

HOBBS OGD Hobbs  
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17-284

Form 3160-3  
(March 2012)

APR 17 2017

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No.
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8. Lease Name and Well No. ORRTANNA 20 FED 705H (316102)
2. Name of Operator EOG RESOURCES INC (7377)		9. API Well No. 30-025-43745
3a. Address 1111 Bagby Sky Lobby2 Houston TX 77002	3b. Phone No. (include area code) (713)651-7000	10. Field and Pool, or Exploratory RED HILLS / WC-025 S263327G (98097)
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SWSE / 610 FSL / 2455 FEL / LAT 32.0234397 / LONG -103.5936653 At proposed prod. zone NWNE / 230 FNL / 2315 FEL / LAT 32.0356263 / LONG -103.5932231		11. Sec., T. R. M. or Blk. and Survey or Area SEC 20 / T26S / R33E / NMP
14. Distance in miles and direction from nearest town or post office* 24 miles		12. County or Parish LEA
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 230 feet		13. State NM
16. No. of acres in lease 640	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, 663 feet applied for, on this lease, ft.	19. Proposed Depth 12294 feet / 17142 feet	20. BLM/BIA Bond No. on file FED: NM2308
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3252 feet	22. Approximate date work will start* 06/01/2017	23. Estimated duration 25 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature (Electronic Submission)	Name (Printed/Typed) Stan Wagner / Ph: (432)686-3689	Date 01/24/2017
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Title  
Regulatory Specialist

Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Ty Allen / Ph: (575)234-5978	Date 04/11/2017
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Title  
Wildlife Biologist  
Office  
HOBBS

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

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

(Continued on page 2)

\*(Instructions on page 2)

APPROVED WITH CONDITIONS

KZ  
04/17/17



<b>APD ID:</b> 10400008986	<b>Submission Date:</b> 01/24/2017	<b>Highlight</b> All Changes
<b>Operator Name:</b> EOG RESOURCES INC	<b>Federal/Indian APD:</b> FED	
<b>Well Name:</b> ORRTANNA 20 FED	<b>Well Number:</b> 705H	
<b>Well Type:</b> OIL WELL	<b>Well Work Type:</b> Drill	

Application

Section 1 - General

<b>APD ID:</b> 10400008986	<b>Tie to previous NOS?</b>	<b>Submission Date:</b> 01/24/2017
<b>BLM Office:</b> HOBBS	<b>User:</b> Stan Wagner	<b>Title:</b> Regulatory Specialsit
<b>Federal/Indian APD:</b> FED	<b>Is the first lease penetrated for production Federal or Indian?</b> FED	
<b>Lease number:</b> NMNM118727	<b>Lease Acres:</b> 640	
<b>Surface access agreement in place?</b>	<b>Allotted?</b>	<b>Reservation:</b>
<b>Agreement in place?</b> NO	<b>Federal or Indian agreement:</b>	
<b>Agreement number:</b>		
<b>Agreement name:</b>		
<b>Keep application confidential?</b> NO		
<b>Permitting Agent?</b> NO	<b>APD Operator:</b> EOG RESOURCES INC	
<b>Operator letter of designation:</b>		
<b>Keep application confidential?</b> NO		

Operator Info

**Operator Organization Name:** EOG RESOURCES INC

**Operator Address:** 1111 Bagby Sky Lobby2

**Operator PO Box:**

**Operator City:** Houston **State:** TX

**Operator Phone:** (713)651-7000

**Operator Internet Address:**

**Zip:** 77002

Section 2 - Well Information

<b>Well in Master Development Plan?</b> NO	<b>Mater Development Plan name:</b>
<b>Well in Master SUPO?</b> NO	<b>Master SUPO name:</b>
<b>Well in Master Drilling Plan?</b> NO	<b>Master Drilling Plan name:</b>

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**Well API Number:**

**Field/Pool or Exploratory?** Field and Pool

**Field Name:** RED HILLS

**Pool Name:** WC-025 S263327G

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

**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

**Multiple Well Pad Name:**

**Number:** 705H/706H

**Well Class:** HORIZONTAL

**ORRTANNA 20 FED**

**Number of Legs:**

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** INFILL

**Describe sub-type:**

**Distance to town:** 24 Miles

**Distance to nearest well:** 663 FT

**Distance to lease line:** 230 FT

**Reservoir well spacing assigned acres Measurement:** 160 Acres

**Well plat:** Orrtanna20Fed705H\_signed C-102\_01-24-2017.pdf

**Well work start Date:** 06/01/2017

**Duration:** 25 DAYS

### Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:**

**STATE:** NEW MEXICO

**Meridian:** NEW MEXICO PRINCIPAL **County:** LEA

**Latitude:** 32.0234397

**Longitude:** -103.5936653

**SHL**

**Elevation:** 3252

**MD:** 0

**TVD:** 0

**Leg #: 1**

**Lease Type:** FEDERAL

**Lease #:** NMNM118727

**NS-Foot:** 610

**NS Indicator:** FSL

**EW-Foot:** 2455

**EW Indicator:** FEL

**Twsp:** 26S

**Range:** 33E

**Section:** 20

**Aliquot:** SWSE

**Lot:**

**Tract:**

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.0217839	<b>Longitude:</b> -103.5927805	
KOP	<b>Elevation:</b> -8569	<b>MD:</b> 11843	<b>TVD:</b> 11821
<b>Leg #: 1</b>	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM118727	
	<b>NS-Foot:</b> 54	<b>NS Indicator:</b> FSL	
	<b>EW-Foot:</b> 2322	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 26S	<b>Range:</b> 33E	<b>Section:</b> 20
	<b>Aliquot:</b> SWSE	<b>Lot:</b>	<b>Tract:</b>
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.0225456	<b>Longitude:</b> -103.592755	
PPP	<b>Elevation:</b> -9038	<b>MD:</b> 12422	<b>TVD:</b> 12290
<b>Leg #: 1</b>	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM118727	
	<b>NS-Foot:</b> 330	<b>NS Indicator:</b> FSL	
	<b>EW-Foot:</b> 2316	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 26S	<b>Range:</b> 33E	<b>Section:</b> 20
	<b>Aliquot:</b> SWSE	<b>Lot:</b>	<b>Tract:</b>
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.0352264	<b>Longitude:</b> -103.5927569	
EXIT	<b>Elevation:</b> -9043	<b>MD:</b> 17042	<b>TVD:</b> 12295
<b>Leg #: 1</b>	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM118727	
	<b>NS-Foot:</b> 330	<b>NS Indicator:</b> FNL	
	<b>EW-Foot:</b> 2315	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 26S	<b>Range:</b> 33E	<b>Section:</b> 20
	<b>Aliquot:</b> NWNE	<b>Lot:</b>	<b>Tract:</b>
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.0356263	<b>Longitude:</b> -103.5932231	
BHL	<b>Elevation:</b> -9042	<b>MD:</b> 17142	<b>TVD:</b> 12294
<b>Leg #: 1</b>	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM118727	
	<b>NS-Foot:</b> 230	<b>NS Indicator:</b> FNL	
	<b>EW-Foot:</b> 2315	<b>EW Indicator:</b> FEL	

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

Twsp: 26S

Range: 33E

Section: 20

Aliquot: NWNE

Lot:

Tract:

## Drilling Plan

### Section 1 - Geologic Formations

ID: Surface formation

Name: RUSTLER

Lithology(ies):

ANHYDRITE

Elevation: 2427

True Vertical Depth: 825

Measured Depth: 825

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 1

Name: TOP OF SALT

Lithology(ies):

SALT

Elevation: 1251

True Vertical Depth: 1176

Measured Depth: 1176

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 2

Name: BASE OF SALT

Lithology(ies):

SALT

Elevation: -2210

True Vertical Depth: 4637

Measured Depth: 4637

Mineral Resource(s):

NONE

Is this a producing formation? N

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**ID:** Formation 3

**Name:** LAMAR LS

**Lithology(ies):**

LIMESTONE

**Elevation:** -2447

**True Vertical Depth:** 4874

**Measured Depth:** 4874

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 4

**Name:** BELL CANYON

**Lithology(ies):**

SANDSTONE

**Elevation:** -2474

**True Vertical Depth:** 4901

**Measured Depth:** 4901

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 5

**Name:** CHERRY CANYON

**Lithology(ies):**

SANDSTONE

**Elevation:** -3491

**True Vertical Depth:** 5918

**Measured Depth:** 5918

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 6

**Name:** BRUSHY CANYON

**Lithology(ies):**

SANDSTONE

**Elevation:** -5051

**True Vertical Depth:** 7478

**Measured Depth:** 7478

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 7

**Name:** BONE SPRING LIME

**Lithology(ies):**

LIMESTONE

**Elevation:** -6620

**True Vertical Depth:** 9047

**Measured Depth:** 9047

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 8

**Name:** BONE SPRING 1ST

**Lithology(ies):**

SANDSTONE

**Elevation:** -7544

**True Vertical Depth:** 9971

**Measured Depth:** 9971

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 9

**Name:** BONE SPRING 2ND

**Lithology(ies):**

SANDSTONE

**Elevation:** -8123

**True Vertical Depth:** 10550

**Measured Depth:** 10550

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**ID:** Formation 10

**Name:** BONE SPRING 3RD

**Lithology(ies):**

SANDSTONE

**Elevation:** -8645

**True Vertical Depth:** 11072

**Measured Depth:** 11072

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 11

**Name:** WOLFCAMP

**Lithology(ies):**

SHALE

**Elevation:** -9740

**True Vertical Depth:** 12167

**Measured Depth:** 12167

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** Y

## Section 2 - Blowout Prevention

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**Pressure Rating (PSI):** 5M

**Rating Depth:** 12294

**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 (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 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 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.

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**Choke Diagram Attachment:**

Orrtanna 20 Fed 705H\_5 M Choke Manifold Diagram (3-21-14)\_01-24-2017.pdf

**BOP Diagram Attachment:**

Orrtanna 20 Fed 705H\_5MBOPDiagram (8-14-14)\_01-24-2017.pdf

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### Section 3 - Casing

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**String Type:** SURFACE

**Other String Type:**

**Hole Size:** 14.75

**Top setting depth MD:** 0

**Top setting depth TVD:** 0

**Top setting depth MSL:** -9042

**Bottom setting depth MD:** 850

**Bottom setting depth TVD:** 850

**Bottom setting depth MSL:** -9892

**Calculated casing length MD:** 850

**Casing Size:** 10.75

**Other Size**

**Grade:** J-55

**Other Grade:**

**Weight:** 40.5

**Joint Type:** STC

**Other Joint Type:**

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### Safety Factors

**Collapse Design Safety Factor:** 1.125

**Burst Design Safety Factor:** 1.25

**Joint Tensile Design Safety Factor type:** BUOYANT

**Joint Tensile Design Safety Factor:** 1.6

**Body Tensile Design Safety Factor type:** BUOYANT

**Body Tensile Design Safety Factor:** 1.6

**Casing Design Assumptions and Worksheet(s):**

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

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**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**String Type:** INTERMEDIATE

**Other String Type:**

**Hole Size:** 9.875

**Top setting depth MD:** 0

**Top setting depth TVD:** 0

**Top setting depth MSL:** -9042

**Bottom setting depth MD:** 1000

**Bottom setting depth TVD:** 1000

**Bottom setting depth MSL:** -10042

**Calculated casing length MD:** 1000

**Casing Size:** 7.625

**Other Size**

**Grade:** HCP-110

**Other Grade:**

**Weight:** 29.7

**Joint Type:** LTC

**Other Joint Type:** Flushmax III

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### **Safety Factors**

**Collapse Design Safety Factor:** 1.125

**Burst Design Safety Factor:** 1.25

**Joint Tensile Design Safety Factor type:** BUOYANT

**Joint Tensile Design Safety Factor:** 1.6

**Body Tensile Design Safety Factor type:** BUOYANT

**Body Tensile Design Safety Factor:** 1.6

**Casing Design Assumptions and Worksheet(s):**

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**String Type:** PRODUCTION

**Other String Type:**

**Hole Size:** 6.75

**Top setting depth MD:** 0

**Top setting depth TVD:** 0

**Top setting depth MSL:** -9042

**Bottom setting depth MD:** 10600

**Bottom setting depth TVD:** 10600

**Bottom setting depth MSL:** -19642

**Calculated casing length MD:** 10600

**Casing Size:** 5.5

**Other Size**

**Grade:** OTHER

**Other Grade:** P-110EC

**Weight:** 20

**Joint Type:** OTHER

**Other Joint Type:** DWC/C-IS MS

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### **Safety Factors**

**Collapse Design Safety Factor:** 1.125

**Burst Design Safety Factor:** 1.25

**Joint Tensile Design Safety Factor type:** BUOYANT

**Joint Tensile Design Safety Factor:** 1.6

**Body Tensile Design Safety Factor type:** BUOYANT

**Body Tensile Design Safety Factor:** 1.6

**Casing Design Assumptions and Worksheet(s):**

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**String Type:** PRODUCTION

**Other String Type:**

**Hole Size:** 6.75

**Top setting depth MD:** 10600

**Top setting depth TVD:** 10600

**Top setting depth MSL:** -19642

**Bottom setting depth MD:** 17142

**Bottom setting depth TVD:** 12294

**Bottom setting depth MSL:** -21336

**Calculated casing length MD:** 6542

**Casing Size:** 5.5

**Other Size**

**Grade:** OTHER

**Other Grade:** P-110EC

**Weight:** 20

**Joint Type:** OTHER

**Other Joint Type:** VAM SFC

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### **Safety Factors**

**Collapse Design Safety Factor:** 1.125

**Burst Design Safety Factor:** 1.25

**Joint Tensile Design Safety Factor type:** BUOYANT

**Joint Tensile Design Safety Factor:** 1.6

**Body Tensile Design Safety Factor type:** BUOYANT

**Body Tensile Design Safety Factor:** 1.6

**Casing Design Assumptions and Worksheet(s):**

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**String Type:** INTERMEDIATE

**Other String Type:**

**Hole Size:** 8.75

**Top setting depth MD:** 3000

**Top setting depth TVD:** 3000

**Top setting depth MSL:** -12042

**Bottom setting depth MD:** 11100

**Bottom setting depth TVD:** 11100

**Bottom setting depth MSL:** -20142

**Calculated casing length MD:** 8100

**Casing Size:** 7.625

**Other Size**

**Grade:** HCP-110

**Other Grade:**

**Weight:** 29.7

**Joint Type:** OTHER

**Other Joint Type:** Flushmax III

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### **Safety Factors**

**Collapse Design Safety Factor:** 1.125

**Burst Design Safety Factor:** 1.25

**Joint Tensile Design Safety Factor type:** BUOYANT

**Joint Tensile Design Safety Factor:** 1.6

**Body Tensile Design Safety Factor type:** BUOYANT

**Body Tensile Design Safety Factor:** 1.6

**Casing Design Assumptions and Worksheet(s):**

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**String Type:** INTERMEDIATE

**Other String Type:**

**Hole Size:** 9.875

**Top setting depth MD:** 1000

**Top setting depth TVD:** 1000

**Top setting depth MSL:** -10042

**Bottom setting depth MD:** 3000

**Bottom setting depth TVD:** 3000

**Bottom setting depth MSL:** -12042

**Calculated casing length MD:** 2000

**Casing Size:** 7.625

**Other Size**

**Grade:** OTHER

**Other Grade:** P-110EC

**Weight:** 29.7

**Joint Type:** OTHER

**Other Joint Type:** SLIJII

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### Safety Factors

**Collapse Design Safety Factor:** 1.125

**Burst Design Safety Factor:** 1.25

**Joint Tensile Design Safety Factor type:** BUOYANT

**Joint Tensile Design Safety Factor:** 1.6

**Body Tensile Design Safety Factor type:** BUOYANT

**Body Tensile Design Safety Factor:** 1.6

**Casing Design Assumptions and Worksheet(s):**

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

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### Section 4 - Cement

**Casing String Type:** INTERMEDIATE

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 0

Cement Type: 0

Additives: 0

Quantity (sks): 0

Yield (cu.ff./sk): 0

Density: 0

Volume (cu.ft.): 0

Percent Excess:

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 0

Cement Type: 0

Additives: 0

Quantity (sks): 0

Yield (cu.ff./sk): 0

Density: 0

Volume (cu.ft.): 0

Percent Excess:

Casing String Type: SURFACE

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 850

Cement Type: Class C

Additives: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl<sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)

Quantity (sks): 325

Yield (cu.ff./sk): 1.73

Density: 13.5

Volume (cu.ft.): 562

Percent Excess: 25

Top MD of Segment: 850

Bottom MD Segment: 850

Cement Type: Class C

Additives: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate

Quantity (sks): 200

Yield (cu.ff./sk): 1.34

Density: 14.8

Volume (cu.ft.): 268

Percent Excess: 25

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 11100

Cement Type: Class C

Additives: Class C + 5% Gypsum + 3% CaCl<sub>2</sub> pumped via Bradenhead. (TOC @ surface)

Quantity (sks): 2250

Yield (cu.ff./sk): 1.38

Density: 14.8

Volume (cu.ft.): 3105

Percent Excess: 25

Top MD of Segment: 11100

Bottom MD Segment: 11100

Cement Type: Class H

Additives: 50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20%

Quantity (sks): 550

Yield (cu.ff./sk): 1.2

Density: 14.8

Volume (cu.ft.): 660

Percent Excess: 25

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

CPT35 + 0.80% CPT16A + 0.25%  
CPT503P pumped conventionally.  
Density: 14.4

Percent Excess: 25

Casing String Type: PRODUCTION

Stage Tool Depth:

Lead

Top MD of Segment: 10600

Bottom MD Segment: 17142

Cement Type: Class H

Additives: Class H + 0.1% C-20 +  
0.05% CSA-1000 + 0.20% C-49 +  
0.40% C-17 (TOC @ 10,600')  
Density: 14.1

Quantity (sks): 725

Yield (cu.ff./sk): 1.26

Volume (cu.ft.): 913

Percent Excess: 25

Stage Tool Depth:

Lead

Top MD of Segment: 10600

Bottom MD Segment: 20185

Cement Type: Class H

Additives: Class H + 0.1% C-20 +  
0.05% CSA-1000 + 0.20% C-49 +  
0.40% C-17 (TOC @ 10,600')  
Density: 14.1

Quantity (sks): 725

Yield (cu.ff./sk): 1.26

Volume (cu.ft.): 913

Percent Excess: 25

## 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

---

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**Top Depth:** 850

**Bottom Depth:** 11100

**Mud Type:** SALT SATURATED

**Min Weight (lbs./gal.):** 8.8

**Max Weight (lbs./gal.):** 10

**Density (lbs/cu.ft.):**

**Gel Strength (lbs/100 sq.ft.):**

**PH:**

**Viscosity (CP):**

**Filtration (cc):**

**Salinity (ppm):**

**Additional Characteristics:**

---

**Top Depth:** 11100

**Bottom Depth:** 17142

**Mud Type:** OIL-BASED MUD

**Min Weight (lbs./gal.):** 10

**Max Weight (lbs./gal.):** 11.5

**Density (lbs/cu.ft.):**

**Gel Strength (lbs/100 sq.ft.):**

**PH:**

**Viscosity (CP):**

**Filtration (cc):**

**Salinity (ppm):**

**Additional Characteristics:**

---

**Top Depth:** 0

**Bottom Depth:** 850

**Mud Type:** WATER-BASED MUD

**Min Weight (lbs./gal.):** 8.6

**Max Weight (lbs./gal.):** 8.8

**Density (lbs/cu.ft.):**

**Gel Strength (lbs/100 sq.ft.):**

**PH:**

**Viscosity (CP):**

**Filtration (cc):**

**Salinity (ppm):**

**Additional Characteristics:**

---

## 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 INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

## Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7351

Anticipated Surface Pressure: 4646.1

Anticipated Bottom Hole Temperature(F): 181

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Orrtanna 20 Fed 705H H2S Plan Summary\_01-24-2017.pdf

## Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Orrtanna 20 Fed 705H Planning Report\_01-24-2017.pdf

Orrtanna 20 Fed 705H Wall Plot\_01-24-2017.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Orrtanna 20 Fed 705H Proposed Wellbore\_01-24-2017.pdf

Orrtanna 20 Fed 705H\_5.500in 20.00 VST P110EC DWC\_C-IS MS Spec Sheet\_01-24-2017.pdf

Orrtanna 20 Fed 705H\_5.500in 20.00 VST P110EC VAM SFC Spec Sheet\_01-24-2017.pdf

Orrtanna20Fed705H\_7.625in 29.70 P-110 FlushMax III Spec Sheet\_01-24-2017.pdf

Orrtanna20Fed705H\_7.625in 29.7 P110EC VAM SLIJ-II\_01-24-2017.pdf

Orrtanna20Fed705\_Co-Flex Hose Certification\_01-24-2017.PDF

Orrtanna20Fed705H\_Co-Flex Hose Test Chart\_01-24-2017.pdf

Orrtanna 20 Fed 705H rig layout\_01-24-2017.pdf

Other Variance attachment:

Orrtanna 20 Fed 705H BLM Plan\_01-24-2017.pdf

SUPO

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

## Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

Orrtanna 20 Fed 705H\_vicinity map\_12-20-2016.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:**

Orrtanna 20 Fed 705H\_pad site\_12-20-2016.pdf

**New road type:** RESOURCE

**Length:** 830 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:**

**Access road engineering design?** NO

**Access road engineering design attachment:**

**Access surfacing type:** OTHER

**Access topsoil source:** ONSITE

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**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:** 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:**

Orrtanna 20 Fed 705H\_radius map\_12-20-2016.pdf

**Existing Wells description:**

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

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Estimated Production Facilities description:**

**Production Facilities description:** Central Tank Battery located in SE/4 of Section 20. Facility information depicted on the attached area sketch.

**Production Facilities map:**

Orrtanna 20 Fed \_infrastructure\_12-20-2016.pdf

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

#### **Water Source Table**

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**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:**

Orrtanna 20 Fed Water Source and Caliche Map\_12-20-2016.docx

**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:**

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

## 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:**

Orrtanna 20 Fed Water Source and Caliche Map\_12-20-2016.docx

## 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 containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

**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?**

**Reserve pit liner**

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

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:

Orrtanna 20 Fed 705H\_pad site\_12-20-2016.pdf

Orrtanna 20 Fed 705H\_well site\_12-20-2016.pdf

Orrtanna 20 Fed 705H rig layout\_01-24-2017.pdf

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

### Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

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 reestablished and that erosion is controlled.

Wellpad long term disturbance (acres): 2.662994

Wellpad short term disturbance (acres): 3.512397

Access road long term disturbance (acres): 0.4573

Access road short term disturbance (acres): 0.4573

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**Pipeline long term disturbance (acres):** 0.0019911742

**Pipeline short term disturbance (acres):** 0.0055310386

**Other long term disturbance (acres):** 0

**Other short term disturbance (acres):** 0

**Total long term disturbance:** 3.1222851

**Total short term disturbance:** 3.975228

**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 resspreading. 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:**

Orrtanna 20 Fed 705H\_interim reclamation\_12-20-2016.pdf

**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:**

**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:**

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

Seed harvest description attachment:

## Seed Management

### Seed Table

Seed type: Seed source:  
Seed name:  
Source name: Source address:  
Source phone:  
Seed cultivar:  
Seed use location:  
PLS pounds per acre: Proposed seeding season:

### Seed Summary

Total pounds/Acre:

Seed Type	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

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:**

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

## 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 Forest/Grassland:**

**USFS Ranger District:**

## 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 1/21/16. 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 1/21/16.

### Other SUPO Attachment

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

- Orrtanna 20 Fed 705H\_SUPO\_12-20-2016.pdf
- Orrtanna 20 Fed \_infrastructure\_01-24-2017.pdf
- Orrtanna 20 Fed 705H\_interim reclamation\_01-24-2017.pdf
- Orrtanna 20 Fed 705H\_pad site\_01-24-2017.pdf
- Orrtanna 20 Fed 705H\_radius map\_01-24-2017.pdf
- Orrtanna 20 Fed 705H\_vicinity map\_01-24-2017.pdf
- Orrtanna 20 Fed 705H\_well site\_01-24-2017.pdf
- Orrtanna20Fed705H\_signed C-102\_01-24-2017.pdf
- Orrtanna 705H Deficiency Response 2-24-17\_02-24-2017.pdf
- Orrtanna\_705H\_CutFill\_03-22-2017.pdf

PWD

## 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:**

**PWD disturbance (acres):**

**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:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Lined pit precipitated solids disposal schedule:**

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**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:**

### **Section 3 - Unlined Pits**

**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:**

**Describe 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 Solids (TDS) concentration equal to or less than that of the existing water to be protected?**

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

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:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

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:

Operator Name: EOG RESOURCES INC

Well Name: ORRTANNA 20 FED

Well Number: 705H

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:

## Bond Info

### 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:

## Operator Certification

### 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.*

**Operator Name:** EOG RESOURCES INC

**Well Name:** ORRTANNA 20 FED

**Well Number:** 705H

**NAME:** Stan Wagner

**Signed on:** 01/24/2017

**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:** James Barwis

**Street Address:** 5509 Champions Drive

**City:** Midland

**State:** TX

**Zip:** 79705

**Phone:** (432)425-1204

**Email address:** james\_barwis@eogresources.com

### Payment Info

#### Payment

**APD Fee Payment Method:** BLM DIRECT

**CBS Receipt number:** 3745581