

<b>Well Name:</b> FEZ FEDERAL COM	<b>Well Location:</b> T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 710H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM125658	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546247	<b>Well Status:</b> Drilling Well	<b>Operator:</b> COG OPERATING LLC

**Notice of Intent**

**Type of Submission:** Notice of Intent

**Type of Action** APD Change

**Date Sundry Submitted:** 02/11/2021

**Time Sundry Submitted:** 09:00

**Date proposed operation will begin:** 02/11/2021

**Procedure Description:** COG Operating LLC respectfully requests approval for the following changes to the originally approved APD. Surface Drill 14 3/4" hole to 1000' Run 10.75" 45.5# J55 BTC casing to 1000' Cement in one stage to surface Lead: 525 sx of 13.5 ppg Class C + 4% gel, 1.75 cuft/sx Tail: 200 sx of 14.8 ppg Class C, 1.35 cuft/sx Intermediate 5M BOP System Drill 9 7/8" hole to 8000' then down size to 8 3/4" hole to 11,618' , with brine diesel emulsion mud. Run 7 5/8" 29.7# HCL80 BTC casing from 0' to 7800' and 7 5/8" 29.7# HCP110 FJM (spec sheet attached) casing from 7800' to 11618' Cement in one stage to surface Lead: 975 sx of 105 ppg Halliburton Neocem, 3.56 cuft/sx Tail: 200 sx of 16.4 ppg Class H, 1.08 cuft/sx Production 10M BOP System (5M Annular Variance) Drill 6 3/4" hole to TD 22,527' Set 5 1/2" 23# P110 RY Talon HTQ-RD from 25,343' to 11,418' (spec sheet attached) and 5 1/2" 23# P110 BTC from 11,418' to 0'. Cement in one stage to 11,118' Lead: 700 sx 12.7 ppg Halliburton NeoCem H blend, 1.97 cuft/sx Tail: 1050 sx 14.5 ppg Halliburton NeoCem H blend, 1.22 cuft/sx

Application

Well Name: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

Well Status: Drilling Well

Operator: COG OPERATING LLC

Section 1 - General

APD ID: 10400040538

Tie to previous NOS?

Submission Date:

BLM Office: CARLSBAD

User: MAYTE REYES

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM125658

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: COG OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: COG OPERATING LLC

Operator Address: 600 West Illinois Ave

Zip: 79701

Operator PO Box:

Operator City: Midland

State: TX

Operator Phone: (432)683-7443

Operator Internet Address: RODOM@CONCHO.COM

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: FEZ FEDERAL COM

Well Number: 710H

Well API Number: 3002546247

Field/Pool or Exploratory? Field and Pool

Field Name: WC-025 G-09 S243532M

Pool Name: WOLFBONE

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Is the proposed well in a Helium production area? N

Use Existing Well Pad? N

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: FEZ FEDERAL COM

Number: 710H, 707H

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

**Well Name:** FEZ FEDERAL COM

**Well Location:** T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

**County or Parish/State:** LEA / NM

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**Type of Well:** OIL WELL

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**Unit or CA Number:**

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**Well Status:** Drilling Well

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Is the proposed well in an area containing other mineral resources? USEABLE WATER

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

**Describe sub-type:**

**Distance to town:** 9 Miles

**Distance to nearest well:** 30 FT

**Distance to lease line:** 50 FT

**Reservoir well spacing assigned acres Measurement:** 801 Acres

**Well plat:** COG\_Fez\_710H\_C102\_20190403092323.pdf

Fez\_Federal\_Com\_710H\_C102\_20210123145854.pdf

**Well work start Date:** 10/01/2019

**Duration:** 30 DAYS

**Section 3 - Well Location Table**

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:**

**Reference Datum:** GROUND LEVEL

Wellbore	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	Will this well produce from this lease?
SHL Leg #1	330	FSL	1570	FEL	25S	35E	9	Aliquot SWSE	32.138547	-103.369005	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 125658	3239	0	0	Y
KOP Leg #1	330	FSL	1570	FEL	25S	35E	9	Aliquot SWSE	32.138547	-103.369005	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 125658	3239	0	0	Y
PPP Leg #1-1	100	FSL	1650	FEL	25S	35E	9	Aliquot SWSE	32.369264	-103.369264	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 125658	-9071	12375	12310	Y

Well Name: FEZ FEDERAL COM

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County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

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Well Status: Drilling Well

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Wellbore	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	Will this well produce from this lease?
PPP Leg #1-2	2641	FSL	1650	FEL	25S	35E	9	Aliquot SWNE	32.144895	-103.369261	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-9154	15050	12393	Y
EXIT Leg #1	2540	FSL	1650	FEL	24S	35E	22	Aliquot NWSE	32.173709	-103.369247	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-9146	25293	12385	Y
BHL Leg #1	2590	FSL	1650	FEL	24S	35E	33	Aliquot NWSE	32.173847	-103.369247	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-9146	25243	12385	Y

Drilling Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1560520	UNKNOWN	3239	0	0		NONE	N
1560504	RUSTLER	2479	760	760		NONE	N
1560505	TOP SALT	2134	1105	1105	SALT	NONE	N
1560506	BASE OF SALT	-1660	4899	4899	ANHYDRITE	NONE	N
1560507	LAMAR	-2041	5280	5280	LIMESTONE	NATURAL GAS, OIL	N
1560510	BELL CANYON	-2097	5336	5336		NONE	N
1560518	CHERRY CANYON	-3012	6251	6251		NATURAL GAS, OIL	N
1560519	BRUSHY CANYON	-4520	7759	7759		NATURAL GAS, OIL	N
1560508	BONE SPRING LIME	-5736	8975	8975	SANDSTONE	NATURAL GAS, OIL	N
1560513	UPPER AVALON SHALE	-5981	9220	9220		NATURAL GAS, OIL	N
1560514	---	-6433	9672	9672		NATURAL GAS, OIL	N
1560515	BONE SPRING 1ST	-7061	10300	10300		NATURAL GAS, OIL	N
1560516	BONE SPRING 2ND	-7582	10821	10821		NATURAL GAS, OIL	N
1560517	BONE SPRING 3RD	-8679	11918	11918		NATURAL GAS, OIL	N

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Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1560509	WOLFCAMP	-9055	12294	12294	SHALE	NATURAL GAS, OIL	Y

**Section 2 - Blowout Prevention**

**Pressure Rating (PSI):** 10M                      **Rating Depth:** 12458

**Equipment:** Annular, Blind Ram, Pipe Ram. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold

**Requesting Variance?** YES

**Variance request:** A 5M variance is requested on a 10M system. (A 5M variance is attached in section 8). A variance is requested for the use of a flexible choke line from the BOP to the 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 the components installed will be functional and tested. 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.

**Choke Diagram Attachment:**

COG\_Fez\_710H\_10M\_Choke\_20190403094612.pdf

**BOP Diagram Attachment:**

COG\_Fez\_710H\_10M\_BOP\_20190522140045.pdf

COG\_Fez\_710H\_Flex\_Hose\_20190403094629.pdf

**Pressure Rating (PSI):** 5M                      **Rating Depth:** 11850

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

**Requesting Variance?** YES

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP to the 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 the components installed will be functional and tested. 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.

**Choke Diagram Attachment:**

COG\_Fez\_710H\_5M\_Choke\_20190403094658.pdf

**BOP Diagram Attachment:**

COG\_Fez\_710H\_5M\_BOP\_20190403094704.pdf

COG\_Fez\_710H\_Flex\_Hose\_20190403094714.pdf

Well Name: FEZ FEDERAL COM

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Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

Well Status: Drilling Well

Operator: COG OPERATING LLC

**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	14.75	10.75	NEW	API	N	0	1000	0	1000	3239	2239	1000	N-80	45.5	OTHER - BTC	5.4	1.77	DRY	24.11	DRY	22.6
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	11618	0	11618	-9411	-8379	11618	HCP-110	29.7	OTHER - FJM	1.23	1.34	DRY	1.62	DRY	2.3
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	25343	0	11418	-9411	-8179	25343	P-110	23	OTHER - Talon	1.74	2.05	DRY	2.39	DRY	2.3

**Casing Attachments**

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG\_Fez\_710H\_Casing\_Prog\_20190403094801.pdf

Fez\_Fed\_Com\_710H\_Casing\_Cement\_20210211084647.pdf

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Fez\_Fed\_Com\_710H\_Casing\_Cement\_20210211084756.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Fez\_710H\_Casing\_Prog\_20190403094747.pdf

Fez\_Fed\_Com\_710H\_Casing\_Cement\_20210211084829.pdf

Well Name: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

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**Casing Attachments**

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Fez\_Fed\_Com\_710H\_Casing\_Cement\_20210211084919.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Fez\_710H\_Casing\_Prog\_20190403094753.pdf

Fez\_Fed\_Com\_710H\_Casing\_Cement\_20210211084948.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
SURFACE	Lead		0	1000	525	1.75	13.5	918	50	Class C	4% Gel +1% CaCl2
SURFACE	Tail		0	1000	200	1.34	14.8	268	50	Class C	2% CaCl2
INTERMEDIATE	Lead		0	1161 8	975	3.3	10.3	3217	50	Halliburton tunded light	As needed
INTERMEDIATE	Tail		0	1161 8	200	1.35	14.8	270	50	Class H	As needed
PRODUCTION	Lead		1141 8	2534 3	700	2	12.7	1400	35	Lead: 50:50:10 H Blend	As needed
PRODUCTION	Tail		1141 8	2534 3	1050	1.24	14.4	1302	35	Tail: 50:50:2 Class H Blend	As needed

**Well Name:** FEZ FEDERAL COM

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**County or Parish/State:** LEA / NM

**Well Number:** 710H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM125658

**Unit or CA Name:**

**Unit or CA Number:**

**US Well Number:** 3002546247

**Well Status:** Drilling Well

**Operator:** COG OPERATING LLC

**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	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
11850	22713	OIL-BASED MUD	10.5	12.5							OBM
0	1000	OTHER : FW Gel	8.4	8.6							FW Gel
1000	11850	OTHER : Diesel Brine Emulsion	8.6	9.4							Diesel Brine Emulsion

**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:** 8100

**Anticipated Surface Pressure:** 5373

**Anticipated Bottom Hole Temperature(F):** 180

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

**Describe:**

Well Name: FEZ FEDERAL COM

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Unit or CA Name:

Unit or CA Number:

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Well Status: Drilling Well

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Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

- COG\_Fez\_710H\_H2S\_SUP\_20190403095337.pdf
- COG\_Fez\_710H\_H2S\_Schem\_20190403095330.pdf

**Section 8 - Other Information**

Proposed horizontal/directional/multi-lateral plan submission:

- COG\_Fez\_710H\_Direct\_Plan\_20190403095353.pdf
- COG\_Fez\_710H\_AC\_Report\_20190403095402.pdf
- FEZ\_FEDERAL\_COM\_710H\_PWP1\_SVY\_RPT\_20210122103608.pdf
- FEZ\_FEDERAL\_COM\_710H\_PWP1\_AC\_RPT\_20210122103631.pdf

Other proposed operations facets description:

- Drilling program attached.
- GCP Attached.
- 5M Variance attached.
- Cementing program attached.

Other proposed operations facets attachment:

- COG\_Fez\_710H\_GCP\_20190403095421.pdf
- COG\_Fez\_710H\_Cementing\_Prog\_20190522140339.pdf
- COG\_Fez\_710H\_Drilling\_Prog\_20190403095414.pdf
- COG\_Fez\_710H\_Drilling\_Prog\_20210122072344.pdf
- COG\_Fez\_710H\_Cementing\_Prog\_20210122072356.pdf
- COG\_Fez\_710H\_GCP\_20210122072418.pdf

Other Variance attachment:

- COG\_5M\_Variance\_Well\_Plan\_20190314081725.pdf
- COG\_6.75\_5M\_Variance\_WCP\_20210122072513.pdf

SUPO

Well Name: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

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**Section 1 - Existing Roads**

Will existing roads be used? YES

Existing Road Map:

COG\_Fez\_710H\_Existing\_Road\_20190403095441.pdf

Existing Road Purpose: ACCESS

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\_Fez\_710H\_Maps\_Plats\_20190408152534.pdf

New road type: TWO-TRACK

Length: 82.7 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: 20

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:

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

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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

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

COG\_Fez\_710H\_1Mile\_Data\_20190403095535.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: The Fez Federal 9P Central Tank Battery (CTB) is proposed in Section 9, T25S, R35E. Production from each of the 9 producing wells will be sent to the proposed Fez Federal 9P CTB. We plan to install 9 buried 4" FP 601HT production flowlines from each wellhead to the inlet manifold of the proposed CTB; the route for these flowlines will follow the "Mainline" route as shown in the attached plat. We will also install 1 buried 6" poly line for gas lift supply from the CTB to each production well pad; the route for this gas lift line will follow the "Mainline" route as shown in the attached plat. We will also install 1 buried 10" poly line for produced water transfer from the CTB to an existing pipeline connection in Section 16; this line will follow the "Mainline" route as shown in the attached plat.

Production Facilities map:

COG\_Fez\_710H\_CTB\_Layout\_20190403095604.pdf

COG\_Fez\_710H\_CTB\_Flowlines\_20190403095557.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: Brine

Water source use type: INTERMEDIATE/PRODUCTION CASING

Source latitude:

Source longitude:

Source datum:

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INTERMEDIATE/PRODUCTION CASING

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: COMMERCIAL

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 30000

Source volume (acre-feet): 3.866793

Source volume (gal): 1260000

Water source type: OTHER

Describe type: Fresh Water

Water source use type: STIMULATION SURFACE CASING

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: PIPELINE

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 450000

Source volume (acre-feet): 58.001892

Source volume (gal): 18900000

Water source and transportation map:

COG\_Fez\_710H\_Fresh\_H2O\_20190403095630.pdf

COG\_Fez\_710H\_BrineH2O\_20190403095640.pdf

Water source comments: Fresh water will be obtained from Fez Fee Frac Pond located in Section 8, T25S, R35E. Brine water will be obtained from the Salty Dog Brine station located in Section 5. T19S. R36E.

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:

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**Aquifer comments:**  
**Aquifer documentation:**  
**Well depth (ft):**  
**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 type:**  
**Well casing inside diameter (in.):**  
**Used casing source:**  
**Drill material:**  
**Grout depth:**  
**Casing top depth (ft.):**  
**Completion Method:**

**Section 6 - Construction Materials**

**Using any construction materials:** YES  
**Construction Materials description:** Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from Quail Ranch LLC (CONCHO) caliche pit located in Section 6, T24S, R35E Phone # (575) 748-6940 or Bert Madera caliche pit located in Section 6. T25S. R35E. Phone 575-631-4444.  
**Construction Materials source location attachment:**

**Section 7 - Methods for Handling Waste**

**Waste type:** GARBAGE  
**Waste content description:** Garbage and trash produced during drilling and completion operations  
**Amount of waste:** 125 pounds  
**Waste disposal frequency :** Weekly  
**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

**Waste type:** SEWAGE  
**Waste content description:** Human waste and gray water  
**Amount of waste:** 250 gallons  
**Waste disposal frequency :** Weekly  
**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility  
**Safe containmant attachment:**

<b>Well Name:</b> FEZ FEDERAL COM	<b>Well Location:</b> T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 710H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM125658	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546247	<b>Well Status:</b> Drilling Well	<b>Operator:</b> COG OPERATING LLC

**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:** DRILLING

**Waste content description:** Drilling fluids and produced oil and water during 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

**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 cuttings 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**

<b>Well Name:</b> FEZ FEDERAL COM	<b>Well Location:</b> T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 710H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM125658	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546247	<b>Well Status:</b> Drilling Well	<b>Operator:</b> COG OPERATING LLC

**Section 8 - Ancillary Facilities**

**Are you requesting any Ancillary Facilities?:** NO

**Ancillary Facilities attachment:**

**Comments:** GCP Attached.

**Section 9 - Well Site Layout**

**Well Site Layout Diagram:**

- COG\_Fez\_710H\_CTB\_Layout\_20190403095723.pdf
- COG\_Fez\_710H\_CTB\_Flowlines\_20190403095714.pdf
- COG\_Fez\_710H\_Layout\_20190403095704.pdf

**Comments:** The Fez Federal 9P Central Tank Battery (CTB) is proposed in Section 9, T25S, R35E. Production from each of the 9 producing wells will be sent to the proposed Fez Federal 9P CTB. We plan to install 9 buried 4" FP 601HT production flowlines from each wellhead to the inlet manifold of the proposed CTB; the route for these flowlines will follow the "Mainline" route as shown in the attached plat. We will also install 1 buried 6" poly line for gas lift supply from the CTB to each production well pad; the route for this gas lift line will follow the "Mainline" route as shown in the attached plat. We will also install 1 buried 10" poly line for produced water transfer from the CTB to an existing pipeline connection in Section 16; this line will follow the "Mainline" route as shown in the attached plat.

**Section 10 - Plans for Surface Reclamation**

**Type of disturbance:** New Surface Disturbance      **Multiple Well Pad Name:** FEZ FEDERAL COM  
**Multiple Well Pad Number:** 710H, 707H

**Recontouring attachment:**

- COG\_Fez\_710H\_Reclamation\_20190403095741.pdf

**Drainage/Erosion control construction:** Immediately following construction straw waddles will be placed as necessary at the well site to reduce to reduce sediment impacts to fragile/sensitive soils.

**Drainage/Erosion control reclamation:** West 50'

<b>Well pad proposed disturbance (acres):</b> 3.67	<b>Well pad interim reclamation (acres):</b> 0.15	<b>Well pad long term disturbance (acres):</b> 3.35
<b>Road proposed disturbance (acres):</b> 0.13	<b>Road interim reclamation (acres):</b> 0.13	<b>Road long term disturbance (acres):</b> 0.13
<b>Powerline proposed disturbance (acres):</b> 0	<b>Powerline interim reclamation (acres):</b> 0	<b>Powerline long term disturbance (acres):</b> 0
<b>Pipeline proposed disturbance (acres):</b> 0.04	<b>Pipeline interim reclamation (acres):</b> 0.04	<b>Pipeline long term disturbance (acres):</b> 0.04
<b>Other proposed disturbance (acres):</b> 5.74	<b>Other interim reclamation (acres):</b> 5.74	<b>Other long term disturbance (acres):</b> 5.74
<b>Total proposed disturbance:</b> 9.58	<b>Total interim reclamation:</b> 6.06	<b>Total long term disturbance:</b> 9.26

**Disturbance Comments:**

**Reconstruction method:** New construction of pad.

**Topsoil redistribution:** West 50'

**Soil treatment:** None

<b>Well Name:</b> FEZ FEDERAL COM	<b>Well Location:</b> T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 710H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM125658	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546247	<b>Well Status:</b> Drilling Well	<b>Operator:</b> COG OPERATING LLC

**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:**

**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**

<b>Seed Summary</b>	
<b>Seed Type</b>	<b>Pounds/Acre</b>

**Total pounds/Acre:**

**Seed reclamation attachment:**

**Operator Contact/Responsible Official Contact Info**

**First Name:**

**Last Name:**

**Phone:** (432)260-7399

**Email:** gherrera@concho.com

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

Well Name: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

Well Status: Drilling Well

Operator: COG OPERATING LLC

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:

COG\_Fez\_710H\_Closed\_Loop\_20190403095813.pdf

**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: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

Well Status: Drilling Well

Operator: COG OPERATING LLC

Fee Owner: Quail Ranch (CONCHO)

Fee Owner Address:

Phone: (432)221-0342

Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Agreement signed on June 27th, 2016.

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: SUP attached.

Use a previously conducted onsite? YES

Previous Onsite information: Onsite completed on 10/09/2018 by Gerald Herrera (COG) and Jeff Robertson (BLM).

Other SUPO Attachment

- COG\_Fez\_710H\_1Mile\_Data\_20190403095852.pdf
- COG\_Fez\_710H\_Reclamation\_20190403100029.pdf
- COG\_Fez\_710H\_Closed\_Loop\_20190403095923.pdf
- COG\_Fez\_710H\_Fresh\_H2O\_20190403095955.pdf
- COG\_Fez\_710H\_Maps\_Plats\_20190408152812.pdf
- COG\_Fez\_710H\_CTB\_Layout\_20190403095933.pdf
- COG\_Fez\_710H\_BrineH2O\_20190403095905.pdf
- COG\_Fez\_710H\_Exisiting\_Road\_20190403095942.pdf
- COG\_Fez\_710H\_SUP\_20190408152754.pdf
- COG\_Fez\_710H\_Layout\_20190403100009.pdf
- COG\_Fez\_710H\_C102\_20190403095913.pdf

Well Name: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

Well Status: Drilling Well

Operator: COG OPERATING LLC

PWD

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

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:

Well Name: FEZ FEDERAL COM

Well Location: T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM125658

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002546247

Well Status: Drilling Well

Operator: COG OPERATING LLC

Additional bond information attachment:

**Section 3 - Unlined Pits**

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

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

<b>Well Name:</b> FEZ FEDERAL COM	<b>Well Location:</b> T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 710H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM125658	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546247	<b>Well Status:</b> Drilling Well	<b>Operator:</b> COG OPERATING LLC

**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:**

**Operator Certification**

**Well Name:** FEZ FEDERAL COM

**Well Location:** T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

**County or Parish/State:** LEA / NM

**Well Number:** 710H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM125658

**Unit or CA Name:**

**Unit or CA Number:**

**US Well Number:** 3002546247

**Well Status:** Drilling Well

**Operator:** COG OPERATING LLC

**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:** 02/11/2021

**Title:** Regulatory Analyst

**Street Address:** 925 N ELDRIDGE PARKWAY

**City:** HOUSTON

**State:** TX

**Zip:** 77252

**Phone:** (281)293-1000

**Email address:** MAYTE.X.REYES@CONOCOPHILLIPS.COM

**Field Representative**

**Representative Name:** Gerald Herrera

**Street Address:** 2208 West Main Street

**City:** Artesia

**State:** NM

**Zip:** 88210

**Phone:** (575)748-6940

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

**NOI Attachments**

**Procedure Description**

Proprietary\_Connections\_Performance\_Data\_7.6250\_29.7000\_0.3750\_\_P110\_HC\_20210211085849.pdf

5.500\_23.00\_0.415\_P110\_RY\_USS\_TALON\_HTQ\_RD5.900\_Data\_Sheet\_07\_21\_2020\_20210211085834.pdf

**Well Name:** FEZ FEDERAL COM

**Well Location:** T25S / R35E / SEC 9 / SWSE / 32.138547 / -103.369005

**County or Parish/State:** LEA / NM

**Well Number:** 710H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM125658

**Unit or CA Name:**

**Unit or CA Number:**

**US Well Number:** 3002546247

**Well Status:** Drilling Well

**Operator:** COG OPERATING LLC

Fez\_Fed\_Com\_710H\_Casing\_Cement\_20210211085822.pdf

**Operator Certification**

*I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.*

**Operator Electronic Signature:** REYES

**Signed on:** FEB 11, 2021 08:29 AM

**Name:** COG OPERATING LLC

**Title:** Regulatory Analyst

**Street Address:** 925 N ELDRIDGE PARKWAY

**City:** HOUSTON

**State:** TX

**Phone:** (281) 293-1000

**Email address:** MAYTE.X.REYES@CONOCOPHILLIPS.COM

**Field Representative**

**Representative Name:** Gerald Herrera

**Street Address:** 2208 West Main Street

**City:** Artesia

**State:** NM

**Zip:** 88210

**Phone:** (575)748-6940

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

**BLM Point of Contact**

**BLM POC Name:** CHRISTOPHER WALLS

**BLM POC Title:** Petroleum Engineer

**BLM POC Phone:** 5752342234

**BLM POC Email Address:** cwalls@blm.gov

**Disposition:** Approved

**Disposition Date:** 03/29/2021

**Signature:** Chris Walls

**DISTRICT I**  
 1686 N. FRENCH DR., HOBBS, NM 88240  
 Phone: (575) 598-0101 Fax: (575) 598-0720

**DISTRICT II**  
 811 S. FIRST ST., ARTESIA, NM 88210  
 Phone: (575) 748-1283 Fax: (575) 748-9720

**DISTRICT III**  
 1000 RIO BRAZOS RD., AZTEC, NM 87410  
 Phone: (505) 534-0170 Fax: (505) 534-0170

**DISTRICT IV**  
 1220 S. ST. FRANCIS DR., SANTA FE, NM 87505  
 Phone: (505) 476-3480 Fax: (505) 476-3482

State of New Mexico  
 Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
 1220 SOUTH ST. FRANCIS DR.  
 Santa Fe, New Mexico 87505

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

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-025-46247</b>	Pool Code <b>98098</b>	Pool Name <b>WC-025 G-09 S243532M;WOLFBONE</b>
Property Code <b>322742</b>	Property Name <b>FEZ FEDERAL COM</b>	
OGRID No. <b>229137</b>	Operator Name <b>COG OPERATING, LLC</b>	
		Well Number <b>710H</b>
		Elevation <b>3238.7'</b>

**Surface Location**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	9	25-S	35-E		330	SOUTH	1570	EAST	LEA

**Bottom Hole Location If Different From Surface**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	33	24-S	35-E		2590	SOUTH	1650	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
<b>801.64</b>			

**NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION**

**NAD 83 NME  
PROPOSED BOTTOM  
HOLE LOCATION**  
 Y=428316.8 N  
 X=839633.5 E  
 LAT.=32.173847° N  
 LONG.=103.369247° W

**LIP**  
 2540' FSL & 1650' FEL  
 Y=428266.8 N  
 X=839634.0 E  
 LAT.=32.173709° N  
 LONG.=103.369247° W

**LEASE X-ING**  
 LAT.=32.144895° N  
 LONG.=103.369261° W

**NAD 83 NME  
SURFACE LOCATION**  
 Y=415475.2 N  
 X=839823.6 E  
 LAT.=32.138547° N  
 LONG.=103.369005° W

**OPERATOR CERTIFICATION**

*I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

*Mayte Reyes 1-6-2021*  
 Signature Date

**Mayte Reyes**

Printed Name  
**mreyes1@concho.com**  
 E-mail Address

**SURVEYOR CERTIFICATION**

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

**NOVEMBER 15, 2018**  
 Date of Survey

Signature & Seal of Professional Surveyor



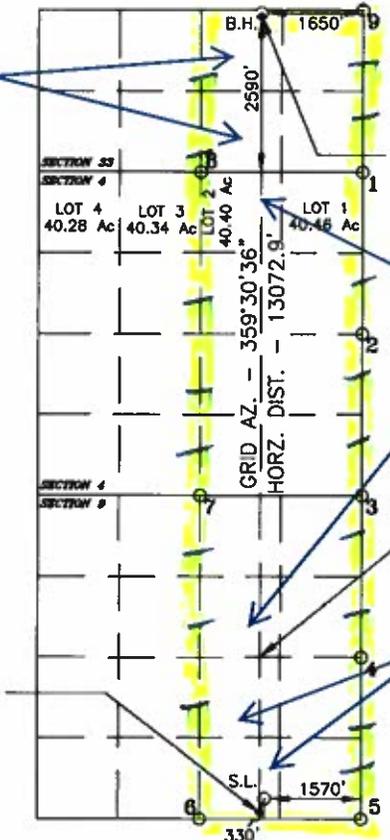
**CHAD L. HARCROW**  
 NEW MEXICO  
 17777  
 LICENSED PROFESSIONAL SURVEYOR

*Chad Harcrow* 10/9/20  
 Certificate No. CHAD HARCROW 17777  
 W.O. # 20-1297 DRAWN BY: AH

**POINT LEGEND**

1	Y=425741.7 N X=841308.7 E
2	Y=423071.0 N X=841331.7 E
3	Y=420437.6 N X=841353.8 E
4	Y=417799.7 N X=841376.1 E
5	Y=415161.3 N X=841396.0 E
6	Y=415134.1 N X=838748.7 E
7	Y=420417.3 N X=838707.7 E
8	Y=425718.0 N X=838667.7 E
9	Y=428382.1 N X=841283.0 E

**FIP**  
 100' FSL & 1650' FEL  
 Y=415244.4 N  
 X=839745.3 E  
 LAT.=32.137914° N  
 LONG.=103.369264° W  
 GRID AZ. TO FIP  
 198°44'02"



**NMNM138894**

**FEE**

**NMNM125658**

# DRAFT

**5.500 23.00 (0.415)**

**P110 RY**

**USS-TALON HTQ™**

**RD5.900**

	Pipe	Connection		
<b>MECHANICAL PROPERTIES</b>				
Minimum Yield Strength	<b>110,000</b>		<i>psi</i>	[6]
Maximum Yield Strength	<b>125,000</b>		<i>psi</i>	
Minimum Tensile Strength	<b>125,000</b>		<i>psi</i>	[6]
<b>DIMENSIONS</b>				
Outside Diameter	<b>5.500</b>	<b>5.900</b>	<i>in.</i>	
Wall Thickness	0.415		<i>in.</i>	
Inside Diameter	4.670	4.670	<i>in.</i>	
Drift - API	4.545	4.545	<i>in.</i>	
Nominal Linear Weight, T&C	<b>23.00</b>		<i>lbs/ft</i>	
Plain End Weight	22.56		<i>lbs/ft</i>	
<b>SECTION AREA</b>				
Cross Sectional Area   Critical Area		6.425	<i>sq. in.</i>	
Connection Efficiency		97%		[2]
<b>PERFORMANCE</b>				
Minimum Collapse Pressure	14,540	14,540	<i>psi</i>	
Minimum Internal Yield Pressure	14,520	14,520	<i>psi</i>	
Minimum Pipe Body Yield Strength	729,000		<i>lbs</i>	
API Joint Strength		707,000	<i>lbs</i>	
Compression Rating		707,000	<i>lbs</i>	
Reference Length		20,500	<i>ft</i>	[5]
Maximum Uniaxial Bend Rating		88.9	<i>deg/100 ft</i>	[3]
<b>MAKE-UP DATA</b>				
Make-Up Loss		5.58	<i>in.</i>	
Minimum Make-Up Torque		20,800	<i>ft-lbs</i>	[4]
Maximum Make-Up Torque		23,800	<i>ft-lbs</i>	[4]
Maximum Operating Torque		39,800	<i>ft-lbs</i>	[4]

UNCONTROLLED

- Notes: 1) Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
- 2) Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
- 3) Uniaxial bending rating shown is structural only.
- 4) Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- 5) Reference length is calculated by joint strength divided by plain end weight with 1.5 safety factor.
- 6) Coupling must meet minimum mechanical properties of the pipe.

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# U. S. Steel Tubular Products

8/22/2019 1:57:07 PM

## 7.625" 29.70lbs/ft (0.375" Wall) P110 HC USS-LIBERTY FJM®



MECHANICAL PROPERTIES	Pipe	USS-LIBERTY FJM®	
Minimum Yield Strength	110,000	--	psi
Maximum Yield Strength	140,000	--	psi
Minimum Tensile Strength	125,000	--	psi
DIMENSIONS	Pipe	USS-LIBERTY FJM®	
Outside Diameter	7.625	7.625	in.
Wall Thickness	0.375	--	in.
Inside Diameter	6.875	6.789	in.
Standard Drift	6.750	6.750	in.
Alternate Drift	--	--	in.
Nominal Linear Weight, T&C	29.70	--	lbs/ft
Plain End Weight	29.06	--	lbs/ft
SECTION AREA	Pipe	USS-LIBERTY FJM®	
Critical Area	8.541	5.074	sq. in.
Joint Efficiency	--	59.4	%
PERFORMANCE	Pipe	USS-LIBERTY FJM®	
Minimum Collapse Pressure	6,700	6,700	psi
Minimum Internal Yield Pressure	9,460	9,460	psi
Minimum Pipe Body Yield Strength	940,000	--	lbs
Joint Strength	--	558,000	lbs
Compression Rating	--	558,000	lbs
Reference Length	--	12,810	ft
Maximum Uniaxial Bend Rating	--	39.3	deg/100 ft
MAKE-UP DATA	Pipe	USS-LIBERTY FJM®	
Make-Up Loss	--	3.92	in.
Minimum Make-Up Torque	--	10,800	ft-lbs
Maximum Make-Up Torque	--	15,250	ft-lbs

- Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
- Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
- Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
- Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
- Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

### Legal Notice

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Fez Federal Com 710H

Hole Size	Casing		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burs	SF Body	SF Joint
	From	To								
14.75"	0	1000	10.75"	45.5	N80	BTC	5.40	1.77	22.86	24.11
9.875"	0	8000	7.625"	29.7	HCL80	BTC	1.66	1.03	3.06	3.09
8.750"	8000	11618	7.625"	29.7	HCP110	FJM	1.23	1.34	2.72	1.62
6.75"	0	11418	5.5"	23	P110	BTC	1.96	2.31	2.78	2.76
6.75"	11418	25,343	5.5"	23	P110	Talon	1.74	2.05	2.46	2.39
BLM Minimum Safety Facto							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> O gal/sk	500# Comp. Strengt h (hours)	Slurry Description
Surf.	525	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl <sub>2</sub>
	200	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl <sub>2</sub>
Inter. Stage 1	975	10.3	3.3	22	24	Halliburton tunded light
	200	14.8	1.35	6.6	8	Tail: Class H
Prod	700	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	1050	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 22292

**CONDITIONS OF APPROVAL**

Operator:			OGRID:	Action Number:	Action Type:
COG OPERATING LLC	600 W Illinois Ave	Midland, TX79701	229137	22292	C-103A
OCD Reviewer			Condition		
pkautz			None		