

HOBBS OCD

JAN 09 2017

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM119759
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		6. If Indian, Allottee or Tribe Name
2. Name of Operator COG OPERATING LLC (229137)		7. If Unit or CA Agreement, Name and No.
3a. Address 600 West Illinois Ave Midland TX 79701		8. Lease Name and Well No. BLUE JAY FEDERAL COM 2H (317287)
3b. Phone No. (include area code) (432)683-7443		9. API Well No. 30-025-43533
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface TR SESE / 210 FSL / 660 FEL / LAT 32.566491 / LONG -103.490171 At proposed prod. zone TR NENE / 200 FNL / 330 FEL / LAT 32.579882 / LONG -103.489093		10. Field and Pool, or Exploratory WC025 G-08 S203506 / BONE SPRING (77983)
14. Distance in miles and direction from nearest town or post office* 12 miles		11. Sec., T. R. M. or Blk. and Survey or Area SEC 18 / T20S / R35E / NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 210 feet	16. No. of acres in lease 320	17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, 1650 feet applied for, on this lease, ft.	19. Proposed Depth 11375 feet / 16242 feet	20. BLM/BIA Bond No. on file FED: NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3685 feet	22. Approximate date work will start* 11/15/2016	23. Estimated duration 30 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.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature (Electronic Submission)	Name (Printed/Typed) Mayte Reyes / Ph: (575)748-6945	Date 10/07/2016
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) James Amos / Ph: (575)234-5927	Date 01/06/2017
Title Acting Assistant Field Manager		

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

K  
01/09/17

# Engineer Worksheet

## Carlsbad Field Office

620 E. Greene St.

Carlsbad, NM 88220-6292

Tracking Number:	ATS-16-562	County:	Lea		
Company:	COG Operating LLC	Well Name and Number:	Blue Jay Federal Com-2H		
Surface Hole Location:	210°S & 660°E. SEC018 T020S, R035E	Bottom Hole Location:	200°N & 330°E. SEC018 T020S, R035E		
Lease Number:	NMNM119759	Prod Status:	Effective:		
Bond:	Statewide	Bond #:	NMB000215	Potash:	No
NOS Received:	YES	APD Received:	10-7-2016	10-Day LTR Sent:	
Acreage:		Orthodox:	No	COM Agr Required:	Yes

### Deficiencies Noted:

☐ Form 3160-3 ☐ Survey Plat ☐ Drilling Plan ☐ Surface Plan ☐ Bonding ☐ Original Signature ☐ Operator Cert Statement

### Other Deficiencies:

Adjudication Comments:

GEO Report Completed  
12-29-2016

### Technical Checklist

Plat:	ok	Elevation:	3685		
Proposed Depth:	TVD: 11510	MD:	16242	Targeted Bone Formation:	Spring
Anticipated Water-Oil, Gas, Etc.:	Expected fresh water above 20 ft/ Oil-Gas: Cherry Canyon, Brushy Canyon, and Bone Spring				
Casing/Cement Program:	Okay / See COA for cement deficiency.				
Bottom Hole Mud Weight	9.4	BHP:	5626.088	MASP:	3093.888
<input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Directional <input type="checkbox"/> Vertical <input type="checkbox"/> Re-entry					
Well Control Prog(BOP, ETC)	2M Annular tested to 2,000 psi after surface and 5M BOP after intermediate.			Mud Program:	Ok
Test-Log-Cores Program:	GR/CNL proposed.				
H2S or Other Hazards:	H2S no. Possibility of water flows in the Artesia Group, Salado, and Capitan Reef. Possibility of lost circulation in the Red Beds, Artesia Group, Rustler, Capitan Reef, and Delaware.				
Water Basin:	Capitan				
Casings to Witness:	<input checked="" type="checkbox"/> Surface <input checked="" type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> CIT Required				
	<input type="checkbox"/> Other Witness				
Comments:	Witness surface and intermediate casing.				

Mustafa Haque 1-5-2017

Engineer

Date

Signature

Adjudication Date

Adjudicator Initials





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

## APD Print Report

01/06/2017

APD ID: 10400006375

Operator Name: COG OPERATING LLC

Well Name: BLUE JAY FEDERAL COM

Well Type: OIL WELL

Submission Date: 10/07/2016

Federal/Indian APD: FED

Well Number: 2H

Well Work Type: Drill

Highlight  
All Changes

### Application

#### Section 1 - General

APD ID: 10400006375

BLM Office: HOBBS

Federal/Indian APD: FED

Lease number: NMNM119759

Surface access agreement in place?

Agreement in place? NO

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

Operator letter of designation:

Keep application confidential? YES

Tie to previous NOS?

User: Mayte Reyes

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

Lease Acres: 320

Allotted?

Reservation:

Federal or Indian agreement:

Submission Date: 10/07/2016

Title: Regulatory Analyst

APD Operator: COG OPERATING LLC

#### Permitting Agent Information

Agent Address:

Zip:

Agent PO Box:

Agent city:

State:

Agent Phone:

Agent Internet Address:

#### Operator Info

Operator Organization Name: COG OPERATING LLC

Operator Address: 600 West Illinois Ave

Operator PO Box:

Zip: 79701

Operator City: Midland

State: TX

Operator Phone: (432)683-7443

Operator Internet Address: RODOM@CONCHO.COM

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

## Section 2 - Well Information

**Well in Master Development Plan?** NO

**Master Development Plan name:**

**Well in Master SUPO?** NO

**Master SUPO name:**

**Well in Master Drilling Plan?** NO

**Master Drilling Plan name:**

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Well API Number:**

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

**Field Name:** WC025 G-08  
S203506

**Pool Name:** BONE SPRING

**Is the proposed well in an area containing other mineral resources?** 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:** SINGLE WELL

**Multiple Well Pad Name:**

**Number:**

**Well Class:** HORIZONTAL

**Number of Legs:**

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** EXPLORATORY (WILDCAT)

**Describe sub-type:**

**Distance to town:** 12 Miles

**Distance to nearest well:** 1650 FT

**Distance to lease line:** 210 FT

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

**Well plat:** COG Blue Jay 2H C-102\_10-27-2016.pdf

**Well work start Date:** 11/15/2016

**Duration:** 30 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:** 32.566491

**Longitude:** -103.490171

**SHL**

**Elevation:** 3685

**MD:** 0

**TVD:** 0

**Leg #: 1**

**Lease Type:** FEDERAL

**Lease #:** NMNM119759

**NS-Foot:** 210

**NS Indicator:** FSL



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

	<b>EW-Foot:</b> 660	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 20S	<b>Range:</b> 35E	<b>Section:</b> 18
	<b>Aliquot:</b>	<b>Lot:</b>	<b>Tract:</b> SESE
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.566491	<b>Longitude:</b> -103.490171	
KOP	<b>Elevation:</b> -7347	<b>MD:</b> 11032	<b>TVD:</b> 11032
Leg #: 1	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM119759	
	<b>NS-Foot:</b> 210	<b>NS Indicator:</b> FSL	
	<b>EW-Foot:</b> 660	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 20S	<b>Range:</b> 35E	<b>Section:</b> 18
	<b>Aliquot:</b>	<b>Lot:</b>	<b>Tract:</b> SESE
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.566824	<b>Longitude:</b> -103.489099	
PPP	<b>Elevation:</b> -7765	<b>MD:</b> 11688	<b>TVD:</b> 11450
Leg #: 1	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM119759	
	<b>NS-Foot:</b> 330	<b>NS Indicator:</b> FSL	
	<b>EW-Foot:</b> 330	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 20S	<b>Range:</b> 35E	<b>Section:</b> 18
	<b>Aliquot:</b>	<b>Lot:</b>	<b>Tract:</b> SESE
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.579524	<b>Longitude:</b> -103.489093	
EXIT	<b>Elevation:</b> -7690	<b>MD:</b> 16292	<b>TVD:</b> 11375
Leg #: 1	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM119759	
	<b>NS-Foot:</b> 330	<b>NS Indicator:</b> FNL	
	<b>EW-Foot:</b> 330	<b>EW Indicator:</b> FEL	
	<b>Twsp:</b> 20S	<b>Range:</b> 35E	<b>Section:</b> 18
	<b>Aliquot:</b>	<b>Lot:</b>	<b>Tract:</b> NENE
	<b>STATE:</b> NEW MEXICO	<b>Meridian:</b> NEW MEXICO PRINCIPAL	<b>County:</b> LEA
	<b>Latitude:</b> 32.579882	<b>Longitude:</b> -103.489093	
BHL	<b>Elevation:</b> -7690	<b>MD:</b> 16242	<b>TVD:</b> 11375
Leg #: 1	<b>Lease Type:</b> FEDERAL	<b>Lease #:</b> NMNM119759	

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**NS-Foot:** 200

**NS Indicator:** FNL

**EW-Foot:** 330

**EW Indicator:** FEL

**Twsp:** 20S

**Range:** 35E

**Section:** 18

**Aliquot:**

**Lot:**

**Tract:** NENE

## Drilling Plan

### Section 1 - Geologic Formations

**ID:** Surface formation

**Name:** UNKNOWN

**Lithology(ies):**

**Elevation:** 3685

**True Vertical Depth:** 0

**Measured Depth:** 0

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 1

**Name:** RUSTLER

**Lithology(ies):**

**Elevation:** 1943

**True Vertical Depth:** 1742

**Measured Depth:** 1742

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 2

**Name:** TOP OF SALT

**Lithology(ies):**

**Elevation:** 1852

**True Vertical Depth:** 1833

**Measured Depth:** 1833

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**ID:** Formation 3

**Name:** BASE OF SALT

**Lithology(ies):**

**Elevation:** 328

**True Vertical Depth:** 3357

**Measured Depth:** 3357

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 4

**Name:** YATES

**Lithology(ies):**

**Elevation:** 35

**True Vertical Depth:** 3650

**Measured Depth:** 3650

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 5

**Name:** CAPITAN REEF

**Lithology(ies):**

**Elevation:** -405

**True Vertical Depth:** 4090

**Measured Depth:** 4090

**Mineral Resource(s):**

NONE

**Is this a producing formation?** N

**ID:** Formation 6

**Name:** CHERRY CANYON

**Lithology(ies):**

**Elevation:** -1704

**True Vertical Depth:** 5389

**Measured Depth:** 5389

**Mineral Resource(s):**

NATURAL GAS

OIL

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Is this a producing formation?** N

**ID:** Formation 7

**Name:** BRUSHY CANYON

**Lithology(ies):**

**Elevation:** -3043

**True Vertical Depth:** 6728

**Measured Depth:** 6728

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 8

**Name:** BONE SPRING LIME

**Lithology(ies):**

**Elevation:** -4770

**True Vertical Depth:** 8455

**Measured Depth:** 8455

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 9

**Name:** BONE SPRINGS UPPER SHAL

**Lithology(ies):**

**Elevation:** -4860

**True Vertical Depth:** 8545

**Measured Depth:** 8545

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 10

**Name:** BONE SPRING LOWER

**Lithology(ies):**



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Elevation:** -5350

**True Vertical Depth:** 9035

**Measured Depth:** 9035

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 11

**Name:** BONE SPRING 1ST

**Lithology(ies):**

**Elevation:** -6080

**True Vertical Depth:** 9765

**Measured Depth:** 9765

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 12

**Name:** BONE SPRING 2ND

**Lithology(ies):**

**Elevation:** -6759

**True Vertical Depth:** 10444

**Measured Depth:** 10444

**Mineral Resource(s):**

NATURAL GAS

OIL

**Is this a producing formation?** N

**ID:** Formation 13

**Name:** BONE SPRING 3RD

**Lithology(ies):**

**Elevation:** -7765

**True Vertical Depth:** 11450

**Measured Depth:** 11688

**Mineral Resource(s):**

OIL

**Is this a producing formation?** Y

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 2M

**Rating Depth:** 6000

**Equipment:** Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

**Requesting Variance?** NO

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart.

**Testing Procedure:** BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.

**Choke Diagram Attachment:**

COG Blue Jay 2H 2M Choke Schematic\_12-05-2016.pdf

**BOP Diagram Attachment:**

COG Blue Jay 2H 2M BOP\_12-05-2016.pdf

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

**Rating Depth:** 17000

**Equipment:** Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

**Requesting Variance?** NO

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart.

**Testing Procedure:** BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.

**Choke Diagram Attachment:**

COG Blue Jay 2H 5M Choke Schematic\_12-05-2016.pdf

**BOP Diagram Attachment:**

COG Blue Jay 2H 5M BOP\_12-05-2016.pdf

## Section 3 - Casing



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**String Type:** SURFACE

**Other String Type:**

**Hole Size:** 17.5

**Top setting depth MD:** 0

**Top setting depth TVD:** 0

**Top setting depth MSL:** -7690

**Bottom setting depth MD:** 1820

**Bottom setting depth TVD:** 1820

**Bottom setting depth MSL:** -9510

**Calculated casing length MD:** 1820

**Casing Size:** 13.375

**Other Size**

**Grade:** J-55

**Other Grade:**

**Weight:** 54.5

**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:** 1.36

**Burst Design Safety Factor:** 4.27

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

**Joint Tensile Design Safety Factor:** 5.18

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

**Body Tensile Design Safety Factor:** 8.6

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

COG Blue Jay 2H Casing Assumptions\_10-05-2016.pdf

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**String Type:** INTERMEDIATE

**Other String Type:**

**Hole Size:** 12.25

**Top setting depth MD:** 0

**Top setting depth TVD:** 0

**Top setting depth MSL:** -7690

**Bottom setting depth MD:** 5415

**Bottom setting depth TVD:** 5415

**Bottom setting depth MSL:** -13105

**Calculated casing length MD:** 5415

**Casing Size:** 9.625

**Other Size**

**Grade:** J-55

**Other Grade:**

**Weight:** 40

**Joint Type:** LTC

**Other Joint Type:**

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### Safety Factors

**Collapse Design Safety Factor:** 1.05

**Burst Design Safety Factor:** 0.89

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

**Joint Tensile Design Safety Factor:** 2.4

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

**Body Tensile Design Safety Factor:** 2.91

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

COG Blue Jay 2H Casing Assumptions\_10-05-2016.pdf



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**String Type:** PRODUCTION

**Other String Type:**

**Hole Size:** 8.75

**Top setting depth MD:** 0

**Top setting depth TVD:** 0

**Top setting depth MSL:** -7690

**Bottom setting depth MD:** 16242

**Bottom setting depth TVD:** 11375

**Bottom setting depth MSL:** -19065

**Calculated casing length MD:** 16242

**Casing Size:** 5.5

**Other Size**

**Grade:** P-110

**Other Grade:**

**Weight:** 17

**Joint Type:** LTC

**Other Joint Type:**

**Condition:** NEW

**Inspection Document:**

**Standard:** API

**Spec Document:**

**Tapered String?:** N

**Tapered String Spec:**

### **Safety Factors**

**Collapse Design Safety Factor:** 1.35

**Burst Design Safety Factor:** 2.41

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

**Joint Tensile Design Safety Factor:** 2.3

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

**Body Tensile Design Safety Factor:** 2.82

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

COG Blue Jay 2H Casing Assumpt\_10-27-2016.pdf

### **Section 4 - Cement**

**Casing String Type:** SURFACE

Operator Name: COG OPERATING LLC

Well Name: BLUE JAY FEDERAL COM

Well Number: 2H

**Stage Tool Depth:**

Lead

Top MD of Segment: 0	Bottom MD Segment: 1820	Cement Type: C Blend 35:65:6
Additives: No additives	Quantity (sks): 2450	Yield (cu.ff./sk): 2
Density: 12.7	Volume (cu.ft.): 4900	Percent Excess: 50

Tail

Top MD of Segment: 0	Bottom MD Segment: 1820	Cement Type: C
Additives: 2% CaCl	Quantity (sks): 250	Yield (cu.ff./sk): 1.34
Density: 14.8	Volume (cu.ft.): 335	Percent Excess: 50

Casing String Type: INTERMEDIATE

**Stage Tool Depth: 3970**

Lead

Top MD of Segment: 0	Bottom MD Segment: 5415	Cement Type: C
Additives: 4% gel + 1% CaCl <sub>2</sub>	Quantity (sks): 710	Yield (cu.ff./sk): 2
Density: 12.7	Volume (cu.ft.): 1420	Percent Excess: 50

Tail

Top MD of Segment: 0	Bottom MD Segment: 5415	Cement Type: C
Additives: 2% CaCl	Quantity (sks): 200	Yield (cu.ff./sk): 1.35
Density: 14.8	Volume (cu.ft.): 270	Percent Excess: 50

**Stage Tool Depth: 3970**

Lead

Top MD of Segment: 0	Bottom MD Segment: 5415	Cement Type: C Blend 35:65:6
Additives: No additives	Quantity (sks): 210	Yield (cu.ff./sk): 1.98
Density: 12.7	Volume (cu.ft.): 415.8	Percent Excess: 50

Tail

Top MD of Segment: 0	Bottom MD Segment: 5415	Cement Type: C
Additives: 2% CaCl	Quantity (sks): 200	Yield (cu.ff./sk): 1.34
Density: 14.8	Volume (cu.ft.): 268	Percent Excess: 50

Casing String Type: PRODUCTION



Operator Name: COG OPERATING LLC

Well Name: BLUE JAY FEDERAL COM

Well Number: 2H

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 16242

Cement Type: H Blend 50:50:10

Additives: No additives

Quantity (sks): 920

Yield (cu.ff./sk): 2.5

Density: 11.9

Volume (cu.ft.): 2300

Percent Excess: 35

Tail

Top MD of Segment: 0

Bottom MD Segment: 16242

Cement Type: H Blend 50:50:2

Additives: No additives

Quantity (sks): 1520

Yield (cu.ff./sk): 1.24

Density: 14.4

Volume (cu.ft.): 1885

Percent Excess: 35

### 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: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

### Circulating Medium Table

Top Depth: 1820

Bottom Depth: 5415

Mud Type: SALT SATURATED

Min Weight (lbs./gal.): 9.8

Max Weight (lbs./gal.): 10.2

Density (lbs/cu.ft.):

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

PH:

Viscosity (CP):

Filtration (cc):

Salinity (ppm):

Additional Characteristics:



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Top Depth:** 5415

**Bottom Depth:** 16242

**Mud Type:** OTHER

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

**Max Weight (lbs./gal.):** 9.4

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

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

**PH:**

**Viscosity (CP):**

**Filtration (cc):**

**Salinity (ppm):**

**Additional Characteristics:**

**Top Depth:** 0

**Bottom Depth:** 1820

**Mud Type:** OTHER

**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:**

None planned

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

CNL,GR

**Coring operation description for the well:**

None planned

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5565

**Anticipated Surface Pressure:** 3046

**Anticipated Bottom Hole Temperature(F):** 170

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

COG Blue Jay 2H H2S Plan\_10-07-2016.pdf

### Section 8 - Other Information

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

COG Blue Jay 2H Dir Plan\_10-27-2016.pdf

**Other proposed operations facets description:**

None

**Other proposed operations facets attachment:**

COG Blue Jay 2H Wtr Info\_10-27-2016.pdf

**Other Variance attachment:**

SUPO

### Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

COG-BLUE JAY FED COM 2H\_10-03-2016.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:**

COG Blue Jay 2H Road Map\_10-07-2016.pdf

**New road type:** RESOURCE

**Length:** 920

Feet

**Width (ft.):** 30

**Max slope (%):** 33

**Max grade (%):** 1

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Army Corp of Engineers (ACOE) permit required?** NO

**ACOE Permit Number(s):**

**New road travel width:** 14

**New road access erosion control:** Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

**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

**Access surfacing type description:** Caliche

**Access onsite topsoil source depth:** 6

**Offsite topsoil source description:**

**Onsite topsoil removal process:** Blading

**Access other construction information:** No turnouts are planned. Re-routing access road around proposed well location.

**Access miscellaneous information:**

**Number of access turnouts:**

**Access turnout map:**

### Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** None necessary

**Road Drainage Control Structures (DCS) description:** None needed.

**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:**

COG-BLUE JAY FED COM 2H EX WELL MAP\_10-04-2016.pdf

**Existing Wells description:**



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

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

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

**Estimated Production Facilities description:** Production will be sent to the existing Blue Jay Federal #1H facility

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

##### Water Source Table

**Water source use type:** INTERMEDIATE/PRODUCTION CASING

**Water source type:** OTHER

**Describe type:** Brine Water - Purchased from Salty Dog Brine Station  
(phone 806-592-3331)

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** COMMERCIAL

**Water source transport method:** TRUCKING

**Source transportation land ownership:** COMMERCIAL

**Water source volume (barrels):** 30000

**Source volume (acre-feet):** 3.866793

**Source volume (gal):** 1260000

**Water source use type:** STIMULATION, SURFACE CASING

**Water source type:** OTHER

**Describe type:** Fresh water - purchased from S&S, Inc. (surface  
owner)

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** PRIVATE

**Water source transport method:** PIPELINE

**Source transportation land ownership:** PRIVATE

**Water source volume (barrels):** 350000

**Source volume (acre-feet):** 45.112583

**Source volume (gal):** 14700000

**Water source and transportation map:**

COG BLUE JAY 2H Fresh Wtr Source Map\_10-07-2016.pdf

COG Blue Jay 2H Brine Water Source\_10-07-2016.pdf

**Water source comments:** Fresh water will be furnished by S&S, Inc., surface owner, and will be purchased at the frac pond (delivery point). Brine water will be purchased from Salty Dog Brine Station and will be delivered by truck to location.

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**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:**

### Section 6 - Construction Materials

**Construction Materials description:** Caliche purchased from Patrick Sims or Danny Berry

**Construction Materials source location attachment:**

### Section 7 - Methods for Handling Waste

**Waste type:** SEWAGE

**Waste content description:** Human waste and gray water

**Amount of waste:** 1000 gallons

**Waste disposal frequency :** One Time Only

**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY

**Disposal location ownership:** PRIVATE

**Disposal type description:**

**Disposal location description:** Trucked to an approved disposal facility

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Waste type:** DRILLING

**Waste content description:** Drilling fluids and produced oil land water while drilling and completion operations

**Amount of waste:** 6000 barrels

**Waste disposal frequency :** One Time Only

**Safe containment description:** All drilling waste will be stored safely and disposed of properly

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** Trucked to an approved disposal facility

**Waste type:** GARBAGE

**Waste content description:** Garbage and trash produced during drilling and completion operations.

**Amount of waste:** 500 pounds

**Waste disposal frequency :** One Time Only

**Safe containment description:** Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** Trucked to an 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

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** YES



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Description of cuttings location** Roll off cutting containers on tracks

**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?:** YES

**Ancillary Facilities attachment:**

COG Blue Jay 2H GCP\_10-27-2016.pdf

**Comments:** Gas Capture Plan attached

### Section 9 - Well Site Layout

**Well Site Layout Diagram:**

COG Blue Jay 2H Well Site Layout\_10-05-2016.pdf

**Comments:**

### Section 10 - Plans for Surface Reclamation

**Type of disturbance:** NEW

**Recontouring attachment:**

**Drainage/Erosion control construction:** Approximately 400' of straw waddles will be placed on the north side to reduce sediment impacts to fragile/sensitive soils.

**Drainage/Erosion control reclamation:** Remove waddles and reclaim the north side.

**Wellpad long term disturbance (acres):** 3.12

**Wellpad short term disturbance (acres):** 3.67

**Access road long term disturbance (acres):** 0.64

**Access road short term disturbance (acres):** 0.64

**Pipeline long term disturbance (acres):** 0.43044078

**Pipeline short term disturbance (acres):** 0.43044078

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

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

**Total long term disturbance:** 4.1904407

**Total short term disturbance:** 4.740441

**Reconstruction method:** Portions of the pad not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused. The stockpiled topsoil will be spread out over reclaimed area and reseeded with BLM approved seed mixture.

**Topsoil redistribution:** North - 80'

**Soil treatment:** None

**Existing Vegetation at the well pad:** Shinnery Oak/Mesquite grassland

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Existing Vegetation at the well pad attachment:**

**Existing Vegetation Community at the road:** Shinnery Oak/Mesquite grassland

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

**Existing Vegetation Community at the pipeline:** Shinnery Oak/Mesquite grassland

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

**Existing Vegetation Community at other disturbances:** N/A

**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:**

**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:** Rand

**Last Name:** French

**Phone:** (432)254-5556

**Email:** rfrench@concho.com

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

**Existing invasive species?** NO

**Existing invasive species treatment description:**

**Existing invasive species treatment attachment:**

**Weed treatment plan description:** N/A

**Weed treatment plan attachment:**

**Monitoring plan description:** N/A

**Monitoring plan attachment:**

**Success standards:** N/A

**Pit closure description:** N/A

**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:**



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Fee Owner:** S&S Inc.

**Fee Owner Address:** PO Box 1046 Eunice NM 88231

**Phone:** (575)394-2948

**Email:**

**Surface use plan certification:** YES

**Surface use plan certification document:**

**Surface access agreement or bond:** Agreement

**Surface Access Agreement Need description:** As per Surface Use and Occupancy Agreement between COG Operating LLC and S&S, Inc., dated

**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:**

**Use a previously conducted onsite?** YES

**Previous Onsite information:** Onsite completed on 09/14/2016 by Rand French (COG) and Jeff Robertson (BLM).

### Other SUPO Attachment

PWD

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

### 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:**

**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:**

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**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?**

**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:**



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

#### 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?**

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Other regulatory requirements attachment:**

## Bond Info

### Bond Information

**Federal/Indian APD:** FED

**BLM Bond number:** NMB000215

**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.*

**NAME:** Mayte Reyes

**Signed on:** 10/07/2016

**Title:** Regulatory Analyst

**Street Address:** 2208 W Main Street

**City:** Artesia

**State:** NM

**Zip:** 88210

**Phone:** (575)748-6945

**Email address:** Mreyes1@concho.com

### Field Representative

**Representative Name:** Rand French

**Street Address:** 2208 W Main Street

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**City:** Artesia

**State:** NM

**Zip:** 88210

**Phone:** (432)254-5556

**Email address:** rfrench@concho.com

#### Payment Info

##### Payment

**APD Fee Payment Method:** PAY.GOV

**pay.gov Tracking ID:** 25UAUB8F

CONFIDENTIAL





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

## SUPO Data Report

01/09/2017

APD ID: 10400006375

Submission Date: 10/07/2016

Operator Name: COG OPERATING LLC

Well Name: BLUE JAY FEDERAL COM

Well Number: 2H

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

COG-BLUE JAY FED COM 2H\_10-03-2016.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:

COG Blue Jay 2H Road Map\_10-07-2016.pdf

New road type: RESOURCE

Length: 920 Feet

Width (ft.): 30

Max slope (%): 33

Max grade (%): 1

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Access surfacing type:** OTHER

**Access topsoil source:** ONSITE

**Access surfacing type description:** Caliche

**Access onsite topsoil source depth:** 6

**Offsite topsoil source description:**

**Onsite topsoil removal process:** Blading

**Access other construction information:** No turnouts are planned. Re-routing access road around proposed well location.

**Access miscellaneous information:**

**Number of access turnouts:**

**Access turnout map:**

### Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** None necessary

**Road Drainage Control Structures (DCS) description:** None needed.

**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:**

COG-BLUE JAY FED COM 2H EX WELL MAP\_10-04-2016.pdf

**Existing Wells description:**

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

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

**Estimated Production Facilities description:** Production will be sent to the existing Blue Jay Federal #1H facility

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

#### Water Source Table

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Water source use type:** INTERMEDIATE/PRODUCTION CASING

**Water source type:** OTHER

**Describe type:** Brine Water - Purchased from Salty Dog Brine Station  
(phone 806-592-3331)

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** COMMERCIAL

**Water source transport method:** TRUCKING

**Source transportation land ownership:** COMMERCIAL

**Water source volume (barrels):** 30000

**Source volume (acre-feet):** 3.866793

**Source volume (gal):** 1260000

**Water source use type:** STIMULATION, SURFACE CASING

**Water source type:** OTHER

**Describe type:** Fresh water - purchased from S&S, Inc. (surface owner)

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** PRIVATE

**Water source transport method:** PIPELINE

**Source transportation land ownership:** PRIVATE

**Water source volume (barrels):** 350000

**Source volume (acre-feet):** 45.112583

**Source volume (gal):** 14700000

**Water source and transportation map:**

COG BLUE JAY 2H Fresh Wtr Source Map\_10-07-2016.pdf

COG Blue Jay 2H Brine Water Source\_10-07-2016.pdf

**Water source comments:** Fresh water will be furnished by S&S, Inc., surface owner, and will be purchased at the frac pond (delivery point). Brine water will be purchased from Salty Dog Brine Station and will be delivered by truck to location.

**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:**



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Well casing outside diameter (in.):**

**New water well casing?**

**Drilling method:**

**Grout material:**

**Casing length (ft.):**

**Well Production type:**

**Water well additional information:**

**State appropriation permit:**

**Additional information attachment:**

**Well casing inside diameter (in.):**

**Used casing source:**

**Drill material:**

**Grout depth:**

**Casing top depth (ft.):**

**Completion Method:**

### Section 6 - Construction Materials

**Construction Materials description:** Caliche purchased from Patrick Sims or Danny Berry

**Construction Materials source location attachment:**

### Section 7 - Methods for Handling Waste

**Waste type:** SEWAGE

**Waste content description:** Human waste and gray water

**Amount of waste:** 1000 gallons

**Waste disposal frequency :** One Time Only

**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY

**Disposal location ownership:** PRIVATE

**Disposal type description:**

**Disposal location description:** Trucked to an approved disposal facility

**Waste type:** DRILLING

**Waste content description:** Drilling fluids and produced oil land water while drilling and completion operations

**Amount of waste:** 6000 barrels

**Waste disposal frequency :** One Time Only

**Safe containment description:** All drilling waste will be stored safely and disposed of properly

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY

**Disposal location ownership:** COMMERCIAL

**Disposal type description:**

**Disposal location description:** Trucked to an approved disposal facility

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Waste type:** GARBAGE

**Waste content description:** Garbage and trash produced during drilling and completion operations.

**Amount of waste:** 500 pounds

**Waste disposal frequency :** One Time Only

**Safe containment description:** Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** Trucked to an 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

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** YES

**Description of cuttings location** Roll off cutting containers on tracks

**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**

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

### Section 8 - Ancillary Facilities

**Are you requesting any Ancillary Facilities?:** YES

**Ancillary Facilities attachment:**

COG Blue Jay 2H GCP\_10-27-2016.pdf

**Comments:** Gas Capture Plan attached

### Section 9 - Well Site Layout

**Well Site Layout Diagram:**

COG Blue Jay 2H Well Site Layout\_10-05-2016.pdf

**Comments:**

### Section 10 - Plans for Surface Reclamation

**Type of disturbance:** NEW

**Recontouring attachment:**

**Drainage/Erosion control construction:** Approximately 400' of straw waddles will be placed on the north side to reduce sediment impacts to fragile/sensitive soils.

**Drainage/Erosion control reclamation:** Remove waddles and reclaim the north side.

**Wellpad long term disturbance (acres):** 3.12

**Wellpad short term disturbance (acres):** 3.67

**Access road long term disturbance (acres):** 0.64

**Access road short term disturbance (acres):** 0.64

**Pipeline long term disturbance (acres):** 0.43044078

**Pipeline short term disturbance (acres):** 0.43044078

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

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

**Total long term disturbance:** 4.1904407

**Total short term disturbance:** 4.740441

**Reconstruction method:** Portions of the pad not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused. The stockpiled topsoil will be spread out over reclaimed area and reseeded with BLM approved seed mixture.

**Topsoil redistribution:** North - 80'

**Soil treatment:** None

**Existing Vegetation at the well pad:** Shinnery Oak/Mesquite grassland

**Existing Vegetation at the well pad attachment:**

**Existing Vegetation Community at the road:** Shinnery Oak/Mesquite grassland

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

**Existing Vegetation Community at the pipeline:** Shinnery Oak/Mesquite grassland

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

**Existing Vegetation Community at other disturbances:** N/A

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



**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**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:**

#### Seed Summary

**Total pounds/Acre:**

Seed Type	Pounds/Acre
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**Seed reclamation attachment:**

#### Operator Contact/Responsible Official Contact Info

**First Name:** Rand

**Last Name:** French

**Phone:** (432)254-5556

**Email:** rfrench@concho.com

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

**Existing invasive species?** NO

**Existing invasive species treatment description:**

**Existing invasive species treatment attachment:**

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Weed treatment plan description:** N/A

**Weed treatment plan attachment:**

**Monitoring plan description:** N/A

**Monitoring plan attachment:**

**Success standards:** N/A

**Pit closure description:** N/A

**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:**

**Operator Name:** COG OPERATING LLC

**Well Name:** BLUE JAY FEDERAL COM

**Well Number:** 2H

**Fee Owner:** S&S Inc.

**Fee Owner Address:** PO Box 1046 Eunice NM 88231

**Phone:** (575)394-2948

**Email:**

**Surface use plan certification:** YES

**Surface use plan certification document:**

**Surface access agreement or bond:** Agreement

**Surface Access Agreement Need description:** As per Surface Use and Occupancy Agreement between COG Operating LLC and S&S, Inc., dated

**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:**

**Use a previously conducted onsite?** YES

**Previous Onsite information:** Onsite completed on 09/14/2016 by Rand French (COG) and Jeff Robertson (BLM).

### Other SUPO Attachment



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## PWD Data Report

01/09/2017

### 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:

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?

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:**

**Assigned injection well API number?**

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection attachment:**

**Underground Injection Control (UIC) Permit?**

**UIC Permit attachment:**

**Injection well name:**

**Injection well API number:**

### **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:**



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## Bond Info Data Report

01/09/2017

### Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000215

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: