES INCORPORATED

Operator Address: 1111 Bagby Sky Lobby2

Operator PO Box:

Zip: 77002

Operator City: Houston

State: TX

Operator Phone: (713)651-7000

**Operator Internet Address:** 

# Section 2 - Well Information

Well in Master Development Plan? NO

Mater Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: EASY WIND 30 FED COM

Well Number: 704H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: RED HILLS

Pool Name: WILDCAT

**WOLFCAMP OIL** 

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EASY WIND 30 FED COM

Well Number: 704H

Describe other minerals:

Is the proposed well in a Helium production area? N Use Existing Well Pad? NO New surface disturbance?

Type of Well Pad: MULTIPLE WELL Multi

Multiple Well Pad Name: EASY Number: 703H/704H

Well Class: HORIZONTAL WIND 30 FED COM
Number of Legs: 1

Well Work Type: Drill
Well Type: OIL WELL
Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 36 Miles Distance to nearest well: 679 FT

Distance to lease line: 230 FT

Reservoir well spacing assigned acres Measurement: 321.6 Acres

Well plat: Easy\_Wind\_30\_Fed\_Com\_704H\_Signed\_C\_102\_03-09-2017.pdf

Well work start Date: 07/01/2017 Duration: 25 DAYS

#### **Section 3 - Well Location Table**

Survey Type: RECTANGULAR

**Describe Survey Type:** 

Datum: NAD83 Vertical Datum: NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	760	FSL	201 5	FWL	26S	31E	30	Aliquot SESW	32.00817 39	- 103.8196 248	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 043800 1	308 7	0	0
KOP Leg #1	58	FSL	231 3	FWL	26S	31E	30	Aliquot SESW	32.00624 13	- 103.8186 735	EDD Y	The state of the s	NEW MEXI CO	F	NMNM 043800 1	- 739 6	105 30	104 83
PPP Leg #1	330	FSL	233 8	FWL	26S	31E	30	Aliquot SESW	32.00699 79	- 103.8185 99	EDD Y	10 100 pm 20 00 00 00 00 00 00 00 00 00 00 00 00	NEW MEXI CO	F	NMNM 043800 1	- 788 4	111 29	109 71



# U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

# Drilling Plan Data Report

Submission Date: 03/09/2017

Operator Name: EOG RESOURCES INCORPORATED

Well Number: 704H

recent changes
Show Final Text

Highlighted data

reflects the most

Well Name: EASY WIND 30 FED COM

Well Work Type: Drill

Well Type: OIL WELL

**APD ID:** 10400010845

# **Section 1 - Geologic Formations**

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	3087	0	0		NONE	No
2	RUSTLER	2062	1025	1025	ANHYDRITE	NONE	No
3	TOP SALT	1354	1733	1733	SALT	NONE	No
4	BASE OF SALT	-528	3615	3615	SALT	NONE	No
5	LAMAR	-622	3709	3709	LIMESTONE	NONE	No
6	BELL CANYON	-663	3750	3750	SANDSTONE	NATURAL GAS,OIL	No
7	CHERRY CANYON	-1543	4630	4630	SANDSTONE	NATURAL GAS,OIL	No
8	BRUSHY CANYON	-2798	5885	5885	SANDSTONE	NATURAL GAS,OIL	No
9	BONE SPRING LIME	-4538	7625	7625	LIMESTONE	NONE	No
10	FIRST BONE SPRING SAND	-5365	8452	8452	SANDSTONE	NATURAL GAS,OIL	No
11	BONE SPRING 2ND	-6109	9196	9196	SANDSTONE	NATURAL GAS,OIL	No
12	BONE SPRING 3RD	-7376	10463	10463	SANDSTONE	NATURAL GAS,OIL	No
13	WOLFCAMP	-7780	10867	10867	SHALE	NATURAL GAS,OIL	Yes

# **Section 2 - Blowout Prevention**

**Operator Name: EOG RESOURCES INCORPORATED** 

Well Name: EASY WIND 30 FED COM Well Number: 704H

Pressure Rating (PSI): 10M Rating Depth: 11015

**Equipment:** 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 (10000-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 and Gas order No. 2.

#### Requesting Variance? YES

**Variance request:** Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line). Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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. Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

**Testing Procedure:** 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.

#### **Choke Diagram Attachment:**

10M\_Choke\_Manifold\_07-10-2017.pdf

#### **BOP Diagram Attachment:**

10M BOPE 07-10-2017.pdf

# Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	INTERMED IATE	9.87 5	7.625	NEW	API	N	0	1000	0	1000	3087	2087	1000	HCP -110	29.7	LTC	1.12 5	1.25	BUOY	1.6	BUOY	1.6
2	SURFACE	14.7 5	10.75	NEW	API	N	0	1050	0	1050	3087	2037	1050	J-55	40.5	STC	1.12 5	1.25	BUOY	1.6	BUOY	1.6
3	INTERMED IATE	9.87 5	7.625	NEW	API	N	1000	3000	1000	3000	3087	87	2000	OTH ER		OTHER - SLIJ II	1.12 5	1.25	BUOY	1.6	BUOY	1.6
4	PRODUCTI ON	6.75	5.5	NEW	API	N	0	9300	0	9300	3087	-6213	9300	OTH ER		OTHER - DWC/C-IS MS	1.12 5	1.25	BUOY	1.6	BUOY	1.6
5	INTERMED IATE	8.75	7.625	NEW	API	N	3000	9800	3000	9800	87	-6713	6800	HCP -110	29.7		77 5379-3530	1.25	BUOY	1.6	BUOY	1.6
	PRODUCTI ON	6.75	5.5	NEW	API	N	9300	21229	9300	11015	-6213	-7928	11929	OTH ER		OTHER - VAM SFC	1.12 5	1.25	BUOY	1.6	BUOY	1.6

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EASY WIND 30 FED COM

Well Number: 704H

Casing Attachments

Casing ID: 1 String Type:INTERMEDIATE
Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Easy\_Wind\_30\_Fed\_Com\_704H\_BLM\_Plan\_03-09-2017.pdf

Casing ID: 2 String Type:SURFACE
Inspection Document:

Spec Document:

Casing Design Assumptions and Worksheet(s):

Easy Wind 30\_Fed\_Com\_704H\_BLM\_Plan\_03-09-2017.pdf

Casing ID: 3 String Type: INTERMEDIATE

**Inspection Document:** 

**Tapered String Spec:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

Easy\_Wind\_30\_Fed\_Com\_704H\_BLM\_Plan\_03-09-2017.pdf

Operator Name: EOG RESC Well Name: EASY WIND 30		Well Number: 704H	
Casing Attachments			
Casing ID: 4 Inspection Document:	String Type:PRODUCTION		
Spec Document:			
Tapered String Spec:			
Casing Design Assumpt	ions and Worksheet(s):		
Easy_Wind_30_Fed	d_Com_704H_BLM_Plan_03-09	9-2017.pdf	
Casing ID: 5	String Type: INTERMEDIATE		
Inspection Document:			
,			
Spec Document:			
Tapered String Spec:			
Casing Design Assumpt	ions and Worksheet(s):		
	d_Com_704H_BLM_Plan_03-09	9-2017.pdf	
Casing ID: 6	String Type:PRODUCTION		
Inspection Document:			
Spec Document:			
Tapered String Spec:			

**Section 4 - Cement** 

Casing Design Assumptions and Worksheet(s):

 ${\sf Easy\_Wind\_30\_Fed\_Com\_704H\_BLM\_Plan\_03-09-2017.pdf}$ 

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EASY WIND 30 FED COM

Well Number: 704H

String Type	Lead/Tail	Stage Tool Depth	Тор МD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
NTERMEDIATE	Lead		0	0	0	0	0	0		0	0
PRODUCTION	Lead		0	0	0	0	0	0	. 0	0	0
1. (c)		2					d.	197.51		994	
INTERMEDIATE	Lead	7	0	0	0	0	0	0		0	0
2							es i				s v estimature
SURFACE	Lead		0	1050	400	1.73	13.5	692	25	Class C	Class C + 4.0% Bentonite + 0.6% CD- 32 + 0.5% CaCl2 + 0.29 Ib/sk Cello-Flake (TOC @ Surface)
SURFACE	Tail		1050	1050	200	1.34	14.8	268	25	Class C	Class C + 0.6% FL-62 0.25 lb/sk Cello-Flake - 0.2% Sodium Metasilicate
INTERMEDIATE	Lead		0	9800	2250	1.38	14.8	3105	25	Class C	Class C + 5% Gypsum + 3% CaCl2 pumped via bradenhead (TOC@surface)
INTERMEDIATE	Tail		9800	9800	550	1.2	14.4	660	25	Class H	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P
PRODUCTION	Lead		9300	2122 9	850	1.26	14.1	1071	25	Class H	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C 17 (TOC @ 9300')

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EASY WIND 30 FED COM Well Number: 704H

# **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

**Describe what will be on location to control well or mitigate other conditions:** (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. **Describe the mud monitoring system utilized:** An electronic pit volume totalizer (PVT) will be utilized on the circulating system to monitor pit volume, flow rate, pump pressure and stroke rate.

# **Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	ЬН	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1050	9800	SALT SATURATED	8.8	10							, #
9800	2122 9	OIL-BASED MUD	10	14						2,	
0	1050	WATER-BASED MUD	8.6	8.8							

# Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Open-hole logs are not planned for this well.

List of open and cased hole logs run in the well:

DS

Coring operation description for the well:

None

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EASY WIND 30 FED COM

Well Number: 704H

#### Section 7 - Pressure

**Anticipated Bottom Hole Pressure: 6586** 

**Anticipated Surface Pressure: 4162.7** 

Anticipated Bottom Hole Temperature(F): 168

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Easy Wind 30 Fed Com\_704H\_H2S\_Plan\_Summary\_03-09-2017.pdf

#### Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Easy\_Wind\_30\_Fed\_Com\_704H\_Planning\_Report\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_Wall\_Plot\_03-09-2017.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Easy Wind 30 Fed Com 704H 5.500in 20.00 VST\_P110EC\_DWC\_C\_IS\_MS\_Spec\_Sheet\_03-09-2017.pdf

Easy Wind 30 Fed Com 704H 5.500in 20.00 VST P110EC VAM SFC Spec Sheet 03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_7.625in\_29.7\_P110EC\_VAM\_SLIJ\_II\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_7.625in\_29.70\_P\_110\_FlushMax\_III\_Spec\_Sheet\_03-09-2017.pdf

Easy Wind 30 Fed Com 704H Proposed Wellbore 03-09-2017.pdf

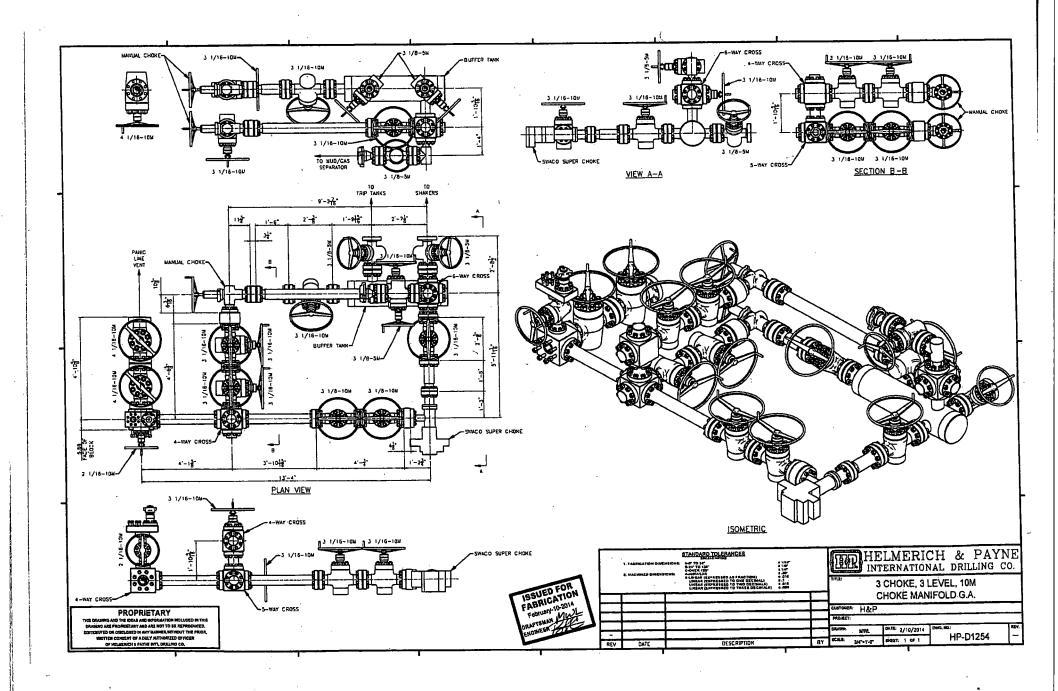
Easy\_Wind\_30\_Fed\_Com\_704H\_BLM\_Plan\_03-09-2017.pdf

Easy Wind 30 Fed Com 704H Rig Layout 03-09-2017.pdf

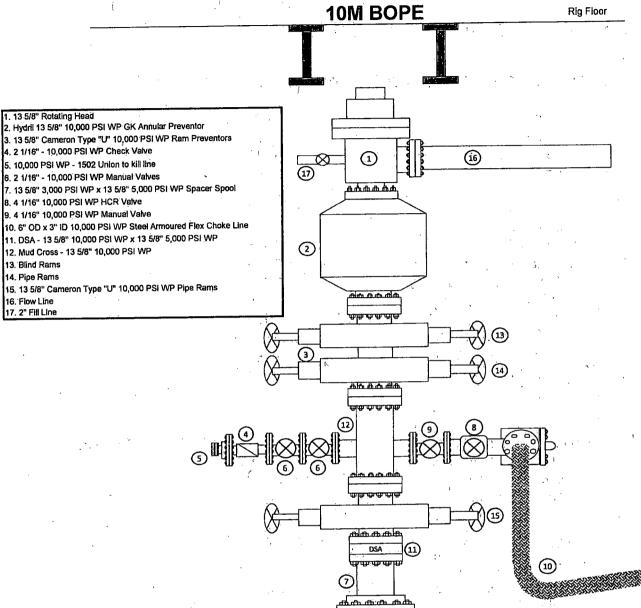
#### Other Variance attachment:

Easy\_Wind\_30\_Fed\_Com\_704H\_Co\_Flex\_Hose\_Certification\_03-09-2017.PDF

Easy Wind 30 Fed\_Com\_704H Co\_Flex\_Hose Test\_Chart\_03-09-2017.pdf



# Exhibit 1 EOG Resources



#### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

## 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025'
Top of Salt	1,733'
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	3,709'
Lamar	3,709'
Bell Canyon	3,750'
Cherry Canyon	4,630'
Brushy Canyon	5,885'
Bone Spring Lime	7,625'
1 <sup>st</sup> Bone Spring Sand	8,452'
2 <sup>nd</sup> Bone Spring Shale	8,859'
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632
3 <sup>rd</sup> Bone Spring Sand	10,463
Wolfcamp	10,867'
TD	11,015'

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

Upper Permian Sands	0-400	Fresh Water
Cherry Canyon	4,630'	Oil
Brushy Canyon	5,885'	Oil
1st Bone Spring Sand	8,452'	Oil
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil
2 <sup>nd</sup> Bone Spring Sand	9,196'	Oil
3 <sup>rd</sup> Bone Spring Carb	9,632'	Oil
3 <sup>rd</sup> Bone Spring Sand	10,463'	Oil -
Wolfcamp	10,867	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole		Csg				DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>
Size	Interval	OD .	Weight	Grade	Conn	Collapse	Burst	Tension
14.75"	0 – 1,050'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-1,000	7.625"	29.7#	HCP-	LTC	1.125	1.25	1.60
	·			110				
9.875"	1,000'-	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
	3,000'							<u></u>
8.75"	3,000' - 9,800'	7.625"	29.7#	HCP-	FlushMax III	1.125	1.25	1.60
•	* P*			110		i:		
6.75"	0'-9,300'	5.5"	20#	P-110EC	DWC/C-IS	1.125	1.25	1.60
] '	l.		,		MS			
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SEC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

#### **Cementing Program:**

<b>Depth</b>	No. Sacks	Wt.	Yld Ft³/ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,050"	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	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" 9,800°	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0:80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2" 21,229'	850	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 @ 9,300')

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 3500/250 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 3500/250 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 – 1,050'	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' – 9,800'	Brine	8.8-10.0	28-34	N/c
9,800' - 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

#### 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

## 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025'
Top of Salt	1,733'
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	<b>3,709'</b>
Lamar	3,709'
Bell Canyon	3,750'
Cherry Canyon	4,630'
Brushy Canyon	5,885'
Bone Spring Lime	7,625
1 <sup>st</sup> Bone Spring Sand	8,452'
2 <sup>nd</sup> Bone Spring Shale	8,859'
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632'
3 <sup>rd</sup> Bone Spring Sand	10,463
Wolfcamp	10,867
TD	11,015'

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

Upper Permian Sands	0- 400°	Fresh Wate
Cherry Canyon	4,630'	Oil
Brushy Canyon	5,885'	Oil
1 <sup>st</sup> Bone Spring Sand	8,452'	Oil
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil
2 <sup>nd</sup> Bone Spring Sand	9,196'	Oil
3 <sup>rd</sup> Bone Spring Carb	9,632	Oil
3 <sup>rd</sup> Bone Spring Sand	10,463'	Oil
Wolfcamp	10,867	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole		Csg				DF <sub>min</sub>	DFmin	$\mathbf{DF}_{\mathbf{min}}$
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
14.75"	0-1,050	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-1,000'	7.625"	29.7#	НСР-	LTC	1.125	1.25	1.60
				110				
9.875"	1,000' – 3,000'	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
8.75"	3,000' - 9,800'	7.625"	29.7#	HCP- 110	FlushMax III	1.125	1.25	1.60
6.75"	0' - 9,300'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

#### **Cementing Program:**

Depth	No. Sacks	Wt. ppg	Yld Ft³/ft	Mix Water Gal/sk	Slurry Description
10-3/4"	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25
1,050'					lb/sk Cello-Flake (TOC @ Surface)
	200	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"	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
9,800'	·			-1	(TOC @ Surface)
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20%
				•	CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped
					Conventionally
5-1/2"	850	14.1	1.26	5.80	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 +
21,229'					0.40% C-17 (TOC @ 9,300')

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 3500/250 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 3500/250 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 - 1,050'	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' - 9,800'	Brine	8.8-10.0	28-34	N/c
9,800' - 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

#### 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

#### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

#### 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025'
Top of Salt	1,733'
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	3,709'
Lamar	3,709°
Bell Canyon	3,750'
Cherry Canyon	4,630'
Brushy Canyon	5,885'
Bone Spring Lime	7,625
1 <sup>st</sup> Bone Spring Sand	8,452'
2 <sup>nd</sup> Bone Spring Shale	8,859'
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632'
3 <sup>rd</sup> Bone Spring Sand	10,463°
Wolfcamp	10,867
TD	11,015'

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	4,630'	Oil
Brushy Canyon	5,885'	Oil
1st Bone Spring Sand	8,452'	Oil
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil
2 <sup>nd</sup> Bone Spring Sand	9,196'	Oil
3 <sup>rd</sup> Bone Spring Carb	9,632'	Oil
3 <sup>rd</sup> Bone Spring Sand	10,463'	Oil
Wolfcamp	10,867	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF <sub>min</sub> Collapse	DF <sub>min</sub> Burst	DF <sub>min</sub> Tension
14.75"	0 – 1,050'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-1,000'	7.625"	29.7#	HCP- 110	LTC	1.125	1.25	1.60
9.875"	1,000' – 3,000'	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
8.75"	3,000' – 9,800'	7.625"	29.7#	HCP- 110	FlushMax III	1.125	1.25	1.60
6.75"	0'-:9,300'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

#### **Cementing Program:**

Depth	No. Sacks	Wt. ppg	Yld Ft <sup>3</sup> /ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,050°	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	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" 9,800'	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
•	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2." 21,229'	850	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 @ 9,300')

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 3500/250 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 3500/250 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
0-1,050	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' - 9,800'	Brine	8.8-10.0	28-34	N/c
9,800' – 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

#### 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

## 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

## 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025'
Top of Salt	1,733'
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	3,709
Lamar	3,709'
Bell Canyon	3,750'
Cherry Canyon	4,630'
Brushy Canyon	5,885'
Bone Spring Lime	7,625
1 <sup>st</sup> Bone Spring Sand	8,452
2 <sup>nd</sup> Bone Spring Shale	8,859'
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632'
3 <sup>rd</sup> Bone Spring Sand	10,463'
Wolfcamp	10,867
TD	11,015'
,	

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

Upper Permian Sands	0- 400'	Fresh Wate
Cherry Canyon	4,630'	Oil
Brushy Canyon	5,885'	Oil
1st Bone Spring Sand	8,452	Oil
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil
2 <sup>nd</sup> Bone Spring Sand	9,196'	Oil
3 <sup>rd</sup> Bone Spring Carb	9,632'	Oil
3 <sup>rd</sup> Bone Spring Sand	10,463	Oil
Wolfcamp	10,867'	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole		Csg				DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
14.75"	0 - 1,050	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-1,000'	7.625"	29.7#	HCP- 110	LTC	1.125	1.25	1.60
9.875"	1,000' – 3,000'	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
8.75"	3,000' – 9,800'	7.625"	29.7#	HCP- 110	FlushMax III	1.125	1.25	1.60
6.75"	0' – 9,300'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

#### **Cementing Program:**

Depth	No. Sacks	Wt.	Yld Ft³/ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,050'	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	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" 9,800°	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2" 21,229°	850	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 @ 9,300')

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 3500/250 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 3500/250 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 – 1,050'	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' - 9,800'	Brine	8.8-10.0	28-34	N/c
9,800' - 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

#### **8. LOGGING, TESTING AND CORING PROGRAM:**

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

#### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

#### 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025
Top of Salt	1,733
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	3,709'
Lamar	3,709
Bell Canyon	3,750'
Cherry Canyon	4,630
Brushy Canyon	5,885'
Bone Spring Lime	7,625
1 <sup>st</sup> Bone Spring Sand	8,452
2 <sup>nd</sup> Bone Spring Shale	8,859'
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632'
3 <sup>rd</sup> Bone Spring Sand	10,463'
Wolfcamp	10,867'
TD	11,015'

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

Upper Permian Sands	0-400'	Fresh Water
Cherry Canyon	4,630	Oil
Brushy Canyon	5,885'	Oil
1 <sup>st</sup> Bone Spring Sand	8,452'	Oil
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil .
2 <sup>nd</sup> Bone Spring Sand	9,196'	Oil
3 <sup>rd</sup> Bone Spring Carb	9,632'	Oil
3 <sup>rd</sup> Bone Spring Sand	10,463	Oil
Wolfcamp	10,867'	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole	T41	Csg	XX7-2-1-4	C	C	DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension_
14.75"	0 - 1,050	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-1,000	7.625"	29.7#	HCP-	LTC	1.125	1.25	, 1.60
ļ				110	<b>`</b>	<u> </u>		
9.875"	1,000' -	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
	3,000'				·	٠.	1.	
8.75"	3,000' - 9,800'	7.625"	29.7#	HCP-	FlushMax III	1.125	1.25	1.60
			•	110		- 1		
6.75".	0' - 9,300'	5.5"	20#	P-110EC	DWC/C-IS	1.125	1.25	1.60
	·				MS_		• • • • • • • • • • • • • • • • • • • •	
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

#### **Cementing Program:**

Depth	No. Sacks	Wt.	Yld Ft³/ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,050°	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	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" 9,800°	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2" 21,229°	850	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 @ 9,300')

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 3500/250 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 3500/250 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	Туре	Weight (ppg)	Viscosity	Water Loss
0 – 1,050'	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' - 9,800'	Brine	8.8-10.0	28-34	N/c
9,800' - 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

#### 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

#### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

### 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025'
Top of Salt	1,733'
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	3,709'
Lamar	3,709'
Bell Canyon	3,750'
Cherry Canyon	4,630'
Brushy Canyon	5,885'
Bone Spring Lime	7,625
1 <sup>st</sup> Bone Spring Sand	8,452'
2 <sup>nd</sup> Bone Spring Shale	8,859'
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632'
3 <sup>rd</sup> Bone Spring Sand	10,463
Wolfcamp	10,867
TD	11,015'

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

Upper Permian Sands	0-400'	Fresh Water		
Cherry Canyon	4,630'	Oil		
Brushy Canyon	5,885'	Oil		
1st Bone Spring Sand	8,452'	Oil		
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil		
2 <sup>nd</sup> Bone Spring Sand	9,196'	Őil		
3 <sup>rd</sup> Bone Spring Carb	9,632'	Oil		
3 <sup>rd</sup> Bone Spring Sand	10,463	Oil		
Wolfcamp	10,867	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole		Csg				DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
14.75"	0 – 1,050'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0 – 1,000'	7.625"	29.7#	HCP-	LTC	1.125	1.25	1.60
				110				
9.875"	1,000' – 3,000'	7.625"	29.7#	P-110EC	SLIJ II	1.125	1.25	1.60
8.75"	3,000' - 9,800'	7.625"	29.7#	HCP- 110	FlushMax III	1.125	1.25	1.60
6.75"	0' - 9,300'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

#### **Cementing Program:**

Depth	No. Sacks	Wt. ppg	Yld Ft <sup>3</sup> /ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,050°	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	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" 9,800°	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2" 21,229'	850	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 @ 9,300')

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 3500/250 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 3500/250 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
0-1,050'	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' - 9,800'	Brine	8.8-10.0	28-34	N/c
9,800' - 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral		·		

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

#### 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

# Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:
  - Well control equipment
    - a. Flare line 150' from wellhead to be ignited by flare gun.
    - b. Choke manifold with a remotely operated choke.
    - c. Mud/gas separator
  - Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escape packs —4 packs shall be stored on the rig floor th sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.

#### Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher
- H2S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  - c. Two wind socks will be placed in strategic locations, visible from all angles.

■ Mud program:

The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

■ Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

■ Communication:

Communication will be via cell phones and land lines where available.

**Emergency Assistance Telephone List** 

PUBLIC SAFETY:	911 or
Eddy County Sheriff's Department	(575) 887-7551
Kent Waller	
Fire Department:	•
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals:	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
New Mexico Oil Conservation	(575) 476-3440
U.S. Dept. of Labor	(575) 887-1174
•	
EOG Resources, Inc.	
EOG / Midland	Office (432) 686-3600
Company Drilling Consultants:	
Jett Dueitt	Cell (432) 230-4840
Blake Burney	` ,
· *	·
<b>Drilling Engineer</b>	
Steve Munsell	Office (432) 686-3609
	Cell (432) 894-1256
Drilling Manager	
Heath Work	Office (432) 686-6716
	Cell (903) 780-1179
Drilling Superintendent	
Jason Fitzgerald	Office (432) 848-9029
	Cell (318) 347-3916
H&P Drilling	
H&P Drilling	Office (432) 563-5757
H&P 415 Drilling Rig	Rig (432) 230-4840
•	
Tool Pusher:	
Johnathan Craig	Cell (817) 760-6374
Brad Garrett	
Safety	
Brian Chandler (HSE Manager)	Office (432) 686-3695
	Cell (817) 239-0251



## **EOG Resources - Midland**

Eddy County, NM (NAD 83 NME) Easy Wind 30 Fed Com #704H

OH

Plan: Plan #0.1

## **Standard Planning Report**

08 March, 2017



#### EOG Resources, Inc.

Planning Report

Database: Company: Project:

EDM 5000.1 Single User Db EOG Resources - Midland Eddy County, NM (NAD 83 NME)

Easy Wind 30 Fed Com

Site: Well: Wellbore: Design:

#704H OH Plan #0.1 **Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well #704H

KB = 25' @ 3112.00usft KB = 25' @ 3112.00usft

Grid

Minimum Curvature

Project

Eddy County, NM (NAD 83 NME)

Map System: Geo Datum:

US State Plane 1983 North American Datum 1983

System Datum:

Mean Sea Level

Map Zone:

New Mexico Eastern Zone

Site

Well

Easy Wind 30 Fed Com

Site Position:

Мар

Northing:

367,075.00 usft

Latitude:

32.00814804

From:

Easting:

699,112.00 usft

Longitude:

Well Position

**Position Uncertainty:** 

0.00 usft Slot Radius:

13-3/16 "

**Grid Convergence:** 

-103.82432168

0.27°

+N/-S

ОН

#704H

16.00 usft 1,456.00 usft

0.00 usft

Northing:

367,091.00 usft

Latitude:

32.00817308

**Position Uncertainty** 

+E/-W

Easting:

Wellhead Elevation:

700,568.00 usft 0.00 usft Longitude: Ground Level: -103.81962425 3,087.00 usft

Magnetics

**Model Name** 

IGRF2015

Sample Date

Declination

3/8/2017

7.08

Dip Angle (°)

Field Strength

(nT) 47,814

Design

Wellbore

Plan #0.1

Audit Notes:

Version:

Phase:

PLAN

Tie On Depth:

0.00

Depth From (TVD)

+E/-W (usft)

**Vertical Section:** 

(usft) 0.00

+N/-S (usft) 0.00

(°)

0.00

Direction

(°) 1.55

59.83

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,708.74	7.09	156.97	4,706.94	-40.29	17.12	1.00	1.00	0.00	156.97	
10,530.08	7.09	156.97	10,483.79	-701.33	298.06	0.00	0.00	0.00	0.00	
11,334.55	90.00	359.66	11,015.00	-226.83	320.72	12.00	10.31	-19.56	-157.16	
21,229,55	90.00	359.66	11,015.00	9.668.00	262.00	0.00	0.00	0.00	0.00	PBHL (Easy Wind

# **S**eog resources

## **EOG Resources, Inc.**

Planning Report

Database: Company: Project: EDM 5000.1 Single User Db EOG Resources - Midland Eddy County, NM (NAD 83 NME)

Easy Wind 30 Fed Com

Well: Wellbore: Design:

Site:

#704H OH Plan #0.1 Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #704H

KB = 25' @ 3112.00usft KB = 25' @ 3112.00usft

Grid

<b>Planned Survey</b>	Pla	ann	ed S	Surv	ey
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(usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
								0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
								0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00		0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00		3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	. 0.00	0.00	0.00	0.00
4,100.00	1.00	156.97	4,100.00	-0.80	0.34	-0.79	1.00	1.00	0.00
4,200.00	2.00	156.97	4,199.96	-3.21	1.37	-3.17	1.00	1.00	0.00
4,300.00	3.00	156.97	4,299.86	-7.23	3.07	-7.14	1.00	1.00	0.00
4,400.00	4.00	156.97	4,399.68	-12.85	5.46	-12.69	1.00	1.00	0.00
4,500.00	5.00	156.97	4,499.37	-20.07	8.53	-19.83	1.00	1.00	0.00
	6.00	156.97	4,499.37	-28.89	12.28	-28.54	1.00	1.00	0.00
4,600.00				-40.29	17.12	-39.81	1.00	1.00	0.00
4,708.74	7.09	156.97	4,706.94					0.00	0.00
4,800.00	7.09	156.97	4,797.50	-50.65	21.53	-50.05	0.00		
4,900.00	7.09	156.97	4,896.73	-62.01	26.35	-61.27	0.00	0.00	0.00
5,000.00	7.09	156.97	4,995.97	-73.37	31.18	-72.49	0.00	0.00	0.00
5,100.00	7.09	156.97	5,095.20	-84.72	36.01	-83.71	0.00	0.00	0.00
5,200.00	7.09	156.97	5,194.44	-96.08	40.83	-94.93	0.00	0.00	0.00

# **eog resources**

### EOG Resources, Inc.

Planning Report

Database: EDM 5000.1 Single User Db
Company: EOG Resources - Midland
Project: Eddy County, NM (NAD 83 NME)
Site: Easy Wind 30 Fed Com

 Well:
 #704H

 Wellbore:
 OH

 Design:
 Plan #0.1

Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Well #704H

KB = 25' @ 3112.00usft KB = 25' @ 3112.00usft

Grid

elibore: esign:	Plan #0.1								
lanned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
5,400.00	7.09	156.97	5,392.91	-118.79	50.48	-117.38	0.00	0.00	0.00
5,500.00	7.09	156.97	5,492.15	-130.14	55.31	-128.60	0.00	0.00	0.00
5,600.00	7.09	156.97	5,591.38	-141.50	60.14	-139.82	0.00	0.00	0.00
5,700.00	7.09	156.97	5,690.62	-152.85	64.96	-151.04	0.00	0.00	0.00
5,800.00	7.09	156.97	5.789.86	-164.21	69.79	-162.26	0.00	0.00	0.00
5,900.00	7.09	156.97	5,889.09	-175.56	74.61	-173.48	0.00	0.00	0.00
6,000.00	7.09	156.97	5,988.33	-186.92	79.44	-184.70	0.00	0.00	0.00
6,100.00	7.09	156.97	6,087.56	-198.27	84.27	-195.92	0.00	0.00	0.00
6,200.00	7.09	156.97	6,186.80	-209.63	89.09	-207.14	0.00	0.00	0.00
6,300.00	7.09	156.97	6,286.04	-220.99	93.92	-218.36	0.00	0.00	0.00
6,400.00	7.09	156.97	6,385.27	-232.34	98.74	-229.58	0.00	0.00	0.00
6,500.00	7.09	156.97	6,484.51	-243.70	103.57	-240.80	0.00	0.00	0.00
6,600.00	7.09	156.97	6,583.74	-255.05	108.40	-252.02	0.00	0.00	0.00
6,700.00	7.09	156.97	6,682.98	-266.41	113.22	-263.24	0.00	0.00	0.00
6,800.00	7.09	156.97	6,782.21	-277.76	118.05	-274.46	0.00	0.00	0.00
6,900.00	7.09	156.97	6,881.45	-289.12	122.87	-285.68	0.00	0.00	0.00
7,000.00	7.09	156.97	6,980.69	-300.47	127.70	-296.90	0.00	0.00	0.00
7,100.00	7.09	156.97	7,079.92	-311.83	132.53	-308.12	0.00	0.00	0.00
7,200.00	7.09	156.97	7,179.16	-323.18	137.35	-319.35	0.00	0.00	0.00
7,300.00	7.09	156.97	7,278.39	-334.54	142.18	-330.57	0.00	0.00	0.00
7,400.00	7.09	156.97	7,377.63	-345.90	147.00	-341.79	0.00	0.00	0.00
7,500.00	7.09	156.97	7,476.87	-357.25	151.83	-353.01	0.00	0.00	0.00
7,600.00	7.09	156.97	7,576.10	-368.61	156.66	-364.23	0.00	0.00	0.00
7,700.00	7.09	156.97	7,675.34	-379.96	161.48	-375.45	0.00	0.00	0.00
7,800.00	7.09	156.97	7,774.57	-391.32	166.31	-386.67	0.00	0.00	0.00
7,900.00	7.09	156.97	7,873.81	-402.67	171.13	-397.89	0.00	0.00	0.00
8,000.00	7.09	156.97	7,973.05	-414.03	175.96	-409.11	0.00	0.00	0.00
8,100.00	7.09	156.97	8,072.28	-425.38	180.79	-420.33	0.00	0.00	0.00
8,200.00	7.09	156.97	8,171.52	-436.74	185.61	-431.55	0.00	0.00	0.00
8,300.00	7.09	156.97	8,270.75	-448.09	190.44	-442.77	0.00	0.00	0.00
8,400.00	7.09	156.97	8,369.99	-459.45	195.26	-453.99	0.00	0.00	0.00
8,500.00	7.09	156.97	8,469.23	-470.81	200.09	-465.21	0.00	0.00	0.00
8,600.00	7.09	156.97	8,568.46	-482.16	204.92	-476.43	0.00	0.00	0.00
8,700.00	7.09	156.97	8,667.70	-493.52	209.74	-487.65	0.00	0.00	0.00
8,800.00	7.09	156.97	8,766.93	-504.87	214.57	-498.87	0.00	0.00	0.00
8,900.00	7.09	156.97	8,866.17	-516.23	219.39	-510.09	0.00	0.00	0.00
9,000.00	7.09	156.97	8,965.40	-527.58	224.22	-521.31	0.00	0.00	0.00
9,100.00	7.09	156.97	9,064.64	-538.94	229.05	-532.54	0.00	0.00	0.00
9,200.00	7.09	156.97	9,163.88	-550.29	233.87	-543.76	0.00	0.00	0.00
9,300.00	7.09	156.97	9,263.11	-561.65	238.70	-554.98	0.00	0.00	0.00
9,400.00	7.09	156.97	9,362.35	-573.00	243.52	-566.20	0.00	0.00	0.00
9,500.00	7.09	156.97	9,461.58	-584.36	248.35	-577.42	0.00	0.00	0.00
9,600.00	7.09	156.97	9,560.82	-595.72	253.18	-588.64	0.00	0.00	0.00
9,700.00	7.09	156.97	9,660.06	-607.07	258.00	-599.86	0.00	0.00	0.00
9,800.00	7.09	156.97	9,759.29	-618.43	262.83	-611.08	0.00	0.00	0.00
9,900.00	7.09	156.97	9,858.53	-629.78	267.65	-622.30	0.00	0.00	0.00
10,000.00	7.09	156.97	9,957.76	-641.14	272.48	-633.52	0.00	0.00	0.00
10,100.00	7.09	156.97	10,057.00	-652.49	277.31	-644.74	0.00	0.00	0.00
10,200.00	7.09	156.97	10,156.24	-663.85	282.13	-655.96	0.00	0.00	0.00
10,300.00	7.09	156.97	10,755.24	-675.20	286.96	-667.18	0.00	0.00	0.00
10,400.00	7.09	156.97	10,354.71	-686.56	291.78	-678.40	0.00	0.00	0.00
10,500.00	7.09	156.97	10,453.94	-697.91	296.61	-689.62	0.00	0.00	0.00
10,530.08	7.09	156.97	10,483.79	-701.33	298.06	-693.00	0.00	0.00	0.00
10,550.00	4.97	146.21	10,503.60	-703.18	299.02	-694.82	12.00	-10.62	-54.06

# **S**eog resources

## **EOG** Resources, Inc.

Planning Report

Database: Company: Project:

Site:

EDM 5000.1 Single User Db EOG Resources - Midland Eddy County, NM (NAD 83 NME) Easy Wind 30 Fed Com

Well: Wellbore: #704H OH Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well #704H

KB = 25' @ 3112.00usft

KB = 25' @ 3112.00usft Grid

ign:	Plan #0.1								
ned Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
10,575.00 10,600.00	2.97 3.31	112.33 55.61	10,528.54 10,553.51	-704.33 -704.16	300.22 301.42	-695.93 -695.74	12.00 12.00	-7.99 1.35	-135.51 -226.88
10,625.00	5.57	29.08	10,578.44	-702.69	302.61	-694.24	12.00	9.05	-106.10
10,650.00	8.32	18.81	10,603.25	-699.92	303.78	-691.43	12.00	10.97	-41.10
10,675.00	11.19	13.69	10,627.89	-695.85	304.94	-687.33	12.00	11.50	-20.49
10,700.00	14.12	10.65	10,652.28	-690.50	306.08	-681.95	12.00	11.71	-12.14
10,725.00	17.07	8.64	10,676.36	-683.87	307.19	-675.30	12.00	11.81	-8.03
10,750.00	20.04	7.22	10,700.06	-675.99	308.28	-667.39	12.00	11.86	-5.71
10,775.00	23.01	6.14	10,723.31	-666.88	309.34	-658.26	12.00	11.90	-4.29
10,800.00	25.99	5.30	10,746.06	-656.57	310.37	-647.92	12.00	11.92	-3.35
10,825.00	28.97	4.63	10,768.23	-645.08	311.37	-636.41	12.00	11.94	-2.71
10,850.00	31.96	4.07	10,789.78	-632.44	312.32	-623.75	12.00	11.95	-2.24
10,875.00	34.95	3.59	10,810.63	-618.69	313.24	-609.98	12.00	11.95	-1.89
10,900.00	37.94	3.19	10,830.74	-603.87	314.12	-595.14	12.00	11.96	-1.63
10,925.00	40.93	2.83	10,850.05	-588.01	314.95	-579.26	12.00	11.97	-1.43
10,950.00	43.92	2.51	10,868.50	-571.17	315.74	-562.40	12.00	11.97	-1.26
10,975.00	46.92	2.23	10,886.05	-553.38	316.47	-544.60	12.00	11.97	-1.13
11,000.00	49.91	1.97	10,902.64	-534.69	317.16	-525.90	12.00	11.98	-1.03
11,025.00	52.90	1.74	10,918.23	-515.16	317.79	-506.37	12.00	11.98	-0.94
11,050.00	55.90	1.52	10,932.78	-494.85	318.37	-486.04	12.00	11.98	-0.87
11,075.00	58.89	1.32	10,946.25	-473.80	318.89	-464.98	12.00	11.98	-0.81
11,100.00	61.89	1.13	10,958.60	-452.07	319.35	-443.25	12.00	11.98	-0.76
11,125.00	64.88	0.95	10,969.80	-429.72	319.75	-420.90	12.00	11.98	-0.72
11,150.00	67.88	0.78	10,979.82	-406.82	320.10	-398.00	12.00	11.98	-0.68
11,175.00	70.88	0.61	10,988.62	-383.43	320.38	-374.61	12.00	11.98	-0.66
11,200.00	73.87	0.45	10,996.19	-359.61	320.60	-350.79	12.00	11.98	-0.63 -0.61
11,225.00	76.87	0.30	11,002.50	-335.42	320.76	-326.61	12.00	11.99	
11,250.00	79.87	0.15	11,007.54	-310.94	320.86	-302.13	12.00	11.99	-0.60
11,275.00	82.86	0.00	11,011.30	-286.22	320.89	-277.42	12.00	11.99	-0.59
11,300.00	85.86	359.86	11,013.75	-261.35	320.86	-252.56	12.00	11.99	-0.58
11,325.00	88.86	359.71	11,014.90	-236.38	320.77	-227.60	12.00	11.99	-0.58
11,334.55	90.00	359.66	11,015.00	-226.83	320.72	-218.05	12.00	11.99	-0.57
11,400.00	90.00	359.66	11,015.00	-161.38	320.33	-152.64	0.00	0.00	0.00
11,500.00	90.00	359.66	11,015.00	-61.38	319.74	-52.70	0.00	0.00	0.00
11,600.00	90.00	359.66	11,015.00	38.62	319.14	47.25	0.00	0.00	0.00
11,700.00	90.00	359.66	11,015.00	138.62	318.55 317.96	147.20 247.14	0.00	0.00	0.00
11,800.00	90.00	359.66	11,015.00	238.62					
11,900.00	90.00	359.66	11,015.00	338.61	317.36	347.09	0.00	0.00	0.00
12,000.00	90.00	359.66	11,015.00	438.61	316.77	447.03	0.00	0.00	0.00
12,100.00	90.00	359.66	11,015.00	538.61	316.18	546.98	0.00	0.00	0.00
12,200.00	90.00	359.66	11,015.00	638.61	315.58	646.92	0.00	0.00	0.00
12,300.00	90.00	359.66	11,015.00	738.61	314.99	746.87	0.00	0.00	0.00
12,400.00	90.00	359.66	11,015.00	838.60	314.40	846.81	0.00	0.00	0.00
12,500.00	90.00	359.66	11,015.00	938.60	313.80	946.76	0.00	0.00	0.00
12,600.00	90.00	359.66	11,015.00	1,038.60	313.21	1,046.70	0.00	0.00	0.00
12,700.00	90.00	359.66	11,015.00	1,138.60	312.62	1,146.65	0.00	0.00	0.00
12,800.00	90.00	359.66	11,015.00	1,238.60	312.02	1,246.60	0.00	0.00	0.00
12,900.00	90.00	359.66	11,015.00	1,338.60	311.43	1,346.54	0.00	0.00	0.00
13,000.00	90.00	359.66	11,015.00	1,438.59	310.83	1,446.49	0.00	0.00	0.00
13,100.00	90.00	359.66	11,015.00	1,538.59	310.24	1,546.43	0.00	0.00	0.00
13,200.00	90.00	359.66	11,015.00	1,638.59	309.65	1,646.38	0.00	0.00	0.00
13,300.00	90.00	359.66	11,015.00	1,738.59	309.05	1,746.32	0.00	0.00	0.00
13,400.00	90.00	359.66	11,015.00	1,838.59	308.46	1,846.27	0.00	0.00	0.00
13,500.00	90.00	359.66	11,015.00	1,938.59	307.87	1,946.21	0.00	0.00	0.00

# eog resources

## EOG Resources, Inc.

Planning Report

Database: Company: Project:

Site:

EDM 5000.1 Single User Db EOG Resources - Midland Eddy County, NM (NAD 83 NME)

Easy Wind 30 Fed Com

 Well:
 #704H

 Wellbore:
 OH

 Design:
 Plan #0.1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #704H

KB = 25' @ 3112.00usft KB = 25' @ 3112.00usft

Grid

D	2	n	n	0	d	8	 rv	01	ú

13,600.00 13,700.00 13,800.00 13,800.00 14,000.00 14,100.00 14,200.00 14,300.00 14,500.00 14,700.00 14,700.00 14,800.00	90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66 359.66 359.66 359.66 359.66 359.66	Depth (usft)  11,015.00 11,015.00 11,015.00 11,015.00 11,015.00 11,015.00 11,015.00 11,015.00	+N/-S (usft)  2,038.58 2,138.58 2,238.58 2,338.58 2,438.58 2,538.57 2,638.57	+E/-W (usft)  307.27 306.68 306.09 305.49 304.90	2,046.16 2,146.11 2,246.05 2,346.00	Rate (°/100usft) 0.00 0.00 0.00	Rate (°/100usft) 0.00 0.00 0.00	Rate (°/100usft) 0.00 0.00
13,700.00 13,800.00 13,900.00 14,000.00 14,100.00 14,200.00 14,300.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66 359.66 359.66 359.66	11,015.00 11,015.00 11,015.00 11,015.00 11,015.00 11,015.00	2,138.58 2,238.58 2,338.58 2,438.58 2,538.57	306.68 306.09 305.49	2,146.11 2,246.05	0.00	0.00	0.00
13,800.00 13,900.00 14,000.00 14,100.00 14,200.00 14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66 359.66 359.66 359.66	11,015.00 11,015.00 11,015.00 11,015.00 11,015.00	2,238.58 2,338.58 2,438.58 2,538.57	306.09 305.49	2,246.05	0.00		
13,900.00 14,000.00 14,100.00 14,200.00 14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66 359.66 359.66	11,015.00 11,015.00 11,015.00 11,015.00	2,338.58 2,438.58 2,538.57	305.49			0.00	
14,000.00 14,100.00 14,200.00 14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66 359.66	11,015.00 11,015.00 11,015.00	2,438.58 2,538.57		2 246 00			0.00
14,000.00 14,100.00 14,200.00 14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66 359.66	11,015.00 11,015.00 11,015.00	2,438.58 2,538.57			0.00	0.00	0.00
14,100.00 14,200.00 14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00 90.00	359.66 359.66 359.66	11,015.00 11,015.00	2,538.57		2,445.94	0.00	0.00	0.00
14,200.00 14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00 90.00	359.66 359.66	11,015.00		304.31	2,545.89	0.00	0.00	0.00
14,300.00 14,400.00 14,500.00 14,600.00 14,700.00	90.00 90.00 90.00	359.66			303.71	2,645.83	0.00	0.00	0.00
14,500.00 14,600.00 14,700.00	90.00	359.66		2,738.57	303.12	2,745.78	0.00	0.00	0.00
14,500.00 14,600.00 14,700.00	90.00	333.00	11,015.00	2,838.57	302.53	2,845.72	0.00	0.00	0.00
14,600.00 14,700.00		359.66	11,015.00	2,938.57	301.93	2,945.67	0.00	0.00	0.00
14,700.00	30.00	359.66	11,015.00	3,038.57	301.34	3,045.61	0.00	0.00	0.00
	90.00	359.66	11,015.00	3,138.56	300.75	3,145.56	0.00	0.00	0.00
	90.00	359.66	11,015.00	3,238.56	300.15	3,245.51	0.00	0.00	0.00
14,900.00	90.00	359.66	11,015.00	3,338.56	299.56	3,345.45	0.00	0.00	0.00
15,000.00 15,100.00	90.00 90.00	359.66 359.66	11,015.00 11,015.00	3,438.56 3,538.56	298.97 298.37	3,445.40 3,545.34	0.00	0.00	0.00
15,100.00	90.00	359.66	11,015.00	3,638.56	297.78	3,645.29	0.00	0.00	0.00
15,200.00	90.00	359.66	11,015.00	3,738.55	297.10	3,745.23	0.00	0.00	0.00
15,400.00	90.00	359.66	11,015.00	3,838.55	296.59	3,845.18 3,945.12	0.00	0.00	0.00
15,500.00	90.00	359.66	11,015.00	3,938.55	296.00			0.00	0.00
15,600.00	90.00	359.66	11,015.00	4,038.55	295.41 294.81	4,045.07 4,145.01	0.00	0.00	0.00
15,700.00 15,800.00	90.00 90.00	359.66 359.66	11,015.00 11,015.00	4,138.55 4,238.55	294.22	4,143.01	0.00	0.00	0.00
15,900.00	90.00	359.66	11,015.00	4,338.54	293.63	4,344.91	0.00	0.00	0.00
16,000.00	90.00	359.66	11,015.00	4,438.54	293.03	4,444.85	0.00	0.00	0.00
16,100.00	90.00	359.66	11,015.00	4,538.54	292.44	4,544.80	0.00	0.00	0.00
16,200.00 16,300.00	90.00 90.00	359.66 359.66	11,015.00 11,015.00	4,638.54 4,738.54	291.85 291.25	4,644.74 4,744.69	0.00	0.00	0.00
								0.00	
16,400.00 16,500.00	90.00 90.00	359.66 359.66	11,015.00 11,015.00	4,838.53 4,938.53	290.66 290.07	4,844.63 4,944.58	0.00	0.00	0.00
16,600.00	90.00	359.66	11,015.00	5,038.53	289.47	5,044.52	0.00	0.00	0.00
16,700.00	90.00	359.66	11,015.00	5,138.53	288.88	5,144.47	0.00	0.00	0.00
16,800.00	90.00	359.66	11,015.00	5,238.53	288.29	5,244.41	0.00	0.00	0.00
									0.00
16,900.00 17,000.00	90.00 90.00	359.66 359.66	11,015.00 11,015.00	5,338.53 5,438.52	287.69 287.10	5,344.36 5,444.31	0.00	0.00	0.00
17,000.00	90.00	359.66	11,015.00	5,538.52	286.51	5,544.25	0.00	0.00	0.00
17,100.00	90.00	359.66	11,015.00	5,638.52	285.91	5,644.20	0.00	0.00	0.00
17,300.00	90.00	359.66	11,015.00	5,738.52	285.32	5,744.14	0.00	0.00	0.00
17,400.00	90.00	359.66		5,838.52	284.72	5,844.09	0.00	0.00	0.00
	90.00	359.66	11,015.00 11,015.00	5,838.52	284.12	5,944.09	0.00	0.00	0.00
17,500.00 17,600.00	90.00	359.66	11,015.00	6,038.51	283.54	6,043.98	0.00	0.00	0.00
17,800.00	90.00	359.66	11,015.00	6,138.51	282.94	6,143.92	0.00	0.00	0.00
17,800.00	90.00	359.66	11,015.00	6,238.51	282.35	6,243.87	0.00	0.00	0.00
17,900.00	90.00	359.66	11,015.00	6,338.51	281.76	6,343.81	0.00	0.00	0.00
18,000.00	90.00	359.66	11,015.00	6,438.51	281.16	6,443.76	0.00	0.00	0.00
18,100.00	90.00	359.66	11,015.00	6,538.50	280.57 279.98	6,543.71	0.00	0.00	0.00
18,200.00 18,300.00	90.00 90.00	359.66 359.66	11,015.00 11,015.00	6,638.50 6,738.50	279.98	6,643.65 6,743.60	0.00	0.00	0.00
18,400.00	90.00	359.66	11,015.00	6,838.50	278.79	6,843.54	0.00	0.00	0.00
18,500.00	90.00	359.66	11,015.00	6,938.50	278.20	6,943.49	0.00	0.00	
18,600.00	90.00	359.66	11,015.00	7,038.50	277.60	7,043.43	0.00	0.00	0.00
18,700.00	90.00	359.66	11,015.00	7,138.49	277.01	7,143.38	0.00	0.00	0.00
18,800.00	90.00	359.66	11,015.00	7,238.49	276.42	7,243.32	0.00	0.00	0.00

# eog resources

### EOG Resources, Inc.

Planning Report

Database: Company: Project:

EDM 5000.1 Single User Db EOG Resources - Midland Eddy County, NM (NAD 83 NME)

Easy Wind 30 Fed Com

Well: Wellbore: Design:

Site:

#704H OH Plan #0.1 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well #704H

KB = 25' @ 3112.00usft KB = 25' @ 3112.00usft

Grid

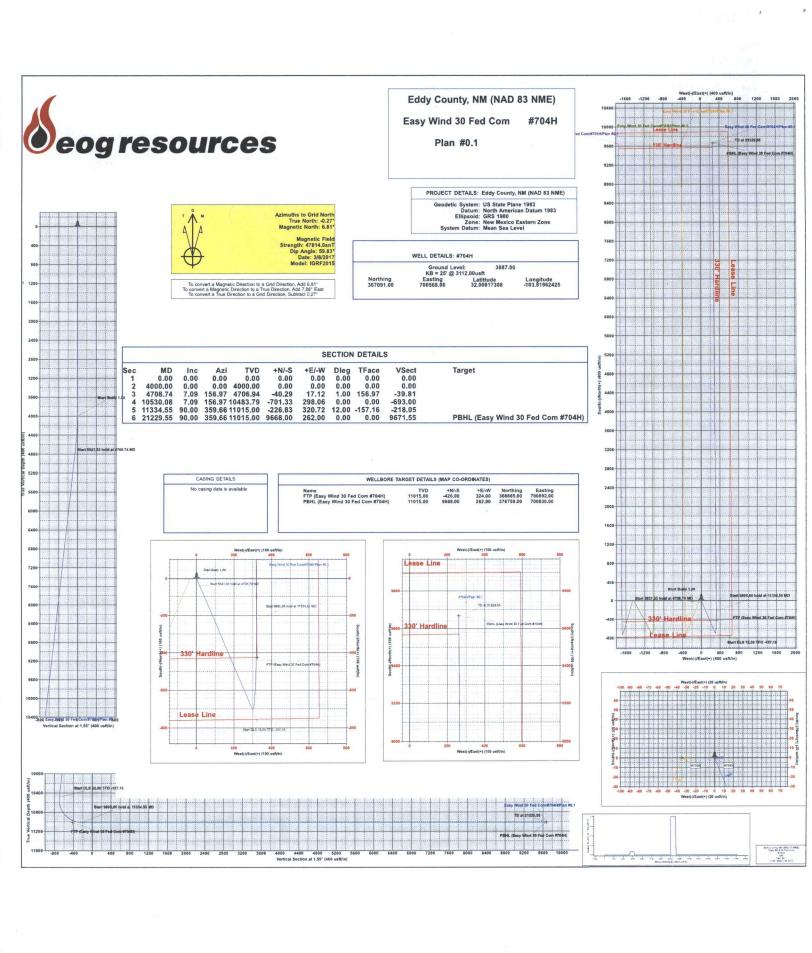
Plan	ned	Surv	ey
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ed Survey									
Measured Depth (usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,000.00	90.00	359.66	11,015.00	7,438.49	275.23	7,443.21	0.00	0.00	0.00
19,100.00	90.00	359.66	11,015.00	7,538.49	274.64	7,543.16	0.00	0.00	0.00
19,200.00	90.00	359.66	11,015.00	7,638.49	274.04	7,643.11	0.00	0.00	0.00
19,300.00	90.00	359.66	11,015.00	7,738.48	273.45	7,743.05	0.00	0.00	0.00
19,400.00	90.00	359.66	11,015.00	7,838.48	272.86	7,843.00	0.00	0.00	0.00
19,500.00	90.00	359.66	11,015.00	7,938.48	272.26	7,942.94	0.00	0.00	0.00
19,600.00	90.00	359.66	11,015.00	8,038.48	271.67	8,042.89	0.00	0.00	0.00
19,700.00	90.00	359.66	11,015.00	8,138.48	271.08	8,142.83	0.00	0.00	0.00
19,800.00	90.00	359.66	11,015.00	8,238.47	270.48	8,242.78	0.00	0.00	0.00
19,900.00	90.00	359.66	11,015.00	8,338.47	269.89	8,342.72	0.00	0.00	0.00
20,000.00	90.00	359.66	11,015.00	8,438.47	269.30	8,442.67	0.00	0.00	0.00
20,100.00	90.00	359.66	11,015.00	8,538.47	268.70	8,542.62	0.00	0.00	0.00
20,200.00	90.00	359.66	11,015.00	8,638.47	268.11	8,642.56	0.00	0.00	0.00
20,300.00	90.00	359.66	11,015.00	8,738.47	267.52	8,742.51	0.00	0.00	0.00
20,400.00	90.00	359.66	11,015.00	8,838.46	266.92	8,842.45	0.00	0.00	0.00
20,500.00	90.00	359.66	11,015.00	8,938.46	266.33	8,942.40	0.00	0.00	0.00
20,600.00	90.00	359.66	11,015.00	9,038.46	265.74	9,042.34	0.00	0.00	0.00
20,700.00	90.00	359.66	11,015.00	9,138.46	265.14	9,142.29	0.00	0.00	0.00
20,800.00	90.00	359.66	11,015.00	9,238.46	264.55	9,242.23	0.00	0.00	0.00
20,900.00	90.00	359.66	11,015.00	9,338.46	263.96	9,342.18	0.00	0.00	0.00
21,000.00	90.00	359.66	11,015.00	9,438.45	263.36	9,442.12	0.00	0.00	0.00
21,100.00	90.00	359.66	11,015.00	9,538.45	262.77	9,542.07	0.00	0.00	0.00
21,200.00	90.00	359.66	11,015.00	9,638.45	262.18	9,642.02	0.00	0.00	0.00
21,229.55	90.00	359.66	11,015.00	9,668.00	262.00	9,671.55	0.00	0.00	0.00

De	Sin	m	Ta	ra	ets
	319	10.0	104	• 9	000

-			2				
Tai	ю	е	т	N	а	m	e

Target Name - hit/miss target - Shape	Dip Angle	Dip Dir.	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Easy Wind 30 Fed - plan misses target - Point	0.00 center by 40.0	0.00 04usft at 111	11,015.00 46.58usft ME	-426.00 (10978.52 T	324.00 VD, -409.99 N	366,665.00 , 320.06 E)	700,892.00	32.00699782	-103.81858554
PBHL (Easy Wind 30 Fe - plan hits target cen - Point		0.00	11,015.00	9,668.00	262.00	376,759.00	700,830.00	32.03474587	-103.81863045





OD	Weight	Wall Th.	Grade	API Drift	Connection
7 5/8 in.	29.70 lb/ft	0.375 in.	VM 110 HC	6.750 in.	VAM® SLIJ-II

The state of the s	N. Service and Co. Co.
PIPE PROPERTIES	
Nominal OD	7.625 in.
Nominal ID	6.875 in.
Nominal Cross Section Area	8.541 sqin.
Grade Type	High Collapse
Min. Yield Strength	110 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	125 ksi

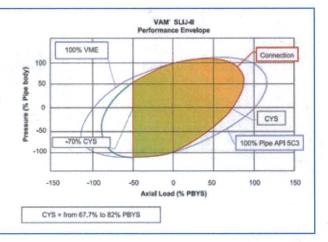
CONNECTION F	PROPERTIES
Connection Type	Premium integral semi-flush
Connection OD (nom)	7.711 in.
Connection ID (nom)	6.820 in.
Make-up Loss	4.822 in.
Critical Cross Section	5.912 sqin.
Tension Efficiency	69.2 % of pipe
Compression Efficiency	48.5 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFORMANCES						
Tensile Yield Strength	651 klb					
Compression Resistance	455 klb					
Internal Yield Pressure	9470 psi					
Uniaxial Collapse Pressure	7890 psi					
Max. Bending Capacity	TDB					
Max Bending with Sealability	20 °/100 ft					

FIELD TORQUE VALUES							
Min. Make-up torque	11300 ft.lb						
Opti. Make-up torque	12600 ft.lb						
Max. Make-up torque	13900 ft.lb						

VAM® SLIJ-II is a semi-flush integral premium connection for all casing applications. It combines a near flush design with high performances in tension, compression and gas sealability.

VAM® SLIJ-II has been validated according to the most stringent tests protocols, and has an excellent performance history in the world's most prolific HPHT wells.



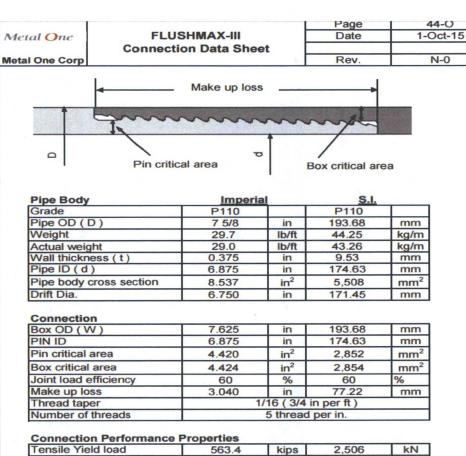
#### Do you need help on this product? - Remember no one knows VAM® like VAM

canada@vamfieldservice.com usa@vamfieldservice.com mexico@vamfieldservice.com brazil@vamfieldservice.com uk@vamfieldservice.com dubai@vamfieldservice.com nigeria@vamfieldservice.com angola@vamfieldservice.com china@vamfieldservice.com baku@vamfieldservice.com singapore@vamfieldservice.com australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance

Other Connection Data Sheets are available at www.vamservices.com





Tensile Yield load	563.4	kips	2,506	kN
M.I.Y.P.	7,574	psi	52.2	MPa
Collapse strength	5,350	psi	36.9	MPa

#### Note

M.I.Y.P. = Minimum Internal Yield Pressure of the connection

#### **Torque Recommended**

Min.	8,700	ft-lb	11,700	N-m
Opti.	9,700	ft-lb	13,100	N-m
Max.	10,700	ft-lb	14,500	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note: Operational Max. torque can be applied for high torque application

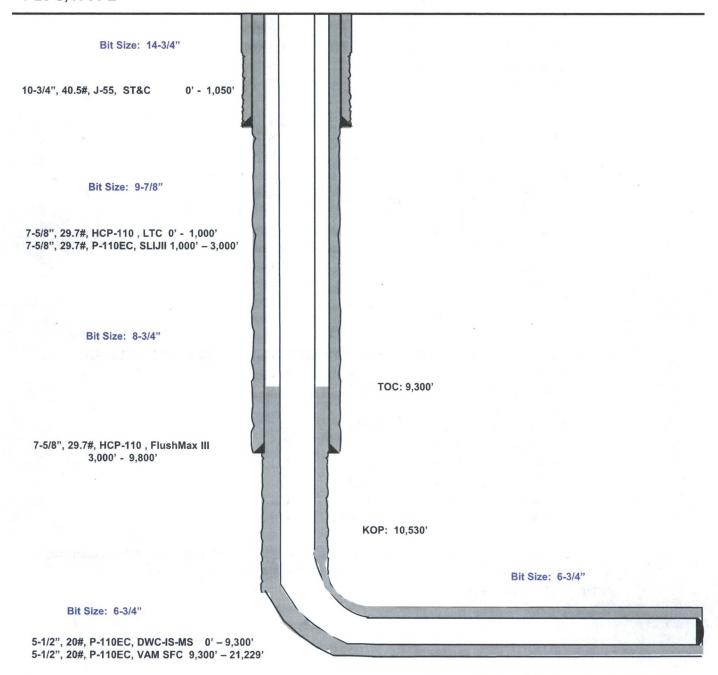
## Easy Wind 30 Fed Com #704H

760' FSL 2015' FWL Section 30 T-26-S, R-31-E

## Eddy County, New Mexico Proposed Wellbore

API: 30-015-\*\*\*\*

KB: 3,112' GL: 3,087'



Lateral: 21,229' MD, 11,015' TVD Upper Most Perf: 330' FSL & 2338' FWL Sec. 30 Lower Most Perf: 330' FNL & 2332' FWL Sec. 19 BH Location: 230' FNL & 2332' FWL

Section 19 T-26-S, R-31-E

## 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

### 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,025'
Top of Salt	1,733'
Base of Salt / Top Anhydrite	3,615'
Base Anhydrite	3,709'
Lamar	3,709'
Bell Canyon	3,750'
Cherry Canyon	4,630'
Brushy Canyon	5,885
Bone Spring Lime	7,625
1st Bone Spring Sand	8,452'
2 <sup>nd</sup> Bone Spring Shale	8,859°
2 <sup>nd</sup> Bone Spring Sand	9,196'
3 <sup>rd</sup> Bone Spring Carb	9,632'
3 <sup>rd</sup> Bone Spring Sand	10,463
Wolfcamp	10,867
TD	11,015

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	4,630'	Oil
Brushy Canyon	5,885'	Oil
1st Bone Spring Sand	8,452'	Oil
2 <sup>nd</sup> Bone Spring Shale	8,859'	Oil
2 <sup>nd</sup> Bone Spring Sand	9,196'	Oil
3 <sup>rd</sup> Bone Spring Carb	9,632'	Oil
3 <sup>rd</sup> Bone Spring Sand	10,463	Oil .
Wolfcamp	10,867'	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 1,050' and circulating cement back to surface.

#### 4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF <sub>min</sub> Collapse	DF <sub>min</sub> Burst	DF <sub>min</sub> Tension
14.75"	0 – 1,050'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-1,000	7.625"	29.7#	HCP- 110	LTC	1.125	1.25	1.60
9.875"	1,000' – 3,000'	7.625"	29.7#	P-110EC	ŠLIJ II	1.125	1.25	1.60
8.75"	3,000' – 9,800'	7.625"	29.7#	HCP- 110	FlushMax III	1.125	1.25	1.60
6.75"	0'-9,300'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	9,300'-21,229'	5.5"	20#	P-110EC	VAM SFC	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ 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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

## **Cementing Program:**

Depth	No. Sacks	Wt.	Yld Ft³/ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,050'	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
-	200	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" 9,800'	250	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
·	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead
	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
5-1/2" 21,229'	850	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 @ 9,300')

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 3500/250 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 3500/250 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
0-1,050	Fresh - Gel	8.6-8.8	28-34	N/c
1,050' - 9,800'	Brine	8.8-10.0	28-34	N/c ,
9,800' – 21,229'	Oil Base	10.0-14.0	58-68	3 - 6
Lateral	<u> </u>			

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

### 8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not 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 168 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 6586 psig (based on 11.5 ppg MW). 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.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

#### 11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

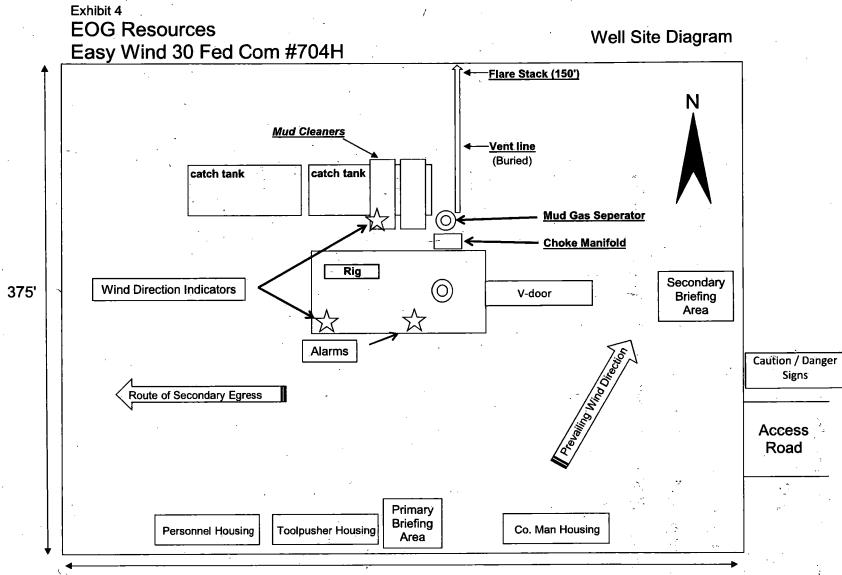
The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.



Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manfacturer: No

## MIDWEST

## HOSE AND SPECIALTY INC.

INT	<b>TERNAL</b>	HYDROST	TATIC TEST	repor	T	
Customer: CACTUS			P.O. Number: RIG #123			
		HOSE SPECI	FICATIONS	Asset # N	A10761	
Type: C	HOKE LIN	E		Length:	35'	
I.D.	4"	INCHES	O.D.	8"	INCHES	
WORKING PR	E8SURE	TEST PRESSUR	E	BURST PRESSURE		
10,000	PSI	15,000	<b>PS</b> I		PSI	
· ·		COUP	LINGS			
Type of End 4	d Fitting 1/16 10K F					
Type of Co S	upling: WEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY			
		PROC	EDURE		,	
		/ pressure leated in TEST PRESSURE	1	nt temperature BURST PRESSI		
H W In	N#90067 ose is coveraped with	M10761 ered with stain! ifire resistant v	ermiculite coa	ted fiberglas e with lifting	  -   S	
Date: 6/	6/2011	Tested By: BOBBY FINK		Approved: MENDI	IACKSON	



## **Internal Hydrostatic Test Graph**

**Customer: CACTUS** 

SALES ORDER# 90067

**Verification** 

#### **Hose Specifications**

**Hose Type** C & K I.D. 4" **Working Pressure** 

Length 35' 0.D. **Burst Pressure**  **Type of Fitting** 4 1/16 10K Die Size 6.62" Hose Serial #

**Coupling Method** Swage Final O.D. 6.68"

**Hose Assembly Serial #** 90067

10000 PSI Standard Safety Multiplier Applies **Pressure Test** 18000 16000 14000 12000 10000 PSI 8000 6000 4000 2000 12:59 AM 1:03 AM 1:04 AM 1:05 AM **Time in Minutes** 

**Test Pressure** 15000 PSI

**Time Held at Test Pressure** 11 1/4 Minutes

**Actual Burst Pressure** 

Peak Pressure 15439 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Bobby Fink

Approved By: Mendi Jackson

Mendi Jackson



U.S. Department of the Interior **BUREAU OF LAND MANAGEMENT**  SUPO Data Report

Submission Date: 03/09/2017 APD ID: 10400010845

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EASY WIND 30 FED COM

Well Type: OIL WELL

Well Number: 704H

Well Work Type: Drill

Highlighted data reflects the most recent changes

**Show Final Text** 

## Section 1 - Existing Roads

Will existing roads be used? YES

**Existing Road Map:** 

Easy Wind 30 Fed Com 704H vicinity map 02-02-2017.pdf

Existing Road Purpose: ACCESS, FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

**Existing Road Improvement Description:** 

**Existing Road Improvement Attachment:** 

#### Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

**New Road Map:** 

Easy Wind 30 Fed Com 704H well site 02-02-2017.pdf

Easy Wind 30 Fed Com infrastructure sketch\_02-02-2017.pdf

New road type: RESOURCE

Length: 671

Feet

Width (ft.): 24

Max slope (%): 2

Max grade (%): 20

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 24

New road access erosion control: Newly constructed or reconstructed roads will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road. We plan to grade and water twice a year.

New road access plan or profile prepared? NO

New road access plan attachment:

Well Name: EASY WIND 30 FED COM Well Number: 704H

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: 6" of Compacted Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: An adequate amount of topsoil/root zone will be stripped by dozer from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram / survey plat.

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

### **Drainage Control**

New road drainage crossing: CULVERT, OTHER

Drainage Control comments: No drainage crossings

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

#### **Access Additional Attachments**

Additional Attachment(s):

## Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

Attach Well map:

Easy Wind 30 Fed Com 704H radius map\_02-02-2017.pdf

**Existing Wells description:** 

## Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Easy Wind 30 Fed Com Central Tank Battery

**Production Facilities map:** 

Easy Wind 30 Fed Com infrastructure sketch 02-02-2017.pdf

Well Name: EASY WIND 30 FED COM

Well Number: 704H

## **Section 5 - Location and Types of Water Supply**

#### **Water Source Table**

Water source use type: OTHER

Water source type: RECYCLED

Describe type:

Source latitude:

Source longitude:

Source datum:

Water source permit type: WATER RIGHT

Source land ownership: FEDERAL

Water source transport method: PIPELINE, TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 0

Source volume (acre-feet): 0

Source volume (gal): 0

Water source and transportation map:

Easy Wind 30 Fed Com water source and caliche map\_02-02-2017.pdf

Water source comments:

New water well? NO

#### **New Water Well Info**

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

**Aquifer comments:** 

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

**Drilling method:** 

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

**Completion Method:** 

Water well additional information:

State appropriation permit:

Additional information attachment:

Well Name: EASY WIND 30 FED COM Well Number: 704H

#### **Section 6 - Construction Materials**

Construction Materials description: Caliche will be supplied from pits shown on the attached caliche source map. Caliche utilized for the drilling pad will be obtained either from an existing approved mineral pit, or by benching into a hill, which will allow the pad to be level with existing caliche from the cut, or extracted by "Flipping" the well location. A mineral material permit will be obtained from BLM prior to excavating any caliche on Federal Lands. Amount will vary for each pad. The procedure for "Flipping" a well location is as follows: \* -An adequate amount of topsoil/root zone (usually top 6 inches of soil) will be stripped from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram/survey plat. -An area will be used within the proposed well site dimensions to excavate caliche. Subsoil will be removed and stockpiled within the surveyed well pad dimensions. -Once caliche/surfacing mineral is found, the mineral material will be excavated and stock piled within the approved drilling pad dimensions. -Then, subsoil will be pushed back in the excavated hole and caliche will be spread accordingly across the entire well pad and road (if available). -Neither caliche, nor subsoil will be stock piled outside of the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat. \* In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or federal land.

**Construction Materials source location attachment:** 

Easy Wind 30 Fed Com water source and caliche map 02-02-2017.pdf

## Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly. Human waste and grey water will be properly contained of and disposed of properly. After drilling and completion operations; trash, chemicals, salts, frac sand, and other waste material will be removed and disposed of properly at a state approved disposal facility.

Amount of waste: 0

barrels

Waste disposal frequency: Daily

Safe containment description: Steel Tanks

Safe containment attachment:

Waste disposal type: HAUL TO COMMERCIAL

Disposal location ownership: COMMERCIAL

**FACILITY** 

Disposal type description:

Disposal location description: Trucked to NMOCD approved disposal facility

#### **Reserve Pit**

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.)

Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Well Name: EASY WIND 30 FED COM

Well Number: 704H

Reserve pit liner

Reserve pit liner specifications and installation description

## **Cuttings Area**

Cuttings Area being used? NO

Are you storing cuttings on location? YES

**Description of cuttings location** Closed Loop System. Drill cuttings will be disposed of into steel tanks and taken to an NMOCD approved disposal facility.

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

**WCuttings** area liner

Cuttings area liner specifications and installation description

## Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

**Ancillary Facilities attachment:** 

Comments:

## Section 9 - Well Site Layout

#### Well Site Layout Diagram:

Easy Wind 30 Fed Com 704H pad site\_02-02-2017.pdf

Easy Wind 30 Fed Com 704H well site\_02-02-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_Rig\_Layout\_03-09-2017.pdf

Comments: Exhibit 2A-Wellsite & Exhibit 2B-Padsite Rig Layout Exhibit 4

#### Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance Multiple Well Pad Name: EASY WIND 30 FED COM

Multiple Well Pad Number: 703H/704H

Recontouring attachment:

Easy Wind 30 Fed Com 704H interim reclamation\_02-02-2017.pdf

**Drainage/Erosion control construction:** Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Drainage/Erosion control reclamation: The interim reclamation will be monitored periodically to ensure that vegetation has

Well Name: EASY WIND 30 FED COM Well Number: 704H

reestablished and that erosion is controlled.

Wellpad long term disturbance (acres): 2.852388

Access road long term disturbance (acres): 0.369697

Pipeline long term disturbance (acres): 1.1852617

Other long term disturbance (acres): 0

Total long term disturbance: 4.4073467

Wellpad short term disturbance (acres): 4.178145

Access road short term disturbance (acres): 0.369697

Pipeline short term disturbance (acres): 1.9754362

Other short term disturbance (acres): 0

Total short term disturbance: 6.523278

Reconstruction method: In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. Areas planned for interim reclamation will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

**Topsoil redistribution:** Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts and fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. 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. **Soil treatment:** Re-seed according to BLM standards. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

Existing Vegetation at the well pad: Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respreads evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on 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 should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

Existing Vegetation at the well pad attachment:

**Existing Vegetation Community at the road:** All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

**Existing Vegetation Community at the road attachment:** 

**Existing Vegetation Community at the pipeline:** All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

**Existing Vegetation Community at the pipeline attachment:** 

**Existing Vegetation Community at other disturbances:** All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

**Existing Vegetation Community at other disturbances attachment:** 

Well Name: EASY WIND 30 FED COM

Well Number: 704H

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

## **Seed Management**

## **Seed Table**

Seed type:

Seed name:

Source name:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Seed source:

Source address:

Proposed seeding season:

**Seed Summary** 

**Seed Type** 

Pounds/Acre

Total pounds/Acre:

#### Seed reclamation attachment:

## **Operator Contact/Responsible Official Contact Info**

First Name: Stan

Last Name: Wagner

Phone: (432)686-3689

Email: stan\_wagner@eogresources.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Well Name: EASY WIND 30 FED COM Well Number: 704H

Existing invasive species treatment description:

Existing invasive species treatment attachment:

**Weed treatment plan description:** All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds. Weeds will be treated if found. **Weed treatment plan attachment:** 

**Monitoring plan description:** Reclamation will be completed within 6 months of well plugging. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds.

Monitoring plan attachment:

Success standards: N/A
Pit closure description: NA

Pit closure attachment:

**USFS** Forest/Grassland:

## Section 11 - Surface Ownership

Disturbance type: WELL PAD
Describe:
Surface Owner: BUREAU OF LAND MANAGEMENT
Other surface owner description:
BIA Local Office:
BOR Local Office:
COE Local Office:
DOD Local Office:
NPS Local Office:
State Local Office:
Military Local Office:
USFWS Local Office:
Other Local Office:
USFS Region:

**USFS Ranger District:** 

Well Name: EASY WIND 30 FED COM

Well Number: 704H

Fee Owner: Oliver Kiehne

Fee Owner Address: P.O. Box 135 Orla, TX 79770

Phone: (575)399-9281

Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: surface use agreement

Surface Access Bond BLM or Forest Service:

**BLM Surface Access Bond number:** 

**USFS Surface access bond number:** 

## Section 12 - Other Information

Right of Way needed? NO

Use APD as ROW?

ROW Type(s):

## **ROW Applications**

**SUPO Additional Information:** An onsite meeting was conducted 12/13/16. Poly lines are planned to transport water for operations. Will truck if necessary. See attached SUPO Plan. **Use a previously conducted onsite?** YES

Previous Onsite information: Onsite meeting conducted 12/13/16.

#### **Other SUPO Attachment**

Easy Wind 30 Fed Com 704H SUPO 02-02-2017.pdf

Easy Wind 30 Fed\_Com\_704H\_Signed\_C\_102\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_interim\_reclamation\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_pad\_site\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_L\_E\_map\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_radius\_map\_03-09-2017.pdf

Easy Wind 30\_Fed\_Com\_704H\_vicinity\_map\_03-09-2017.pdf

Easy\_Wind\_30\_Fed\_Com\_704H\_well\_site\_03-09-2017.pdf

Easy Wind 30 Fed Com\_infrastructure\_sketch\_03-09-2017.pdf

EasyWind30FC704\_deficiency\_response\_07-10-2017.pdf

## EXHIBIT 2 VICINITY MAP

VICINITY WAF													
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	-	5		< \ \	2	1	6	5	4	3	2(1)	1	
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25)	30	29	28	27	26	SEE DETAIL	30	EASY W	IND FED COM	1 2	26		
36	31	32	33	34	35	36	31	32	33	34	35	36	1

# Seog resources, Inc.

LEASE NAME & WELL NO.:				EASY WIND 30 FED COM #704H				
SECTION _	30	TWP_	26-S	_ RGE_	31-E	CONTE	N.M.P.M.	
COUNTY		ED	DY		STATE_		NM	
DESCRIPTION _		760' FSL & 2015' FWL						

#### **DISTANCE & DIRECTION**

FROM INT, OF US-285 & CR, 720, GO SOUTH ON US-285 ±12.6 MILES. THENCE NORTHEAST (LEFT) ON WHITEHORN RD. ±11.1 MILES, THENCE EAST (LEFT) ON STATE LINE RD. ±6.8 MILES, THENCE NORTH (LEFT) ON A PROPOSED ROAD ±691 FEET TO A POINT ±250 FEET SOUTHEAST OF THE LOCATION.

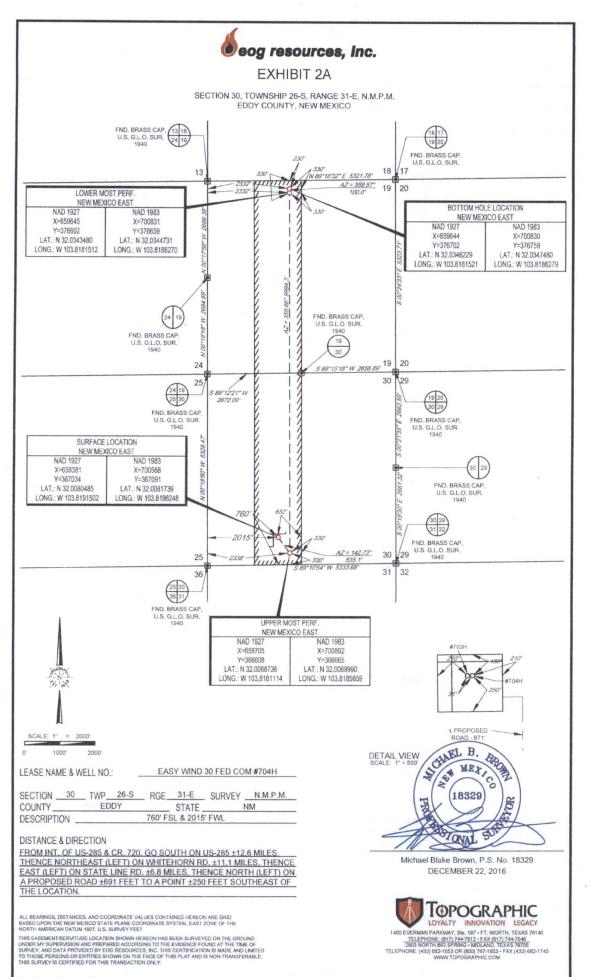
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

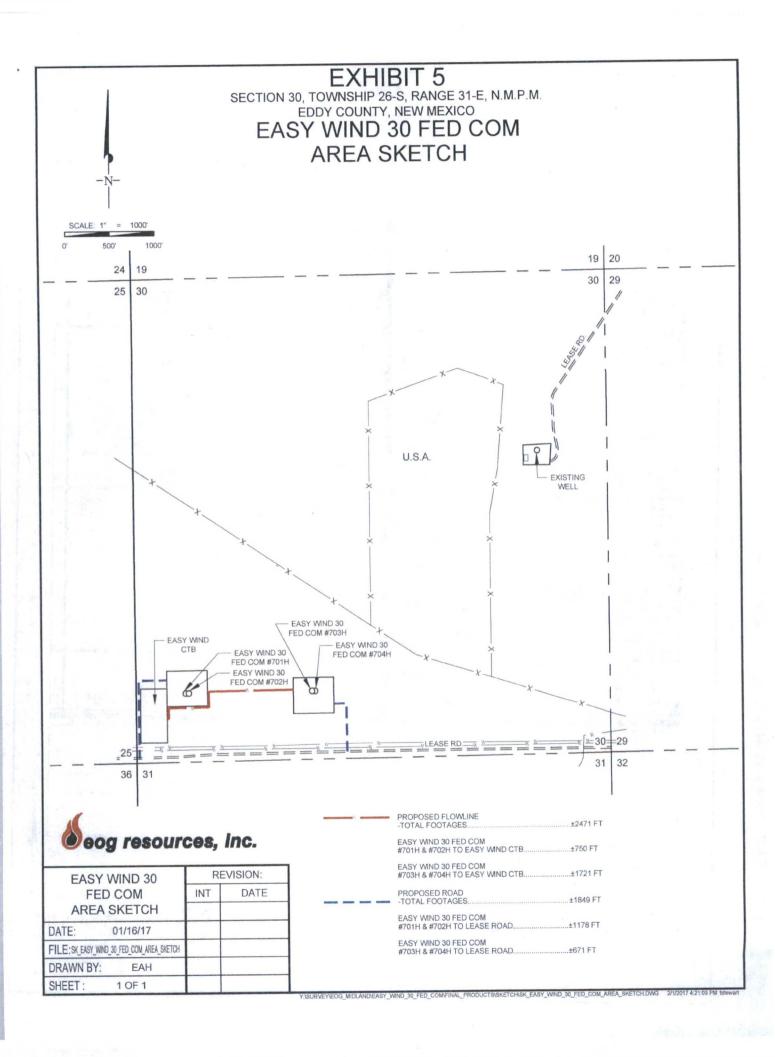
ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEFT.





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2903 NORTH BIG SPRINS • MIDLAND, TEXAS 78705
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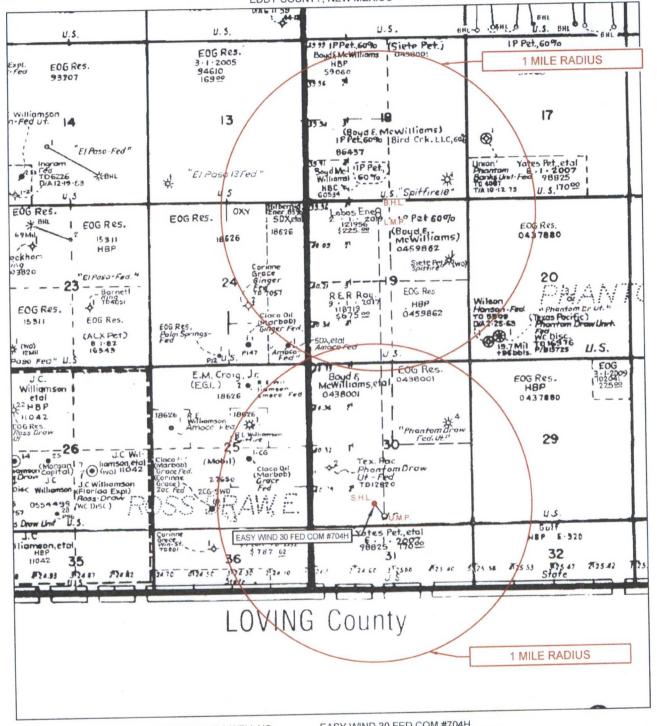




## **EXHIBIT 3**

eog resources, inc.

SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO .:

EASY WIND 30 FED COM #704H

SCALE: NTS

N 32.0080485 #704H LATITUDE.

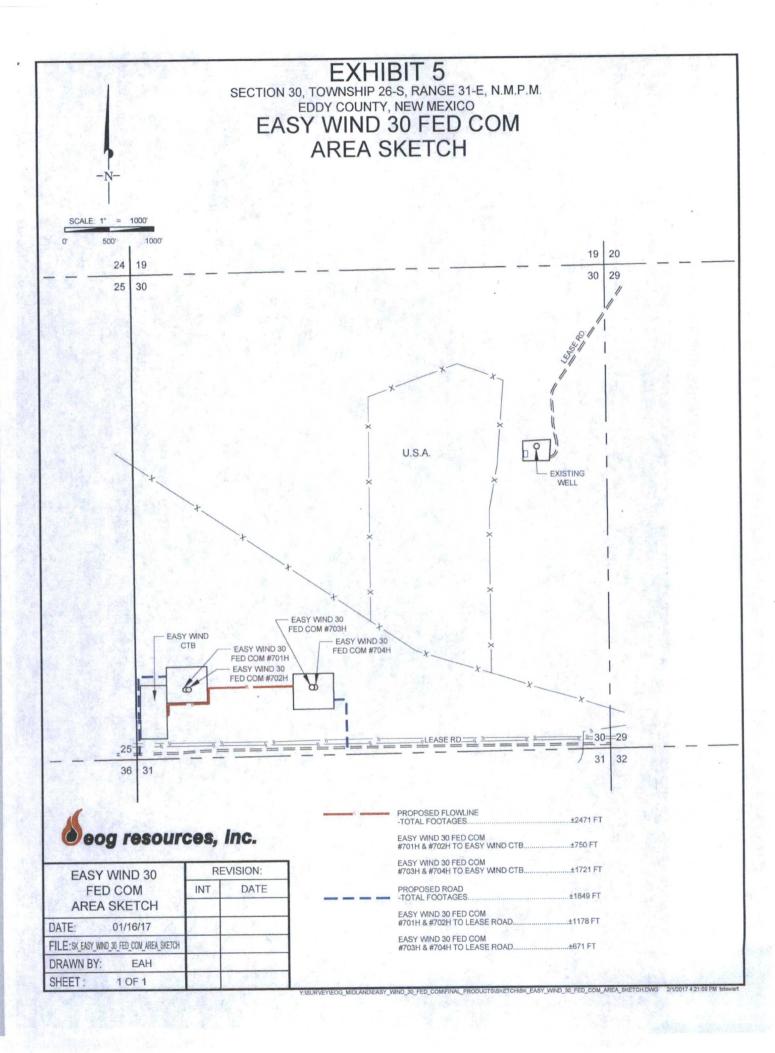
#704H LONGITUDE \_\_\_W 103.8191502

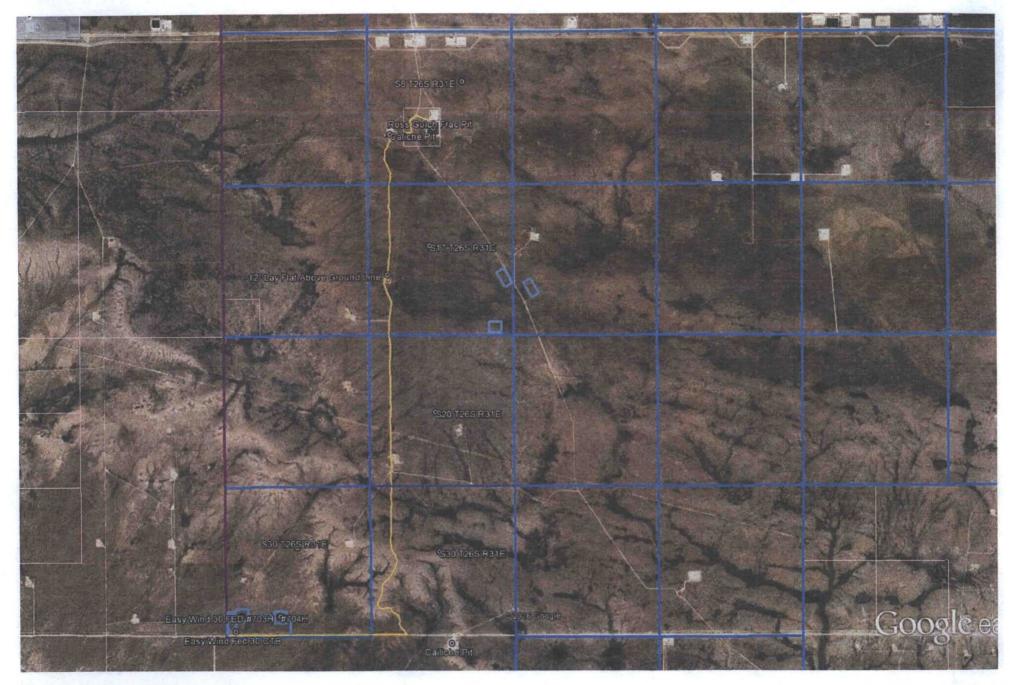
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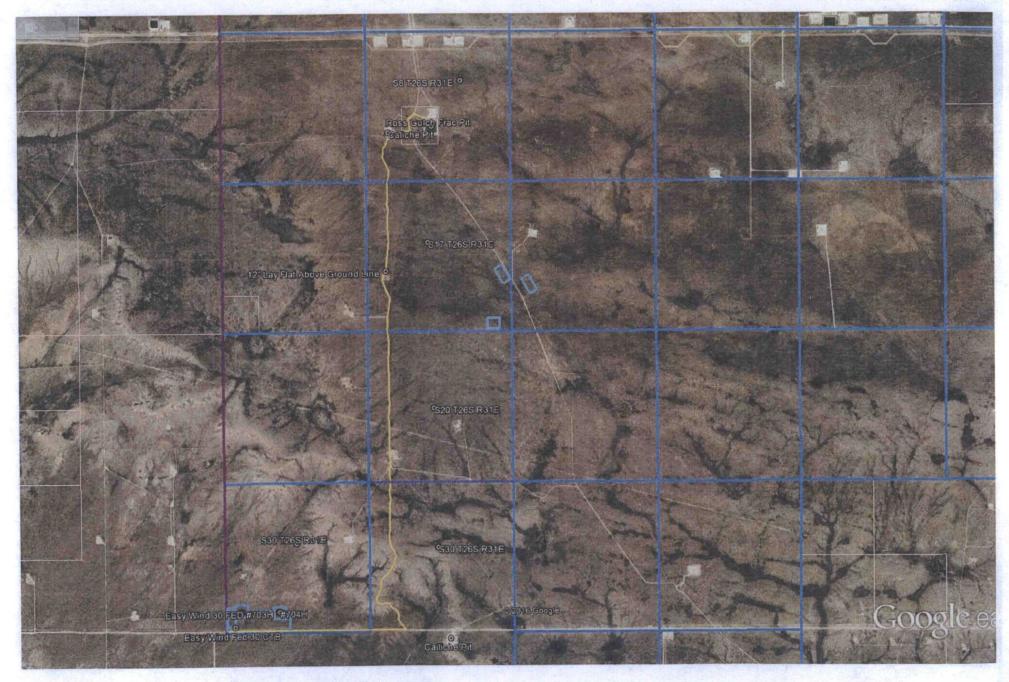


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Easy Wind 30 Fed Com Water Source and Caliche Map Eddy County, NM T26S-R31E



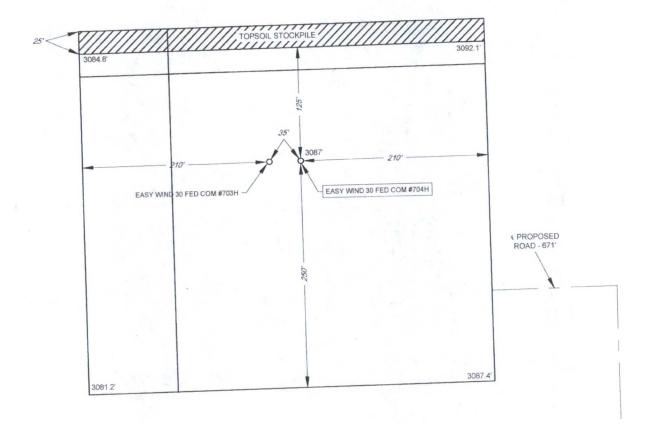
Easy Wind 30 Fed Com Water Source and Caliche Map

Eddy County, NM T26S-R31E



SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO

DETAIL VIEW SCALE: 1" = 100"



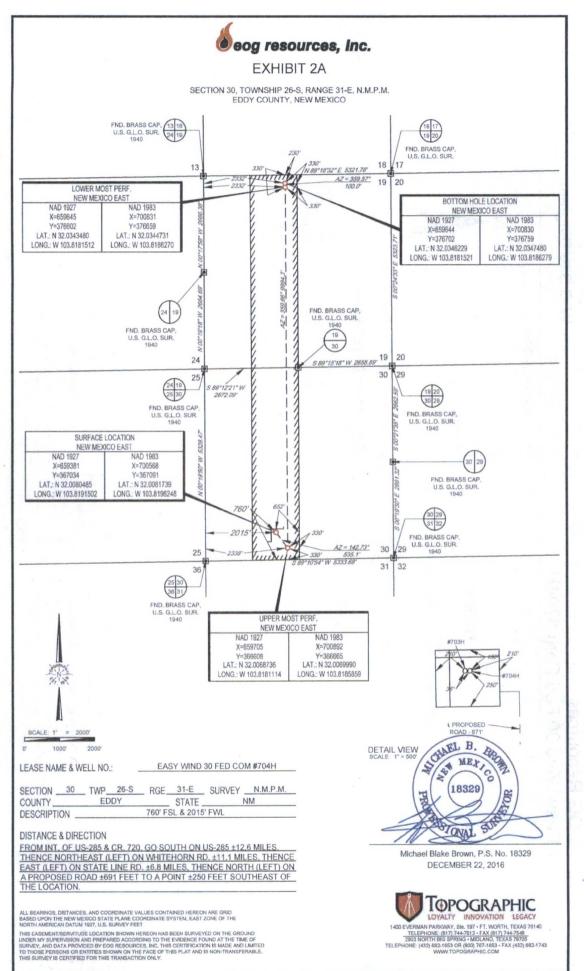


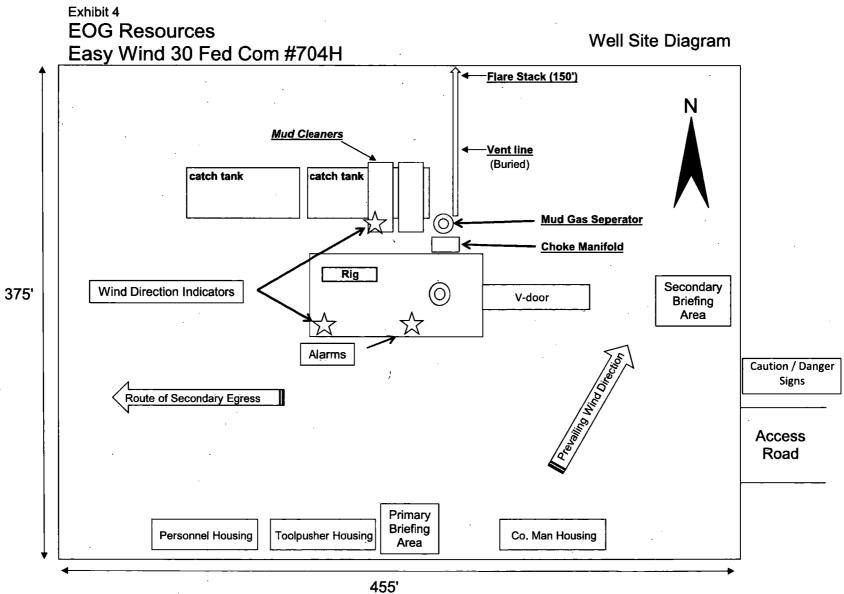
ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EGG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.



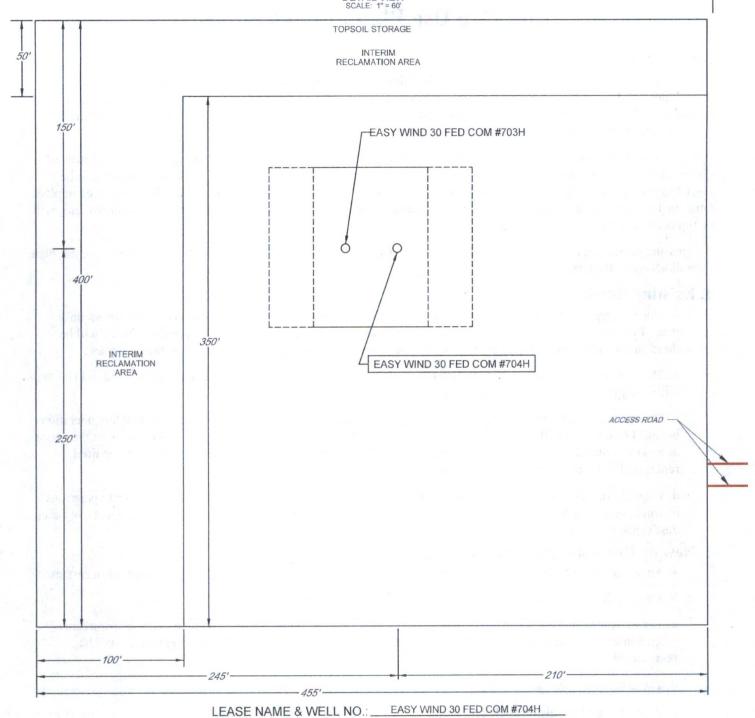
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## EXHIBIT 2C RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO DETAIL VIEW SCALE: 1" = 60"



BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.

## **Surface Use Plan of Operations**

## Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soils storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

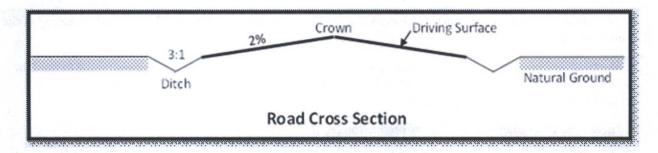
## 1. Existing Roads

- a. The existing access road route to the proposed project is depicted on Easy Wind 30 Fed Com 704H vicinity map. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan.
- b. The existing access road route to the proposed project does cross lease boundaries and a BLM road right-of-way will be acquired from the BLM prior to construction activities.
- c. The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.
- d. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

## 2. New or Reconstructed Access Roads

- a. An access road will be needed for this proposed project. See the survey plat for the location of the access road.
- b. The length of access road needed to be constructed for this proposed project is about 671 feet.
- c. The maximum driving width of the access road will be 24 feet. The maximum width of surface disturbance when constructing the access road will not exceed 25 feet. All areas outside of the driving surface will be revegetated.
- d. The access road will be constructed with 6 inches of compacted caliche.
- e. When the road travels on fairly level ground, the road will be crowned and ditched with a 2% slope from the tip of the road crown to the edge of the driving surface. The ditches will be 3 feet wide with 3:1 slopes. See Road Cross Section diagram below.

BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.



- f. The access road will be constructed with a ditch on each side of the road.
- g. The maximum grade for the access road will be 2 percent.
- h. No turnouts will be constructed on the proposed access road.
- i. An appropriately sized cattleguard sufficient to carry out the project will be installed and maintained at the fence crossing(s). Prior to cutting the fence, the fence will be braced and tied off on both sides of the passageway with H braces to protect the integrity of the fence line. See the survey plat for the location of the proposed cattle guard.
- j. No BLM right-of-way grant is needed for the construction of this access road.
- k. An appropriately sized culvert will be installed where drainages cross the access road. The culvert(s) will be no less than 18 inches in diameter and covered with no less than 12 inches of surfacing material. Each culvert will be marked with reflectors attached to T-Posts on both sides of the road. The uphill and downhill opening of the culvert will have rip-rap (cobble stone) extending 3 feet out and 12 inches deep to slow water flow entering and exiting the culvert. Standards in the BLM Gold Book will be used. The culvert will be maintained in its original condition throughout the life of the road. See survey plat for location of culvert(s).
- 1. No low water crossings will be constructed for the access road.
- m. Since the access road is on level ground, no lead-off ditches will be constructed for the proposed access road.
- n. Newly constructed or reconstructed roads, on surface under the jurisdiction of the Bureau of Land Management, will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road.

## 3. Location of Existing Wells

- a. Easy Wind 30 Fed Com 704H radius map of the APD depicts all known wells within a one mile radius of the proposed well.
- b. There is no other information regarding wells within a one mile radius.

## 4. Location of Existing and/or Proposed Production Facilities

- a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, barrels, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color, Shale Green, from the BLM Standard Environmental Colors chart, unless another color is required in the APD Conditions of Approval.
- b. If any type of production facilities are located on the well pad, they will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.
- c. A production facility is proposed to be installed off the proposed well location. Production from the well will

BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.

be processed at this production facility. Easy Wind 30 Fed Com infrastructure sketch depicts the location of the production facilities.

- d. The proposed production facility will have a secondary containment structure that is constructed to hold the capacity of 1-1/2 times the largest tank, plus freeboard to account for percipitation, unless more stringent protective requirements are deemed necessary.
- e. There is no other diagram that depicts production facilities.
- f. A pipeline to transport production from the proposed well to the production facility will be installed.
  - i. We plan to install a 4 inch buried poly pipeline from the proposed well to the offsite production facility. The proposed length of the pipeline will be 1721 feet. The working pressure of the pipeline will be about 125 psi. A 50 feet wide work area will be needed to install the buried pipeline. In areas where blading is allowed, topsoil will be stockpiled and separated from the excavated trench mineral material. Final reclamation procedures will match the procedures in Plans for Surface Reclamation. When the excavated soil is backfilled, it will be compacted to prevent subsidence. No berm over the pipeline will be evident.
  - ii. Easy Wind 30 Fed Com infrastructure sketch depicts the proposed production pipeline route from the well to the existing production facility.
  - iii. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation or construction.

### Additional Pipeline(s)

We propose to install 1 additional pipeline(s):

- 1. Buried gas lift pipeline:
  - a. We plan to install a 3 inch buried poly pipeline from the proposed well to the central battery. The proposed length of the pipeline will be 1721 feet. The working pressure of the pipeline will be about 125 psi. A 50 feet wide work area will be needed to install the buried pipeline. We will need an extra 10 foot wide area near corners to safely install the pipeline. In areas where blading is allowed, topsoil will be stockpiled and separated from the excavated trench mineral material. Final reclamation procedures will match the procedures in Plans for Surface Reclamation. When the excavated soil is backfilled, it will be compacted to prevent subsidence. No berm over the pipeline will be evident.
  - b. Easy Wind 30 Fed Com infrastructure sketch depicts the proposed gas lift pipeline route.
  - c. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

#### Electric Line(s)

a. An electric line will be applied for through a sundry notice or BLM right of way at a later date.

## 5. Location and Types of Water

a. The source and location of the water supply are as follows: Water will be supplied from the frac pond as shown on the attached water source map This location will be drilled using a combination of water mud systems (outlined in the drilling program) The water will be obtained from commercial water stations in the area or

BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.

recycled treated water and hauled to location by trucks or poly pipelines using existing and proposed roads depicted on the proposed existing access road maps. In these cases where a poly pipeline is used to transport fresh water for drilling purposes proper authorizations will be secured by the contractor.

b. Easy Wind 30 Fed Com water source and caliche map depicts the proposed route for a 12 inch poly temporary (<90 days) water pipeline supplying water for drilling operations.

## 6. Construction Material

a. Caliche will be supplied from pits shown on the attached caliche source map.

Caliche utilized for the drilling pad will be obtained either from an existing approved mineral pit, or by benching into a hill, which will allow the pad to be level with existing caliche from the cut, or extracted by "Flipping" the well location. A mineral material permit will be obtained from BLM prior to excavating any caliche on Federal Lands. Amount will vary for each pad. The procedure for "Flipping" a well location is as follows:

-An adequate amount of topsoil/root zone (usually top 6 inches of soil) will be stripped from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram/survey plat.

-An area will be used within the proposed well site dimensions to excavate caliche.

Subsoil will be removed and stockpiled within the surveyed well pad dimensions.

-Once caliche/surfacing mineral is found, the mineral material will be excavated and stock piled within the approved drilling pad dimensions.

-Then, subsoil will be pushed back in the excavated hole and caliche will be spread accordingly across the entire well pad and road (if available).

-Neither caliche, nor subsoil will be stock piled outside of the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or federal land.

## 7. Methods for Handling Waste

- a. Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.
- b. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.
- c. Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.
- d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.
- e. The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

## 8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.

## 9. Well Site Layout

- a. The following information is presented in the well site survey plat or diagram:
  - i. reasonable scale (near 1":50')
  - ii. well pad dimensions
  - iii. well pad orientation
  - iv. drilling rig components
  - v. proposed access road
  - vi. elevations of all points
  - vii. topsoil stockpile
  - viii. reserve pit location/dimensions if applicable
  - ix. other disturbances needed (flare pit, stinger, frac farm pad, etc.)
  - x. existing structures within the 600' x 600' archaeoligical surveyed area (pipelines, electric lines, well pads, etc
- b. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.
- c. A title of a well site diagram is Easy Wind 30 Fed Com 704H rig layout. This diagram depicts the rig layout.
- d. Topsoil Salvaging
  - i. Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on 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 should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

#### 10. Plans for Surface Reclamation

#### **Reclamation Objectives**

- i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.
- ii. The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.
- iii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.
- iv. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.
- v. Interim reclamation will be performed on the well site after the well is drilled and completed. Easy Wind

BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.

30 Fed Com 704H interim reclamation depicts the location and dimensions of the planned interim reclamation for the well site.

## **Interim Reclamation Procedures (If performed)**

- 1. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.
- 2. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- 3. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.
- 4. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. 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.
- 5. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.
- 6. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

#### Final Reclamation (well pad, buried pipelines, etc.)

- 1. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.
- 2. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- 3. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.
- 4. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. 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.
- 5. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.
- 6. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

BHL: 230 FNL & 2332 FWL, Section: 19, T.26S., R.31E.

7. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

## 11. Surface Ownership

a. The surface ownership of the proposed project is federal.

## 12. Other Information

a. An onsite meeting was conducted 12/13/16.

We plan to use a 12-inch lay flat hose to transport water.

We are asking for 2 associated pipelines all depicted on the attached Easy Wind 30 Fed Com Infrastructure Sketch:

One 3-inch flex steel gas lift line per well.

One 4-inch poly production flowline per well.

One 12-inch produced water disposal line from the CTB will be requested at a later date.

One 16-inch gas sales line from the CTB to the gas sales tie-in will be requested at a later date.

The well is planned to be produced using gas lift as the artificial lift method.

## 13. Maps and Diagrams

Easy Wind 30 Fed Com 704H vicinity map - Existing Road

Easy Wind 30 Fed Com 704H radius map - Wells Within One Mile

Easy Wind 30 Fed Com infrastructure sketch - Production Facilities Diagram

Easy Wind 30 Fed Com infrastructure sketch - Production Pipeline

Easy Wind 30 Fed Com infrastructure sketch - gas lift Pipeline

Easy Wind 30 Fed Com water source and caliche map - Drilling Water Pipeline

Easy Wind 30 Fed Com 704H rig layout - Well Site Diagram

Easy Wind 30 Fed Com 704H interim reclamation - Interim Reclamation

District 1 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax. (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Dr., Sante Fe, NM 87505 Phone: (505) 476-3460 Fax. (505) 476-3462

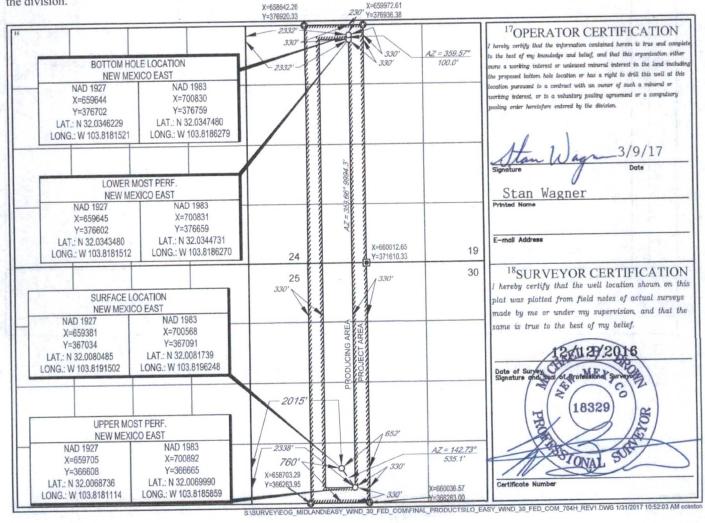
State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Sante Fe, NM 87505

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

AMENDED REPORT

		W	ELL LO	CATION	AND ACRE	AGE DEDICA	TION PLAT		
	API Number			<sup>2</sup> Pool Code			Pool Name		
30-01	5-				W	ildcat Wolfe	camp Oil		
<sup>4</sup> Property Code			<sup>5</sup> Property Name EASY WIND 30 FED COM					6Well Number #704H	
<sup>7</sup> OGRID No. 7377		1		EOG		Selevation 3087'			
P. Fee					10 Surface Loc	ation			
UL or lot no.	Section 30	Township 26-S	Range 31-E	Range Lot Idn Feet from the North/South line Feet from the East				East/West line WEST	EDDY
UL or lot no.	Section 19	Township 26-S	Range 31-E	Lot Idn	Feet from the 230'	North/South line	Feet from the 2332'	East/West line	EDDY
12 Dedicated Acres	<sup>13</sup> Joint or	Infill 14C	onsolidation Code	15Order	No.				

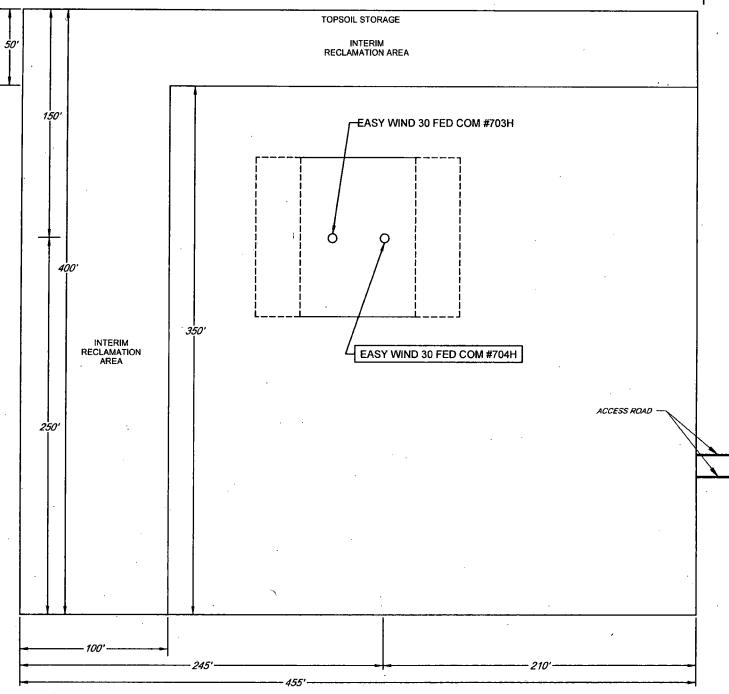
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



## EXHIBIT 2C RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO

DETAIL VIEW SCALE: 1" = 60"

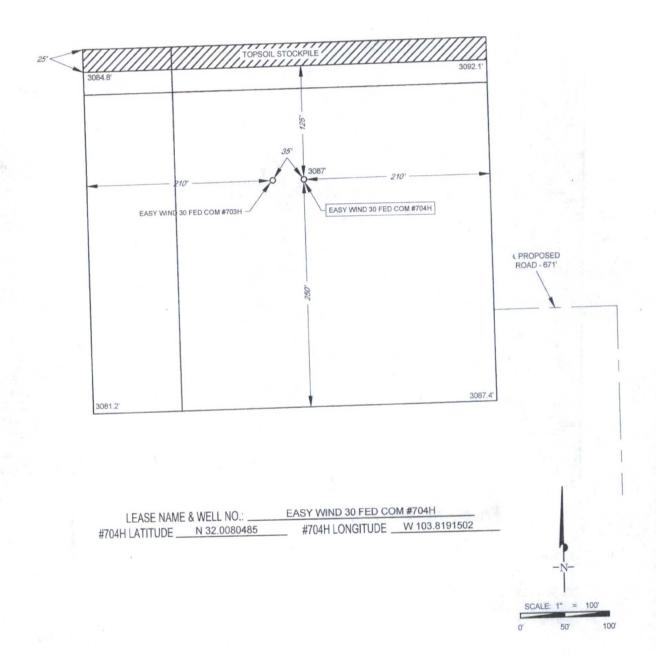


LEASE NAME & WELL NO.: EASY WIND 30 FED COM #704H #704H LATITUDE N 32.0080485 #704H LONGITUDE W 103.8191502



SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO

DETAIL VIEW SCALE: 1" = 100"



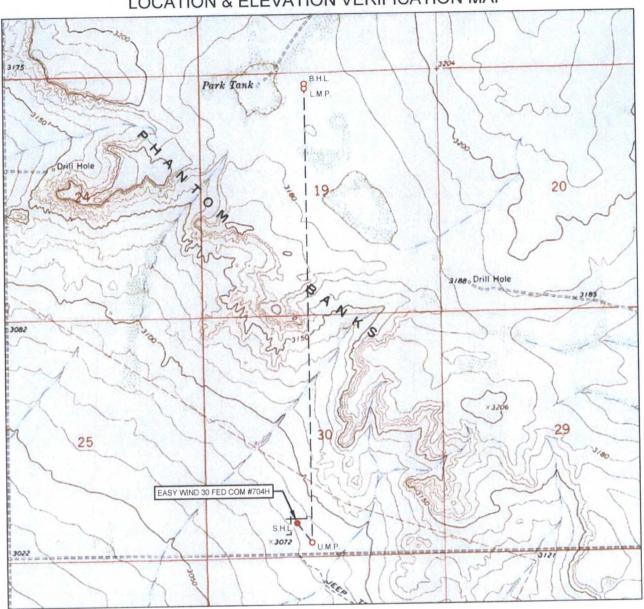
ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

NURTH AMERICAN DATUM 1927, U.S. SURVET FEET
THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER
MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY,
AND DATA PROVIDED BY EGG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE
PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS
SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.



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TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
Z903 NORTH BIG SPRING • MIDLAND, TEXAS 78705
TELEPHONE: (432) 682-653 OR (800) 787-1653 • FAX (432) 682-1743
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## LOCATION & ELEVATION VERIFICATION MAP



# Seog resources, Inc.

 SECTION
 30
 TWP
 26-S
 RGE
 31-E
 SURVEY
 N.M.P.M.

 COUNTY
 EDDY
 STATE
 NM
 ELEVATION
 3087'

 DESCRIPTION
 760' FSL & 2015' FWL

 LATITUDE
 N 32.0080485
 LONGITUDE
 W 103.8191502



THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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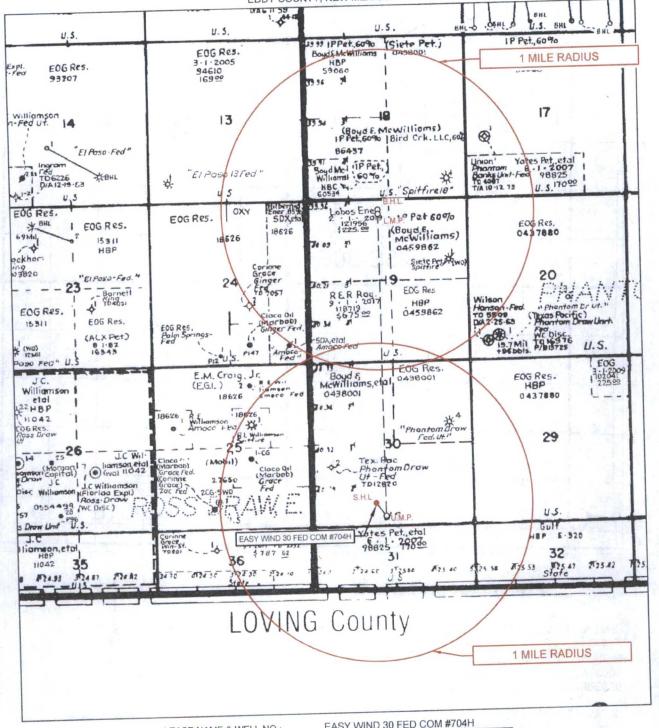


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## **FXHIBIT 3**



SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO .:

EASY WIND 30 FED COM #704H

SCALE: NTS

N 32.0080485 #704H LATITUDE

#704H LONGITUDE \_\_\_W 103.8191502

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

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TELEPHONE: (432) 682-633 OR (800) 767-1633 · FAX (432) 682-1743
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## EXHIBIT 2 VICINITY MAP

						INITI	VIAL					
36	31	34	33	34	P. P	36	31 BU	32	33 20	34	351	36
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25)	30	29	28	27	26	SEE DETAIL	30	29	nd FED COM	-31E		
	31	32	33	34	35	36	31	32	33	34	35	36

# eog resources, Inc.

 LEASE NAME & WELL NO.:
 EASY WIND 30 FED COM #704H

 SECTION \_\_30 \_\_TWP \_\_26-S \_\_RGE \_\_31-E \_\_SURVEY \_\_N.M.P.M.

 COUNTY \_\_\_\_EDDY \_\_\_STATE \_\_\_NM

 DESCRIPTION \_\_\_\_\_760' FSL & 2015' FWL

## DISTANCE & DIRECTION

FROM INT, OF US-285 & CR, 720, GO SOUTH ON US-285 ±12.6 MILES.

THENCE NORTHEAST (LEFT) ON WHITEHORN RD. ±11.1 MILES, THENCE
EAST (LEFT) ON STATE LINE RD. ±6.8 MILES, THENCE NORTH (LEFT) ON
A PROPOSED ROAD ±691 FEET TO A POINT ±250 FEET SOUTHEAST OF
THE LOCATION.

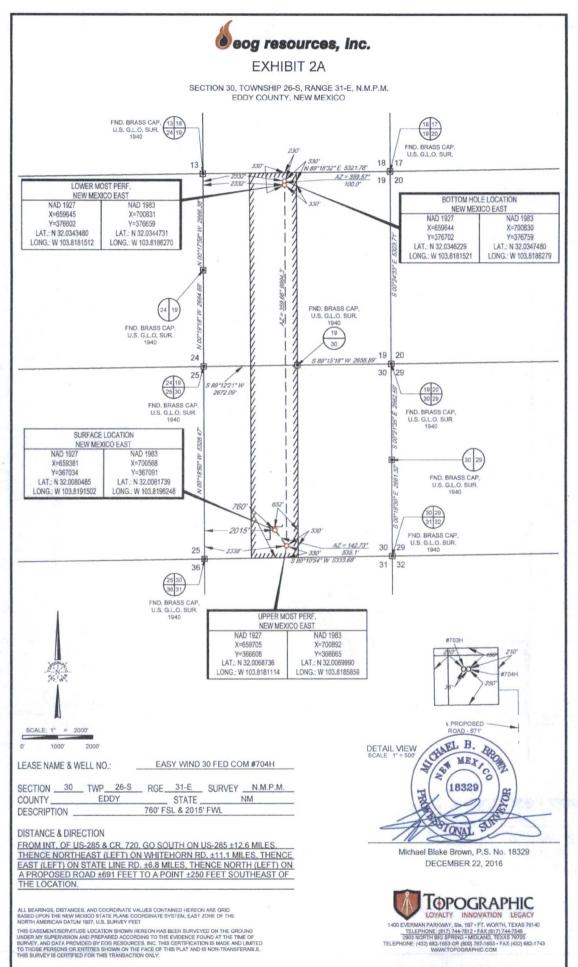
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

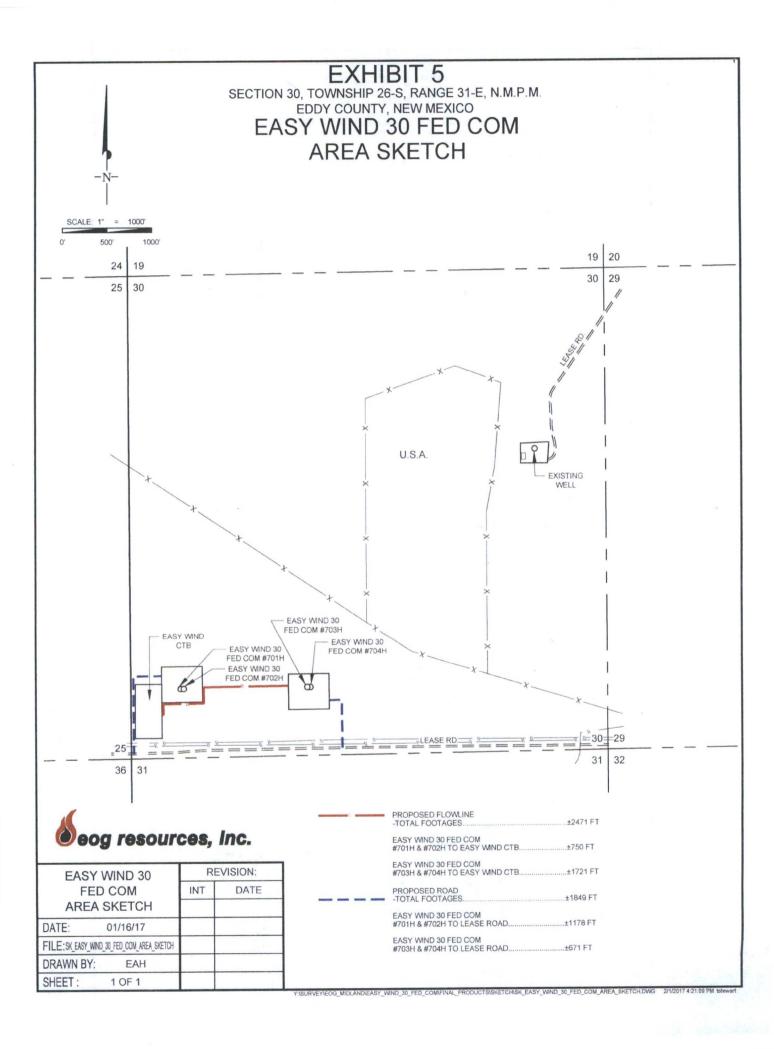
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# STEPH 3. US

## United States Department of the Interior

BUREAU OF LAND MANAGEMENT CARLSBAD FIELD OFFICE 620 E. GREENE ST. CARLSBAD, NM 88220 BLM NM CFO APD@BLM.GOV



In Reply To: 3160 (Office Code) [ NMNM0438001 ]

05/30/2017

Attn: STAN WAGNER EOG RESOURCES INC 1111 BAGBY SKY LOBBY2 HOUSTON, TX 77002

Re: Receipt and Acceptability of Application for Permit to Drill (APD)

FEDERAL - NMNM0438001

Well Name / Number:

EASY WIND 30 FED COM / 704H

Legal Description:

T26S, R31E, SEC 30, SESW

County, State:

EDDY, NM

Date APD Received:

03/09/2017

Dear Operator:

The BLM received your Application for Permit to Drill (APD), for the referenced well, on 03/09/2017. The BLM reviewed the APD package pursuant to part III.D of Onshore Oil and Gas Order No.1 and it is:

Well Plat   ✓ Drilling Plan   ✓ Surface Use Plan of Operations (SUPO)   Certification of Private Surface Owner Access Agreement   Bonding   Onsite (The BLM has scheduled the onsite to be on	✓ Inc	complete	e/Deficient (The BLM cannot process the APD until you submit the identified	
<ul> <li>✓ Drilling Plan</li> <li>✓ Surface Use Plan of Operations (SUPO)</li> <li>☐ Certification of Private Surface Owner Access Agreement</li> <li>☐ Bonding</li> <li>☐ Onsite (The BLM has scheduled the onsite to be on         <ul> <li>This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsite</li> </ul> </li> </ul>	items v	vithin 45	calendar days of the date of this notice or the BLM will return your APD.)	
<ul> <li>✓ Drilling Plan</li> <li>✓ Surface Use Plan of Operations (SUPO)</li> <li>☐ Certification of Private Surface Owner Access Agreement</li> <li>☐ Bonding</li> <li>☐ Onsite (The BLM has scheduled the onsite to be on         <ul> <li>This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsite</li> </ul> </li> </ul>				
Surface Use Plan of Operations (SUPO)  Certification of Private Surface Owner Access Agreement  Bonding  Onsite (The BLM has scheduled the onsite to be on  This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsite			Well Plat	
Certification of Private Surface Owner Access Agreement  Bonding Onsite (The BLM has scheduled the onsite to be on This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsite		1	Drilling Plan	
Bonding Onsite (The BLM has scheduled the onsite to be on This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsite		$\checkmark$	Surface Use Plan of Operations (SUPO)	
Onsite (The BLM has scheduled the onsite to be on  This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsi			Certification of Private Surface Owner Access Agreement	
This requirement is exempt of the 45-day timeframe to submit deficiencies. This requirement will be satisfied on the date of the onsi			Bonding	
deficiencies. This requirement will be satisfied on the date of the onsi			Onsite (The BLM has scheduled the onsite to be on )	
Other				site.
			Other	

[Please See Addendum for further clarification of deficiencies]

2. Missing Necessary Information (The BLM can start, but cannot complete the analysis until you submit the identified items. This is an early notice and the BLM will restate this in a 30-day deferral letter, if you have not submitted the information at that time. You will have two (2) years from the date of the deferral to submit this information or the BLM will deny your APD.)

[Please See Addendum for further clarification of deficiencies]

NOTE: The BLM will return your APD package to you, unless you correct all deficiencies identified above (item 1) within 45 calendar days.

 The BLM will not refund an APD processing fee or apply it to another APD for any returned APD.

**Extension Requests:** 

- If you know you will not be able to meet the 45-day timeframe for reasons beyond your control, you must submit a written request through email/standard mail for extension prior to the 45<sup>th</sup> calendar day from this notice, 07/14/2017.
- The BLM will consider the extension request if you can demonstrate your diligence (providing reasons and examples of why the delay is occurring beyond your control) in attempting to correct the deficiencies and can provide a date by which you will correct the deficiencies. If the BLM determines that the request does not warrant an extension, the BLM will return the APD as incomplete after the 45 calendar days have elapsed.
  - o The BLM will determine whether to grant an extension beyond the required 45 calendar days and will document this request in the well file. If you fail to submit deficiencies by the date defined in the extension request, the BLM will return the APD.

**APDs remaining Incomplete:** 

- If the APD is still not complete, the BLM will notify you and allow 10 additional business days to submit a written request to the BLM for an extension. The request must describe how you will address all outstanding deficiencies and the timeframe you request to complete the deficiencies.
  - o The BLM will consider the extension request if you can prove your diligence (providing reasons and examples of why the delay is occurring) in attempting to correct the deficiencies and you can provide a date by which you will correct the deficiencies. If the BLM determines that the request does not warrant an additional extension, the BLM will return the APD as incomplete.

If you have any questions, please contact Alana Baker at (575) 234-5922.

Sincerely,

Cody Layton Assistant Field Manager Lands and Minerals

## ADDENDUM - Deficient

#### **Surface Comments**

- Location of Existing and/or Proposed Production Facilities Deficiency: Flowlines well stay as drown Production flow-lines need to follow existing roads.

  due to Arch site and Range Survey per discussion w/ Vance Wolf and mike Yeman
- Location and Type of Water Supply Deficiency:
   A second water source is needed.
- Well Site Layout Deficiency:
  Needs a cut and fill diagram for all Easy Wind wells.
- Plans for Surface Reclamation Deficiency:
  Interim reclamation needs to be more on the west side as agreed upon the onsite. Revised plat attacked.

## **Engineering Comments**

- BOP requirements are not met
   BOP Schematic must have a 10M Annular. Please resubmit with correction.
- Engineering Review: Other identified drilling plan deficiencies

  Not a deficiency but cannot approve APD without a waste minimization plan. Please attach state submitted gas capture plan (this will be a sufficient substitute for waste minimization plan).





Top of pad elevation: 3086.8640 Cut Slope: 33.33% 3.000:1 18.43\* Fill Slope: 33.33% 3.000:1 18.43\* Balance Tolerance (C.Y.): 0.00 Cut Swell Factor: 1.00 Fill Shrink Factor: 1.00

Pad Earthwork Volumes Cut: 186,834.7 C.F., 6,919.80 C.Y. Fill: 186,834.7 C.F., 6,919.80 C.Y. Area: 197598.0 Sq.Ft., 4,536 Acres



1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140 TELEPHONE: (817) 744-7512 • FAX (817) 744-7548 TEXAS FIRM REGISTRATION NO. 10042504 WWW.TOPOGRAPHIC.COM

EASY WIND	REVISION:			
30 FED COM #703H & #704H SITE	INT	DATE		
DATE: 02/06/17			1	
FILE: CD_EASY_WIND_30_FED_COM_703H_704H_SITE_PRO				
DRAWN BY: GJU			٦	
SHEET: 1 OF 2				

#### NOTES:

В

1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"

 ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.

EASY WIND 30

FED COM #703H

EASY WIND 30

FED COM #704H

EXHIBIT 6
SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M.

EDDY COUNTY, NEW MEXICO

3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EGG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHINADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.

18329
18329

eog resources, inc.

Michael Blake Brown, P.S. No. 18329 FEBRUARY 6, 2017

Field note description of even date accompanies this plat.

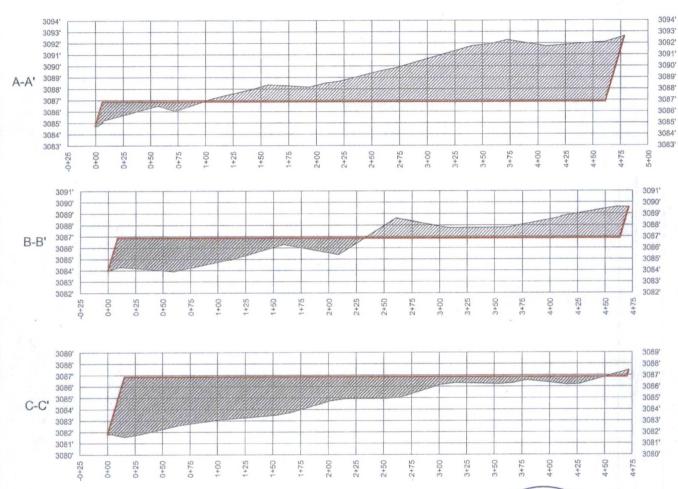
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B'

## **PRELIMINARY**



SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO



Horizontal Scale = 1:80 Vertical Scale = 1:5



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TEXAS FIRM REGISTRATION NO. 10042504
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Michael Blake Brown, P.S. No. 18329 FEBRUARY 6, 2017

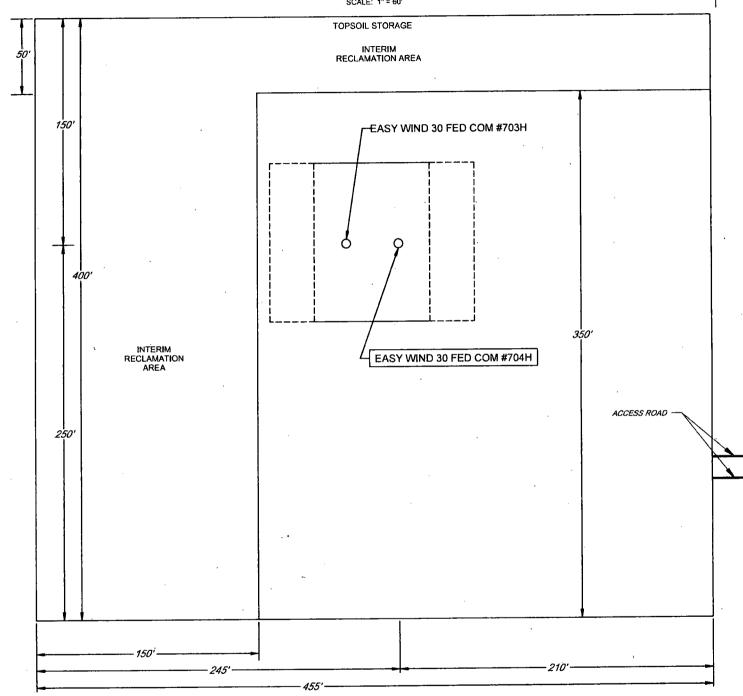
Field note description of even date accompanies this plat.

EASY WIND	REVISION:			
30 FED COM #703H & #704H SITE	INT	DATE		
DATE: 02/06/17				
FILE: CD_EASY_WIND_30_FED_COM_7/39H_7/9H_SITE_PRO				
DRAWN BY: GJU				
SHEET: 2 OF 2				

ORIGINAL DOCUMENT SIZE: 8.5" X 17"
ALL BEARINSO, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE
COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS BEASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY,
MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY
UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHINADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS
SHOWN HEREON OF WHICH I HAVE KNOWLEGGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE
FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.

# EXHIBIT 2C RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

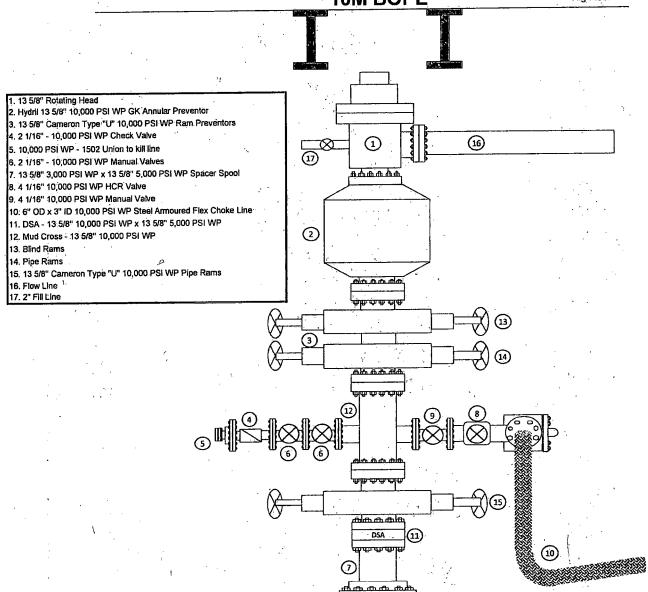
SECTION 30, TOWNSHIP 26-S, RANGE 31-E, N.M.P.M. EDDY COUNTY, NEW MEXICO DETAIL VIEW SCALE: 1" = 60"

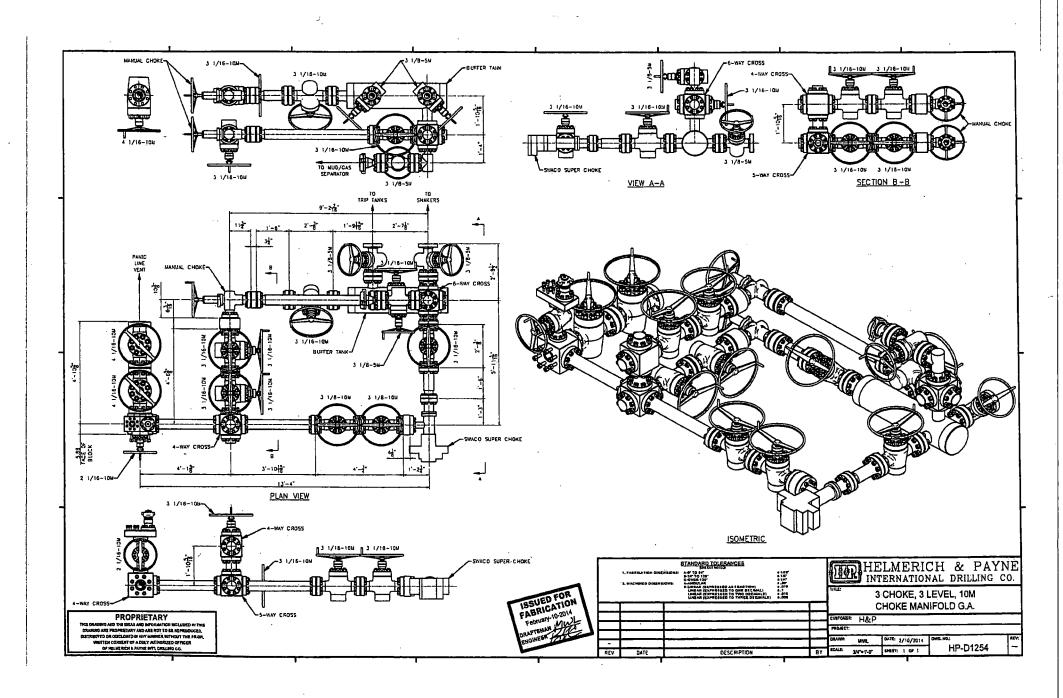


LEASE NAME & WELL NO.: <u>EASY WIND 30 FED COM #704H</u>
#704H LATITUDE N 32.0080485 #704H LONGITUDE W 103.8191502

# Exhibit 1 EOG Resources 10M BOPE

Rig Floor









U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

## Section 1 - General

Would you like to address long-term produced water disposal? NO

## Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

PWD disturbance (acres):

## **Section 3 - Unlined Pits**

Injection well mineral owner:

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:	
PWD surface owner:	PWD disturbance (acres):
Unlined pit PWD on or off channel:	
Unlined pit PWD discharge volume (bbl/day):	
Unlined pit specifications:	
Precipitated solids disposal:	
Decribe precipitated solids disposal:	
Precipitated solids disposal permit:	
Unlined pit precipitated solids disposal schedule:	
Unlined pit precipitated solids disposal schedule attachment:	
Unlined pit reclamation description:	
Unlined pit reclamation attachment:	
Unlined pit Monitor description:	
Unlined pit Monitor attachment:	
Do you propose to put the produced water to beneficial use?	
Beneficial use user confirmation:	
Estimated depth of the shallowest aquifer (feet):	
Does the produced water have an annual average Total Dissolved sthat of the existing water to be protected?	Solids (TDS) concentration equal to or less than
TDS lab results:	
Geologic and hydrologic evidence:	
State authorization:	
Unlined Produced Water Pit Estimated percolation:	
Unlined pit: do you have a reclamation bond for the pit?	
Is the reclamation bond a rider under the BLM bond?	
Unlined pit bond number:	
Unlined pit bond amount:	
Additional bond information attachment:	
Section 4 - Injection	
Would you like to utilize Injection PWD options? NO	
Produced Water Disposal (PWD) Location:	
PWD surface owner: PW	D disturbance (acres):
Injection PWD discharge volume (bbl/day):	

Injection well type: Injection well number: Injection well name: Assigned injection well API number? Injection well API number: Injection well new surface disturbance (acres): Minerals protection information: Mineral protection attachment: **Underground Injection Control (UIC) Permit? UIC Permit attachment:** Section 5 - Surface Discharge Would you like to utilize Surface Discharge PWD options? NO Produced Water Disposal (PWD) Location: PWD surface owner: PWD disturbance (acres): Surface discharge PWD discharge volume (bbl/day): **Surface Discharge NPDES Permit? Surface Discharge NPDES Permit attachment:** Surface Discharge site facilities information: Surface discharge site facilities map: Section 6 - Other Would you like to utilize Other PWD options? NO Produced Water Disposal (PWD) Location: PWD surface owner: PWD disturbance (acres):

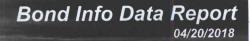
Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:





U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

## **Bond Information**

Federal/Indian APD: FED

**BLM Bond number: NM2308** 

**BIA Bond number:** 

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

**BLM** reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: