MIN F Former BES 02 1 2018 (NAT 2012) FORM APPROVED UNITED STATES Lease Serial No DEPARTMENT OF THE INTERIOR NMNM015684 BUREAU OF LAND MANAGEMENT If Indian, Allotee or Tribe Name APPLICATION FOR PERMIT TO DRILL OR REENTER 7. If Unit or CA Agreement, Name and No. DRILL REENTER la. Type of work: 8. Lease Name and Well No. lb. Type of Well: ✓ Oil Well Gas Well Other Single Zone Multiple Zone STONEWALL 28 FED COM 714H Name of Operator EOG RESOURCES INCORPORATED Address Phone No. (include area code) 1111 Bagby Sky Lobby2 Houston TX 77002 (713)651-7000 RED HILLS / WC-025 S243336I UPPER 11. Sec., T. R. M. or Blk. and Survey or Area Location of Well (Report location clearly and in accordance with any State requirements.\*) At surface NENE / 200 FNL / 660 FEL / LAT 32.195241 / LONG -103.468506 SEC 28 / T24S / R34E / NMP At proposed prod. zone SESE / 230 FSL / 660 FEL / LAT 32.167402 / LONG -103.4684573 12 County or Parish 13 State 14. Distance in miles and direction from nearest town or post office\* I FA NM 17 miles Distance from proposed\* 17. Spacing Unit dedicated to this well 16. No. of acres in lease location to nearest 560 320 property or lease line, ft. (Also to nearest drig, unit line, if any) 18. Distance from proposed location\* to nearest well, drilling, completed, 280 feet applied for, on this lease, ft. 20. BLM/BIA Bond No. on file 19. Proposed Depth FED: NM2308 12280 feet / 22352 feet Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start\* 23. Estimated duration 3492 feet 06/01/2018 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: 1. Well plat certified by a registered surveyor. Bond to cover the operations unless covered by an existing bond on file (see Item 20 ahove) 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the Operator certification SUPO must be filed with the appropriate Forest Service Office). Such other site specific information and/or plans as may be required by the Name (Printed/Typed) Date 25. Signature (Electronic Submission) Stan Wagner / Ph: (432)686-3689 02/02/2018 Title Regulatory Specialsit Date Approved by (Signature) Name (Printed/Typed) Cody Layton / Ph: (575)234-5959 05/21/2018 (Electronic Submission)

Title

Office Supervisor Multiple Resources CARLSBAD

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.

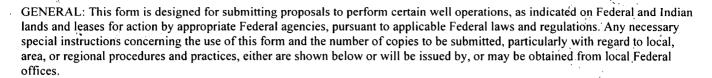
proval Date: 05/21/2018

(Continued on page 2)

(nstructions on page 2)



#### INSTRUCTIONS



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)

**Approval Date: 05/21/2018** 

#### **Additional Operator Remarks**

#### **Location of Well**

1. SHL: NENE / 200 FNL / 660 FEL / TWSP: 24S / RANGE: 34E / SECTION: 28 / LAT: 32.195241 / LONG: -103.468506 ( TVD: 0 feet, MD: 0 feet )

PPP: NESE / 2540 FSL / 660 FEL / TWSP: 24S / RANGE: 34E / SECTION: 28 / LAT: 32.1883 / LONG: -103.4685 ( TVD: 12280 feet, MD: 14757 feet )

PPP: NENE / 330 FNL / 660 FEL / TWSP: 24S / RANGE: 34E / SECTION: 28 / LAT: 32.1948834 / LONG: -103.4685022 ( TVD: 12236 feet, MD: 12347 feet )

BHL: SESE / 230 FSL / 660 FEL / TWSP: 24S / RANGE: 34E / SECTION: 33 / LAT: 32.167402 / LONG: -103.4684573 ( TVD: 12280 feet, MD: 22352 feet )

#### **BLM Point of Contact**

Name: Katrina Ponder

Title: Geologist Phone: 5752345969

1 Hone. 5752545707

Email: kponder@blm.gov

(Form 3160-3, page 3)

**Approval Date: 05/21/2018** 

#### **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.

(Form 3160-3, page 4)

**Approval Date: 05/21/2018** 



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

# Application Data Report

APD ID: 10400026555

Submission Date: 02/02/2018

Highlighted data reflects the most

**Operator Name: EOG RESOURCES INCORPORATED** 

Well Number: 714H

recent changes

Well Name: STONEWALL 28 FED COM

**Show Final Text** 

Well Type: OIL WELL

Well Work Type: Drill

#### Section 1 - General

APD ID:

10400026555

Tie to previous NOS?

**Submission Date: 02/02/2018** 

**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: NMNM015684

Lease Acres: 560

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? NO

**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

**Zip**: 77002

Operator PO Box:

**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: STONEWALL 28 FED COM

Well Number: 714H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: RED HILLS

Pool Name: WC-025 S2433361

UPPER WOLFCAMP

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

Well Name: STONEWALL 28 FED COM

Well Number: 714H

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: STONEWALL 28 FED COM Number: 713H/714H/715H

Well Class: HORIZONTAL

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: 17 Miles

Distance to nearest well: 280 FT

Distance to lease line: 200 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat:

Stonewall\_28\_FC\_714H\_signed\_C\_102\_20180202081708.pdf

Well work start Date: 06/01/2018

**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	200	FNL	660	FEL	248	34E	28	Aliquot NENE	32.19524 1	- 103.4685 06	LEA	NEW MEXI CO	NEW MEXI CO	F	FEE	349 2	0	0
KOP Leg #1	52	FNL	660	FEL	24S	34E	28	Aliquot NENE	32.19564 64	- 103.4685 026	LEA	l	NEW MEXI CO	F	FEE	- 830 2	117 95	117 94
PPP Leg #1	330	FNL	660	FEL	24S	34E	28	Aliquot NENE	32.19488 34	- 103.4685 022	LEA	I :	NEW MEXI CO	F	FEE	- 874 4	123 47	122 36



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



APD ID: 10400026555

Submission Date: 02/02/2018

Highlighted data reflects the most

Operator Name: EOG RESOURCES INCORPORATED

recent changes

Well Name: STONEWALL 28 FED COM

Well Number: 714H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Geologic Formations

Formation			True Vertical	Measured		,**)	Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
1	PERMIAN	3492	0	0	ALLUVIUM	NONE	No
2	RUSTLER	2371	1121	1121	ANHYDRITE	NONE	No
3	BASE OF SALT	-1576	5068	5068	SALT	NONE	No
4	TOP OF SALT	-1844	5336	5336	SALT	NONE	No
5	LAMAR	-1836	5336	5336	LIMESTONE	NONE	No
6	BELL CANYON	-1886	5378	5378	SANDSTONE	NATURAL GAS,OIL	Yes
7	CHERRY CANYON	-2819	6311	6311	SANDSTONE	NATURAL GAS,OIL	Yes
8	BRUSHY CANYON	-4312	7804	7804	SANDSTONE	NATURAL GAS,OIL	Yes
9	BONE SPRING LIME	5674	9166	9166	LIMESTONE	NONE	No
10	BONE SPRING 1ST	-6684	10176	10176	SANDSTONE	NATURAL GAS,OIL	Yes
11	BONE SPRING 2ND	-7164	10656	10656	SANDSTONE	NATURAL GAS,OIL	Yes
12	BONE SPRING 3RD	-8201	11693	11693	SANDSTONE	NATURAL GAS,OIL	No
13	WOLFCAMP	-8613	12105	12105		NATURAL GAS,OIL	Yes

#### **Section 2 - Blowout Prevention**



Well Name: STONEWALL 28 FED COM

Well Number: 714H

Pressure Rating (PSI): 10M

Rating Depth: 12280

**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 & amp; amp; Gas order No. 2.

Requesting Variance? YES

**Variance request:** Variance is requested to use a 5000 psi annular BOP with the 10000 psi BOP stack. 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. Centralizers will be placed in the 9-7/8" hole interval at least one every third joint. 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 10000/ 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 10000/ 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:**

Stonewall\_28\_Fed\_Com\_714H\_10\_M\_Choke\_Manifold\_20180202075320.pdf

Stonewall 28 Fed Com 714H Co Flex Hose Certification 20180202075321.PDF

Stonewall 28 Fed Com 714H Co Flex Hose Test Chart 20180202075321.pdf

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

Stonewall 28 Fed Com 714H 10 M BOP Diagram 20180202075354.pdf

Stonewall 28 Fed Com 714H EOG BLM 10M Annular Variance 4 String 20180202075354.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	SURFACE	17.5	13.375	NEW	API	N	0	1150	0	1150	3492	2342	1150	J-55	54.5	STC	1.12 5	1.25	BUOY	1.6	BUOY	1.6
_	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	4000	0	4000	3492	-508	4000	J-55	40	LTC	1.12 5	1.25	BUOY	1.6	BUOY	1.6
	INTERMED IATE	12.2 5	9.625	NEW	API	N′	4000	5100	4000	5100	-508	-1608	1100	HCK -55	40	LTC	1.12 5	1.25	BUOY	1.6	BUOY	1.6

Well Name: STONEWALL 28 FED COM

Well Number: 714H

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	Coltapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
4	PRODUCTI ON	6.75	5.5	NEW	API	N	0	10800	0	10800	3492	-7308	10800	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	0	11300	0	11300	3492	-7808	11300	HCP -110	ı	OTHER - FXL	1.12 5	1.25	BUOY	1.6	BUOY	1.6
6	PRODUCTI ON	6.75	5.5	NEW	API	N	10800	22352	10800	12280	-7308	-8788	11552	OTH ER		OTHER - VAM SFC	1.12 5	1.25	BUOY	1.6	BUOY	1.6

#### **Casing Attachments**

Casing ID: 1

String Type: SURFACE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

Stonewall\_28\_Fed\_Com\_714H\_BLM\_Plan\_20180202075800.pdf

Casing ID: 2

String Type: INTERMEDIATE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

See\_previously\_attached\_Drill\_Plan\_20180202075812.pdf

Well Name: STONEWALL 28 FED COM

Well Number: 714H

# **Casing Attachments** Casing ID: 3 String Type: INTERMEDIATE **Inspection Document: Spec Document: Tapered String Spec:** Casing Design Assumptions and Worksheet(s): See\_previously\_attached\_Drill\_Plan\_20180202075843.pdf Casing ID: 4 String Type: PRODUCTION **Inspection Document: Spec Document: Tapered String Spec:** Casing Design Assumptions and Worksheet(s): See\_previously\_attached\_Drill\_Plan\_20180202075904.pdf Stonewall\_28\_Fed\_Com\_714H\_5.500in\_20.00\_VST\_P110EC\_DWC\_C\_IS\_MS\_20180202075905.pdf

Spec Document:

**Inspection Document:** 

Casing ID: 5

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

See\_previously\_attached\_Drill\_Plan\_20180202075920.pdf

String Type: INTERMEDIATE

Stonewall\_28\_Fed\_Com\_714H\_7.625in\_29.70\_P110HC\_FXL\_20180202075921.pdf

Well Name: STONEWALL 28 FED COM

Well Number: 714H

#### **Casing Attachments**

Casing ID: 6

String Type: PRODUCTION

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

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

 $See\_previously\_attached\_Drill\_Plan\_20180202075953.pdf$ 

Stonewall\_28\_Fed\_Com\_714H\_5.500in\_20.00\_VST\_P110EC\_VAM\_SFC\_20180202075954.pdf

#### **Section 4 - Cement**

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0

INTERMEDIATE	Lead	0	0	0	0	0	0	0	0	0	
		Ì									

SURFACE	Lead	0	1150	600	1.73	13.5	1038	25	Class C	Lead: Class C + 4.0% Bentonite + 0.6% CD- 32 + 0.5% CaCl2 + 0.25 Ib/sk Cello-Flake (TOC @ Surface)
SURFACE	Tail	1150	1150	200	1.34	14.8	268	25	Class C	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
INTERMEDIATE	Lead	0	5100	1780	2.2	12.7	3916	25	Class C	Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C- 41P (TOC @ Surface)
INTERMEDIATE	Tail	5100	5100	200	1.12	16	224	25	Class C	Tail: Class C + 0.13% C-20

Well Name: STONEWALL 28 FED COM

Well Number: 714H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		4600	1130 0	340	2.72	11.5	924	25	Class C	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,600')
INTERMEDIATE	Tail		1130 0	1130 0	210	1.12	16	235	25	Class H	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
PRODUCTION	Lead		1080 0	2235 2	950	1.26	14.1	1197	25	Class H	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,800')

#### **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**

1130 0	Depth Pottom Depth 0	Mud Type MID	O Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Hd	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1150	5100	SALT SATURATED	10	10.2							

Well Name: STONEWALL 28 FED COM

Well Number: 714H

Top Depth	Bottom Depth	Mud Type	Weight (Ibs/gal)	ک Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Hd	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
	0	MUD	0	J.,				:		:	
0	1150	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

#### **Section 7 - Pressure**

**Anticipated Bottom Hole Pressure: 8939** 

Anticipated Surface Pressure: 6237.4

Anticipated Bottom Hole Temperature(F): 181

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:

 $Stonewall\_28\_Fed\_Com\_714H\_H2S\_Plan\_Summary\_20180202080121.pdf$ 

Well Name: STONEWALL 28 FED COM Well Number: 714H

#### **Section 8 - Other Information**

#### Proposed horizontal/directional/multi-lateral plan submission:

Stonewall\_28\_Fed\_Com\_714H\_Planning\_Report\_20180202080157.pdf Stonewall\_28\_Fed\_Com\_714H\_Wall\_Plot\_20180202080158.pdf

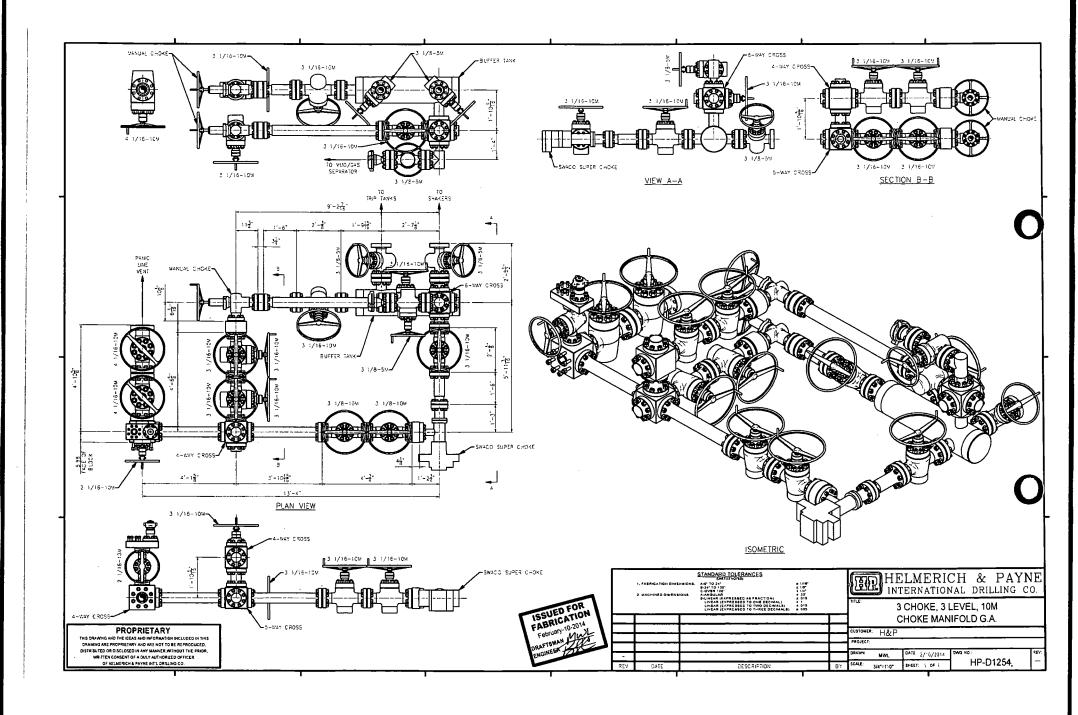
#### Other proposed operations facets description:

#### Other proposed operations facets attachment:

Stonewall\_28\_Fed\_Com\_714H\_Proposed\_Wellbore\_20180202080222.pdf Stonewall\_28\_Fed\_Com\_714H\_Rig\_Layout\_20180202080222.pdf Stonewall\_28\_Fed\_Com\_714H\_Wellhead\_Cap\_20180202080222.pdf Stonewall28FC\_GCP\_20180202080326.pdf

#### Other Variance attachment:

Stonewall\_28\_Fed\_Com\_714H\_EOG\_BLM\_10M\_Annular\_Variance\_\_\_4\_String\_20180202080234.pdf



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.

	NTERNAL	HYDROST	ATIC TEST	REPOR	îT .
Custome	r:	•		P.O. Numb	
CACTUS				RIG #12	
		HOSE SPECIE	FICATIONS	Asset # I	M10761
Type:	CHOKE LIN	E		Length:	35'
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
I.D.	4"	INCHES	O.D.	8"	INCHES
WORKING	PRESSURE	TEST PRESSUR	E	BURST PRES	SURE
10,000	PSI	15,000	PSI		PSI
		COLIP	LINGS	-	
Type of E	nd Fitting 4 1/16 10K F				
Type of C	Coupling: SWEDGED		MANUFACTU MIDWEST HO		ALTY
		PROC	EDURE		
	Hean assemble	y pressure tested w	ith union of ombio		<u></u>
		TEST PRESSURE	1	BURST PRESSI	
	1	MIN.			0 PSI
COMMEN	TS:	<del></del>			
•	SN#90087	M10761			
Ì		ered with staini			•
		fire resistant v			
	insulation r	ated for 1500 de	grees complet	<del></del>	eyes
Date:	6/6/2011	Tested By: BOBBY FINK		Approved: MENDI	IACKSON



#### **Internal Hydrostatic Test Graph**

supression to the contract of the

**Customer: CACTUS** 

SALES ORDER# 90067

#### **Hose Specifications**

Hose Type C & K I.D.

Midwest Hose & Specialty, Inc.

**Working Pressure** 10000 PSI

Length 35' 0.D.

**Burst Pressure** Standard Safety Multiplier Applies

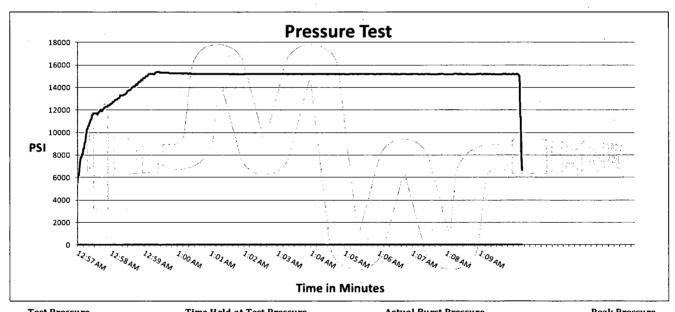
#### **Verification**

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



**Test Pressure** 15000 PSI

Time Held at Test Pressure 11 1/4 Minutes

**Actual Burst Pressure** 

Peak Pressure 15439 PSI

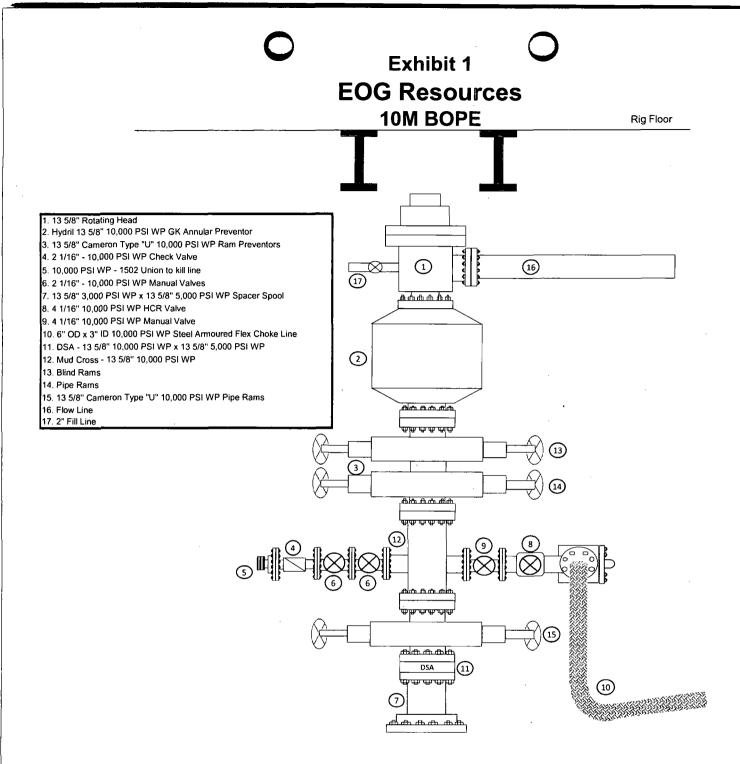
Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Bobby Fink

Approved By: Mendi Jackson

Bully LC

Mendi Jackson



### 10,000 PSI BOP Annular Variance Request

EOG Resources request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

#### 1. Component and Preventer Compatibility Tables

The tables below outlines the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

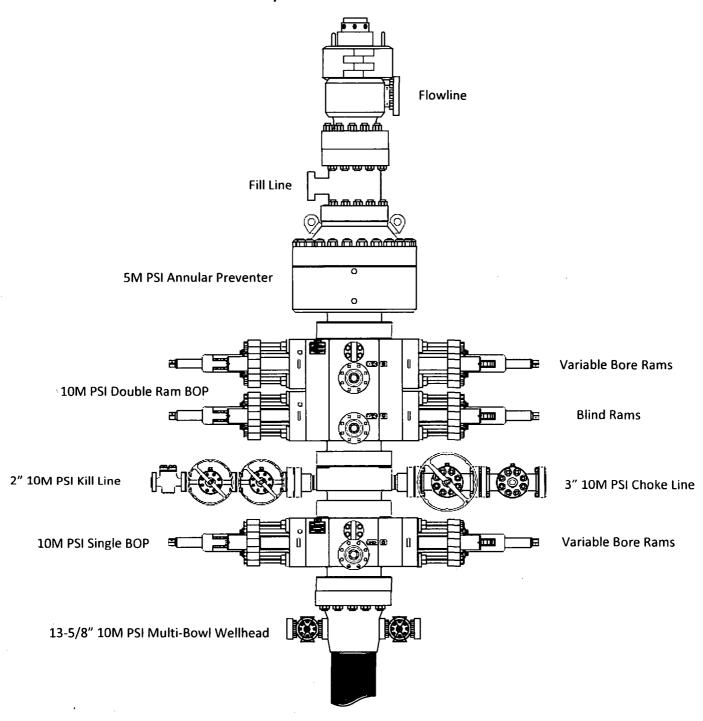
	-	Intermediate Hole Se DM psi requirement	ction		
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M
DCs and MWD tools	6.500" - 8.000"	Annular	5M	-	-
Mud Motor	8.000" - 9.625"	Annular	5M	<del>-</del> .	-
1 <sup>st</sup> Intermediate casing	9.625"	Annular	5M	-	-
Open-hole	-	Blind Rams	10M	-	-

8-3/4" Intermediate Hole Section 10M psi requirement							
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP		
Drillpipe	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
	4.500"			Lower 3.5 - 5.5" VBR	10M		
HWDP	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
	4.500"			Lower 3.5 - 5.5" VBR	10M		
Jars	6.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
DCs and MWD tools	6.500" - 8.000"	Annular	5M		-		
Mud Motor	6.750" - 8.000"	Annular	5M	-	-		
2 <sup>nd</sup> Intermediate casing	7.625"	Annular	5M	<del>-</del> ,	-		
Open-hole	-	Blind Rams	10M	· -	-		

6-3/4" Production Hole Section 10M psi requirement							
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP		
Drillpipe	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
HWDP	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
DCs and MWD tools	4.750" - 5.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
Mud Motor	4.750" - 5.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
Mud Motor	5.500" - 5.750"	Annular	5M	<u>-</u>	-		
Production casing	5.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
Open-hole	· -	Blind Rams	10M	-	-		

VBR = Variable Bore Ram

### EOG Resources 13-5/8" 10M PSI BOP Stack



#### 2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the EOG Resources drilling supervisor's office on location, and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

#### General Procedure While Drilling

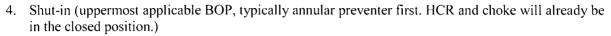
- 1. Sound alarm (alert crew)
- 2. Space out drill string
- 3. Shut down pumps (stop pumps and rotary)
- 4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure While Tripping

- 1. Sound alarm (alert crew)
- 2. Stab full opening safety valve and close
- 3. Space out drill string
- 4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure While Running Production Casing

- 1. Sound alarm (alert crew)
- 2. Stab crossover and full opening safety valve and close
- 3. Space out string



- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure With No Pipe In Hole (Open Hole)

- 1. Sound alarm (alert crew)
- 2. Shut-in with blind rams. (HCR and choke will already be in the closed position.)
- 3. Confirm shut-in
- 4. Notify toolpusher/company representative
- 5. Read and record the following:
  - a. SICP
  - b. Pit gain
  - c. Time
- 6. Regroup and identify forward plan

#### General Procedures While Pulling BHA thru Stack

- 1. PRIOR to pulling last joint of drillpipe thru the stack.
  - a. Perform flowcheck, if flowing:
  - b. Sound alarm (alert crew)
  - c. Stab full opening safety valve and close
  - d. Space out drill string with tool joint just beneath the upper variable bore rams.
  - e. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
  - f. Confirm shut-in
  - g. Notify toolpusher/company representative
  - h. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - i. Regroup and identify forward plan
- 2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
  - a. Sound alarm (alert crew)
  - b. Stab crossover and full opening safety valve and close
  - c. Space out drill string with upset just beneath the upper variable bore rams.
  - d. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
  - e. Confirm shut-in
  - f. Notify toolpusher/company representative
  - g. Read and record the following:
    - i. SIDPP and SICP

- ii. Pit gain
- iii. Time
- h. Regroup and identify forward plan
- 3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
  - a. Sound alarm (alert crew)
  - b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
  - c. If impossible to pick up high enough to pull the string clear of the stack:
  - d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
  - e. Space out drill string with tooljoint just beneath the upper variable bore ram.
  - f. Shut-in using upper variable bore ram. (HCR and choke will already be in the closed position.)
  - g. Confirm shut-in
  - h. Notify toolpusher/company representative
  - i. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - j. Regroup and identify forward plan

Metal One Corp.	MO-FXL		Page	MCTF	
	IIIO-I XE		Date	3-Nov-	16
Metal One	Connection Dat	a Sheet	Rev.	0	
	Geometry				
	Pipe Body	D440110.84		0440110.14	<del>,</del>
	Grade	P110HC '1	ļ	P110HC 1	
140 57/1	Pipe OD ( D )	7 5/8	in	193.68	mm
MO-FXL	Weight	29.70	lb/ft	44.25	kg/m
	Actual weight	29.04		43.26	kg/m
	Wall Thickness (t)	0.375	in	9.53	mm
	Pipe ID ( d )	6.875	in	174.63	mm
	Pipe body cross section	8.537	in <sup>2</sup>	5,508	mm²
	Drift Dia.	6.750	ín	171.45	mm
		•			
	Connection	7 205	· · · · · · · · · · · · · · · · · · ·	100.00	<u> </u>
	Box OD (W)	7.625	in	193.68	mm
↑ <b>₹</b>	PIN ID	6.875	in	174.63	mm
	Make up Loss	4.219	in	107.16	mm
Bo	Box Critical Area	5.714	in²	3686	mm²
	Joint load efficiency	70	%	70	%
	Thread Taper	1		2" per ft )	
		1		2° per it ) TPI	
	Thread Taper Number of Threads  Performance Performance Properties	for Pipe Body	5	TPI	
Mako	Performance Properties  S.M.Y.S. *1	for Pipe Body		TPI 4,747	kN
Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1	for Pipe Body 1,067 10,760	5	4,747 74.21	MPa
Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1	for Pipe Body 1,067 10,760 7,360	kips psi psi	4,747 74.21 50.76	MPa MPa
Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif	for Pipe Body 1,067 10,760 7,360 ied Minimum YIE	kips psi psi LD Strei	4,747 74.21 50.76 ngth of Pipe boo	MPa MPa dy
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Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif M.I.Y.P. = Minim *1 Based on VSB	for Pipe Body 1,067 10,760 7,360 ied Minimum YIE um Internal Yield P110HC (YS=12	kips psi psi LO Strei Pressui 5~140ks	4,747 74.21 50.76 ngth of Pipe body	MPa MPa dy
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Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S. = Specif  M.I.Y.P. = Minim  *1 Based on VSB  Performance Properties  Tensile Yield load  Min. Compression Yield  Internal Pressure	for Pipe Body 1,067 10,760 7,360 ied Minimum YIE um Internal Yield P110HC (YS=12 for Connectio 747 klps 747 kips	kips psi psi LO Strei Pressur 5~140ks n ( 70% ( 70%	4,747 74.21 50.76 ngth of Pipe body si) of S.M.Y.S.) of S.M.Y.S.)	MPa MPa dy
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Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif  M.I.Y.P. = Minim  *1 Based on VSB  Performance Properties  Tensile Yield load  Min. Compression Yield  Internal Pressure  External Pressure  Max. DLS ( deg. /100ft)  Recommended Torque	for Pipe Body 1,067 10,760 7,360 ied Minimum YIE ium Internal Yield P110HC (YS=12 for Connectio 747 klps 747 kips 8,610 psi	kips psi psi LO Strei Pressur 5~140ks n ( 70% ( 70% ( 80% 100% (	4,747 74.21 50.76 ngth of Pipe body si) of S.M.Y.S. ) of M.I.Y.P. ) of Collapse S	MPa MPa dy
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Make up loss	Performance  Performance Properties  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif  M.I.Y.P. = Minim  *1 Based on VSB  Performance Properties  Tensile Yield load  Min. Compression Yield  Internal Pressure  External Pressure  Max. DLS (deg. /100ft)  Recommended Torque  Min.  Opti.	for Pipe Body 1,067 10,760 7,360 ied Minimum YIE um Internal Yield P110HC (YS=12 for Connectio 747 klps 747 kips 8,610 psi 15,500 17,200	kips psi psi D Strei Pressur 5~140ks n ( 70% ( 70% ( 80% 100% (	4,747 74.21 50.76 ngth of Pipe body si) of S.M.Y.S. ) of S.M.Y.S. ) of M.I.Y.P. ) of Collapse S 0	MPa MPa MPa trength



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

Permian

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

1,121'
1,368'
5,068'
5,336'
5,336'
5,378'
6,311'
7,804
9,166'
10,176'
10,394'
10,656'
11,188'
11,693'
12,105
12,280'

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

Upper Permian Sands	0- 400'	Fresh Wa
Cherry Canyon	6,311'	Oil
Brushy Canyon	7,804'	Oil
1 <sup>st</sup> Bone Spring Sand	10,176'	Oil
2 <sup>nd</sup> Bone Spring Shale	10,394'	Oil
2 <sup>nd</sup> Bone Spring Sand	10,656'	Oil
3 <sup>rd</sup> Bone Spring Carb	11,188'	Oil
3 <sup>rd</sup> Bone Spring Sand	11,693'	Oil
Wolfcamp	12,105'	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 13.375" casing at 1,150' 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
17.5"	0 – 1,150'	13.375"	54.5#	J55	LTC	1.125	1.25	1.60
12.25"	0 – 4,000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4,000' –	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
	5,100'							
8.75"	0 – 11,300'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0' - 10,800'	5.5"	20#	P-110EC	DWC/C-IS MS	1.125	1.25	1.60
6.75"	10,800'-22,352'	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.

Variance is also requested to waive the annular clearance requirements for the 5-1/2" casing by 7-5/8" casing annulus to the proposed top of cement.

#### **Cementing Program:**

Depth	No. Sacks	Wt.	Yld Ft <sup>3</sup> /ft	Mix Water Gal/sk	Slurry Description
13-3/8" 1,150'	600	13.5	1.73	9.13	Lead: 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	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
9-5/8" 5,100'	1780	12.7	2.20	11.64	Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C-41P (TOC @ Surface)
	200	16.0	1.12	4.75	Tail: Class C + 0.13% C-20
7-5/8" 11,300'	340	11.5	2.72	15.70	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,600')
	210	16.0	1.12	4.74	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
5-1/2" 22,352'	950	14.1	1.26	5.80	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,800')

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 (10,000-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.

Variance is requested to use a 5,000 psi annular BOP with the 10,000 psi BOP stack.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 10,000/250 psig and the annular preventer to 5,000/250 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 10,000/250 psig and the annular preventer to 5000/250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

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

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

#### 6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

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

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

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0 – 1,150'	Fresh - Gel	8.6-8.8	28-34	N/c
1,150' - 5,100'	Brine	10.0-10.2	28-34	N/c
5,100' – 11,300'	Oil Base	8.7-9.4	58-68	N/c - 6
11,300' – 22,352'	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.

#### EOG RESOURCES, INC. STONEWALL 28 FED COM NO. 714H

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 181 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 8,939 psig (based on 14.0 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:

#### EOG RESOURCES, INC. STONEWALL 28 FED COM NO. 714H

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. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1000 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). 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 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10,000 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 10,000 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.

Processing Plant located in <u>Lea</u> Cotto, New Mexico. The actual flow of the gas be based on compression operating parameters and gathering system pressures.

#### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on **Enterprise Field Services** system at that time. Based on current information, it is **EOG Resources'** belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

#### **Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas On lease
  - o Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal On lease
  - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

# 10,000 PSI BOP Annular Variance Request

EOG Resources request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

#### 1. Component and Preventer Compatibility Tables

The tables below outlines the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

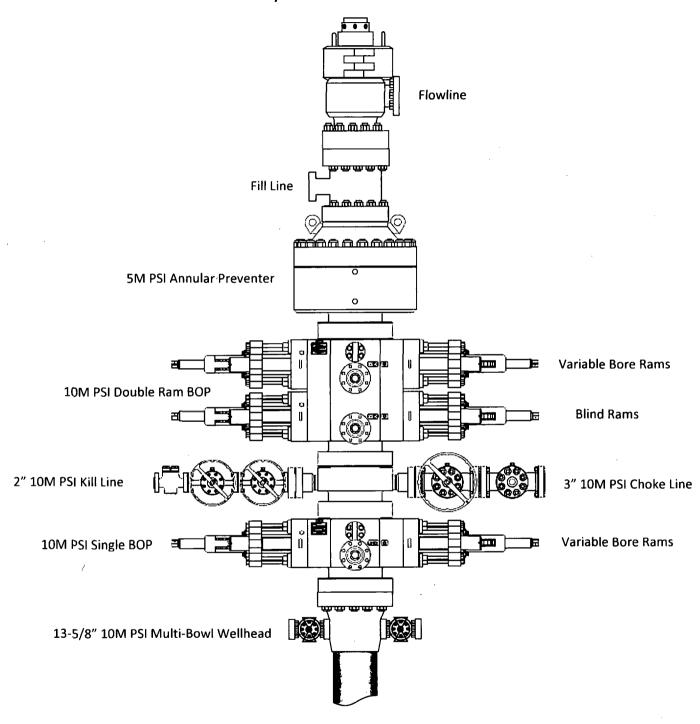
12-1/4" Intermediate Hole Section 10M psi requirement							
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP		
Drillpipe	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
	4.500"			Lower 3.5 - 5.5" VBR	10M		
HWDP	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
	4.500"			Lower 3.5 - 5.5" VBR	10M		
Jars	6.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
				Lower 3.5 - 5.5" VBR	10M		
DCs and MWD tools	6.500" - 8.000"	Annular	5M	-	-		
Mud Motor	8.000" - 9.625"	Annular	5M	•	-		
1 <sup>st</sup> Intermediate casing	9.625"	Annular	5M	-	-		
Open-hole	-	Blind Rams	10M	-	-		

8-3/4" Intermediate Hole Section 10M psi requirement							
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP		
Drillpipe	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
	4.500"			Lower 3.5 - 5.5" VBR	10M		
HWDP	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
	4.500"			Lower 3.5 - 5.5" VBR	10M		
Jars	6.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M		
			İ	Lower 3.5 - 5.5" VBR	10M		
DCs and MWD tools	6.500" - 8.000"	Annular	5M	•	-		
Mud Motor	6.750" - 8.000"	Annular	5M	-	-		
2 <sup>nd</sup> Intermediate casing	7.625"	Annular	5M	<del>-</del> .	-		
Open-hole	-	Blind Rams	10M	-	-		

6-3/4" Production Hole Section 10M psi requirement							
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP		
Drillpipe	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M		
HWDP	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M		
DCs and MWD tools	4.750" – 5.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M		
Mud Motor	4.750" – 5.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M		
Mud Motor	5.500" - 5.750"	Annular	5M	-	-		
Production casing	5.500"	Annular	5M	Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR	10M 10M		
Open-hole	-	Blind Rams	10M	-	-		

VBR = Variable Bore Ram

### EOG Resources 13-5/8" 10M PSI BOP Stack



#### 2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the EOG Resources drilling supervisor's office on location, and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

#### General Procedure While Drilling

- 1. Sound alarm (alert crew)
- 2. Space out drill string
- 3. Shut down pumps (stop pumps and rotary)
- 4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure While Tripping

- 1. Sound alarm (alert crew)
- 2. Stab full opening safety valve and close
- 3. Space out drill string
- 4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure While Running Production Casing

- 1. Sound alarm (alert crew)
- 2. Stab crossover and full opening safety valve and close
- 3. Space out string

- 4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

### General Procedure With No Pipe In Hole (Open Hole)

- 1. Sound alarm (alert crew)
- 2. Shut-in with blind rams. (HCR and choke will already be in the closed position.)
- 3. Confirm shut-in
- 4. Notify toolpusher/company representative
- 5. Read and record the following:
  - a. SICP
  - b. Pit gain
  - c. Time
- 6. Regroup and identify forward plan

## General Procedures While Pulling BHA thru Stack

- 1. PRIOR to pulling last joint of drillpipe thru the stack.
  - a. Perform flowcheck, if flowing:
  - b. Sound alarm (alert crew)
  - c. Stab full opening safety valve and close
  - d. Space out drill string with tool joint just beneath the upper variable bore rams.
  - e. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
  - f. Confirm shut-in
  - g. Notify toolpusher/company representative
  - h. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - i. Regroup and identify forward plan
- 2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
  - a. Sound alarm (alert crew)
  - b. Stab crossover and full opening safety valve and close
  - c. Space out drill string with upset just beneath the upper variable bore rams.
  - d. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
  - e. Confirm shut-in
  - f. Notify toolpusher/company representative
  - g. Read and record the following:
    - i. SIDPP and SICP



- iii. Time
- h. Regroup and identify forward plan
- 3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
  - a. Sound alarm (alert crew)
  - b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
  - c. If impossible to pick up high enough to pull the string clear of the stack:
  - d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
  - e. Space out drill string with tooljoint just beneath the upper variable bore ram.
  - f. Shut-in using upper variable bore ram. (HCR and choke will already be in the closed position.)
  - g. Confirm shut-in
  - h. Notify toolpusher/company representative
  - i. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - j. Regroup and identify forward plan



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



**APD ID**: 10400026555

Submission Date: 02/02/2018

Highlighted data reflects the most

Well Name: STONEWALL 28 FED COM

Well Number: 714H

recent changes
Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

## **Section 1 - Existing Roads**

Operator Name: EOG RESOURCES INCORPORATED

Will existing roads be used? YES

**Existing Road Map:** 

STONEWALL28FC714H\_vicinity\_20180202080340.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:

Stonewall28FC\_infrastructure\_20180202080403.pdf STONEWALL28FC714H\_padsite\_20180202080404.pdf STONEWALL28FC714H\_wellsite\_20180202080405.pdf

New road type: RESOURCE

Length: 2625

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

Well Name: STONEWALL 28 FED COM

Well Number: 714H

New road access plan attachment:

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 welllocation 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:

STONEWALL28FC714H\_radius\_20180202080420.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: Stonewall 28 Fed Com central tank battery is located in the NE/4 of section 28-24S-34E

**Production Facilities map:** 

Well Name: STONEWALL 28 FED COM

Well Number: 714H

Stonewall28FC\_infrastructure\_20180202080441.pdf

## **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: STATE

Water source transport method: PIPELINE, TRUCKING

Source transportation land ownership: STATE

Water source volume (barrels): 720000

Source volume (acre-feet): 92.80303

Source volume (gal): 30240000

Water source and transportation map:

Stonewall\_28\_FC\_Caliche\_and\_Water\_Map\_20180202080657.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:

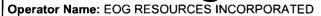
Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:



Well Name: STONEWALL 28 FED COM

Well Number: 714H

State appropriation permit:

Additional information attachment:

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

**Construction Materials description:** 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.

**Construction Materials source location attachment:** 

Stonewall\_28\_FC\_Caliche\_and\_Water\_Map\_20180202080713.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 loca

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?

Reserve pit liner

Reserve pit liner specifications and installation description

**Cuttings Area** 

Well Name: STONEWALL 28 FED COM

Well Number: 714H

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:

Stonewall\_28\_Fed\_Com\_714H\_Rig\_Layout\_20180202080254.pdf

STONEWALL28FC714H\_padsite\_20180202080734.pdf

STONEWALL28FC714H\_wellsite\_20180202080734.pdf

Comments: Wellsite, Padsite, Rig Layout

## Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: STONEWALL 28 FED COM

Multiple Well Pad Number: 713H/714H/715H

#### Recontouring attachment:

STONEWALL28FC714H\_reclamation\_20180202080747.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 reestablished and that erosion is controlled.

Well Name: STONEWALL 28 FED COM Well Number: 714H

Well pad proposed disturbance

(acres): 4.46281

Road proposed disturbance (acres):

1.446281

Powerline proposed disturbance

(acres): 0

Pipeline proposed disturbance

(acres): 2.637741

Other proposed disturbance (acres): 0

Total proposed disturbance: 8.546832

Well pad interim reclamation (acres): Well pad long term disturbance

1.35124

Road interim reclamation (acres): 0

Powerline interim reclamation (acres):

0

Pipeline interim reclamation (acres):

1.055096

Other interim reclamation (acres): 0

Total interim reclamation: 2.406336

(acres): 3.11157

Road long term disturbance (acres):

1.446281

Powerline long term disturbance

(acres): 0

Pipeline long term disturbance

(acres): 1.582645

Other long term disturbance (acres): 0

Total long term disturbance: 6.140496

Disturbance Comments: All Interim and Final reclamation is planned to be completed within 6 months. Interim within 6 months of completion and final within 6 months of abandonment plugging. Dual pad operations may alter timing. 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:** 

Operator Name: EOG RESOURCES INCORPORATED Well Name: STONEWALL 28 FED COM Well Number: 714H 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 source: Seed name: Source name: Source address: Source phone: Seed cultivar: Seed use location: PLS pounds per acre: Proposed seeding season: Total pounds/Acre: **Seed Summary Seed Type** Pounds/Acre Seed reclamation attachment: **Operator Contact/Responsible Official Contact Info** Last Name: Wagner First Name: Stan

Phone: (432)686-3689

Email: stan\_wagner@eogresources.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Well Name: STONEWALL 28 FED COM Well Number: 714H

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:

## **Section 11 - Surface Ownership**

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

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:** 

Well Name: STONEWALL 28 FED COM

Well Number: 714H

Fee Owner: Bert Madera

Fee Owner Address:

Phone: (575)631-4444

Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface Access Agreement or bond: Agreement
Surface Access Agreement Need description:
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: OnSite meeting conducted 11/14/17

Use a previously conducted onsite? NO

**Previous Onsite information:** 

## **Other SUPO Attachment**

Stonewall28FC\_GCP\_20180202081029.pdf STONEWALL28FC714H\_location\_20180202081030.pdf SUPO\_Stonewall\_28\_Fed\_Com\_714H\_20180202081131.pdf



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

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: 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 Info Data Report

## **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:

Well Name: STONEWALL 28 FED COM

Well Number: 714H

	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
PPP Leg #1	254 0	FSL	660	FEL	24S	34E	28	Aliquot NESE	32.1883	103.4685	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 015684	- 878 8	147 57	122 80
EXIT Leg #1	330	FSL	660	FEL	248	34E	33	Aliquot SESE	32.16767 66	- 103.4684 577	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 120363	- 878 8	222 52	122 80
BHL Leg #1	230	FSL	660	FEL	24S	34E	33	Aliquot SESE	32.16740 2	- 103.4684 573	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 120363	- 878 8	223 52	122 80

Processing Plant located in <u>Lea</u> Cotton New Mexico. The actual flow of the gas to be based on compression operating parameters and gathering system pressures.

## Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on **Enterprise Field Services** system at that time. Based on current information, it is **EOG Resources**' belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

## Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas On lease
  - o Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal On lease
  - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines